



PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON STRENGTHENING CAPACITIES OF MULTI-SECTORS TOWARD SUSTAINABLE DEVELOPMENT

DWIJENDRA UNIVERSITY,
DENPASAR, BALI, INDONESIA
APRIL 27th, 2024



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WELCOMING SPEECH

CHAIRMAN OF EXECUTIVE BOARD OF DWIJENDRA FOUNDATION

Om Swastyastu

Assalammulaikum waramatulahi wabarakatuh

Shalom

Salam

Kebajikan Namu

Budaya Rahayu

Good morning,

- The honorable, Head of LLDIKTI Region VIII, **Dr. Ir. I Gusti Lanang Bagus Eratodi, S.T., M.T., IPU, ASEAN.Eng**, thank you for being pleased to attend and become the Keynote Speaker at this sincerity time,
- The honorable, Chairman and members of the Governing Board of Dwijendra Foundation;
- The honorable, Chairman and members of the Supervisory Board of Dwijendra Foundation;
- The honorable, Keynote Speaker from UTAR, Malaysia, **Dr. Abdul Muluk Bin Abdul Manan** who is pleased to be present directly at Dwijendra University;
- The honorable, Keynote Speaker from the Philippines, **Dr. Meriem F. Sulit**, who is pleased to be present directly at Dwijendra University;
- The honorable Keynote Speaker from Russia, **Vera Shishkina** who is present virtually;
- The honorable, **Claudia Soares**, as the representative of the General Consulate of Timor Leste in Bali;
- The honorable, Rectors of other Universities or their representatives, who are pleased to attend this Conference;
- And also, the honorable Rector of Dwijendra University **Prof. Dr. Gede Sedana, M.Sc., MMA.** and other unit headmasters within the Dwijendra Foundation

As a religious person, I begin this speech by inviting all attendees to express gratitude to Ida Sang Hyang Widhi Wasa / The Almighty God because of His *Asung Kerta Wara Nugraha* blessings, we can all be present here in a healthy condition to attend the International Conference on Strengthening Capacities of Multi-sectors Toward Sustainable Development held today, Saturday, April 27th, 2024 at the Sadu Gocara Hall, Dwijendra Foundation.

The Head of LLDIKTI Region VIII and my respected attendees,

Sustainable Development is one of the most important issues to be raised in national and global development. Sustainable Development is aimed at meeting the needs of the current generation without reducing the ability of future generations by considering social, economic, technical, and environmental aspects. Thus, Sustainable Development must be part of the long-term development strategy that does not aim to endanger the environment, exploit natural resources excessively and unwisely, and create social inequalities, to improve the current and future welfare of the community. I, the Chairman of the Executive

Board of Dwijendra Foundation, have a vision of Hinduism and Balinese Culture and Literature and appreciate the determination of Sustainable Development as topic because it is a manifestation of the philosophy of Balinese Hinduism, namely Tri Hita Karana.

The Head of LLDIKTI Region VIII and my respected attendees,

Development that covers various sectors and aspects, really requires several important principles in the implementation of Sustainable Development which can be used as the basis for the development of an area, the preparation of integrated and sustainable policies, plans and programs. To highlight, I state that the principle of sustainable development will be the core key to carrying out better development, higher quality, and a sustainable future.

The Head of LLDIKTI Region VIII and my respected attendees,

I sincerely hope that your presence at this international conference can share knowledge and technology, experiences both conducted through empirical research and other research. Thus, this organized conference might give a significant benefit to the process and implementation of development in each region and country, in addition to increasing insight and critical and constructive thoughts for participants regarding Sustainable Development. Let Dwijendra University as a part of the Dwijendra Foundation, be a forum for mutual interaction and communication related to the application of research results and studies on development that provide benefits to society and the environment.

The Head of LLDIKTI Region VIII and respected attendees,

That is the end of my welcoming speech. I thank you to the Head of LLDIKTI Region VIII, **Dr. Ir. I Gusti Lanang Bagus Eratodi, S.T., M.T., IPU, ASEAN.Eng** who has kindly attended and as a keynote speaker, as well as other keynote speakers and international conference participants both onsite and virtually.

Hopefully, you will enjoy and get inspiration on your visit to our place, the Dwijendra Foundation, one of the oldest foundations in Bali, and as the preservation time preserve Balinese culture which is very noble (*Adi Luwung*). Furthermore, I also would like to thank to the organizing committee for preparing this conference event until it has been carried out according to the plan that has been set.

Please enjoy the conference. Hopefully, it will be run smoothly. That's all and thank you, I close my welcoming speech by *Parama Santhi*.

Om Shanti, Shanti, Shanti, Om

Denpasar, April 27th 2024



Nyoman Satia Negara

The Chairman of the Executive Board of
Dwijendra Foundation

Dr. I Nyoman Satia Negara, SH. MH.

FOREWORD BY RECTOR OF DWIJENDRA UNIVERSITY

Om Swastyastu,

We would like to express our gratitude to Ida Sang Hyang Widhi Wasa for all His blessings, grace, and gifts so that the Proceedings of the International Conference on Strengthening Capacities Of Multi-Sectors Toward Sustainable Development could be published.

As Rector, I am proud that this proceeding was born from a collection of several writings from extraordinary authors from several universities, both from within and outside the country. This Proceedings symbolises intellectual collaboration and is a window into new thoughts, creative ideas and ideas put into writing.

Through each page, I invite you to expand your thinking horizons, deepen your insights, and explore the diverse viewpoints offered by the esteemed authors. I believe that through reading and reflection, we can create positive change in our world.

Thank you to all who have contributed to the publication of these proceedings from the brilliant authors to the dedicated editorial team. Without their hard work, this proceedings would never have reached its final stage.

Finally, I hope that every page of these proceedings can inspire and give new insights to the readers. May it open doors to deeper understanding and inspire you to keep learning and growing.

Thank you,

Om Santhi, Santhi, Santhi Om

Denpasar, April 27th, 2024.



Rector of Dwijendra University,
Prof. Dr. Ir. Gede Sedana, M.Sc., M.M.A



FOREWORD BY CHAIRWOMAN OF THE COMMITTEE

Om Swastyastu,

We would like to express our gratitude to Ida Sang Hyang Widhi Wasa for all His blessings, grace, and gifts so that the Proceedings of the International Conference on Strengthening Capacities Of Multi-Sectors Toward Sustainable Development could be published.

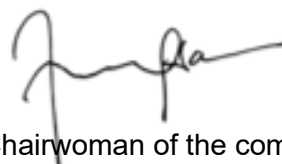
This proceeding is a collection of scientific works by speakers from various institutions/universities and various backgrounds of expertise which were presented at the International Conference on Strengthening Capacities Of Multi-Sectors Toward Sustainable Development which was held on April 27^h, 2024 at Dwijendra University. This conference was attended by 101 participants and invited guests from various institutions and universities in Indonesia, the Philippines, Malaysia, Russia, Vietnam and India. There were 71 papers presented from various institutions and universities.

Dwijendra University as the organizer of the International Conference on Strengthening Capacities Of Multi-Sectors Toward Sustainable Development would like to express our deepest gratitude to all committee members, speakers, moderators, as well as presenters and listeners who have actively participated in the conference. We would also like to extend our gratitude to the entire board of Editors and Reviewers who have selected, gave an assessments, directions, input, and corrections to the submitted papers, therefore it deserves to be published in this proceeding. Special thanks to HKTI, PGRI Mahadewa University, Dhyana Pura University, Ngurah Rai University, Bulacan Agricultural State College, Krasnoyarsk State Pedagogical University (Russia), Universiti Tunku Abdul Rahman (Malaysia), Premaloka International and Dwijendra University who have supported this International Conference.

It is our hope that this proceeding will provide benefits to readers, as well as become a reference in strengthening capacities of multi-sector toward sustainable development. We really hope for the constructive criticism and suggestions for the improvement of the conference activities and further proceeding publication.

Om Shanti Shanti Shanti, Om

Denpasar, April 27th, 2024.



Chairwoman of the committee,
Dr. Frysa Wiriantari

Table of Contents

WELCOMING SPEECH CHAIRMAN OF EXECUTIVE BOARD OF DWIJENDRA FOUNDATION	i
FOREWORD BY RECTOR OF DWIJENDRA UNIVERSITY	iii
FOREWORD BY CHAIRWOMAN OF THE COMMITTEE	iv
TABLE OF CONTENTS	v
ESTABLISHING SUSTAINABLE COFFEE BUSINESS PARTNERSHIP AT THE FARM LEVEL	1-9
Gede Sedana (Indonesia)	
SMART AGRICULTURE, VERTICAL FARMING AND AUTOMATED SYSTEM APPLICATION IN SUSTAINABLE CROP	10-13
Meriam F. Sulit (The Philippines)	
INTERCULTURAL COMMUNICATION AS A MEANS OF RUSSIAN LANGUAGE LEARNING MOTIVATION IN PARTNER UNIVERSITIES OF THE REPUBLIC OF INDONESIA	14-16
Ilina Nina (the Russian Federation), Shishkina Vera (the Russian Federation)	
STRENGTHENING CAPACITIES OF MULTI-SECTORS TOWARD SUSTAINABLE DEVELOPMENT IN ARCHITECTURE EDUCATION	17-23
Abd Muluk Bin Abd Manan (Malaysia)	
COVID-19 PANDEMIC: FINANCIAL PERFORMANCE IN RURAL BANK IN BALI	24-34
Putu Mas Martiniasih (Indonesia), Christimulia Purnama Trimurti (Indonesia), Yeyen Komalasari (Indonesia) and Gusti Ngurah Joko Adinegara (Indonesia)	
THE INFLUENCE OF THE SOCIAL SYSTEM ON THE ADOPTION OF COMBINE HARVESTER INNOVATIONS IN SUBAK BENGKEL, TABANAN REGENCY	35-41
Pande Made Ari Ananta Paramartha (Indonesia) and Ni Ketut Karyati (Indonesia)	
ENFORCEMENT OF BUSINESS COMPETITION LAWS IN IMPLEMENTATION INDIRECT EVIDENCE (<i>Direct evidence</i>) AGAINST CARTEL PRACTICES	42-47
Ni Made Trisna Dewi (Indonesia) and Ni Putu Putri Rahmayanti (Indonesia)	
UNDERSTANDING OF THE MUSLIM COMMUNITY REGARDING THE BARTER TRADE LAW INVOLVING MUNCIBUT EXAMINED FROM THE PERSPECTIVE OF INDONESIAN ULEMA COUNCIL FATWA NO. 48 OF 2019 ON THE CONSUMPTION LAW OF SQUIRRELS AND CHIPMUNKS (CASE	48-54

STUDY IN NDOKUM SIROGA VILLAGE, SIMPANG EMPAT SUB-DISTRICT, KARO REGENCY)

Fahri Roja Sitepu (Indonesia)

OVERVIEW: THE ABIOTIC FACTORS 'STRESS AND LIGHTING' HAVE AN INFLUENCE ON THE BIOACTIVE COMPOUND FLAVONOID IN STRAWBERRY PLANT

55-65

Enceng Sobari (Indonesia)

DETERMINATION OF SOIL WATER CONTENT

66-69

Made Mika Mega Astuthi (Indonesia) and Kadek Ayu Charisma Julia Dewi (Indonesia)

EXPLORATION OF PESTS ON PLANTS IN GERIH TOURISM PARK, SIBANG KAJA VILLAGE, ABIANSEMAL DISTRICT, BADUNG REGENCY, BALI

70-75

I Wayan Dirgayana (Indonesia)

EFFECT OF ENDOMYCORRHIZA DOSAGE ON GROWTH OF SALAK PLANTS (*Salacca edulis* L.)

76-80

Dewa Ayu Ari Febriyanti (Indonesia) and Dicky Marsadi (Indonesia)

THE META-ANALYSIS OF PROBLEM BASED LEARNING (PBL) LEARNING MODEL TO IMPROVE STUDENTS' CRITICAL THINKING SKILL

81-88

Dewa Ayu Made Manu Okta priantini (Indonesia)

LEGAL CERTAINTY FOR FILLING THE POSITION OF DEPUTY REGIONAL HEAD OF REGENCY AND MUNICIPALITY

89-99

Agus Surya Manika (Indonesia), Pandapotan Sinaga (Indonesia), Luh Putu Kristina Indriyanti (Indonesia)

LEGAL CONSEQUENCES OF FIDUCIARY AGREEMENT MADE UNILATEDLY BY THE FINANCING INSTITUTION WITHOUT THE PRESENCE OF CONSUMER IN FRONT OF NOTARY

100-106

Anak Agung Sagung Ngurah Indradewi (Indonesia), I Wayan Partama Putra (Indonesia), Yohan Kapitan (Indonesia)

IMPLEMENTATION OF CHILD ADOPTION (ADOPTION) OUTSIDE OF MARRIAGE BY A WOMAN'S FAMILY JUDGING FROM LAMBOYA CUSTOMARY LAW IN WEST SUMBA REGENCY (NTT) BASED ON LAW NUMBER 35 OF 2014 ABOUT CHILD PROTECTION

107-115

AA Mas Adi Trinaya Dewi (Indonesia), Herinimus Baiya (Indonesia)

THE INFLUENCE OF THE AVAILABILITY PRODUCTION FACILITIES AND FARMING SUBSISTEM FOR LONG BEANS (*Vigna Sinensis* L.) ON

116-121

PRODUCTIVITY IN SUBAK DAUH UMA TEBEN, BATUAN VILLAGE, SUKAWATI DISTRICT, GIANYAR REGENCY	
I Nengah Surata Adnyana (Indonesia), Ni Nengah Yastini (Indonesia)	
LEGAL PROTECTION AGAINST WASTE POLLUTION THAT RESULTS ENVIRONMENTAL DAMAGE IN COASTAL AREAS	122-130
Ni Putu Yunika Sulistyawati (Indonesia)	
PAKCOY PLANT(<i>Brassica rapa</i>, L.) RESPONSE ON RICE WASHING WATER APPLICATION	131-135
Ni Made Intan Maulina (Indonesia)	
LEGAL PROTECTION OF CHILDREN AS VICTIMS OF CRIMINAL ABUSE	136-141
Anak Agung Linda Cantika (Indonesia), Dewa Ayu Rai Bintang Mahottami (Indonesia)	
THE IMPACT OF THE IMPLEMENTATION OF MOBILE APPLICATION FOR CHILDREN WITH DYSGRAPHIA	142-156
Ni Made Yuniari (Indonesia)	
REFLECTIONS ON THE JOURNEY OF MERDEKA BELAJAR KAMPUS MERDEKA CURRICULUM (MBKM) IN HIGHER EDUCATION	157-161
I Gusti Ngurah Santika (Indonesia), Ni Wayan Swarniti (Indonesia) and I Gede Sujana (Indonesia)	
POLICY SOCIALIZATION OF CAMPUS CANTEEN AT UNIVERSITAS NGURAH RAI BALI INDONESIA	162-166
Ni Putu Tirka Widanti (Indonesia) and I Made Kariyana (Indonesia)	
DIGITAL BOOKS IN THE LEARNING PROCESS: SYSTEMIC LITERATURE REVIEW	167-175
I Gusti Agung Ngurah Trisna Jayantika (Indonesia), Ketut Agustini (Indonesia), I Gde Wawan Sudhata (Indonesia), and Gede Rasben Dantes (Indonesia)	
IMPLEMENTATION OF PANCASILA VALUES IN THE TRI HITA KARANA CONCEPT	176-181
I Made Sila (Indonesia)	
SERANGAN TURTLE ISLAND: LOCAL WISDOM OF A TOURISM AREA USING A GREEN MARKETING APPROACH AND KEY OPINION LEADER (KOL) MARKETING BASED ON INFORMATION AND COMMUNICATION OF TECHNOLOGY (ICT) (Case Study: Turtle Conservation Tourist Attraction On Serangan Island, Denpasar City, Bali Province)	182-187
Ida Ayu Chandra Lestari (Indonesia), Dr. Dra. I Gusti Ayu Wimba, M.M, (Indonesia) and Dr. I.A. Putu Widani Sugianingrat, S.E., M.M (Indonesia)	

THE IMPLEMENTATION OF COMMUNICATION PSYCHOLOGY IN BUILDING SELF-CONFIDENCE FOR CHILDREN IN ORPHANAGES AMONG CAREGIVERS AT TAT TWAM ASI ORPHANAGE, DENPASAR	188-192
Ketut Alit Pratiwi (Indonesia), Astuti Wijayanti (Indonesia), I Made Sutika (Indonesia), Ni Made Pujani (Indonesia), and NK Diah Apriani (Indonesia)	
EXPLORING THAI SCIENTISTS' BEHAVIOR TO ENGAGE IN SCIENCE COMMUNICATION TRAINING	193-200
Pham Truong Giang (Vietnam), N Paoprasert (Thailand), S Srisawadi (Thailand), Joe Pacal (United Kingdom)	
DEVELOPMENT STRATEGY FOR ARABICA COFFEE FARMING IN MANIKLIYU VILLAGE, KINTAMANI SUBDISTRICT, BANGLI REGENCY, BALI PROVINCE	201-208
Luh Anggreni Dewi (Indonesia)	
THE INTEGRATION OF STIRRING AND SETTLING ACTIVITIES IN COMMUNICATIVE ESP CLASSROOM WITH THE USE OF LMS	209-216
Putu Tika Virginiya (Indonesia) and Ni Made Lisma Martarini (Indonesia)	
SUSTAINABLE DIGITAL FOOD SUPPLY CHAIN IN INDONESIA	217-225
Bayu Sumantri (Indonesia)	
THE APPLICATION OF LEARNING TECHNOLOGY TO SHAPE THE MOTIVATION OF WRITING LITERACY AND THE FORMATION HABIT OF RURAL STUDENTS IN INDONESIA	226-239
Harmita Sari (Indonesia), Ming-Chou Liu (Republic of China), Anshari (Indonesia), Abdul Halim (Indonesia), Rahmat Kamaruddin (Indonesia), Nurhayati (Indonesia)	
BALINESE LANGUAGE LEARNING IN THE ERA OF MODERNIZATION	240-(246
I Gusti Ayu Putu Istri Aryasuari (Indonesia), Ida Ayu Novita Yogandewi (Indonesia)	
SERVANT LEADERSHIP STRATEGIES BY PRINCIPALS TO INCREASE TEACHERS' WORK MOTIVATION	247-253
Dr. I Wayan Aryawan, S.Si., M.Pd. (Indonesia)	
BALI HONEY BEE CULTIVATION COMMUNITY PARTNERSHIP PROGRAM KELE AGROWING ETHNO BALI IN BAHA VILLAGE	254-261
I Komang Sukendra (Indonesia), I Made Darmada (Indonesia), I Made Subrata (Indonesia)	
MARKETING COMMUNICATION STRATEGY IN SALES OF WE COFFEE ROASTER PRODUCTS	262-267
Ni Nyoman Cipta Dewi (Indonesia), Maria Gracela Bili (Indonesia)	

DEVELOPMENT OF VEGETABLE SALES ACTIVITIES THROUGH DIGITAL TECHNOLOGY IN THE PASAR RAKYAT GIANYAR	268-270
Ida Ayu Candrika Dewi (Indonesia)	
DESIGNING THE BUSINESS STRATEGY FOR PT XYZ	271-278
Salsabila (Indonesia), Argo Hadi Kusumo (Indonesia) ,Esti Dwi Rinawiyanti (Indonesia)	
THE LEGAL POWER OF THE NOTARY'S COVERNOTE IN CREDIT AGREEMENTS GUARANTEE LEGAL PERSPECTIVE	279-283
Sang Ayu Made Ary Kusumawardhani (Indonesia)	
DYNAMICS OF POLITICAL COMMUNICATION OF PURI UBUD FIGURES IN THE GLOBAL ERA	284-297
I Wayan Suartawan (Indonesia), Ni Made Adi Novayanti (Indonesia) and Astuti Wijayanti (Indonesia)	
MANAGEMENT AND BUSINESS: THE EFFECT OF SWOT ANALYSIS AND COMPUTER INFORMATION TECHNOLOGY (ICT) IN THE DIGITAL BUSINESS 5.0 ON THE DEVELOPMENT OF CULINARY MSMES IN PEMATANG SIANTAR CITY, NORTH SUMATRA	298-304
Agung Yudha Permana (Indonesia), Junaedi Oloan Sinaga (Indonesia), Rindy Antika Suri (Indonesia), Susan Pransiska (Indonesia), and Elfina Okto Posmaida Damanik (Indonesia).	
IMPROVING HOTEL EMPLOYEE PERFORMANCE THROUGH THE MEDIATING ROLE JOB SATISFACTION	305-311
Ni Putu Dian Hariasih (Indonesia), Anak Agung Ngurah Gede Sadiartha (Indonesia), and I Gede Aryana Mahayasa (Indonesia)	
MANAGEMENT AND BUSINESS: INFLUENCE OF PRODUCT QUALITY AND PRICE ON INTERESTED TO BUY SKINCARE SKINTIFIC PRODUCTS FOR STUDENTS OF UNIVERSITY ECONOMIC FACULTS	312-317
Sonia A. Butar-Butar (Indonesia), Nety Harefa (Indonesia), Jantri H. Sinaga (Indonesia), Rindu Anggita P. (Indonesia), Aditiya (Indonesia), and Resna Napitu (Indonesia)	
THE ROLE OF PERSONAL SELLING IN MEDIATING THE EFFECT OF SALES PROMOTION ON THE DECISIONS TO PURCHASE REVLON BEAUTY PRODUCTS AN EMPIRICAL STUDY AT NATALIA'S SHOP IN DENPASAR	318-325
I Wayan Tantra (Indonesia), Ida Bagus Ngurah Wimpascima (Indonesia), and Ni Luh Putu Riska Hestyari (Indonesia)	

THE EFFECT OF WORKLOAD ON EMPLOYEES OF PT. WAHANA PUTRA YUDHA PEMATANGSIANTAR	326-332
Sabrina Maharani Lamno (Indonesia), Zafirah Rizky Amani (Indonesia), Indra Raya Fernando (Indonesia), Yessi Febriyani (Indonesia), and Kristianto (Indonesia)	
THE ROLE OF WORLD BANK IN DEVELOPMENT OF JELOJOK MARKET IN SUPPORTING ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT GOALS IN CENTRAL LOMBOK, WEST NUSA TENGGARA	333-343
Sirwan Yazid Bustami (Indonesia)	
STRATEGY FOR DEVELOPING PROCESSED FISH PRODUCTS IN AN EFFORT TO INCREASE THE INCOME OF WOMEN FARMERS' GROUP IN ULAKAN VILLAGE, MANGGIS DISTRICT, KARANGASEM REGENCY	358-364
I Gusti Agung Nyoman Dhanañjaya (Indonesia)	
REVITALIZING TRADITIONAL ARCHITECTURE FOR CONTEMPORARY HOUSING IN BALI	365-373
Arya Bagus Mahadwijati Wijatmaja (Indonesia), Frysa Wiriantari (Indonesia), and Putu Gde Ery Suardana (Indonesia).	
THE PROFILE OF PANCASILA STUDENTS AS A SUPPORT FORCE IN DEMOCRATIC EDUCATION IMPLEMENTATION	374-382
Putu Ronny Angga Mahendra (Indonesia)	
THE IMPACT OF USING ARTIFICIAL INTELLIGENCE IN ENGLISH LEARNING AMONG ENGLISH LANGUAGE EDUCATION AND LITERATURE STUDENTS	383-389
Ni Made Dwi Utari Pusparini (Indonesia)	
OPTIMISATION OF CAMPUS ENVIRONMENT BASED ON INTERNET OF THINKS FOR POWER ENHANCEMENT OF MONOCRYSTALLINE SOLAR PANELS	390-398
Andi Chairunnas (Indonesia), Muhammad Dwi Erlangga (Indonesia), Dendy Saeful Zen MF (Indonesia), and Biyan Firmansyah (Indonesia)	
POTENTIAL OF CARRAGEENAN PGP AND SYNTHETIC FERTILIZER IN IMPROVING GROWTH AND YIELD OF AEROBIC RICE	399-408
Nerilyn J. Victoria (Indonesia), Albert P. Ulac (Indonesia), and Dr. Dinah Marie C. Dayag (Indonesia)	
UNVEILING EFFICIENCY CHALLENGES IN WEST JAVA'S CHILI PRODUCTION: A PATHWAY TO ENHANCING INDONESIA'S FOOD SECURITY	409-418
Raden Trizaldi Prima Alamsyah (Indonesia), Eliana Wulandari (Indonesia), Zumi Saidah (Indonesia), and Hepi Hapsari (Indonesia)	

CORPORATE SOCIAL RESPONSIBILITY AND INFORMATION ASYMMETRY IN 2SLS ESTIMATION OF DYNAMIC SIMULTANEOUS EQUATION MODELS	419-424
Irdha Yusra (Indonesia)	
THE INFLUENCE OF PRICE EARNING RATIO (PER), DEBT OF EQUITY RATIO (DER), AND RETURN ON ASSET (ROA) ON PRICE BOOK VALUE (PBV) (Case Study on State-Owned Enterprises in The Energy and Mining Sector Listed on The Indonesian Stock Exchange)	425-430
Zainal Abidin (Indonesia), Faisal Rizal Zainal (Indonesia), N. Ikawidjaja (Indonesia), Danial (Indonesia), RD. Sastra Darmakusumah (Indonesia)	
COMMUNITY EMPOWERMENT IN AGRIBUSINESS GOVERNANCE AT THE CITARIK SUB WATERSHED IN TANJUNGWANGI VILLAGE, CICALENGKA DISTRICT, BANDUNG REGENCY. WEST JAVA, INDONESIA	431-440
Alamsyah (Indonesia), Iwan Setiawan (Indonesia), Ristina Siti Sundari (Indonesia), Predi Nanda (Indonesia)	
PRESERVING CULTURAL HERITAGE IN BALI: SUSTAINABLE ARCHITECTURAL STRATEGIES FOR TOURISM DEVELOPMENT	441-446
Frysa Wiriantari (Indonesia), Anak Agung Ayu Sri Ratih Yulianasari (Indonesia)	
HOW 'KAMPUS MENGAJAR' PROGRAMS SUSTAINABLY AFFECTS ELEMENTARY SCHOOL LITERACY DEVELOPMENT?	447-457
Dewi Juniayanti (Indonesia), Dewa Made Dwicky Putra Nugraha (Indonesia)	
ANALYZING THE ANDRAGOGY PRINCIPLES TO BOOST LITERACY SKILLS OF UNIVERSITY STUDENTS	458-465
I Komang Dedik Suúlla (Indonesia)	
AN INNOVATIVE LEARNING MODEL BASED ON FLIPPED CLASSROOM IN TEACHING ENGLISH FOR YOUNG LEARNERS	466-472
I Gusti Ayu Indah Triana Juliari (Indonesia)	
THE CONTRIBUTION OF ARCHITECTURE TO SUSTAINABLE DEVELOPMENT: APPLICATION OF GREEN ARCHITECTURE AS A STRATEGY FOR REALIZING SUSTAINABLE ARCHITECTURE (CASE STUDY: TRADITIONAL BALINESE HOUSE IN BANGLI AND MODERN CAFE IN UBUD)	473-479
Ni Putu Yunita Laura Vianthi (Indonesia), I Ketut Adhimastra (Indonesia)	
BUSINESS INNOVATION FOR SUSTAINABLE DEVELOPMENT: STRATEGIES AND CHALLENGES IN THE MODERN ERA	480-484
Gusti Ayu Mahanavami (Indonesia), Wiryawan Suputra Gumi (Indonesia), and I Nyoman Parta (Indonesia)	
EDUCATION FOR SUSTAINABLE BUILDING IN THE PASRAMAN PURNAJATI	485-490
Putri Anggreni (Indonesia)	
DESIGN INNOVATION AT TOURIST FACILITIES (RESTAURANT AND COFFEE SHOP) IN KINTAMANI, BANGLI: CHALLENGES AND OPPORTUNITIES FOR TOURISM DEVELOPMENT	491-497

Desak Made Sukma Widiyani (Indonesia), Ni Putu Yunita Laura Vianthi (Indonesia), I Gusti Agung Laksmi Swaryputri (Indonesia)	
PROJECT BASED E-MODULE DEVELOPMENT FLIPBOOK APPLICATION-ASSISTED LEARNING FOR IMPROVE STUDENTS' CRITICAL THINKING SKILLS ELEMENTARY SCHOOL	498-505
I Made Astra Winaya (Indonesia), Ni Luh Gede Karang Widiastuti (Indonesia)	
ANALYSIS OF FACTORS INFLUENCING AGRICULTURAL EXTENSION WORKERS IN ADOPTING SMART TECHNOLOGY IN WEST JAVA	506-516
Indra Irjani Dewijanti (Indonesia), Hepi Hapsari (Indonesia), and Eliana Wulandari (Indonesia)	
ENFORCEMENT OF CORRUPTION CRIMINAL LAWS BY THE POLICE IN THE IMPLEMENTATION OF GRANTS FOR THE COMMUNITY	517-523
I Made Wahyu Chandra Satriana (Indonesia), I Wayan Suparta (Indonesia), I Ketut Adi Subagia, (Indonesia)	
POLICY FORMULATION REGULATIONS FOR MANAGEMENT AND UTILIZATION OF FISHERY RESOURCE CATCHES FOR PEOPLE'S WELFARE	524-534
Ni Made Liana Dewi (Indonesia), I Made Angga Mastrawan (Indonesia), I Made Surya Dharma Putra (Indonesia)	
HATE SPEECH IN THE 2024 PRESIDENTIAL ELECTION (PILPRES): FORENSIC LINGUISTIC STUDY	535-546
I Ketut Suar Adnyana (Indonesia) and Wayan Meter (Indonesia)	
IMPLEMENTATION OF GREEN BUILDING IN BALI: CHALLENGES AND OPPORTUNITIES IN SUSTAINABLE DEVELOPMENT	547-551
Putu Gde Ery Suardana (Indonesia), and Arya Bagus Mahadwijati Wijaatmaja (Indonesia)	
CONSUMPTIVE BEHAVIOR AS AN INTERVENING ON THE INFLUENCE OF RELATED FACTORS ON ONLINE PURCHASE DECISIONS	552-558
TM Kusuma (Indonesia), and NW Deriani (Indonesia)	
THE EXISTENCE OF TELAJAKAN IN BALI AS AN IMPLEMENTATION TRI HITA KARANA	559-563
Kadek Yuniari Suryatini (Indonesia), Anak Agung Istri Mirah Dharmadewi (Indonesia), I Gusti Ayu Rai (Indonesia)	

ESTABLISHING SUSTAINABLE COFFEE BUSINESS PARTNERSHIP AT THE FARM LEVEL

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ABSTRACT

In Indonesia, the agricultural sector still has a significant role in the national economy, such as the plantation subsector, namely the coffee commodity which is able to contribute to the country's foreign exchange aside from meeting domestic industrial needs. Coffee business partnerships are needed to provide added value and profits among market actors. This study aims to provide an overview of the concept of building sustainable coffee business partnerships. This study was carried out in two coffee production centers, namely Pupuan District, Tabanan Regency as a center for Robusta coffee production, and Kintamani District, Bangli Regency, as a center for Arabica coffee production. The key respondents selected were farmers, farmer group administrators, coffee business actors, government and universities. Data was collected using interview techniques, observation, documentation and focus group discussions. Data analysis uses descriptive methods.

The research results show that coffee business partnerships in the Kintamani and Pupuan areas are one of the efforts that can be made to increase the income of coffee farmers. Business partnerships between market actors are based on a business model that is determined in advance. The market actors involved are farmers/coffee farmer groups, coffee entrepreneurs/coffee exporters, universities, financial institutions, government. This coffee business partnership aims to increase coffee production and the income of coffee farmers as producers. All market actors have a harmonious relationship and gain proportional economic benefits in playing their roles in this partnership. This means that developing coffee business partnerships will provide added value and income for coffee farmers as members of farmer groups. There is a need for intensive assistance to farmer groups, as well as monitoring and evaluation activities to realize the sustainability of coffee business partnerships.

Keywords: Partnership, business, coffee, market players, sustainability

I INTRODUCTION

The agricultural sector has a significant role in the economies of developing countries (). The plantation subsector in Indonesia is able to contribute to the country's foreign exchange in addition to meeting domestic industrial needs. One of the mainstay plantation commodities in Indonesia is coffee (Widya, *et al*, 2019; Sedana, 2024). Coffee products in Indonesia have specific flavors and vary according to geographical conditions (Supriadi and Pranowo, 2015; Ayelign *et al.*, 2013). Some of the specialty coffees known in Indonesia are Kintamani Coffee, Gayo Coffee, Toraja Coffee, Bajawa Coffee, Manggarai Coffee and other coffees (Sedana and Astawa, 2016). According to the altitude of the coffee plantations, there are two types of coffee that are generally grown by farmers in Indonesia, namely Robusta Coffee and Arabica Coffee. Economically, coffee is an internationally traded commodity where demand is increasing every year with market share in Asia, Europe and America. Indonesia is among the four largest coffee producing countries in the world (Kustari, 2007; Meiri, *et al*, 2013).

In several coffee producing countries, producer farmers manage their coffee plants for various functions such as social, cultural, economic and environmental (Kilian *et al.* 2006). For small farmers, coffee farming is the main source of income for their

families (Mutandwa et al. 2009). Managing coffee farming on relatively narrow land requires good farming management to obtain added value and increase farmers' income. Most of the management of coffee farming at the farmer level is not yet commercially oriented apart from the cultivation technology used is still relatively low so the average production is still low (Gisaro, *et al*, 2013). Several studies show that low coffee productivity is caused by less than optimal business partnerships between farmers and coffee companies that do business at both national and international levels, so that the market supply chain does not run in a balanced manner (Bellemare and Barrett 2006; Key, Sadoulet, and Janvry 2000; Fafchamps and Hill 2005).

Apart from that, the low productivity of coffee and the quality of fruit and coffee beans produced by farmers is due to the limited application of coffee cultivation technology at the farmer level, limited processing technology, low technical skills in coffee storage (Gathura, 2013; Megerssa, 2012). Meanwhile, coffee farmers in several developing countries also often experience problems in managing coffee farming, such as attacks by insect pests and diseases, low coffee prices at the farmer level, and limited facilities and infrastructure used to control pests and plant diseases, as well as a lack of personnel. skilled (Minh et al., 2016; Palmiro and Rossi, 2016; Acharya and Shiva 2014; Poudel, et al, 2009).

Apart from that, support from various stakeholders who are also market actors does not yet have a mutually beneficial relationship. Each party or market actor carries out its market activities without being based on a partnership relationship that shares roles to obtain proportional profits. In developing countries, including Indonesia, farmers have found weaknesses in the marketing process of their products such as coffee. Farmers have a weak bargaining position against other market players (Courtois and Subervie, 2014). They find it difficult to determine the price of their products so they "surrender" to accepting the prices determined by collecting traders, wholesalers, including exporters. There are several factors that result in a situation like this, including production locations that are difficult to reach, limited market information, the quality of the products produced is not optimal, cash needs at the farming family level, and so on. Government intervention is needed to facilitate the participation of small farmers and farmer groups, as well as other business actors in the coffee market chain, so that the products produced have high competitiveness (Arifin, 2013; Webber and Labaste, 2010). To maintain business, coffee producers must have good capacity and capabilities to produce and process their products with added value and high prices in the market. Therefore, efforts are needed to build business partnerships that link market actors in coffee development to ensure an increase in farmers' income. This article aims to provide an overview of the concept of building a sustainable coffee business partnership.

II METHOD

This research was conducted in two districts, namely Bangli Regency and Tabanan Regency, which were selected using purposive sampling, taking into account that these two areas are coffee production centers in Bali Province. The Arabica Coffee production center is in Kintamani District (Bangli Regency), and the Robusta Coffee production center is in Pupuan District (Tabanan Regency). The key respondents selected were farmer group administrators in the two sub-districts, local traders, exporters, government officials, management of the Bali Development Bank (local bank), researchers from universities. The data required is data relating to the coffee production process, post-harvest (coffee processing and marketing) and other relevant data. Data was collected using interview techniques, observation, documentation and focus group discussions. Data were analyzed using descriptive methods.

III RESULTS AND DISCUSSION

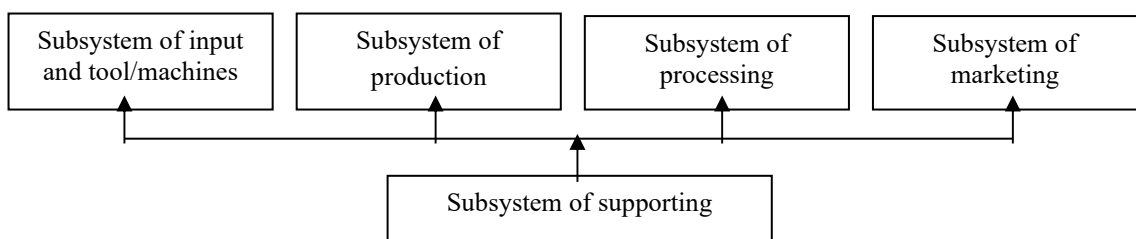
3.1 Agribusiness concept

Conceptually, the agribusiness system can be interpreted as a whole activity starting from the procurement, supply and distribution of production facilities, agricultural tools and machinery to the marketing of products produced by farming and agro-industrial activities which are related to one another. Apart from that, agribusiness can also be interpreted as a complete and comprehensive concept starting from production preparation, production processes, product processing, product marketing and other activities related to agricultural activities. Therefore, agribusiness is all business activities in the agricultural sector (in the broadest sense) where each activity is related and interdependent with each other. These activities fall into several subsystems, namely: (i) sub-system for procurement and distribution of production facilities, agricultural tools and machinery; (ii) farming or on-farm sub-system; (iii) product processing and storage sub-system (agro-industry); (iv) marketing sub-system; and (v) supporting sub-systems. This supporting sub-system includes various sectors that support the implementation of agricultural business activities, such as financial institutions (banks), infrastructure and facilities as well as transportation services, agricultural extension and training, information services (technology, finance/credit, markets), research activities, as well as government policies relating to agricultural business activities. The intended agribusiness system can be seen schematically in Figure 1.

In general, Arifin (2005) stated that the aim of agribusiness implemented in Indonesia is to encourage and accelerate activities in the agricultural sector; realizing a strong, efficient and dynamic economic structure; creating value added products; opening opportunities and business fields; and increasing the country's foreign exchange, as well as improving the distribution of community income. Simatupang (2002) firmly states that "farming is a business". The implementation of agribusiness in Indonesia is greatly influenced by the off-farm strategic environment such as the input and output marketing sub-system at both domestic and foreign levels, the dynamics of the rupiah exchange rate, domestic fiscal and monetary policies, and various other micro policies. Therefore, agribusiness development requires integrated, sustainable planning accompanied by agribusiness financing policies to strengthen the position of the agricultural sector in national economic development (Ashari, 2009).

Figure 1

System of agribusiness



The agribusiness concept above needs to be translated in real terms by various market actors in the coffee supply chain, namely from upstream (producer level) to downstream (consumer). Considering that coffee beans are an export commodity or international trade commodity, the existence of coffee exporters is a very important market actor, so that their linkages with producers, namely groups of farmers in business partnerships, must be well guaranteed (Fafchamps, and Minten. 2012). The experience of the coffee business which has been running well

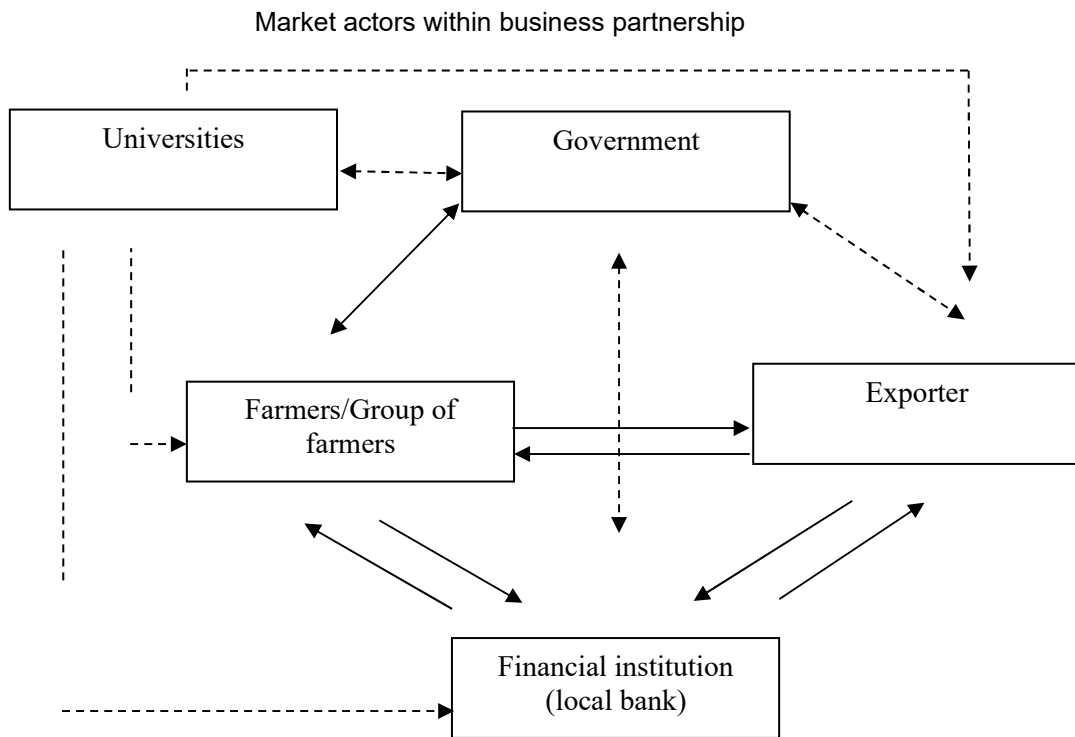
shows that the mutualistic relationship between farmer groups and farmer cooperatives in Flores and coffee exporters provides proportional economic benefits between them (Sedana and Astawa, 2016). This economic incentive is a profit obtained by each market actor which guarantees the sustainability of the coffee business partnership (Teece, 2010).

3.2 Building a Coffee Business Partnership in Bali

Coffee business partnerships built between market actors must be preceded by the preparation of a coffee business model. Through the planned business model, market actors know their respective roles, duties and functions in the market supply chain, including the economic and non-economic benefits they receive. The business model that has been formulated is an agreement among all market actors which must be used as a guideline in carrying out coffee business partnerships. Thus, a coffee business partnership based on this business model will provide added value to each market actor (Casapuas-Masanell and Ricart, 2010).

The market actors involved in coffee business partnerships are farmers (farmer groups or coffee farmer cooperatives), exporters, financial institutions (banks), government, universities as depicted in Figure 2.

Figure 2



Remarks

- > Inter-dependency
- <-----> Coordination
- > Facilitation

Paying attention to the business model in Figure 2, farmer groups/cooperatives have an interdependent relationship. Farmer groups/cooperatives provide quality coffee products according to exporters' requests, while exporters provide rupiah value for their coffee products, and also provide technical assistance to farmer groups/cooperatives. Exporters will not get quality coffee if farmers are not given technical assistance, especially regarding quality coffee products. Likewise, it will be difficult for farmers to get a decent price if they do not have profitable partnerships with exporters. Between exporters and farmer groups/cooperatives, production plans must be made, the products to be transacted during the harvest season at an agreed price level. This agreement can be facilitated by the government as well as universities or NGOs. . Therefore, farmer groups/cooperatives are expected to have higher bargaining power over the coffee products produced (Sorrentino, et al., 2017). The facilitation provided is directed at providing opportunities for partnering parties to hold negotiations with each other (Alejandra, et al., 2012).

The mutualistic relationship between farmer groups/cooperatives and financial institutions is through credit. Credit distributed by the financial institution, Bali Regional Development Bank, to farmer groups/cooperatives will be used for additional business capital to produce coffee needed by exporters. Farmer groups/cooperatives provide compensation for services in the form of interest to financial institutions

The roles and functions of each actor in the business partnership can be expected to be carried out so that there is no dysfunction in its implementation. The roles that producers (farmer groups or farmer cooperatives) can play are at least: (i) implementing good coffee cultivation technology or good agricultural practices (GAP) on their respective land; (ii) ensuring coffee plants are managed organically; (iii) harvest according to the color of the coffee fruit; (iv) carry out coffee processing in accordance with standard operational procedures as determined by the exporter; (iv) carry out good storage of coffee beans; and (v) providing quality coffee according to exporters' requests.

Meanwhile, coffee exporters have at least duties and roles such as: (i) providing standard operational procedures to farmer groups/cooperatives regarding coffee plant cultivation technology, coffee processing; (ii) providing technical assistance to farmer groups/cooperatives; (iii) supervising coffee management at the farmer group/cooperative level; (iv) assist with technical equipment required in accordance with the agreement; (v) providing freight transportation infrastructure. Exporters provide periodic technical guidance to the farmer level through farmer groups/cooperatives in an effort to ensure that the technical conditions for cultivating coffee plants, harvesting and processing coffee are carried out in accordance with established standards. In this way, the provisions that have been set will be fulfilled, namely farmer groups/cooperatives producing quality coffee, namely specialty coffee which is in demand from exporters. This match between demand and supply provides a reasonable price level at the farmer level, so that the income and welfare of farmers is higher. The effect of increasing farmers' income is encouraging the rural economy through strengthening farmer groups or cooperatives (Astawa and Sedana, 2017).

The government at both provincial and district levels has a role as a regulator and facilitator regarding inclusive coffee management. Regulations or policies issued by the government can be in the form of making it easier to access credit from financial institutions, especially owned banks such as Regional Development Banks, policies on subsidies for production facilities and agricultural machinery, policies on improving infrastructure and transportation facilities. Apart from that, the government also provides facilitation in determining the price of coffee beans which will be determined between groups/cooperatives of farmers and exporters. Exporters also need to provide policies that build a conducive climate for their businesses in the region.

Financial institutions that are part of the business model in coffee business partnerships can have roles, including: (i) providing credit to farmer groups/cooperatives; (ii) providing technical assistance regarding financial administration, management, business plans to farmer groups/cooperatives; (iii) providing credit to exporters; and (iv) be a guarantor for farmer groups/farmer cooperatives in coffee bean purchase contracts between farmer groups/cooperatives and exporters.

Meanwhile, universities have roles and duties in facilitating activities related to business models. The simplest facilitation is to bring together actors to carry out business partnerships. Apart from that, the role that can be played is to provide technical training in coffee cultivation, management and administration skills to farmer groups/cooperatives in order to increase the capacity of their management.

Paying attention to the role and function of each market actor, coffee business partnerships require a strong commitment and commercial orientation from farmers and farmer groups/coffee farmer cooperatives in managing their coffee farming businesses. This commitment guarantees that a conducive climate will be created in implementing the established business model. Business partnerships that are built, especially between farmer groups/cooperatives and exporters, are based on business concepts, not charity.

At the farmer level, counseling and training regarding technical aspects (coffee cultivation), harvest and post-harvest techniques are also needed both by agricultural instructors from the government and also from exporters including universities (through theoretical and practical studies). Some of the cultivation and post-harvest techniques needed are starting from nurseries, plant maintenance (fertilizing, pruning, sanitation), grafting techniques (side grafting, top grafting), integrated pest and disease control, making organic fertilizer. Meanwhile, post-harvest technology concerns Good Post-harvest Practices (GPP) and Good Manufacturing Practices (GMP). Counseling and training is carried out directly at coffee processing centers, such as the location of the Product Processing Unit which is usually built in an area that is easily accessible to coffee farmers. At each processing unit, additional information is also required in the form of posters about GAP, GPP and GMP. As a form of partnership, exporters can provide standard facilities/equipment such as pulpers which are used to peel the red skin of coffee berries before further processing. Coffee processing infrastructure and facilities are needed to improve coffee quality (Hariance, et al, 2016). Meanwhile, simple warehouses and drying equipment can be provided by farmer groups/cooperatives. In fact, the government through its policies can provide assistance with infrastructure and other facilities that are really needed in the product processing units.

The results of research conducted in two coffee centers, namely Pupuan District and Kintamani District, obtained information that the exporter which has coffee activities in Bali Province is PT. Indokom Citra Persada is headquartered in Sidoarjo (East Java). Apart from that, there is also an exporter PT. Delta Park whose head office is in Semarang, Central Java. These two exporters also collaborate with local wholesalers in Bali to market coffee products in the form of both wet and dry processed coffee.

III CONCLUSION

Farmers in Indonesia cultivate Robusta and Arabica coffee on relatively limited land. Currently, there is still a fairly large gap between supply and demand for coffee on the international market. Increasing the welfare of coffee farmers is carried out through business partnerships based on business models. This partnership development includes market actors involved in the coffee supply chain. The productivity and quality of coffee at the farmer level is still relatively low due to the limited application of coffee cultivation technology and coffee processing. Apart from that, the market price of coffee is still relatively low so that

farmer incomes are low. This gap is also caused by non-performance of business partnerships in the coffee market chain.

Therefore, it is necessary to build coffee business partnerships as one of the efforts that can be made to increase the income of coffee farmers based on a business model that includes market actors. Market actors involved in the business model for inclusive coffee business development in Bali are farmers/coffee farmer groups, coffee entrepreneurs/coffee exporters, universities, financial institutions, government. The aim of this coffee business partnership is to increase coffee production and the income of coffee farmers as producers. All market actors must have a harmonious relationship in playing their roles based on the principle of proportional mutual benefit or business mutualism. This means that developing coffee business partnerships will provide added value and income for coffee farmers as members of farmer groups. There is a need for assistance and monitoring and evaluation activities to ensure the sustainability of the coffee business partnership.

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SMART AGRICULTURE, VERTICAL FARMING AND AUTOMATED SYSTEM APPLICATION IN SUSTAINABLE CROP PRODUCTION

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Abstract

Dwindling planet resources, deteriorating environmental conditions, increasing population and demand, and continuous requirements for food security and safety; are just some of the challenges that we are facing today not just by the government and academician but by agricultural community as well. Adds to this, is the continuous rise of farm inputs supplies including oil and gasoline dependent products that adds to the burden of the farming community. Government's solution through attached agency for research and extension coupled with the coordinated support from the academe had mandated to focus on future-ready solution on achieving sustainable development. It has been a prolonged problem searching the gap between this researches and realizing its effect and application to the farmers. Recognizing these, transition of the research trends to including the impact and adoption of the farming community of every project and research are encouraged and even required. In the side of the academe, research and extension focused on smart agriculture, vertical farming and automated system application in crop production had gained popularity and interest especially on ensuring that this researches results will reach and will make impact on the lives of the farmers, their family and the community. This government strategy had made sure that the gap and the missing link of this researches will make positive impact to the lives of the agricultural community through ensuring sustainability of the programs and projects.

Keywords : smart agriculture, vertical farming, automated system, sustainable crop production

I. INTRODUCTION

Dwindling planet resources, deteriorating environmental conditions, increasing population and demand, continuous requirements for food security and safety and climate change; are just some of the challenges that we are facing today not just by the government, academicians, researchers and by agricultural community as well. Increasing population demands for food security posing challenges to the agriculture sector to provide food for the people and to the government to provide basic needs, otherwise economic development may be humpered in the attempt to meet this requirement. It will have domino effect to the already scarce natural resources.

Climate change had affected agriculture sector vastly. El niño and La Niña phenomenon in the Philippines that is characterized by severe drought and extended heavy rains respectively, had devastated many farms and produce. Erratic weather phenomenon had alter the production system, food supply, marketing system and the economy, human ecology in general. Though climate change may either improve or worsen agricultural productivity, its negative impact had created problems and challenges and even post threats to the already challenged farmers. Adds to this, is the continuous rise of farm inputs supplies including oil and gasoline dependent products that adds to the burden of the farming community.

Soil-based field production in low land tropical areas are currently experiencing challenges such as environmental and natural disasters and climate change, on top of land infertility that had resulted from residual effect of too much usage of chemicals and pesticides (Nisha et al., 2018). Another problem is the tropical weather conditions in the Philippines that is being erratic that had resulted to change crop calendars. Furthermore, due to the tropical weather, growing crops in the lowland areas of the Philippines is seen to be impractical, but the requirement for sustainability of produce and food source is essential due to the increasing population demand (Capuno et al., 2014). Due to climate change, there are threats in the form of rising temperatures, frequent dry periods, and the unpredictability of the weather patterns. These are the serious problems in conventional soil-based production risky and unsustainable.

Urgent call to provide solutions to these problems challenged all governments in all countries to unify in catering the basic needs of the people, delaying the effects of these problems, preserve and improving the natural resources and conserving the environment for the future generations. In this call, the United Nations in 2015, together with the member countries adopted the 2030 Sustainable Development Goals (SDG) in the strategy of ending poverty and other deprivations through improving health and education, lessen inequality, and encouraging economic stability and growth simultaneously working together adversely with climate change effect but still preserving and conserving our environment oceans and forests that is attainable until 2030.

Responsible consumption and production also known as SDG 12 and 13 as climate action set forward by the United Nations are directing researches and government policy-making focus on sustainable and improving life (SDG 1 and 2). Functioning with SDG 17 known as partnership for the goals that encouraging all member states to have an integrated strategy in solving these problems by working hand-in-hand to save th future generations. This calls for humane-driven solutions with sustainable impact to the end-users, the farmers and the community as well.

Philippine government's solution through attached agency for research and extension coupled with the coordinated support from the academe had mandated to focus on future-ready solution on achieving sustainable development. It has been a prolonged problem searching the gap between this researches and realizing its effect and application to the farmers. Recognizing these, transition of the research trends to including the impact and adoption of the farming community of every project and research are encouraged and even required. In the side of the academe, research and extension focused on smart agriculture, vertical farming and automated system application in crop production had gained popularity and interest especially on ensuring that this researches results will reach and will make impact on the lives of the farmers, their family and the community through extension activities.

II. SMART AGRICULTURE, VERTICAL FARMING AND AUTOMATED SYSTEM

Smart agriculture, vertical farming, and automated systems have gained popularity and interest among researchers and farmers for showcasing its sustainability and impact to the lives of the farmers. It is seen as a viable solution as its approach may improve agricultural industry and productivity. Smart agriculture is known for its management concept, adoption and practice of usage of leverage advanced information and communication technologies like artificial intelligence (AI), drones, automation and robotics, sensors, location systems and the internet of things (IoT), in enhancing and optimizing thereby improving agriculture and food production. It is also known as smart farming and is also coined to reduce waste and optimize usage of farm inputs that include electricity, fuel, water and fertilizer. Precision agriculture, smart soil sensing for water optimization, cloud-based irrigation and climate-smart agriculture are some of the known smart agriculture strategies and techniques being

employed in improving agricultural industry and production and optimizing farm inputs.

Vertical farming allows the growing of crops vertically in small spaces thereby conserving planting area and optimizing space. This allows farmers to increase the planting density of the production by having a higher crop yield per square meter of area utilized. This is known an alternative to usual field production systems for some crops and is also expressed in higher area productivity that enables the farmer to recover the expenses for production and have higher profit. Usually, vertical farming is employed by the use of vertical growing structures, stacking pots or vertically stocked layers of plant boxes. Vertical farming is also introduced in peri-urban areas to allow agricultural production to satisfy the requirements in local setting.

Automated systems application in agriculture is usually coupled with smart agriculture in employing innovative leverage with the use of various advanced technological devices, sensors, programs and machinery to improve and automate operations in the farms including field production, monitoring and analytics, harvesting, processing, preserving and storage. The State of Food and Agriculture 2022 (FAO, 2022), presented the importance of the application of automation system in agriculture as having high potential for generating rural entrepreneurship opportunities, improving primary production contributing to higher income, reducing agricultural production risks, improving resilience and enhancing environmental sustainability. In general, the application of smart agriculture with automated systems and vertical farming will increase the efficiency of production and will optimize the use of natural resources. But for all these strategies to be effective, it has to impact to the lives of the end-users, the community or the farmers sustainably otherwise, all these efforts will just go to waste.

III. SUSTAINABLE AGRICULTURE AND CROP PRODUCTION

Sustainable agriculture's primary objective is to be able to increase agriculture yield and profit while at least conserving if not improving the environment. The National Institute of Food and Agriculture of the United States Department of Agriculture (USDA, 2024), cited the general objective of sustainable agriculture including an increase in profitable farm income, promote environmental stewardship, enhance the quality of life of farm families and communities, and increase in production for human food and fiber needs. Its importance according to USDA is designed to produce long-term results such as food security including feed, fiber, and fuel to meet the needs of the increasing population, improve and conserve the environment and expand or prolong the supply of natural resources, and spur the economic growth and viability of agriculture sector.

With these at hand, the sustainable development strategy that will be implemented by the government must make a visible impact on the lives of the people. These strategies should engage farmers including their households and the community in the development and adoption of practicable and applicable agricultural production practices that are profitable but still preserving the environment. Coordinated and targeted approach in the academe in supporting research and extension that are intended to help uplift current agriculture sector's situation and the lives of the farmers through improve, profitable and efficient production. It is also important that by doing so, the process will not create another problem such as threats from pests and diseases as well as conserving the quality of surface water and groundwater resources.

The Bulacan Agricultural State College (BASC) had several smart agriculture, vertical farming and automated systems to cite a few are peri-urban gardening, aquaponics and hydroponics systems, root zone cooled hydroponics systems with

micro climate automated systems and automated drip irrigation system. The root zone cooling system are being employed to provide solution to control environmental factors affecting production such as temperature and relative humidity, that has direct effect on the water quality parameters especially with hydroponics production. Several studies had shown positive effect of regulating the nutrient solution (NS) focused on the root zone of the crops in increasing its viability. A study (Sulit, et al, 2023) revealed that regulating the nutrient solution using ground-heat exchanger cooling system and condenser cooling system technologies increases the fresh weight and water productivity of crops. Intensification of production is necessarily for this type of alternatives to cope with the capital and expenses while employing smart agriculture technologies. Crops growth and development was greatly affected by environmental factors especially high temperature in the rootzone that resulted to reduced leaf, stem, and fresh and dry weight (Thakulla, et al, 2021). Nutrient film technique hydroponic system with precision automated cooling systems and application of internet of things using rootzone cooling technologies (RZCT) system is one of the possible alternative technologies that may be use to regulated water quality parameters and climatic effects, alleviate low production in lowland tropical condition and ensure food security. Researches and programs conducted by BASC were being encouraged to extend to the end-users, farmers and their household. This strategy ensures that this researches and program will have positive impact to uplift their lives.

IV. CONCLUSION

The success of sustainable agriculture strategies like the application of smart agriculture, vertical farming and automated systems can be measured through the benefits and impact to the farmers by elevating the lives of the end-users, the farmers and the community, through increase crop yield and profits, enhanced agricultural production and optimized utilization of natural resources by simultaneously preserving and conserving if not improving the environment and natural resources.

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INTERCULTURAL COMMUNICATION AS A MEANS OF RUSSIAN LANGUAGE LEARNING MOTIVATION IN PARTNER UNIVERSITIES OF THE REPUBLIC OF INDONESIA

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ABSTRACT

The article defines the phenomenon of intercultural communication, describes the stages of socio-cultural design and suggests methods and techniques of socio-cultural design. A way for students of the open Russian language training centres in the Republic of Indonesia to participate in socio-cultural projects is described in the article.

Keywords: intercultural communication, project, socio-cultural design, open education center.

1. INTRODUCTION

Globalization as a worldwide trend in the development of the society and a civilizational challenge has become increasingly widespread in recent years, which puts the search for ways of effective cross-country and intercultural communication back on the radar.

In this article, we will not analyze in detail all existing approaches to the definition of the phenomenon of "intercultural communication", but rather provide the definition, which we will use when discussing this phenomenon, as the result of the analysis and synthesis of various points of view. Intercultural communication will be defined in this article as the exchange of information and cultural values at different levels of mutual understanding between people with different cultural codes given their regional and ethno-religious characteristics.

Intercultural communication as an exchange of information, interaction and mutual understanding between different cultures is based on the principles of universal and national values that complement each other, and is closely connected with the strengthening of the spiritual sovereignty and distinct identity of individual nationalities. In this context, the study of intercultural communication as a process with certain social goals is of particular relevance [2, 3].

Intercultural discourse is usually focused on the pragmatic aspect associated with receiving the information in order to solve practical problems. The ethical aspect which determines the values and norms of speech behavior in situations of real-life communication given the national features or way of thinking is also important.

2. RESEARCH METODOLOGY

In socio-cultural design, it is advisable to identify the following stages:

1. Identification of a problem or problematic situation requiring a resolution and its grounds. This is achieved by means of analysis of the current situation. Since we are talking about socio-cultural design, methods of analyzing not only the internal state of a socio-cultural object, but also its environment are most often used. For example, the factor analysis (SWOT analysis).

2. Identification or formation of a social procurement to resolve a problem or problematic situation. At this stage, methods of problematization of the social groups that are essential for influencing the current situation are most often used.
3. The study of the object of socio-cultural design, i.e. obtaining and analyzing data on processes or phenomena, their functioning and development.
4. Goal setting, which is carried out by comparing the procurment, the needs of the designer, its capabilities (meaning the designer's possession of methods, technologies of transformative activity) and the conditions in which socio-cultural design will be deployed. After that, the tasks for achieving the goal are set [4].
5. Forecasting, which is a prediction of trends and prospects for the possible development of an object of socio-cultural design. A significant role in forecasting is assigned to modeling the future state of the object and its expert assessment.
6. Development of the actual project with all its components.

In fact, all the stages amounts to three components, namely determining the problem field, goal setting and instrumentalization.

In socio-cultural design, the idea-matrix method, the analog method, the association method, the brainstorming method, and the method of synectics were used to achieve goals. These techniques complemented each other at various stages of the design.

The socio-cultural design at the Center was organized on environmental topics, as this content is relevant to representatives of any country. You can always find points where interests overlap and material for intercultural communication in this topic.

3. RELATED RESEARCH

Let us consider tackling the task of organizing intercultural communication in the open Russian language training centres (hereinafter referred to as the Centers), created on the initiative and with the support of the Ministry of Education of the Russian Federation in many countries of the world including the Republic of Indonesia. The Open Education Center was opened by KSPU named after V.P. Astafiev in Denpasar (Bali) in 2023. The purpose of this Center is to develop intercultural communication, popularize Russian science, culture and education, and strengthen friendly relations between Russia and the Republic of Indonesia. This project is unique in terms of the development and implementation of educational programs in Russian, as well as multimedia educational resources for teaching Russian language and literature to Indonesian citizens, organizing and conducting educational, scientific, methodological, and educational events in Russian language.

The content of the implemented programs was of a general developmental nature and was aimed at familiarizing the students of the Center with the national characteristics and traditions of Russia. The following programs were implemented in Russian: "7 Wonders of Russia" (description of interesting places in Russia exemplified by Kamchatka, Lake Baikal, Peterhof, St. Basil's Cathedral, Mamayev Kurgan, Elbrus, Manpupuner rock formations), "Sport Means Life", "Such a Different Russia", "Culture and Traditions of the Peoples of Russia", "Beautiful Places of Siberia", and "Russia is a Country of Opportunities". Moreover, the Centre hosted the events "Maslenitsa", "Museums of Russia – Virtual Tour", and a round table "Current Issues of Teaching Russian as a Foreign Language".

The students of the Open Education Center were involved in participation in the III All-Russian Ecological festival "EcoSkazy", organized on the initiative of the Park "Royev Ruchey" with the support of the Department of External Relations of the Department of the Head of Krasnoyarsk, the Central Department of Culture of the

Krasnoyarsk Administration, and the Central Department of Education of the Krasnoyarsk City Administration.

The purpose of the Festival is to involve children and adolescents in various types of creative environmental activities through the development and implementation of socio-cultural projects with an environmental focus.

The main objectives of the festival are to develop design culture, the ability to express their attitude to natural and cultural values through the results of design, research, and creative activities in children and adolescents; to foster ecology culture and an active life position in relation to global problems facing humanity in children and adolescents.

Students of the Center took part in the Festival under the mentorship of the teacher of the KSPU named after V.P. Astafiev. Using the aforementioned methods of socio-cultural design, the participants presented projects in two categories of the Festival: in the contest of scientific, research, and design works "Nature is an Invaluable Gift, One for All" and the contest of environment protection themed photographs "Eco-lense".

3. RESULTS AND DISCUSSION

The works of the students of the Center were marked by the jury of the festival as the best and the participants received respective diplomas and prizes. The participants state that every country has environmental problems, but all of us have the same task – to protect our planet. Thanks to such festivals such as EcoSkazy, such topics as what environmental problems exist in Indonesia and how residents cope with them can be discussed. According to the contestants, participation in this Festival allowed to identify the relatable views of the partner countries on environmental issues and communicate with native speakers of the Russian language.

While completing the programs and participating in the events, students and participants got acquainted with the basics of the phonetic and grammatical system of the Russian language, expanded their vocabulary, and improved communication skills. Students were also included in socio-cultural projects on the basis of the Center.

4. CONCLUSION

Based on the foregoing, it can be concluded that the involvement of the Center's students in socio-cultural projects contributes to the development of intercultural communication of the participants and can be used as activity-based formats for teaching in Russian and teaching the Russian language.

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STRENGTHENING CAPACITIES OF MULTI-SECTORS TOWARD SUSTAINABLE DEVELOPMENT IN ARCHITECTURE EDUCATION

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ABSTRACT

In the pursuit of sustainable development, architecture education plays pivotal role in shaping future practitioners who can integrate multi-sectoral perspectives into their design processes. This paper investigates methodologies to enhance the capacities of architecture education programs to address sustainability challenges through multi-sectoral collaboration. Qualitative techniques were employed and literature review to understand the current state of architecture education, sustainability practices, and multi-sectoral collaboration were done. Additionally, interviews were conducted among educators, practitioners, policymakers, and industry experts to gather insights into existing practices, challenges, and opportunities in integrating multi-sectoral perspectives into architecture education. The review revealed the evolving nature of architecture education, emphasizing the need for a paradigm shift. Various frameworks and approaches to integrating sustainability into architectural curricula were explored, highlighting the importance of multi-sectoral collaboration in addressing complex sustainability challenges. It identified key barriers such as disciplinary silos, institutional inertia, and lack of interdisciplinary communication that hinder effective collaboration across sectors. Findings from interviews and surveys underscored the significance of multi-sectoral collaboration in fostering understanding of sustainability among students. Educators emphasized the need for interdisciplinary coursework, collaborative projects, and engagement with stakeholders to broaden students' perspectives and enhance their problem-solving skills. Practitioners highlighted the importance of incorporating real-world challenges and case studies into the curriculum to prepare students. Policymakers and industry experts stressed the role of policy support, funding mechanisms, and industry-academia partnerships in promoting multi-sectoral approaches. The study concludes that strengthening the capacities of multi-sectors toward sustainable development in architecture education requires concerted effort from industry stakeholders. Integrating multi-sectoral perspectives into the curriculum, fostering interdisciplinary collaboration, and establishing robust partnerships between academia, industry, and government are essential toward preparing future architects to address the complex challenges. By embracing multi-sectoral approach, architecture education can serve as catalyst for transformative change towards sustainable built environment.

Keywords: sustainable development, architecture education, multi-sectors, curriculum integration

PRELIMINARY

In the contemporary landscape of architecture education, there exists a pressing need to enhance the capacities of multi-sectors to promote sustainable development. This paper addresses this necessity by delving into the intricacies of strengthening capacities across various sectors to advance sustainable development within architecture education. Drawing upon relevant literature and employing a qualitative research methodology, this paper aims to elucidate the theoretical underpinnings, methods of data collection, and outcomes of the study.

By exploring the intersection of architecture education, sustainable development, and multi-sector collaboration, this paper seeks to provide valuable insights into fostering a more sustainable future within the realm of architecture.

1. INTRODUCTION

Architecture plays a pivotal role in shaping the built environment, and as such, architects have a profound responsibility to promote sustainable development. With the global community increasingly recognizing the urgency of addressing environmental challenges, there is a growing demand for architecture education to evolve and equip future professionals with the knowledge and skills necessary to create sustainable built environments. However, achieving sustainable development in architecture education requires concerted efforts across multiple sectors, including academia, industry, government, and civil society. This paper aims to explore the importance of strengthening capacities across these sectors to advance sustainable development within architecture education.

2. RESEARCH METODOLOGY

A qualitative research methodology was employed for this study, involving a comprehensive review of relevant literature on sustainable development in architecture education. The literature review encompassed scholarly articles, books, reports, and case studies from diverse sources, including academic databases, institutional repositories, and professional organizations. The data collected were analyzed thematically to identify key insights and trends pertaining to the strengthening of capacities across multi-sectors in architecture education.

It is grounded in the theoretical framework of multi-sector collaboration and capacity building. Multi-sector collaboration refers to the concerted efforts of multiple stakeholders from diverse sectors to address complex societal challenges (Ansell & Gash, 2008). Capacity building, on the other hand, entails the process of enhancing the knowledge, skills, and resources of individuals and organizations to achieve their goals effectively (UNDP, 1997). By leveraging these theoretical perspectives, it seeks to explore how multi-sector collaboration can be leveraged to build capacity and drive sustainable development within architecture education.

3. RELATED RESEARCH/LITERATUR REVIEW

The literature surrounding sustainable development in architecture education underscores the interconnectedness of environmental, social, and economic factors. Scholars have emphasized the need for a holistic approach that integrates sustainability principles into all aspects of architectural practice and education (Bennett, 2019). Moreover, collaborative efforts involving academia, industry, government, and civil society have been identified as crucial for driving meaningful change toward sustainability (Steiner, 2017). However, there remains a gap in understanding how to effectively strengthen capacities across these sectors to promote sustainable development within architecture education.



Figure 1. UTAR Kampar Campus
Source: Universiti Tunku Abdul Rahman (website)

4. RESULTS AND DISCUSSION

The analysis of the literature revealed several key findings regarding the importance of multi-sector collaboration and capacity building in promoting sustainable development within architecture education. Firstly, collaboration between academia, industry, government, and civil society is essential for fostering innovation and knowledge exchange in the field of sustainable architecture (Schmidt, 2020). Secondly, capacity building initiatives, such as workshops, training programs, and interdisciplinary projects, can facilitate the integration of sustainability principles into architectural curricula and practice (Benson et al., 2018). Lastly, the establishment of partnerships and networks can enhance the collective impact of stakeholders involved in promoting sustainable development in architecture education (Duro & Todescan, 2016).

The current state of architecture education faces several challenges and issues that impact the quality of education, the preparedness of graduates, and the profession as a whole. Some of these problems and issues include:

1. **Outdated Curriculum:** Many architecture programs have curricula that are outdated and do not adequately address emerging trends, technologies, and challenges in the field. There is a need for curriculum reform to incorporate topics such as sustainability, digital design tools, and interdisciplinary collaboration.
2. **Lack of Emphasis on Sustainability:** While there is growing awareness of sustainability issues, many architecture programs still lack a strong emphasis on sustainable design principles and practices. There is a need for greater integration of sustainability into the curriculum to address pressing environmental concerns.
3. **Limited Resources and Infrastructure:** Architecture schools often face resource constraints, including limited funding, outdated facilities, and inadequate equipment and technology. This can hinder the ability of schools to provide quality education and research opportunities for students and faculty.
4. **Faculty Shortages and Capacity Constraints:** Many architecture schools struggle with faculty shortages and capacity constraints, particularly in specialized areas such as sustainable design, digital fabrication, and urban planning. This can affect the quality of instruction and limit opportunities for research and innovation.
5. **Accreditation and Quality Assurance:** Accreditation systems for architecture programs vary across the world, leading to inconsistencies in educational standards and quality assurance. There is a need for standardized accreditation processes to ensure that architecture programs meet established benchmarks of excellence.
6. **Lack of Diversity and Inclusion:** The architecture profession, faces challenges related to diversity and inclusion. Women, minority groups, and marginalized communities are underrepresented in both architecture education and practice. There is a need for initiatives to promote diversity and inclusivity within the profession.
7. **Limited Interdisciplinary Collaboration:** Architecture education often operates in silos, with limited interdisciplinary collaboration between architecture schools and other disciplines such as engineering,

environmental science, and social sciences. There is a need for greater collaboration to address complex societal challenges.

8. **Globalization and Cultural Homogenization:** The increasing globalization of architecture education has led to concerns about cultural homogenization and the loss of identity and heritage. There is a need to balance global influences with respect for cultural traditions and contexts.

Addressing these problems and issues requires concerted efforts from architecture schools, professional organizations, governments, and other stakeholders to invest in education and research, promote diversity and inclusivity, and foster innovation and collaboration within the field. Multi-sector collaboration in architecture education is vital for addressing complex challenges, fostering innovation, and promoting sustainable development. Here are some key reasons why collaboration among various sectors is important:

1. **Holistic Approach:** Multi-sector collaboration allows for a holistic approach to addressing complex challenges in architecture education. By bringing together stakeholders from academia, industry, government, non-profit organizations, and communities, diverse perspectives and expertise can be leveraged to develop comprehensive solutions that consider social, economic, and environmental factors.
2. **Knowledge Sharing and Exchange:** Collaboration among different sectors facilitates the sharing and exchange of knowledge, best practices, and resources. This can help bridge gaps in expertise, facilitate technology transfer, and foster continuous learning and professional development among stakeholders.
3. **Innovation and Creativity:** Collaborative partnerships stimulate innovation and creativity by providing opportunities for interdisciplinary research, experimentation, and problem-solving. By combining insights from different fields, new ideas and approaches can emerge, leading to novel solutions to architectural challenges.
4. **Capacity Building:** Multi-sector collaboration strengthens the capacity of architecture education institutions and professionals by providing access to resources, training, and mentorship opportunities. By working together, stakeholders can enhance their skills, expand their networks, and develop the capabilities needed to address emerging trends and challenges.
5. **Real-world Relevance:** Collaborative projects and initiatives that involve multiple sectors often have real-world relevance and impact. By engaging with industry partners, government agencies, and community organizations, architecture education programs can ensure that their research and educational activities address pressing societal needs and contribute to positive change in the built environment.
6. **Policy Influence:** Collaboration with government agencies and policymakers can help shape policies and regulations related to architecture education, urban planning, and sustainable development. By advocating for evidence-based policies and promoting the adoption of sustainable design principles, stakeholders can influence decision-making processes at local, national, and international levels.

Examples of multi-sector collaboration in architecture education include:

1. **Industry-Academia Partnerships:** Collaborative projects between architecture schools and industry partners, such as architecture firms,

contractors, and developers, allow students to gain hands-on experience, access cutting-edge technologies, and work on real-world projects.

2. **Government-Academia Initiatives:** Partnerships between architecture schools and government agencies, urban planning departments, and regulatory bodies can lead to joint research projects, policy recommendations, and capacity-building initiatives aimed at promoting sustainable development and resilience in the built environment.
3. **Community Engagement Programs:** Collaborative initiatives that involve students, faculty, and community organizations can lead to the co-design and implementation of projects that address local needs and priorities, such as affordable housing, public space revitalization, and disaster resilience.
4. **International Collaborations:** Collaborative partnerships between architecture schools in different countries enable knowledge exchange, cross-cultural learning, and joint research projects on global issues such as climate change, urbanization, and cultural heritage preservation.

Overall, multi-sector collaboration is essential for advancing architecture education and promoting sustainable development by harnessing the collective expertise, resources, and creativity of diverse stakeholders. The importance of strengthening capacities in architecture education for sustainable development lies in its potential to equip future architects with the knowledge, skills, and mindset necessary to address pressing global challenges. By enhancing capacities within architecture education, we can:

1. **Foster Innovation:** Strengthening capacities enables architecture schools to innovate in their curricula, teaching methods, and research agendas, integrating cutting-edge concepts such as sustainable design principles, digital technologies, and interdisciplinary collaboration.
2. **Promote Sustainability:** Capacities-building initiatives empower students and faculty to prioritize sustainability in their design processes, advocating for environmentally responsible practices that minimize resource consumption, reduce carbon emissions, and promote resilience in the built environment.
3. **Drive Positive Change:** By instilling a commitment to sustainable development, architecture education can inspire future architects to become agents of positive change in their communities and beyond, addressing social inequalities, enhancing quality of life, and promoting inclusive and equitable development.
4. **Address Global Challenges:** Strengthening capacities in architecture education equips graduates with the skills to tackle complex challenges such as climate change, rapid urbanization, and environmental degradation, contributing to the achievement of sustainability goals.
5. **Promote Collaboration:** Capacity-building efforts encourage collaboration among diverse stakeholders, including academia, industry, government, and civil society, fostering partnerships that leverage collective expertise and resources to address shared challenges and opportunities.
6. **Empower Communities:** Architecture education that emphasizes community engagement and participatory design approaches empowers communities to actively participate in the shaping of their built environment, promoting social cohesion, cultural identity, and grassroots innovation.

7. **Ensure Resilience:** By integrating principles of resilience and adaptability into their practices, architects can design buildings and urban spaces that are better able to withstand natural disasters, economic shocks, and other unforeseen challenges, ensuring long-term sustainability and liveability.

In summary, strengthening capacities in architecture education for sustainable development is essential for preparing future generations of architects to address the complex and interconnected challenges of the 21st century, creating a built environment that is environmentally sustainable, socially equitable, and economically viable.

5. CONCLUSION

In conclusion, the journey toward strengthening capacities for sustainable development in architecture education requires a multifaceted approach that encompasses interdisciplinary collaboration, innovative pedagogy, research, global-local perspectives, and ethical considerations. By nurturing future architects who are not only skilled designers but also responsible global citizens, we can catalyse positive transformations toward a more sustainable and equitable world. This paper highlights the importance of strengthening capacities across multi-sectors to advance sustainable development within architecture education. By leveraging the theoretical framework of multi-sector collaboration and capacity building, the study underscores the need for collaborative efforts involving academia, industry, government, and civil society to promote sustainability in architectural practice and education. Moving forward, it is imperative for stakeholders to continue working together to foster innovation, knowledge exchange, and collective action toward a more sustainable future in architecture.

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COVID-19 PANDEMIC: FINANCIAL PERFORMANCE IN RURAL BANK IN BALI

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ABSTRACT

Bank financial performance is influenced by the macroeconomic conditions of a country. Covid 19 arrived in 2019 and made the world economy sluggish, including Bali. This research aims to determine banking performance in Bali during the Covid 19 pandemic. The population in this research is all Rural Banks in Bali Province in 2019-2022 totaling 135 Rural Banks. Sampling in this research used the purposive sampling method. The data analysis technique is multiple regression with SPSS 24. The research results show : 1) Loan To Deposit Ratio (LDR) has a positive effect on Return On Assets (ROA), 2) Operating Costs Operating Income (BOPO) has a negative effect on Return On Assets (ROA), 3) Non-Performing Loans (NPL) have a negative effect on Return On Assets (ROA), 4) Capital Adequacy Ratio (CAR) has a positive effect on Return On Assets (ROA), 5) Net Interest Margin (NIM) has a negative effect on Return On Assets (ROA). From the test results in this research it can be concluded that H5 is rejected.

Keyword : financial, macroeconomic, bank, performance

1. INTRODUCTION

The global pandemic has resulted in a widespread economic downturn, which has encouraged many people to downsize, causing significant accumulation of funds, but credit distribution has become more limited (Wid, 2021). Conventional Rural Banks (BPR) in Bali experienced fluctuations and decreased ROA. During the Covid-19 period, there was a sharp decline in the Bali economy of up to (9.31%), inflation was 0.55% and unemployment in Bali reached 5.63%. The unfavorable macroeconomic conditions are due to government policies in handling Covid by limiting people's movement and doing work from home. Bali, which is based on a tourism economy, is experiencing the most severe economic conditions compared to other regions in Indonesia. Many customers have difficulty paying their debts, and BPRs in the Bali area carry out very strict credit analysis as a precautionary measure. The condition of BPR Bali in 2019 had a high level of profitability of 129%. However, in 2020, when the Covid-19 pandemic began, the average profitability of BPRs in Bali decreased by 14%, and in 2021, profitability became negative at -58%. This decline in profitability can largely be attributed to the initial impact of the COVID-19 pandemic, which resulted in a decline in average BPR revenues across the province of Bali.

Hidayat (2022) and Khoiriyah (2022), found that LDR has a significant effect on ROA. However, other research mentioned by Ramadanti (2022) found that LDR did not have a significant effect on ROA. This shows that there are differences in research results regarding the relationship between LDR and ROA, and other factors also play

a role in their influence on bank profitability. Prasanjaya and Ramantha (2018) found that BOPO had a significant positive influence on bank profitability (ROA). However, the results of research by Pinasti (2018) found different results, namely BOPO had a negative effect on ROA. Apart from BOPO, the financial performance ratio that has an influence on ROA is the Non-Performing Loan (NPL) ratio. Research by Korompis (2020) and Khamisah (2020) found that NPL had a significant effect on Return On Assets (ROA), while research by Aprillia (2018) did not find a significant effect between NPL and ROA. Apart from NPL, the level of bank capital adequacy, as measured by the Capital Adequacy Ratio (CAR), can also influence the level of ROA.

Dao's research (2020) found that there is a relationship between the Capital Adequacy Ratio and bank performance. A high Capital Adequacy Ratio can reduce the level of bank efficiency (Istinfarani, 2020). Research conducted by Kusmayadi (2018) and Yulianti (2018) found that Capital Adequacy Ratio (CAR) has an influence on ROA. According to Sabir et al. (2022), apart from NPL and Capital Adequacy Ratio, another variable that influences bank profitability is Net Interest Margin (NIM), which reflects the difference between interest income obtained from providing credit and interest costs paid on funds received by the bank. The results of research by Sabir et al. (2022) found a positive and significant relationship between NIM and Return On Assets (ROA). However, the results of research conducted by Hidayat (2022) found different results, namely that there was no significant influence between NIM and ROA.

This research seeks to examine: 1) How does the Loan To Deposit Ratio influence the financial performance of BPRs in Bali Province in 2019-2022?, 2) How does operating costs influence operating income on the financial performance of BPRs in Bali Province in 2019-2022?, 3) What is the influence of Non Performing Loans on the financial performance of BPRs in Bali Province in 2019-2022?, 4) What is the influence of the Capital Adequacy Ratio on the financial performance of BPRs in Bali Province in 2019-2022?, 5) What is the influence of Net Interest Margin on financial performance BPR in Bali Province 2019-2022?

2. RESEARCH METHODOLOGY

This research was conducted at all Rural Banks in Bali Province. The variables used are BPR financial performance as the dependent variable (Y), while the independent variables are loan to deposit ratio (X1), operating costs operating income (X2), non-performing loans (X3), capital adequacy ratio (X4) and Net Interest Margin (X5). The population in this research is all Rural Banks in Bali Province in 2019-2022 totaling 135 Rural Banks. Sampling in this research used the purposive sampling method. The data analysis technique is multiple regression with SPSS 24.

3. LITERATURE REVIEW

The concept of agency theory is based on agency problems that arise when the management of a company is separated from its ownership. A company is a mechanism that provides opportunities for various participants to contribute in the form of capital, expertise and labor in order to maximize long-term profits. Participants who contribute to capital are referred to as owners. Participants who contribute expertise and labor are called company managers (agents). The existence of these two participants (principal and agent) causes problems regarding the mechanisms that must be established to harmonize the different interests between the two (Sunaryo and Mahfud, 2016).

The Resource-Based Theory concept says that companies can achieve competitive advantage and good financial performance by managing resources, including the distribution of quality credit which produces profits in the form of credit interest. This in turn increases profits, which will automatically increase the profitability of the company. So, this theory links achieving profitability with the quality of credit distribution (Saputra, 2019).

The concept of Signal Theory is an action taken by company management to provide instructions or signals to investors about how management views the company's prospects. Signal theory is a theory that explains how companies should provide signals to users of financial reports (Brigham and Houston, 2016: 477).

Setiadi (2020) said that the higher the loan to deposit ratio, the higher the company's profit level because the placement of funds in the form of credit provided increases, so that interest income will also increase, but this makes the bank's liquidity conditions more risky. The results of previous research conducted by Rengasamy (2018), Shidieq (2019), Ogi (2017), Kurniawati (2017), Wijaya and Trisna (2017), Hantono (2017), Artini (2018), Ambarawati and Abundanti (2018) explain that the LDR variable has a positive and significant effect on profitability (ROA).

According to Joliana (2013:32) "the greater the BOPO ratio indicates that the bank is less efficient in controlling its operational costs. Meanwhile, the smaller the BOPO ratio, the more efficient the bank is in controlling its operational costs. A large BOPO means that the operational costs borne are greater than operational income, so it is likely that capital will be used to cover these operational costs. Kadek's (2015) research shows that BOPO has a negative effect on ROA.

Ambarawati (2018) shows that a higher NPL ratio indicates an increase in non-performing loans which has an impact on losses faced by banks, thereby causing the quality of bank credit to get worse. results of previous research conducted by Research conducted by Wityasari and Pangestuti (2014), Azee and Amara (2014), Hantono (2017), Kossoh et al (2017), Sudarmawanti and Pramono (2017), Bonita (2017), Kurniawati (2017), Cristina and Artini (2018), Ambarawati and Abundanti (2018) explain that the NPL variable has a negative and significant effect on profitability (ROA).

The capital adequacy ratio (CAR) shows the extent to which the bank contains risks that are financed by public funds. The higher the CAR, the better the bank's ability to bear the risk of any risky credit/productive assets. If the CAR value is high, the bank is able to finance operational activities and make a large contribution to profitability (Kasmir, 2019:40). Research by Putri & Dewi (2017) and Andrianto & Sadikin (2017) states that capital adequacy ratio (CAR) has a significant positive effect on profitability (ROA).

Net interest margin (NIM) is used to measure bank management's ability to manage its productive assets to generate net interest income. This net interest income is obtained from interest income minus interest expense. This ratio shows the bank's ability to generate income from interest by looking at the bank's performance in disbursing credit, considering that the bank's operational income is very dependent on the interest difference (spread) on the credit disbursed. The higher the NIM shows that the more effective the bank is in placing productive assets in the form of credit, the greater the profits obtained from interest income. Research conducted by Fanny et al., (2020), Suryani et al., (2016) and Pinasti & Mustikawati (2018) stated that NIM has a positive and significant effect on profitability (ROA).

4. RESULT & DISCUSION

Result

Table 1 Descriptive Analysis

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	532	-27.42	8.82	.4736	3.12179
LDR	532	.00	121.42	73.7505	13.26660
BOPO	532	-300.12	299.21	96.8034	30.64516
NPL	532	.00	64.41	11.3922	8.56865
CAR	532	-90.86	397.31	44.6498	31.13289
NIM	532	.56	49.96	24.9652	13.77131
Valid N (listwise)	532				

Table 1 shows that ROA, LDR, BOPO, NPL, CAR, NIM have average values of 0.4736, 73.7505, 96.8034, 11.3922, 44.6498, 24.9652. The mean ROA value is lower than the standard deviation value, indicating that the research variables have high data variance. The mean value of LDR, BOPO, NPL, CAR, NIM is higher than the standard deviation value, indicating that the data deviation is low, so the distribution of values can be said to be even.

Tabel 2 Normality Test Results

One-Sample Kolmogorov-Smirnov Test			Unstandardized Residual
N			532
Normal Parameters^{a,b}	Mean		.1387487
	Std. Deviation		.92930283
Most Extreme Differences	Absolute		.038
	Positive		.038
	Negative		-.038
Test Statistic			.038
Asymp. Sig. (2-tailed)^c			.060
Monte Carlo Sig. (2-tailed)^d	Sig.		.059
	99% Confidence Interval	Lower Bound	.052
		Upper Bound	.065
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 1451419960.			

Based on Table 2, it shows that the 2 tailed asympsig value is 0.060 which is greater than 0.05, so it can be concluded that the residual data is normally distributed.

Table 3 Multicollinearity Test Results

Model	Coefficients ^a	Collinearity Statistics	
		Tolerance	VIF
		1	(Constant)
	LDR	.912	1.096
	BOPO	.960	1.042
	NPL	.959	1.043
	CAR	.895	1.117
	NIM	.998	1.002
a. Dependent Variable: ROA			

Table 3 shows that the tolerance value for each independent variable is greater than 10 percent and the VIF values are all less than 10. This means that multicollinearity does not occur in the regression model.

Table 4 Heteroscedasticity Test Results

		Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta			
1	(Constant)	-2.711	.939		-2.888	.004	
	LDR	.000	.002	.009	.216	.829	
	BOPO	.558	.267	.065	1.599	.135	
	NPL	.223	.117	.085	1.911	.057	
	CAR	.595	.420	.064	1.416	.157	
	NIM	.000	.002	.010	.224	.823	

a. Dependent Variable: ABSRES

Table 4 shows significant values above 0.05 for each variable so it can be concluded that the data in the research are free from heteroscedasticity.

Table 5 Autocorrelation Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.729 ^a	.532	.527	2.14603	2.105

a. Predictors: (Constant), NIM, NPL, LDR, BOPO, CAR

b. Dependent Variable: ROA

Table 5 shows the Durbin-Watson Table value obtained at 2.105. Based on the autocorrelation test equation, it is known that the du value = 1.865 and the dl value = 1.841 with the autocorrelation test equation $du < dw < (4-du)$. Based on this equation, it is known that the equation formed is $1.865 < 2.105 < (4-du) 2.135$, so the data is free from the autocorrelation test.

Table 6 Results of Multiple Linear Regression Analysis

		Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta			
1	(Constant)	5.501	.715		7.690	.001	
	LDR	.024	.007	.100	3.211	.001	
	BOPO	-.062	.003	-.610	-20.045	.001	
	NPL	-.089	.011	-.245	-8.036	.001	
	CAR	.014	.003	.137	4.358	.001	
	NIM	-.014	.007	-.061	-2.059	.040	

a. Dependent Variable: ROA

Based on the results of multiple linear regression analysis in Table 6, the t test results can be interpreted.

1) The effect of LDR on ROA.

The research results show that the regression coefficient value shows a positive direction of 0.024 with a significance of 0.000 which is smaller than 0.05. This

means that LDR has a positive effect on ROA. From the test results in this research it can be concluded that H1 is accepted.

2) The effect of BOPO on ROA.

The research results show that the regression coefficient value shows a negative direction of -0.062 with a significance of 0.000 which is smaller than 0.05. This means BOPO has a negative effect on ROA. From the test results in this study it can be concluded that H2 is accepted.

3) The effect of NPL on ROA.

The research results show that the regression coefficient value shows a negative direction of -0.089 with a significance of 0.000 which is smaller than 0.05. This means that NPL has a negative effect on ROA. From the test results in this research it can be concluded that H3 is accepted.

4) Influence of CAR on ROA.

The research results show that the regression coefficient value shows a positive direction of 0.014 with a significance of 0.000 which is smaller than 0.05. This means that CAR has a positive effect on ROA. From the test results in this research it can be concluded that H4 is accepted.

5) Influence of NIM on ROA.

The research results show that the regression coefficient value shows a negative direction of -0.014 with a significance of 0.040 which is smaller than 0.05. This means that NIM has a negative effect on ROA. From the test results in this study it can be concluded that H5 is accepted.

Table 7 Coefficient of Determination Test Results

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729 ^a	.532	.527	2.14603

a. Predictors: (Constant), NIM, NPL, LDR, BOPO, CAR
b. Dependent Variable: ROA

Table 7 shows that the Adjusted R Square (R^2) is 0.527. This means that 52.7 percent of the ROA variable can be explained by independent variables, namely LDR, BOPO, NPL, CAR and NIM, while the remaining 47.3 percent is explained by other factors outside the model being analyzed.

Table 8 F Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2752.437	5	550.487	119.530	<.001 ^b
	Residual	2422.454	526	4.605		
	Total	5174.891	531			

a. Dependent Variable: ROA

b. Predictors: (Constant), NIM, NPL, LDR, BOPO, CAR

Table 8 shows a sig value of 0.001 which is smaller than 0.05. Thus, this regression model equation is fit or suitable to be used so that simultaneously, the variables LDR, BOPO, NPL, CAR and NIM simultaneously influence the ROA variable.

Discussion

The research results show that the regression coefficient value shows a positive direction of 0.024 with a significance of 0.000 which is smaller than 0.05. This means that LDR has a positive effect on ROA. From the test results in this research, it can be concluded that H1 is accepted. This shows that the higher the loan to deposit ratio, the company's Return On Assets will increase, whereas when the loan to deposit ratio decreases, the Return On Assets will tend to decrease. These results are confirmed by the results of previous research conducted by Rengasamy (2018),

Shidieq (2019), Mangantar Ogi (2017), Kurniawati (2017), Wijaya and Trisna (2017), Hantono (2017), Cristina, Artini (2018), Ambarawati and Abundanti (2018) explained that the LDR variable has a positive and significant effect on profitability (ROA). In contrast to the results of research conducted by Yoyo Sudaryo and Henny Susanty (2016), Yasir Hariemufi, Farida, and Dewa Mahardika (2016) Bella Bonita (2017) explains that the LDR variable has no effect on ROA.

The research results show that the regression coefficient value shows a negative direction of -0.062 with a significance of 0.000 which is smaller than 0.05. This means BOPO has a negative effect on ROA. From the test results in this study it can be concluded that H2 is accepted. The BOPO ratio shows the bank's efficiency in carrying out its main business, especially credit, based on the amount of funds collected. In collecting funds, especially public funds (third party funds), costs are required other than interest costs (including advertising costs). Until now, bank revenues in Indonesia are still dominated by credit interest income. The greater the BOPO indicates the bank's lack of efficiency in carrying out its operational activities because the operational costs that must be borne will be greater than the operational income obtained so there is a possibility that capital will be used to cover operational costs that are not covered by operational income (Winda, 2016). These results are supported by research by Kadek (2015) showing that BOPO has a negative effect on ROA. The negative relationship obtained in this research means that BOPO is inversely proportional to ROA.

The research results show that the regression coefficient value shows a negative direction of 0.089 with a significance of 0.000 which is smaller than 0.05. This means that NPL has a negative effect on ROA. From the test results in this research it can be concluded that H3 is accepted. Ambarawati (2018) shows that a higher NPL ratio indicates an increase in non-performing loans which has an impact on losses faced by banks, thereby causing the quality of bank credit to get worse. This opinion is confirmed by the results of previous research conducted by Meryta Wityasari and Irene Rini Demi Pangestuti (2014) Aamir Azee and Amara (2014), Hantono (2017), Andreina Maria Kossoh, Maryam Mangantar and Imelda W.J. Ogi (2017) , Erna Sudarmawanti, Joko Pramono (2017), Bella Bonita (2017), Ratih Kurniawati (2017), Komang Monica Cristina, Luh Gede Sri Artini (2018), I Gusti Ayu Dwi Ambarawati and Nyoman Abundanti (2018) explain that the NPL variable has an influence negative and significant to profitability (ROA).

The research results show that the regression coefficient value shows a positive direction of 0.014 with a significance of 0.000 which is smaller than 0.05. This means that CAR has a positive effect on ROA. From the test results in this research it can be concluded that H4 is accepted. These results are in line with research by Putri & Dewi (2017) and Andrianto & Sadikin (2017) which states that the Capital Adequacy Ratio (CAR) has a significant positive effect on profitability (ROA). Meanwhile, research conducted by Pinasti & Mustikawati (2018) states that the Capital Adequacy Ratio (CAR) has a negative effect on profitability (ROA) and research conducted by Cahyono (2018), Harun (2016), and Fajari & Sunarto (2017) shows that stated that CAR has no effect on profitability (ROA).

The research results show that the regression coefficient value shows a negative direction of -0.014 with a significance of 0.040 which is smaller than 0.05. This means that Net Interest Margin (NIM) has a negative effect on Return On Assets (ROA). From the test results in this research it can be concluded that H5 is rejected. These results are supported by research conducted by Ayuningrum (2020) and Prataa (2021) which states that NIM has a negative and significant effect on profitability (ROA).

5. CONCLUSION

The conclusions drawn in this research are as follows:

- 1) Loan To Deposit Ratio (LDR) has a positive effect on Return On Assets (ROA). From the test results in this research it can be concluded that H1 is accepted
- 2) Operating Costs Operating Income (BOPO) has a negative effect on Return On Assets (ROA). From the test results in this study it can be concluded that H2 is accepted
- 3) Non-Performing Loans (NPL) have a negative effect on Return On Assets (ROA). From the test results in this research it can be concluded that H3 is accepted
- 4) Capital Adequacy Ratio (CAR) has a positive effect on Return On Assets (ROA). From the test results in this research it can be concluded that H4 is accepted
- 5) Net Interest Margin (NIM) has a negative effect on Return On Assets (ROA). From the test results in this research it can be concluded that H5 is rejected.

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THE INFLUENCE OF THE SOCIAL SYSTEM ON THE ADOPTION OF COMBINE HARVESTER INNOVATIONS IN SUBAK BENGKEL, TABANAN REGENCY

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ABSTRACT

Using a combine harvester can simplify farmer performance. Combine harvesters should be able to increase the interest of local workers to become rice harvest workers. The aim of this research is to analyze the influence of the social system on the adoption of combine harvester innovation in Subak Bengkel, Kediri District, Tabanan Regency. The population of this research was all 500 farmers in Subak Bengkel with a sample of 84 farmers. The influence of the social system on the adoption of combine harvester innovation in Subak Bengkel, Kediri District, Tabanan Regency will be analyzed using Partial Least Square (PLS) with SmartPLS version 3.0 software which is run using computer media. Simultaneously, the social system has a significant influence on the adoption of combine harvester innovation in Subak Bengkel with The coefficient of determination is 0.901, meaning that this variable is able to explain the innovation adoption variable by 90.1%. With the development of technology, farmers in Subak Bengkel must be brave enough to take risks and try out new innovations so that they can increase the efficiency of rice farming.

Key Words : Combine_Harvester, Subak, Social_System

PRELIMINARY

Until now, the agricultural sector has played a role as the main provider of the food needs of the Indonesian people. Food is a basic need and human right (Siregar and Octaviana, 2020). Food can improve the quality of human resources. Individuals in the household receive adequate, safe and nutritious food intake in a sustainable manner, which will improve health status and provide opportunities for each individual to reach their maximum potential. Food security is an inseparable component of national resilience which is closely related to the quality of human resources.

Food security is closely related to social resilience, economic stability, political stability and national security or resilience. Food security in the sense of food affordability is also closely related to efforts to improve the quality of Indonesia's human resources (Alfia, 2016). Lowland rice farming can produce rice which is the staple food for the majority of Indonesian people, namely rice. The adoption of innovation is carried out to increase the productivity of lowland rice farming. According to Mardikanto (2009), in Paramarta (2022), adoption can essentially be interpreted as the process of accepting innovation and/or changing behavior in the form of knowledge, attitudes or skills in a person after receiving the innovation presented by the resource person.

The social system influences whether an innovation is accepted or rejected in society (Paramarta, 2022). By observing the suitability of the social system as the initial cause of the innovation adoption process, through the communication sources used, public awareness grows to understand the characteristics of

innovation and apply it in everyday life (Winangsih, 2018). Innovation is formed from an idea, practice or object that is considered new by individuals and community groups. An idea is considered new by some people, not necessarily by others in the social system. It all depends on how the individual or group feels about the idea, practice or thing. Innovation is a process of human activity or thought to discover new things related to input, process and output. Innovation provides benefits in human life. Innovation related to input is defined as patterns of human thought or ideas that contribute to new discoveries. Innovation related to processes is more oriented towards methods, techniques or ways of working in order to produce something new. Furthermore, innovation related to output is more aimed at the results that have been achieved, especially the use of thought patterns and work methods or techniques that have been carried out. These three elements of innovation actually form a unity (Makmur and Rohana, 2015).

The rice harvest process, which usually uses traditional tools, is now switching to using modern combine harvester machines. Users of combined harvesting tools increase harvest efficiency compared to human labor and traditional tools, and also reduce the level of yield loss. The working principle of this combination rice harvesting tool is apart from cutting the rice (reaping), also threshing (threshing), as well as packing the grain into sacks. Combine harvesters can save time and costs during harvest and become a place to develop businesses, especially in the agricultural sector, by providing harvesting services using modern harvesting equipment. Combine harvesters are an opportunity for entrepreneurs operating in the agricultural sector to gain profits from this business (Zainuddin, Mursalim and Adul, 2016).

1. INTRODUCTION

Tabanan Regency is nicknamed the rice barn of Bali Province. Rice is one of the agricultural sector commodities that has a time period in the harvest process. Late harvesting of rice results in decreased productivity of rice plants, because the rice grains are too dry and fall off. Farmers and entrepreneurs will suffer losses because the productivity of lowland rice commodities will decrease, both grain and rice. Delays in harvesting occur due to a lack of local labor due to the low interest of the population in working in the agricultural sector. The agricultural sector is considered to be a backward and underdeveloped field of employment.

Subak Bengkel is one that uses workers from outside Bali in Tabanan Regency. Subak Bengkel has an area of 329 Ha. The need for rice harvesting labor at Subak Bengkel is 188 people/season. Of the total number, only 12% came from local Balinese workers and 88% came from outside Bali (BPP Kediri District 2022). The workers used outside Bali come from East Java (Ngadi, 2013). These workers will arrive before the main harvest season and usually return after the harvest is over. The average use of labor for rice farming during one season is 56.3 HOK/Ha (Suharyanto, et al., 2015).

Using a combine harvester can simplify farmer performance. Combine harvesters should be able to increase the interest of local workers to become rice harvest workers. According to I Made Merta Suteja, a farmer figure in Subak Bengkel, Tabanan Regency, a combine harvester is able to speed up the harvest process because it combines three elements of rice harvest. Combine harvesters have cheaper rental costs because they have a larger working capacity. Combine harvesters are able to increase the yield of rice harvests in rice fields or GKP (Harvested Dry Grain). The combine harvester is able to produce clean grain thereby increasing the yield of rice in the mill. The combine harvester will also improve the image of the agricultural sector workforce which was previously underdeveloped to become renewable. The plantation owner will buy the grain from the combine harvester at a higher price of around IDR 100/kg. Based on the problems above, the aim of this research is to analyze the influence of the social

system on the adoption of combine harvester innovation in Subak Bengkel, Kediri District, Tabanan Regency.

2. RESEARCH METHODOLOGY

Research Location and Time

The research was conducted in Subak using a combine harvester at Subak Bengkel, Tabanan Regency, Bali Province. The location selection was carried out deliberately or purposively with the consideration that Subak Workshop is the Subak that has the largest rice field in Kediri District, Tabanan Regency, amounting to 329 Ha. Subak workshop also has characteristics that are in accordance with the combine harvester innovation, namely 80% flat land. Subak Workshop is able to represent the continuous rice farming business because it has a good Subak organizational system.

Data Types and Sources

The type of data used in this research is quantitative data consisting of data that can be measured on a numerical scale, such as the number of farmers who use combine harvesters in Tabanan Regency, Bali Province. Qualitative data is data that presents reality descriptively through descriptive words and sentences such as the identity of respondents, Subak monographs, innovation diffusion processes, harvest habits, consequences of adopting innovations and obstacles faced in using a combine harvester.

The data source used in this research is primary data consisting of data collected directly from the results of in-depth interviews with samples, namely Kelian Subak and farmers who are members of Subak who use combine harvesters. Secondary data is data obtained indirectly from the source and is able to provide information related to research. Secondary data consists of Subak documentation, Subak monographs, official local government archives, population data, population profession data, literature data via the internet such as research journals and articles related to analysis of innovation adoption.

Method of collecting data

The methods used in collecting data in research include library research, field research which consists of observations carried out by conducting direct observations at the research location regarding activities related to the adoption of combine harvester innovation in rice farming. In-depth interviews are defined as data collection techniques to find out things about research subjects in more depth.

Population and Sample

The population of this research is all 500 farmers in Subak Bengkel (BPP Kediri District, 2023). Sample determination was carried out using simple random sampling, where each farmer had the same opportunity to become a respondent in this research. Determining the number of samples using the Slovin formula. The number of samples from this research was 84 farmers.

Variables, Indicators, and Measurements

Table 1. Variables, Indicators and Measurements

No	Variable	Indicator	Measurement Scale
1	Innovation Adoption (Y)	Knowledge (Y1)	Ordinal Data
		Persuasion (Y2)	Ordinal Data
		Decision (Y3)	Ordinal Data

	Implementation (Y4)	Ordinal Data
	Confirmation (Y5)	Ordinal Data
2	Social System (SS)	
	Social Structure (SS1)	Ordinal Data
	Norm (SS2)	Ordinal Data
	Courage to Take Risks (SS3)	Ordinal Data
	Participation Level (SS4)	Ordinal Data
	New Ideas (SS5)	Ordinal Data

Based on Table 1, the social system has 5 indicators that influence the process of adopting combiner harvester innovation in Subak Bengkel, Kediri District, Tabanan Regency.

Data analysis

The influence of the social system on the adoption of combine harvester innovation in Subak Bengkel, Kediri District, Tabanan Regency will be analyzed using Partial Least Square (PLS) with SmartPLS version 3.0 software which is run using computer media. Partial Least Square (PLS) is used to analyze variant-based structural equations (SEM) which can simultaneously test measurement models as well as test structural models. Partial Least Square (PLS) is a powerful method of analysis because of its lack of dependence on measurement scales (e.g. measurements that require interval or ratio scales), sample size, and distribution of residuals. Indicators in PLS can be formed in a reflexive or formative type. PLS is said to be soft modeling because it uses less than 100 samples.

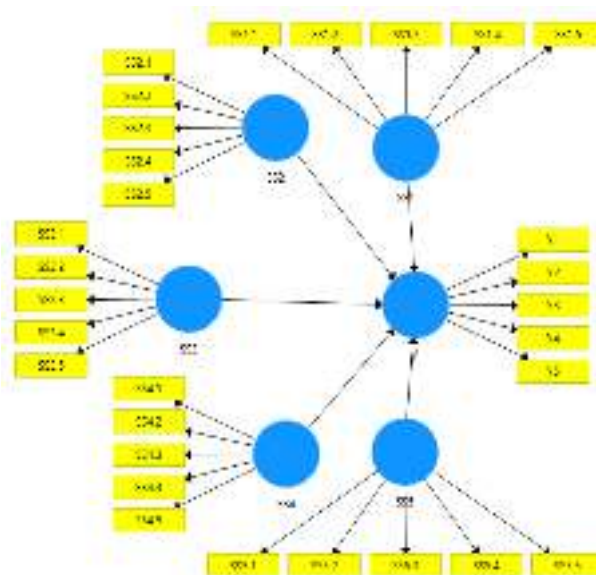


Figure 1. Partial Least Square (PLS) Model of the Influence of Social Systems on the Adoption of Combine Harvester Innovations in Subak Bengkel, Tabanan Regency

3. RELATED RESEARCH/LITERATURE REVIEW

Adopt innovation

Diffusion of innovation consists of the process of spreading and absorbing a new idea to change a social system in society which is carried out continuously in a certain place and over a certain period of time. Society will adopt or accept an innovation once they know about it. One group takes a long time to try something new, while another group takes a shorter time to try something new. The acceptance of an innovation (science, technology, field of community development)

by members of a particular social system is the main goal of innovation diffusion. Social systems can take the form of individuals, informal groups, and other community organizations (Paramarta, 2020).

Innovation adoption or innovation decisions are formed from the mental process from when someone learns about the existence of an innovation until making a decision to accept or reject it. The decision-making process is influenced by communication channels, socio-economic characteristics, personality and perceptions of innovation characteristics (Ulfa and Sumardjo, 2017).

Social Systems

Targets in a social system have various groups with different innovation adoption rates. The size of the farm is an indicator of a wider social system, usually the quicker it is adopted, because it has better economic capabilities. The level of income is the same as the size of the farm, farmers with higher levels of income will usually be quicker to adopt innovations. The courage to take risks, where the target at the initial stage usually does not always succeed as expected, is formed from individuals who have the courage to be more innovative. The level of participation in groups/organizations outside their own environment. Community members who like to associate with people outside their own social system are generally more innovative than those who only make personal contact with local community members. The activity of seeking information and new ideas is formed by groups of people who actively seek information and ideas. new, usually more innovative than people who are passive and do not believe in anything new (Mardikanto, 2009).

Combine Harvester

Combine harvesters are an innovation in lowland rice farming. Users of combined harvesting tools will increase harvest efficiency compared to human labor and traditional tools, as well as reducing the level of yield loss. The working principle of this combination rice harvesting tool is apart from cutting the rice (reaping), also threshing (threshing), as well as packing the grain into sacks. Combine harvesters can save time and costs during harvest and become a place to develop businesses, especially in the agricultural sector, by providing harvesting services using modern harvesting equipment. Combine harvesters are an opportunity for entrepreneurs operating in the agricultural sector to gain profits from this business (Zainuddin, Mursalim and Adul, 2016).

4. RESULTS AND DISCUSSION

Adoption of Combine harvester Innovation at Subak Bengkel

*Combine harvesters*It was first introduced at Subak Bengkel in 2017 by a main dealer named Sari Untung in collaboration with the Tabanan Regency Agricultural Service. The main dealer's approach in disseminating information about combine harvesters utilized a young man named Pande Putu Widya Paramarta. The young farmer received facilities from a major dealer in agricultural machinery in Tabanan Regency to try out a combine harvester at Subak Bengkel. Experiment this carefully. Before the experiment was carried out, the instructor and the dealer first checked the dryness of the land and ensured that the water gates of the irrigation canals were tightly closed. The instructor also conducted experiments in the dry season, specifically during the harvest season in March. The size of the machine is also adjusted to the habits of local farmers.

Based on the research results, the adoption stage of the combine harvester innovation at Subak Bengkel is progressing very well. This was stated by the majority of respondents, where 66% said it was very good, 22% said it was good, 4% said it was sufficient. However, there were 10% of respondents who said it was very unfavorable. This happened because the respondents had experienced problems at the knowledge stage. An introduction where farmers were influenced

by rumors stating that combine harvesters could damage soil quality. According to Pande Putu Widya Paramarta, this problem can be overcome by ensuring that the rice fields that are harvested using a combine harvester are dry.

The Influence of the Social System on the Adoption of Combine Harvester Innovation in Subak Bengkel

In this research it is known that, variables social structure, norms, courage to take risks, level of participation and new ideas has a coefficient of determination of 0.901, meaning that this variable is able to explain the innovation adoption variable of 90.1% and the remaining 9.9% is explained by variables outside the model.

Table 2. Path Coefficient

Variable	Original Samples	Samples Mean	Standard Deviation	t-statistic	p-value
Social structure > Innovation Adoption	0.554	0.567	0.034	2,216	0.004
Norms > Innovation Adoption	0.568	0.493	0.125	4,834	0.003
Courage to take risks > Adoption of Innovation	0.896	0.897	0.013	7,166	0,000
Participation rate > Innovation Adoption	0.676	0.456	0.101	3,262	0.004
New ideas > Adopt Innovation	0.095	0.061	0.187	0.508	0.612

Source: Primary data processing, 2024

Based on table 2, there are four variables that have a significant effect, namely social structure, norms, courage to take risks, and level of participation so the hypothesis is accepted. Meanwhile, the variables that did not have a significant effect were new ideas so the hypothesis was rejected. These results were obtained by testing the structural model to assess the effect of each direction of the relationship (causal path) and testing the predetermined hypothesis, using a special SmartPLS technique, namely the bootstrapping technique with a significance level (p-value) of 5% and with a t-statistic value > 1.96 (Khairunisa, et.al, 2020). For a better understanding of the adoption of combine harvester innovation, the five influencing variables will be discussed in detail, including: social structure, norms, courage to take risks, level of participation and new ideas.

In the theory of diffusion of innovation, society is seen as a very large social system. Subak is a community social institution that covers rice fields in Bali. Subak is an irrigation system for farmers who are members of the Subak Sekaa (Adnyani, 2021). The combine harvester was introduced by the Tabanan Regency Agriculture Service through a trial in Subak Nyitdah II in 2009. The trial failed so at that time the combine harvester was deemed not in accordance with agricultural culture in Bali. This failure resulted in the government's provision from 2009 to 2016 being neglected and not utilized. The combine harvester again attracted public interest when one of the main dealers in 2017 at Subak Bengkel. Subak members and owners of the Rice Milling Unit (RMU) who were present gave a positive response to the combine harvester because the trial run went smoothly. The success of the trial in 2016 was able to improve the assessment of the combine harvester. The rice milling unit (RMU) currently buys harvested grain using a combine harvester for Rp. 100,-/kg more expensive than conventional harvest.

5. CONCLUSIONS

Simultaneously, the social system has a significant influence on the adoption of combine harvester innovation in Subak Bengkel with the coefficient of determination is 0.901, meaning that this variable is able to explain the innovation

adoption variable by 90.1%. Partially, social structure, norms, courage to take risks, and level of participation so the hypothesis is accepted.

With the development of technology, farmers in Subak Bengkel must be brave enough to take risks and try out new innovations so that they can increase the efficiency of rice farming. Apart from that, there are 9.9% other factors that influence the adoption of combine harvester innovation so it is hoped that future researchers will be able to analyze these factors.

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ENFORCEMENT OF BUSINESS COMPETITION LAWS IN IMPLEMENTATION INDIRECT EVIDENCE (*Direct evidence*) AGAINST CARTEL PRACTICES

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ABSTRACT

This article aims to know the enforcement of business competition law in the implementation of indirect evidence on cartel practices. This article belongs to legal principles and legal doctrines in order to answer the legal problems encountered who based focus read and study materials primary and secondary law. For law drafting to be able to produce arguments for new theories or concepts, it is a prescription for solving the problems of this legal research. The results of the research indicate that the enforcement of business competition law against cartel practices in Indonesia continues to face obstacles and has not been maximized. This indirect evidence can be used as a solution to the difficulty of proving the practice of cartels in business competition laws, provided that they are equipped with other evidence. Indirect evidence may be included in the category of evidence in Article 42 of Law No. 5 of 1999 on Prohibition of Monopoly Practices and Unfair Competition.

Keywords: Law Enforcement; Indirect Evidence; Cartel Practices

1. INTRODUCTION

The current development of the Indonesian economic system has made business competition one of the economic instruments since the reform was introduced. This is demonstrated through the promulgation of Law Number 5 of 1999 concerning Prohibition of Monopoly Practices and Unfair Business Competition. Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition is a milestone for the recognition of healthy business competition as an economic pillar in the Indonesian economic system based on Pancasila and the 1945 Constitution of the Republic of Indonesia. Birth of the Law Number 5 of 1999 concerning the Prohibition of Monopolistic Practices and Unfair Business Competition is also a correction to worrying economic developments, which have proven not to withstand the shock of the crisis in 1997. Law Number 5 of 1999 concerning the Prohibition of Monopolistic Practices and Unfair Business Competition is now become an important instrument in law enforcement in the economic market. (Andi Fahmi Lubis, *et al.*, 2009: 10).

The complex issue of enforcing the law prohibiting monopolistic practices and unfair business competition has implications for the effectiveness of the implementation of duties and authorities mandated by law. Proving in cartel cases is not easy, the difficulty of finding evidence that can be used in trials makes proving in cartel cases different from other evidence. Cartel actors as much as possible avoid using written agreements so that their activities are difficult to prove. It is certain that cartel perpetrators will always try to ensure that the secrets or agreements they make do not fall into the hands of the KPPU. For this reason, cartel actors will not hesitate to close meetings with parties they consider to have the potential to disrupt the agreements they have made (Binoto Nadapdap, 2019: 5).

The problem faced is how to enforce business competition law in the

application of indirect evidence (*indirect evidence*) against cartel practices. The aim of the research is to review and find out how business competition law enforcement applies to the application of indirect evidence (*indirect evidence*) against cartel practices. This research will be useful for business actors and business competition authority institutions to provide answers to the difficulties of handling cartel practices and provide views regarding business competition law enforcement in the use of indirect evidence (*indirect evidence*)

In this article the author will discuss how business competition law enforcers use indirect evidence (*indirect evidence*) against cartel practices.

2. RESEARCH METHODS

This article is included in the type of normative legal research. The nature of the research used is prescriptive research to produce new concepts in solving the problems faced (Peter Mahmud Marzuki, 2015:69). The research approach that will be used in this research is a statutory approach (*statue approach*) and case approach (*case approach*) (Peter Mahmud Marzuki, 2015:24). The type of data that the author will use in this research is secondary data, namely data obtained through reviewing existing libraries, in this case secondary legal materials are journals, books and doctrines from experts regarding an analysis, as well as Primary Legal Materials as legal materials that are binding and fundamental in nature. The technique for collecting legal materials that will be used in this legal research is document study or literature study (*library research*).

3. RESEARCH RESULTS AND DISCUSSION

Sherman Act section one states that: *Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, if any other person, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court* (The Sherman Antitrust Act, 1980:1).

(Free translation: Every contract, whether jointly based on trust or otherwise, or conspiracy to restrain trade between several countries, or with foreign countries is declared illegal. Any person who will enter into a contract or be involved in this combination or conspiracy is declared illegal and will be considered guilty for committing a crime. If the perpetrator is a company and is found guilty, he will be subject to a fine of a maximum of \$10,000,000 or, if the perpetrator is an individual, he will be subject to a fine of a maximum of \$350,000, or imprisonment for a maximum of three years, or both penalties, according to the court's decision).

The definition of cartel in Indonesia is contained in Article 11 of Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition, which is basically an agreement between one business actor and its competing business actor to eliminate competition between the two. Classically, cartels can be carried out through three things, namely price, production and marketing area. In this definition there are several elements, one of which is an agreement.

Agreements between business actors who are members of a cartel are a form of evidence that can be used to assist the process of proving cartel practices.

The secrecy maintained by cartel actors makes it more difficult for the KPPU to obtain evidence regarding cartel practices. Evidence that is very difficult to

produce but has an important role in proving cartel practices is direct evidence that shows the existence of cooperation between business actors to carry out cartels. The direct evidence referred to is a document or letter that clearly states a cartel agreement. Written agreements in the form of documents or letters are strictly avoided by business actors when carrying out cartels. So the Commission has quite difficulty in producing direct evidence in the form of agreements between business actors. Due to the difficulty of finding evidence to prove a cartel, the KPPU uses indirect evidence (*indirect evidence*) as a solution to deal with cartel practices. One of the pieces of evidence included is *indirect evidence* is through economic analysis.

The use of economic analysis in cartels is an economic study or methodology to support the identification of factors that can be indicated as collusive or markets that facilitate the formation of collusive behavior. In general, economic analysis can be divided into two methodologies, namely the structural approach (*structural approach*) and behavioral approaches (*behavioral approach*). The structural approach involves identifying markets with characteristics that are conducive to carrying out collusive actions. In several studies or economic literature, several factors related to market structure and market power can be identified that encourage or facilitate the formation of cartel behavior. These factors can be used as indications of the formation of a cartel. For example, the formation of a cartel in a market will easily occur if the market consists of several business actors, with homogeneous products and demand (*demand*) which is stable. Another approach is the behavioral approach, which places more emphasis on an output in the form of the possibility of coordinating action between cartel actors. This approach focuses on the market impact of such coordination. Things that need to be suspected include prices, the same or identical discounts between competitors, parallel price movements or excessive price increases. *Unjustified run explained*, or different suppliers raise prices with *margins* the same thing at the same time. However, sometimes parallel price increases are an indication of the existence of a tightly competitive market (Anna Maria Tri Anggraini, 2010: 37-38).

indirect evidence (*indirect evidence*) can only be applied accompanied by a logical explanation using scientifically acceptable analytical methods, especially economics. Analysis of indirect evidence (*indirect evidence*) produce convincing indications that an anti-competitive act has occurred and who the perpetrator is. For this reason, not everyone can accept the application of indirect evidence. Apart from because it requires a specific understanding of economic aspects and because this evidence cannot directly show the occurrence of the alleged anti-competitive event or act. Apart from that, one of the shortcomings of Law Number 5 of 1999 concerning the Prohibition of Monopolistic Practices and Unfair Business Competition is that the procedural law used in Law Number 5 of 1999 is not yet clearly regulated. concerning the Prohibition of Monopolistic Practices and Unhealthy Business Competition for handling cases at the KPPU. In Indonesia there are a number of laws and regulations that regulate evidence. Of the several laws that regulate evidence, none specifically regulates direct evidence and indirect evidence. The law only regulates various types of evidence in a limited and enumerative manner (Binoto Nadapdap, 2019:195-197).

Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition does not explain the evidentiary system adopted in enforcing this law. Article 42 of Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition only mentions the evidence used by the Assembly in deciding cases of alleged violations of the law. This situation has given rise to differences of opinion regarding whether the Commission Council is obliged to prove using only the type of evidence listed in Article 42 of Law Number 5 of 1999 concerning

Prohibition of Monopoly Practices and Unfair Business Competition or whether it can use other evidence. Debate also occurred in relation to the minimum amount of evidence used by the Commission Council in deciding a case. If the Criminal Procedure Code explicitly states that the panel of judges in deciding a case uses at least 2 (two) pieces of evidence plus the judge's belief, then in Law Number 5 of 1999 concerning the Prohibition of Monopoly Practices and Unfair Business Competition the norm is not clearly stated such (Mahmul Siregar, 2018:193).

Although the evidence is indirect (*indirect evidence*) is not mentioned explicitly in Article 42 of Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition, does not mean that the indirect evidence is in no way related to the type of evidence as mentioned in Article 42 of Law Number 5 1999 concerning the Prohibition of Monopoly Practices and Unfair Business Competition. One type of evidence in Article 42 of Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition which relates to the use of indirect evidence is indicative evidence. Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition does not explain further what is meant by evidence of guidance. Guidance evidence is the knowledge of the Commission Council which is known and believed to be true. The definition of indicative evidence in this Commission Regulation is broader than indicative evidence as generally known in criminal procedural law.

Based on *Policy Brief June 2007, Prosecuting Cartels without Direct Evidence of Agreement* issued by the OECD indirect evidence is evidence that does not directly describe the contents of the agreement or the parties to the agreement. Indirect evidence consists of evidence of communication between business actors suspected of carrying out a cartel and economic evidence about the market and the behavior of the cartel business actors involved in it who proposed the joint action. Thus, indirect evidence is a tool to detect that there are indications of cartel practices carried out by business actors, namely in the form of agreements between business actors that determine the selling price of certain goods or services to consumers (Mahmul Siregar, 2018: 192).

indirect evidence (*indirect evidence*) has actually been used in several countries. The same reasons underlying the application of indirect evidence (*indirect evidence*) is cartel proof related to finding an agreement between cartel actors as evidence which is very difficult so it is necessary to use evidence which can be a solution to the problem of proof, so that cartel practices can be stopped and not cause losses to business actors, consumers and the state. Several countries have implemented indirect evidence (*indirect evidence*) include (Binoto Nadapdap, 2019:251):

1. United States

Additional references such as plus factors or *facilitating devices* added to clarify evidence that a violation of the law has occurred *Anti-trust*. Plus a factor that is often emphasized by the courts is whether the actions of the company are contrary to its own interests (*against self-interest*), plus factors are the determining factors needed to strengthen confidence in economic evidence as part of *indirect evidence* where there is no written agreement (*naked agreement*). Enforcement concerns the economic factors that challenge the use of support facilities as a means of price signaling and price coordination among oligopolistic firms.

2. Japan

The appropriate formula for using indirect evidence in handling cartel practices is communication coupled with similar behavior. Communication and similarity of behavior itself is not direct evidence but is indirect evidence. In short, it can

be said that to be able to use indirect evidence in dealing with cartels, there must be at least two pieces of indirect evidence, even if they are not accompanied by direct evidence.

3. European Union

There are no clear regulations regarding what evidence can be used by the competition commission in handling cases of violations of anti-monopoly law. The commission is given the authority to determine for themselves what evidence they use. Proof can be carried out using all evidence. The Commission has the freedom to choose evidence and there is no complete list of circumstantial evidence.

indirect evidence (*indirect evidence*) is a fact that is not the only fact related to a case, but the fact comes from facts that are related or not to the case, from which conclusions can then be drawn. The conclusion in question is related to the occurrence of a certain event or legal action. Furthermore, Munir Fuady stated that indirect evidence (*indirect evidence*) must have rational relevance that can show that the application of indirect evidence (*indirect evidence*) in the court process, it is more likely to make the proven facts clearer than if indirect evidence was not used (*indirect evidence*) (Munir Fuady, 2012:5).

In Indonesia itself, although the application of indirect evidence (*indirect evidence*) is still being debated, but the Supreme Court has already decided a case in favor of the KPPU in the application of indirect evidence (*indirect evidence*) regarding the West Jakarta District Court's decision which annulled KPPU Decision Number 02/KPPU-L/2009 concerning the Tender Case for Clean Water Network Development Work Packages in Lingga Regency. Then the KPPU submitted a cassation action to the Supreme Court. This cassation request from the KPPU was granted by the Supreme Court through its decision in Case Number 582K/Pdt.Sus/2009 dated 28 September 2009 (Binoto Nadapdap, 2019:377).

The difficulty of proving the existence of a cartel and the KPPU's limited time in uncovering alleged cartels and the pros and cons in practice often lead to problems. So, to avoid and provide legal certainty for all parties, it is necessary to amend Law Number 5 of 1999 concerning Prohibition of Monopoly Practices and Unfair Business Competition by including indirect evidence (*indirect evidence*) into the types of evidence that are clearly regulated in Article 42 regarding valid evidence. Then, it is necessary to strengthen the authority of the KPPU which is clearly regulated in Article 36 by adding the authority to carry out searches or confiscations, giving the KPPU the right to wiretap and increasing the time period for handling cartels (Sukarmi, 2011: 144).

4. CONCLUSION

Enforcement of business competition law against cartel practices in Indonesia still faces obstacles and is not optimal. Application of indirect evidence (*indirect evidence*) still faces pros and cons because there are no statutory regulations that clearly regulate this type of evidence. Although the regulations regarding indirect evidence (*indirect evidence*) is not yet clear, but the Supreme Court has already upheld the KPPU's decision regarding the application of indirect evidence (*indirect evidence*) in cartel cases. indirect evidence (*indirect evidence*) can be an update and solution to the difficulty of enforcing business competition law against cartel practices. The difficulty of obtaining direct evidence in the form of agreements between cartel actors requires an update and breakthrough by amending Law Number 5 of 1999 concerning Prohibition of Monopoly Practices and Unfair Business Competition. The intended amendment is to add indirect evidence (*indirect evidence*) into Article 42 regarding the types of valid evidence. Apart from that, giving additional authority to the KPPU to carry out confiscations and searches is deemed necessary to

make it easier for the KPPU to handle cartel cases, then if it is deemed appropriate and necessary, it can add regulations regarding legal immunity or legal relief for individuals, company employees and the first company. provide information or information related to cartel practices or what is known as *leniency program*.

5. SUGGESTIONS

Legal considerations of the Supreme Court which accepts indirect evidence (*indirect evidence*) as valid evidence in business competition law can be a legal breakthrough in enforcing business competition law in Indonesia, both for the KPPU and the District Court. If the evidence is indirect (*indirect evidence*) wants to be accepted as valid evidence without giving rise to differences of opinion, it is necessary to regulate its position as a type of valid evidence in Article 42 of Law Number 5 of 1999 concerning Prohibition of Monopoly Practices and Unfair Business Competition. Additional authority for the KPPU regarding searches and confiscations must be added and regulated because in this way the KPPU can more easily obtain direct evidence in the form of documents indicating the existence of a cartel agreement. *Leniency* The program should be considered to be regulated in Law Number 5 of 1999 concerning Prohibition of Monopolistic Practices and Unfair Business Competition, considering that many other countries have implemented and provided effective results in making it easier to deal with cartel practices.

Therefore, it would be best for the House of Representatives of the Republic of Indonesia to amend Law Number 5 of 1999 concerning Prohibition of Monopoly Practices and Unfair Business Competition considering the need for this step to be taken.

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UNDERSTANDING OF THE MUSLIM COMMUNITY REGARDING THE BARTER TRADE LAW INVOLVING MUNCIBUT EXAMINED FROM THE PERSPECTIVE OF INDONESIAN ULEMA COUNCIL FATWA NO. 48 OF 2019 ON THE CONSUMPTION LAW OF SQUIRRELS AND CHIPMUNKS (CASE STUDY IN NDOKUM SIROGA VILLAGE, SIMPANG EMPAT SUB-DISTRICT, KARO REGENCY)

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ABSTRACT

"The title of this research is: Understanding of the Muslim Community Regarding the Barter Trade Law Involving Muncibut Examined from the Perspective of Indonesian Ulema Council Fatwa No. 48 of 2019 on the Consumption Law of Squirrels and Chipmunks (Case Study in Ndokum Siroga Village, Simpang Empat Sub-district, Karo Regency)."The practice of buying and selling involves the exchange of goods or ownership. Muncibut is a medicinal concoction in the form of dry and wet powder made by grinding or pounding dried plants first. In the local language, "tawar" means medicine, and "mencibut" in the Karo language refers to flying squirrels that can fly and climb. Thus, "tawar mencibut" is medicine made from certain plants and squirrel body parts. This thesis discusses the practice of buying and selling "tawar mencibut" in Ndokum Siroga Village, Simpang Empat Sub-district, Karo Regency. It investigates the factors contributing to the occurrence of such transactions and examines the legal status of buying and selling "tawar mencibut" from the perspective of the Indonesian Ulema Council Fatwa No. 48 of 2019 regarding the law of consuming squirrels and chipmunks. The research aims to elucidate the practice of buying and selling "tawar mencibut" in Ndokum Siroga Village, Simpang Empat Sub-district, Karo Regency, describe the factors contributing to the occurrence of such transactions, and determine the legal status of buying and selling "tawar mencibut" according to the Indonesian Ulema Council Fatwa No. 48 of 2019 in Ndokum Siroga Village, Simpang Empat Sub-district, Karo Regency. This study adopts an empirical research design with a field research method. The approach utilized is a sociological approach and living case study. Legal materials are collected through observation, interviews, and document study. Data are analyzed qualitatively using deductive reasoning logic. The findings reveal that the practice of buying and selling "tawar mencibut" in Ndokum Siroga Village, Simpang Empat Sub-district, Karo Regency, indeed involves the use of squirrel body parts as the main ingredient. The factors contributing to the occurrence of such transactions are attributed to the strong belief of the community in their ancestors and the perceived benefits of "tawar mencibut." However, according to the Indonesian Ulema Council Fatwa No. 48 of 2019, the legal status of buying and selling "tawar mencibut" is deemed prohibited due to its use of squirrel body parts, which are forbidden by the fatwa. [

Keywords: *Understanding, Law, Buying and Selling, Muncibut, Indonesian Ulema Council Fatwa.*

1. INTRODUCTION

Humans are created as beings that are "good" and "beautiful". They are provided with sustenance for the first time since birth with breast milk that has been processed from various fluids and blood in the mother's body, making it a refreshing and clean drink.

Humans are pressed with various obligations set by Allah so that they are willing to seek lawful sustenance. By resisting carnal desires, Satan, who often approaches to tempt and mislead, is sure to be repelled. For Satan always strives to infiltrate various human blood vessels, making it difficult for humans to obtain lawful sustenance that exists and circulates around them, if humans do not eradicate the forbidden until its roots. The issues of lawful and forbidden are so central in the view of Muslims, because it is the boundary between the right and the wrong, or further between heaven and hell.

Lawful and forbidden will always be faced by Muslims second by second throughout their lives. Thus, it indicates how important it is for us to know in detail the boundaries between what is lawful and what is forbidden. Understanding the issue of lawful and forbidden seems easy at first glance, but then becomes very difficult when faced with daily life, which sometimes becomes blurred and difficult to distinguish between what is lawful and what is forbidden, or even becomes doubtful, because it does not belong to either, or because of their mixture, as also acknowledged by Sheikh ul Islam Yusuf Qardlawi in the introduction to his work "al-Halal wa al-Haram fi al-Islam". The Muslim community in Ndokum Siroga Village is unaware of distinguishing between squirrels and chipmunks, and even some people consider chipmunks and squirrels to be the same. In the Indonesian Ulema Council Fatwa number 48 of 2019 concerning the law of consuming Chipmunks and Squirrels, the differences between chipmunks and squirrels are explained in general terms. Chipmunks are the common name for a group of rodents from the family Sciuridae. In foreign languages, chipmunks correspond to the word "Squirrel" in English, while squirrels correspond to the word "Treeshrew" in English. In biology, chipmunks are not the same as squirrels. The following are the differences between chipmunks and squirrels. From the perspective of scientific classification, chipmunks originate from the order Rodentia and from the family Sciuridae. Whereas squirrels originate from the order Scandentia and from the family Tupaiidae and Ptilocercidae.

1. Chipmunks are mostly arboreal, living in trees and not on the ground, while squirrels are mostly terrestrial, living on the ground.
2. Chipmunks have blunt mouths, while squirrels have more pointed mouths.
3. Chipmunks are mainly herbivores (eating seeds, nuts, fruits, mushrooms, and other plant materials), while squirrels are mainly insectivores or insect-eating animals.
4. Chipmunks have incisor teeth (cutters) and do not have canine teeth, while squirrels have canine teeth.

From the above explanation, it can be concluded that chipmunks and squirrels have many differences, in terms of characteristics, habitat, mouths, and others. In reality, the community in Ndokum Siroga Village, Simpang Empat District, Karo Regency, still consumes and trades processed squirrel organs. This product, called "tawar mencibut," is a traditional medicine mixed with various plants. The local community believes that "tawar mencibut" functions as a tonic and other uses. Consuming "tawar mencibut" is usually mixed with water or made into herbal concoctions. Regarding "tawar mencibut," there are at least several strong reasons why researchers want to investigate it. Firstly, one of the main ingredients of "tawar mencibut" is squirrel, so automatically the squirrel used is not slaughtered but hunted using an air rifle, making the squirrel a carcass. Then, why is it still consumed by the Karo Muslim community? Secondly, the title about the law of buying and selling squirrels is only discussed by researchers. Thirdly, to disseminate information about the fatwa regarding the law of consuming chipmunks and squirrels.

2. RESEARCH METODOLOGY

The researcher undertook this study employing a structured approach to ensure its systematicity, accuracy, and analytical robustness. The research methodology encompasses various components:

1. **Research Type:**
This study, when viewed through the lens of legal research, adopts an empirical approach with field research methodology at its core. It employs a descriptive-analytical nature, combining primary and secondary legal materials gathered from the field and analyzed through document studies. From the perspective of legal material processing, the research is qualitative in nature. Its primary aim is to observe and interview practitioners involved in the trade of "tawar mencibut" in Ndokum Siroga Village, Simpang Empat District, and subsequently analyze it against Indonesian Ulema Council Fatwa No. 48 of 2019 regarding the consumption of chipmunks and squirrels.
2. **Problem Approach:**
The researcher employs a sociological approach to understand the sociological characteristics of the community. Additionally, the study utilizes the living case study approach to explore an event within the community that has not been considered problematic previously, focusing on the trade of "tawar mencibut" in Ndokum Siroga Village.
3. **Research Location:**
The research is conducted in Ndokum Siroga Village, Simpang Empat District, Karo Regency.
4. **Legal Materials:**
 - a. Primary legal materials consist of Indonesian Ulema Council Fatwa No. 48 of 2019 regarding chipmunk and squirrel consumption, along with insights from interviews conducted with relevant stakeholders.
 - b. Secondary legal materials encompass non-binding sources providing explanations regarding primary legal materials, including legal literature and scientific journals related to primary legal materials.
 - c. Tertiary legal materials serve to provide further elucidation on primary and secondary legal materials and may include non-legal journals and online sources relevant to the research topic.
5. **Legal Material Collection Procedure:**
Given the nature of the research as field research focusing on case studies, data collection instruments include observation, interviews with stakeholders such as buyers, sellers, traditional leaders, and religious figures, and document studies involving legal texts and related literature.
6. **Legal Material Analysis Processing:**
The researcher employs qualitative data analysis to analyze collected data, including observations, interviews, and documentation. The deductive method is utilized to draw specific conclusions from general problems. Special attention is given to the Indonesian Ulema Council Fatwa, culminating in conclusions drawn from the examination of the trade of "tawar mencibut."

3. RELATED RESEARCH/LITERATUR REVIEW

Here is a picture of chipmunks, the primary ingredient for "mencibut" and the finished product of "rawar mencibut".



4. RESULTS AND DISCUSSION

In designing this prototype made using the hardware the minimal with Arduino The following are the factors contributing to the occurrence of the trade of "tawar mencibut" in Ndokum Siroga Village, Simpang Empat District, Karo Regency:

1. Cultural and Traditional Factors:

According to Datang Surbakti, a member of the Karo customary council, "tawar mencibut" has been consumed by the Karo community for a long time. It is considered a cultural heritage passed down through generations by Karo ancestors, which is why the Karo people continue to use this traditional medicine. The local community's habit of consuming "tawar mencibut" is rooted in their trust in their ancestors. The use of this remedy is believed to be effective and beneficial for health. Local traditions surrounding the consumption of "tawar mencibut" are sustained by the community's reliance on ancestral wisdom, dreams, and daily observations, leading to improved health among its users. The advantages of using natural remedies include minimal side effects and relatively low costs due to readily available raw materials from nature, either grown or obtained from traditional markets. Thus, the Karo community still accepts natural remedies as treatment for various ailments, despite their sometimes inefficient use. Medicinal plants have long been utilized by ancestors for treating illnesses and maintaining health. This knowledge is passed down through generations or from individuals considered experts in traditional medicine. Various parts of plants, such as roots, leaves, stems, flowers, and fruits, can be processed into traditional medicines. Some

traditional medicines still believed by the Karo community to be effective include "minak pengalun" (Karo oil), "kuning," "tawar," "sembur," and "oukup" or steam baths.

2. Affordability and Accessibility Factors:

The community prefers using natural remedies for healing as they are believed to have more benefits and fewer side effects compared to chemical-based medications, which are perceived to have more side effects. Additionally, chemical-based medications are expensive, making them less accessible to the community. Traditional Karo medicines hold significance for the community, as they are commonly stocked in households for emergency use in times of illness. The Karo people strongly believe in the effectiveness of traditional medicines in maintaining health, boosting immunity, and treating various ailments. Libra Tarigan, an expert in making "tawar mencibut," also shares insights on the importance of this traditional remedy. He mentions that "tawar mencibut" has been crafted by his family for generations, and he is the sixth descendant in the lineage of "tawar mencibut" makers. The ingredients for "tawar mencibut" include the male squirrel's genitals, "bulung besan," "gagatan harima," "sitarkal" (moss), "acem" (sour), such as lime, and many others. According to Libra, the key ingredient for making "tawar mencibut" is the squirrel's reproductive organ, as it is believed to enhance the potency and efficacy of the remedy. The preparation process involves grinding all the ingredients using a mortar and pestle, then allowing the mixture to sit for a while until it emits a distinctive aroma, indicating readiness. The primary benefit of "tawar mencibut" is believed to be its efficacy in treating low sperm count. However, it is essential to recognize that the outcome ultimately lies in the hands of the divine, and while efforts are made, outcomes are subject to divine will.

The Law of Buying and Selling "Tawar Mencibut" According to MUI Karo Regency

One of the most important aspects of human interaction is commerce, as it serves as a means to fulfill human needs through the exchange of goods or services for either other goods or a specified price (currency) based on mutual consent. It is acknowledged that sometimes commercial practices within society may violate the principles, conditions, or other regulations governing commerce. An example of this is the buying and selling of "tawar mencibut" (a traditional remedy), as viewed from the perspective of the Indonesian Ulema Council (MUI) Fatwa No. 48 of 2019 Regarding the Law of Consuming Chipmunks and Squirrels.

Based on an interview conducted by the researcher with the Chairman of MUI Karo Regency, Mr. Fakhri Tarigan, he stated that "tawar mencibut" is a traditional remedy used by the Karo community, administered orally. During the interview, he admitted his lack of knowledge regarding the legality of consuming this remedy. However, after discussion, he affirmed that according to MUI Fatwa No. 48 of 2019, consuming chipmunks or any food made from chipmunk body parts is forbidden (haram). As for the legality of buying and selling "tawar mencibut," he referred to a hadith narrated by Abu Dawud, stating that Allah has prohibited the sale of intoxicants and their proceeds, the sale of carcasses and their proceeds, and the sale of pigs and their proceeds.

The researcher also inquired about the awareness of the Karo Muslim community regarding this fatwa. Mr. Tarigan responded that in terms of education, the majority of the Karo people may still lack knowledge, not only about religious edicts but perhaps even basic Quranic literacy. Regarding the role they undertake, occasionally during their religious outreach efforts, they also convey the importance and function of the MUI.

5. CONCLUSION

Some conclusions that can be drawn from the elaboration above are as follows:

1. The practice of buying and selling "tawar mencibut" in Ndokum Siroga Village, Simpang Empat District, Karo Regency involves the exchange of products containing chipmunk body organs, which have been prohibited by MUI Fatwa No. 48 of 2019 regarding the Law of Consuming Chipmunks and Squirrels in point 3 of the legal provisions. Squirrels, as referred to in the general provision, are animals whose flesh is forbidden to consume due to their fangs.

2. The factors causing the occurrence of buying and selling "tawar mencibut" in Ndokum Siroga Village, Simpang Empat District, Karo Regency are twofold:

a. Cultural and traditional factors:

The consumption of "tawar mencibut" has long been practiced by the Karo community. It is considered a cultural heritage passed down from generation to generation by the Karo ancestors. Therefore, the Karo community continues to use this traditional medicine. Its usage is not without reason, as the local community deeply feels the effects and benefits of this medicine. The local tradition of consuming "tawar mencibut" is rooted in the community's belief in their ancestors. This traditional medicine, known as "tambar" in the Karo language, is still evolving and widely used to this day. The source of this medicine can be obtained from ancestral heritage, dreams, and daily observations, contributing to the continued improvement of the health of those who use it. There are several advantages to using natural medicine, including having few side effects and being relatively inexpensive.

b. Affordability and accessibility factors:

People prefer using natural medicine for healing as it is believed to have more benefits and fewer side effects compared to chemical-based medications. Additionally, chemical medications are perceived to be expensive, leading people to incur high costs for modern treatment. The importance of traditional Karo medicine to the Karo community can be seen in its everyday use. Karo people usually keep various types of traditional medicine at home as a precautionary measure in times of illness. They strongly believe that traditional medicine can maintain health, enhance immunity, and cure various illnesses.

3. The law of buying and selling "tawar mencibut" according to Islamic law is considered both forbidden and invalid. This is because the sale of "tawar mencibut" does not meet the requirements for a valid commercial transaction, which necessitates the involvement of pure and lawful items, avoiding impure and prohibited items. MUI Fatwa No. 48 of 2019 states that chipmunks have fangs, categorizing them as wild animals and thus forbidden for consumption. Consistent with this fatwa, Imam Malik in his Muwatta stated that consuming any animal with fangs is forbidden.

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OVERVIEW: THE ABIOTIC FACTORS ‘STRESS AND LIGHTING’ HAVE AN INFLUENCE ON THE BIOACTIVE COMPOUND FLAVONOID IN STRAWBERRY PLANT

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ABSTRACT

The increasing demand for strawberries is driving advancements in technology that support strawberry production, which is expected to become far more effective and efficient. Strawberries are one of the plants whose fruits contain substances that are highly beneficial for human health. Abiotic factors such as stress and light often play a decisive role in the production of secondary metabolites like flavonoids, which are important compounds in strawberry plants. This article aims to provide information related to the impact of abiotic factors ‘stress and lighting’ that can affect these compounds. The studies used to support the information in this article include reputable scientific journals published and indexed in ScienceDirect, Springer, articles indexed in Scopus, and relevant literature on GoogleScholar. All literature providing insights on the importance of biological activity and plant physiology, secondary metabolites, flavonoid biosynthesis, and the phytochemistry of plants. The influence of abiotic stress and lighting on plants can affect various aspects of plant growth, which will eventually impact the response in terms of quality produced and also the compounds contained within the plant itself. Based on the study of abiotic factors such as stress and lighting, these have a crucial role in the biosynthesis of flavonoid compounds that affect production in strawberry plants.

Keywords: Abiotic stress, Bioactive, Flavonoid, Secondary metabolites, Lighting, Strawberry.

1. INRODUCTION

Strawberries are among the most popular fruits worldwide, not only consumed fresh but also used in various types of processed food products such as snacks and beverages due to their excellent nutritional content. Strawberries contain vitamin C (39-86 mg per 100 g of fruit) and vitamin A (60 IU per 100g), as well as minerals, pectin, potassium, calcium, and phosphorus. (Singh et al., 2018). Additionally, strawberries are one of the plants whose fruits contain substances that are highly

beneficial for human health. These include antioxidant agents such as anthocyanins, which are flavonoid compounds, vitamins, sugars, and other phenolic compounds (Martinsson et al., 2006). Flavonoids are a class of secondary metabolites produced by plants, including phenolic compounds that belong to the flavonoid group. These can produce natural antioxidants (Saija et al., 1995). Flavonoids, as part of the metabolites, play a significant role in plant growth and stress response (Li et al., 2021). These metabolites function as compounds used in plant growth and development, divided into two types: primary metabolites, which are produced in limited quantities and used by plants for growth, and secondary metabolites, which serve as a defense mechanism for plants against both biotic and abiotic stress (Angin et al., 2019). The compounds found in strawberries, such as antioxidants, offer significant health benefits.

Secondary metabolites are compounds possessed by plants that function in the processes of growth and development. They are small molecular organic compounds that serve as bioactive substances, whose formation depends on the plant's stimulation by abiotic factors such as environmental stress (T. Wang et al., 2019). Secondary metabolites are produced by plants to enhance their competitiveness in their environment, offering various benefits to the plant itself as well as other living organisms, and acting as antimicrobials. More than 50,000 types of plants have been identified as producers of secondary metabolites, with many modern medicines beginning to rely on these plant-derived compounds (Teoh, 2016). There are over 4,000 flavonoids widely distributed across plants and prokaryotes, which belong to a large group of secondary metabolites that can be categorized as phenolic compounds (Woo et al., 2002; Middleton, 1998). Research findings suggest that flavonoids can perform various functions as antioxidants and regulators of development in photoprotection (Agati & Tattini, 2010).

Flavonoids are known to increase tolerance to various abiotic stresses, serving as a defense mechanism for plants, and as a basis for allelopathic interactions with other plant species. Species across all orders in the plant kingdom, from liverworts to angiosperms, invest a significant amount of metabolic energy in producing these compounds (Kevin S. Gould & Lister, 2005). The environmental conditions for growing strawberries are not always ideal, abiotic factors present challenges that must be navigated during the growth and development of strawberry plants. Secondary metabolite compounds such as flavonoids can serve as defense mechanisms and signals for strawberry plants in conditions of both biotic and abiotic stress. (Goyal et al., 2012). Therefore, this study is expected to provide deeper insights into abiotic factors such as stress and lighting that can affect these compounds in the physiological aspects of strawberry plants. It aims to serve as an important piece of information in the development of strawberry plant research.

2. RESEARCH METHODOLOGY

The materials used in compiling the database for the creation of this article were obtained from primary scientific article sources such as ScienceDirect, Springer, articles indexed in Scopus, and relevant literature on GoogleScholar. The method used in creating this review article involves utilizing a literature study to search for information related to the necessary aspects as follows:

- i. Related to the topic of metabolites: All literature providing insights on the importance of biological activity and plant physiology, secondary metabolites, flavonoid biosynthesis, and the phytochemistry of plants.
- ii. Abiotic factors in plants: Literature searches focusing on topics related to abiotic stress such as drought stress, lighting, and other aspects related to enhancing flavonoid compounds, considered beneficial regardless of the journal impact factor, popularity, or its source.

3. RESULTS AND DISCUSSION

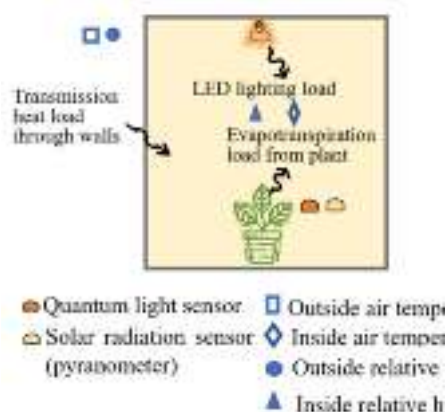
A. The Impact of Light on the Quality and Biosynthesis of Flavonoids in Strawberries

Strawberry plants often face many issues during the cultivation process, especially in the field, such as low productivity and the quality of the fruit produced, necessitating a good system to anticipate these problems. Adverse and extreme weather conditions, which can result in strawberry production losses, the concept of controlled environment agriculture accompanied by technology application is a good alternative for the agricultural sector (Hernández-Martínez et al., 2023;Wai et al., 2023). Strawberries face numerous challenges during the cultivation process, resulting in yield losses of about 30-70%. Proper management is necessary to mitigate these issues (Mahmud et al., 2019). Cultivating strawberries in controlled indoor environments has become the most modern alternative for producing high-quality strawberry fruits. The majority of indoor strawberry cultivation uses greenhouse technology, widely adopted in response to unpredictable weather conditions that can affect the yield and quality of cultivated strawberries, such as a decrease in the sweetness and texture of the strawberry fruit (Gavilán et al., 2015;Chaichana et al., 2020). A decline in the quality of strawberry fruits can also lead to consumers deciding against purchasing them (Zhou et al., 2022).

Lighting is a crucial factor in the physiological aspect of plants that can influence the growth and development of strawberry plants due to its connection with the photosynthesis process, which impacts the formation of strawberry fruits. Lighting issues are particularly significant for the leaves and can greatly affect the quality and characteristics of the produce (Pydipati et al., 2006). Supplemental lighting has been widely successful in enhancing vegetable production in greenhouses, providing significant differences in growth and yield. The rate of photosynthesis in leaves of plants exposed to additional LED lighting is much higher, as indicated by increases in leaf dry weight, leaf area, and specific leaf dry weight. These improvements significantly impact the average fruit weight, fruit count, and overall yield (Hidaka et al., 2013).



(Chaichana et al., 2020)



(Wai et al., 2023)

Figure 1. Addition of LED lighting for the growth of strawberry plants

In addition to nutrients and water, another factor such as light becomes an important factor that affects the quality of fruit from strawberry plants cultivated in greenhouses. Figure 1 shows the use of LED lighting on strawberry plants. Supplemental lighting is recommended for producing high quality strawberry fruits (Xu et al., 2023). Exposure to light can trigger a series of physiological processes in strawberries and affect their commercial value. Light is one of the most important environmental factors influencing the biosynthesis of anthocyanins in plants and can enhance the red coloring of strawberry fruits after harvest. This is combined with a doubling of the anthocyanin content, which is a compound derived from flavonoids (Miao et al., 2016; L. Wang et al., 2022).

B. The Impact of Drought Stress on Plant Physiological Mechanisms

One-third of the Earth's surface is classified as arid or semi-arid, while areas that are humid, where the world's food is produced, experience periods of severe drought. Consequently, the impact of drought has become a primary focus on the influence of plant productivity worldwide (Díaz et al., 2005). Drought stress is a factor that significantly affects agricultural productivity in developing countries, reaching 50-70%. Among abiotic stresses, it is considered the most detrimental, thereby hindering maximum agricultural productivity worldwide (Verma & Deepti, 2016). The harmful impact of drought conditions can have detrimental effects on growth, chlorophyll content, cell integrity, photosynthesis, leaf water potential, and water deficiency (Hussain et al., 2020). Drought stress causes a significant inhibition of growth and the rate of photosynthesis, as well as inducing a number of major changes in the morphological, physiological, and biochemical responses when plants are exposed to drought stress. These changes can enhance the plant's ability to survive and grow during periods of drought (Yin et al., 2005). Abiotic stress can result from atmospheric pollutants, the presence of heavy metals, low temperatures, or soil acidity, which can also affect the productivity and quality of plants (Figure 2).

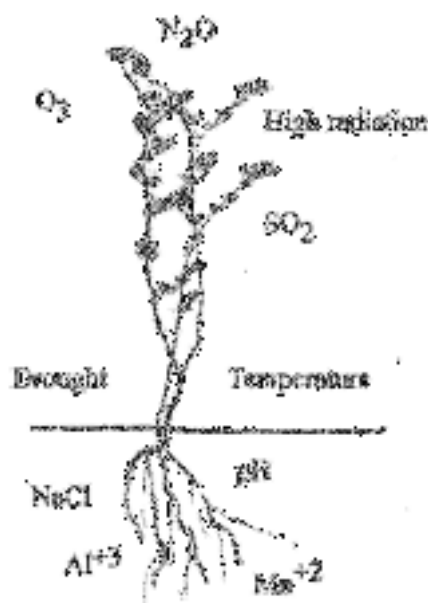


Figure 2. The impact of abiotic stress on plants that can affect growth and plant productivity (Díaz et al., 2005)

Under stress conditions, plants are capable of initiating defense responses such as physiological, biochemical, and molecular mechanisms under drought to enhance their survival ability in conditions of water scarcity during growth and development periods (Amoah et al., 2019). Drought in plants elicits a complex response, ranging from wilting processes, reduced photosynthesis rates, causing stomatal closure, and increased leaf temperature at physiological, metabolic, and developmental response levels, dependent on the degree of drought stress (Guimarães-Dias et al., 2012). Once stress occurs, complex biochemical and physiological mechanisms are activated to protect crucial processes such as cell respiration, photosynthetic activity, and nutrient transport. Additionally, stress tolerance responses are induced to preserve organelles and tissue structures, such as the meristem (Kramer, 1983; Kramer & Boyer, 1995).

C. The Role of Secondary Metabolites in Plants

Bioactive compounds are substances found in nature and are part of the food chain. Possessing the ability to interact with one or more living tissue compounds, demonstrating effects on human health (Biesalski et al., 2009). Possessing an unlimited combination of functional groups, including hydroxyl, alcohol, aldehyde, alkyl, benzyl rings, and steroids, each can produce a diversity of plant compounds, with unique characteristics (Beckles & Roessner, 2012). More than 8,000 different phenolics have been identified within the plant kingdom, representing one of the most abundant and widespread classes of plant secondary metabolites (Cheynier et al., 2013). Through complex metabolic pathways, these are referred to as secondary metabolites, whose compounds have the capability for synthesis used by plants for various functions, especially in responding to biotic and abiotic stress encountered (Michel, 2011). Various research findings indicate that these metabolites fall into three classes: polyphenols, alkaloids, and terpenoids, demonstrating the bioactivity of these molecules in antitumor, antiviral, antimicrobial, antioxidant, and anti-inflammatory activities. Therefore, plants containing these metabolites can be

utilized in the fields of therapy, pharmacology, cosmetology, and food (Rispaill et al., 2005; Sompila et al., 2021).

D. The Role of Flavonoids in Plants

Flavonoid content is abundantly stored within plant bodies, aiding in the response to growth and development throughout their lifespan. Flavonoids are the most plentiful secondary metabolite compounds in plants (Han et al., 2023). These compounds protect against UV rays, pests, and diseases, and also play a crucial role in the color, taste quality, and nutritional value of the fruits produced (Gouot et al., 2019). Flavonoids primarily consist of five subclasses: anthocyanins, flavanones, flavanonols, flavonols, and flavanols (Durazzo et al., 2019). The accumulation of flavonoids can be a key defense for plants against various environmental stresses, as flavonoids belong to the polyphenol compounds with antioxidant activity, comprising flavones, flavanones, flavonols, isoflavones, and anthocyanins (P. Wang et al., 2018; Sun et al., 2020). Flavonoids, as bioactive polyphenolic compounds in plants with structures like Kaempferol-3-O-rutinoside, quercetin-3-O-glucoside, and kaempferol-3-O-glucoside, can play a significant role in the prevention and mitigation of the impact of several diseases in humans. These flavonoid glycosides are responsible for antioxidant activities and form the scientific basis for their use in traditional medicine. (Badmus et al., 2016). The flavonoid fraction from each plant possesses an effective hepatoprotective effect as flavones, which clinically reduces symptoms in liver damage (Gupta et al., 2015). The flavonoid content has a close relationship between plant parts and the phenological development of the plant, which can affect the content of compounds such as rutin, amentoflavone, hyperoside, isoquercitrin, quercitrin, quercetin, avicularin, (+)-catechin, and (-)-epicatechin (Çirak et al., 2014).

E. Flavonoid Biosynthesis Induced by Stress

The role of flavonoids can offer new insights into enhancing plant production potential by utilizing plant varieties rich in flavonoids as crops tolerant to biotic and abiotic stress (Nakabayashi et al., 2014). High flavonoid content is found in the early development stages of young fruit tissue, evidenced by high gene expression related to the biosynthesis and accumulation of flavonoids (Moriguchi et al., 2001). The enhancement of anthocyanin biosynthesis enzymes from the pathway involved in phenylpropanoid metabolism, which converts phenylalanine and related substrates through phenylalanine ammonia-lyase (PAL) into flavonoids including anthocyanins. The proteins whose synthesis is concurrently increased include phenylalanine ammonia-lyase (PAL), chalcone isomerase (CHI), flavanone 3-hydroxylase (F3H), dihydroflavonol 4-reductase (DFR), and UDP-glucose:flavonoid-3-O-glucosyltransferase. PAL has been identified as an enzyme positively associated with the ripening of strawberry fruits (Song et al., 2015).

4. CONCLUSIONS

Abiotic factors such as stress and light play a crucial role in the biosynthesis of flavonoid compounds in strawberry plants. These factors influence the production of flavonoids and can optimize growth. The production of strawberry plants containing bioactive compounds is beneficial for human health.

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DETERMINATION OF SOIL WATER CONTENT

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ABSTRACT

Groundwater is a physical characteristic that has a direct influence on plant growth and other aspects of human life. Determining soil water content is very important to determine how much or what percentage of water is in food or agricultural products, because one of the growth media for microorganisms in materials is water, so as to minimize the risks posed by microorganisms. Determination of soil water content is carried out in the laboratory. The water content in the soil depends on the amount of rainfall, the soil's ability to hold water, the amount of evapotranspiration, the organic matter content and the high groundwater level.

Determination of soil water content uses upper slope Bajra soil, middle slope Bajra soil, lower slope Bajra soil, Timor Leste soil and Ubud soil which are divided into Ubud soil one, two and three and it is found that each layer of soil has a different soil water content. -different. Lower Slope Bajra Soil has the highest water content compared to other soil samples, namely 14.819%, this is because the Lower Slope Bajra Soil contains more organic matter. Meanwhile, the soil that has the lowest percentage of water content is Tanah Timur Leste, namely 3.778%. All of these soil samples turned out to be hygroscopic soil because the percentage of hygroscopic soil was 1-15%. This means that all soil samples are soil with a coarse texture.

Keywords: Determination, soil water level

1. INTRODUCTION

Everyone has an interest in land. Land as a natural resource can be used by humans for various activities to meet their daily needs. Land as a resource used for agricultural purposes can be a resource that can be recovered (*reversible*) and can also be a resource that can be exhausted (Santoso, 1991). Soil in farming has the main function as a source of the use of nutrients needed for plant growth, and as a place for roots to grow and hold on as well as a place to store water which is very necessary for plant survival. Soil has an important role in the hydrological cycle, where the condition of the soil determines the amount of water that enters the soil and flows over the soil surface. So soil not only acts as a medium for plant growth but also as a medium for regulating water. Water also has an important function in soil, such as in the weathering process of minerals and soil organic matter, namely reactions that prepare soluble nutrients for plant growth. Apart from that, water also functions as a medium for moving nutrients to plant roots. The amount of water obtained by the soil largely depends on the soil's ability to absorb water quickly and transmit the water received downwards. The amount of water in the soil at any one time is referred to as soil water content (Gusli, 2018)

Groundwater is a physical characteristic that has a direct influence on plant growth and other aspects of human life. Water is found in the soil because it is held

or absorbed by the soil mass, retained by a waterproof layer or because the drainage conditions are not good. Water has an important function in soil, such as in the weathering process of minerals and soil organic matter, namely reactions that prepare soluble nutrients for plant growth. Apart from that, water also functions as a medium for moving nutrients to plant roots. The amount of water obtained by the soil largely depends on the soil's ability to absorb water quickly and transmit the water received downwards.

Determining soil water content is very important to determine how much or what percentage of water is in food or agricultural products, because one of the growth media for microorganisms in materials is water, so as to minimize the risks posed by microorganisms. So it is very necessary to know how much water content is in the soil.

2. RESEARCH METODOLOGY

2.1. Place and Time

This research was carried out from November 6 to November 27 2023, every Wednesday at 15.00 WITA.

2.2. Tool

1. Filter
2. Weighing glass (tin)
3. Weigh bottle
4. Drying kiln
5. Exicator

2.3. Material

Various kinds of soil samples

2.4 Ways of working

1. Weigh the air-dried soil and have sifted it through a 0.2 mm sieve, twice 10 grams in a weighing glass or tin. 2 x 10 grams of soil is called duplo. Each calculation is always based on the average price of the two soil samples in the two weighing bottles.
2. Dry both soil samples in a drying oven with a temperature of 105⁰C to constant weight. When placing it in the drying kiln, the bottle or tin cap must be opened.
3. After that, take the weighing bottle and the soil and cool it in a desiccator.
4. Once cool, immediately weigh:
 - a. Bottle and soil
 - b. Just the bottle (it's better to weigh the bottle before use).
5. The weight of the soil can be calculated (weight of the bottle + soil – weight of the bottle).
6. The weight of soil water can be calculated = 10 grams – absolute dry soil weight.
7. The soil water level can be calculated as follows:

8. Absolute dryThe average weight of water from the two examples above is the water content of the type of soil investigated.

3. RELATED RESEARCH

Soil consists of three phases, namely solid, liquid and gas. The liquid phase is groundwater that fills parts or all of the empty spaces between solid particles. Water in the ground can be classified into gravity water, capillary water and hygroscopic water. Gravity water is water that cannot be held by the ground, but seeps downwards due to the influence of gravity. Capillary water is water that is absorbed, usually in a layer around soil particles and in capillary spaces. Hygroscopic water is water that is absorbed from air water vapor by soil particles, attached to the surface of the soil particles in the form of a thin membrane consisting of layers of water molecules.

Soil water content is the concentration of water in the soil, usually expressed by dry weight (Sutanto, 2015). Water content at field capacity is the amount of water in the soil after excess gravity water comes out and is expressed significantly, usually expressed as a weight percentage (Sutanto, 2015). Soil water content can be used to calculate soil property parameters. Soil water content depends on the amount of rainfall, the ability of plants to retain water, the amount of evapotranspiration, and the organic matter content. This is related to the influence of texture on the proportion of colloidal material, pore space and adsorptive surface area, the finer the texture, the greater the quantity, so the greater the capacity to store water (Hanafiah, 2014). The amount of water content in the soil is closely related to the amount of water tension in the soil. The amount of water tension shows the amount of energy needed to hold the water in the soil. Water can absorb or be retained by the soil due to the forces of adhesion, cohesion and gravity, because water is hygroscopic and capillary water (Hardjowigeno, 2003).

4. RESULTS AND DISCUSSION

The results of observations of soil water content showed that each soil layer had different soil water content. Based on observations of soil water content carried out in the laboratory, the following data can be obtained:

Table 1. Soil Water Content Observation Results

No	Soil Type	Water Level (%)	Criteria
1	A (Upper Slope Bajra Land)	13,616	Low
2	B (Middle Slope Bajra Land)	13,812	Low
3	C (Lower Slope Bajra Land)	14,819	Low
4	D (Land of East Leste)	3,778	Very low
5	E (Ubud Land I)	8,752	Very low
6	F (Ubud Land II)	11,979	Low
7	G (Ubud Land III)	14,58	Low

Source: Primary Data,2023

Based on the table of observations of soil water content, it is found that each soil layer has a different soil water content. Hardjowigeno (1993) concluded that the water content in the soil depends on the amount of rainfall, the ability of the soil to hold water, the amount of evapotranspiration, the organic matter content and the high ground water level.

In table 1, it can be seen that soil C (Lower Slope Bajra Soil) has the highest water content compared to the other soil samples, namely 14.819%, this is

because soil C (Lower Slope Bajra Soil) contains more organic matter. This is in accordance with the opinion of Yuniwati (2017) who states that the higher the level of soil organic matter, the higher the level and availability of water in the soil. Meanwhile, the soil that has the lowest percentage of water content is soil D (Tanah Timur Leste), namely 3.778%. All of these soil samples turned out to be hygroscopic soil because the percentage of hygroscopic soil was 1-15%. This means that all soil samples are soil with a coarse texture. This is in accordance with the opinion of Madjid (2009) who states that soil with a coarse texture has less water holding capacity than soil with a fine texture and Rahmadi (2014) who states that soil with a coarse texture will retain less water content.

5. CONCLUSION

The soil water content contained in each soil layer is different, where the organic matter content is highest in the lower slope Bajre soil, namely 14,819% and the lowest in Timor Leste soil, amounting to 3,778%. All of these soil samples turned out to be hygroscopic soil because the percentage of hygroscopic soil was 1-15%.

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EXPLORATION OF PESTS ON PLANTS IN GERIH TOURISM PARK, SIBANG KAJA VILLAGE, ABIANSEMAL DISTRICT, BADUNG REGENCY, BALI

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ABSTRACT

*Pest exploration is an action to determine the presence of insect pests that damage plants or the results of their living activities can cause economic losses. The aim of this research is to find out the types of pests that attack plants in the Gerih Tourism Park and how to control them. This research was carried out at Gerih Tourism Park, Sibang Kaja Village, Abiansemal District, Badung Regency, Bali. From January to March 2024, it consists of determining the location, observing and collecting field data. The research location was chosen using purposive sampling. Data from observations in the field were then analyzed descriptively. The results of the research show that there are insect pests on plants in the Gerih tourist park. The results of identification in the field showed that there were *Paracoccus marginatus* pests on *Adenium* spp. The *Tetranychus urticae* pest was found on rose plants, then the *Planococcus citri* pest was found and attacked the croton plants. It is not necessary to control plant pests because the symptoms of pest attacks are in the moderate attack category. It is recommended, based on the results of observations of pest attacks, to monitor human activities that can cause new pests in the Gerih Tourism Park which can reduce the quality and growth of plants in the park.*

Keywords: exploration, pests, control methods and gerah tourist parks

1. INTRODUCTION

Bali Province has developed into a tourism city. The island of Bali or what is often called the Island of the Gods is one of the cities in Indonesia which is still known for its cleanliness and unique culture. The majority of the population in the province of Bali is Hindu, so it is not surprising that this city is often referred to as the city of a thousand temples. The island of Bali is a dense area. Apart from local residents, the city of Bali is also filled with residents who are not native Balinese, where they are just immigrants and guests who have certain goals, namely they are just self-employed, students or university students and so on. Some of the migrant population travels back and forth every day or remains as a non-permanent resident. Tourist visits, both domestic and foreign tourists, also increase the density of the city. Local residents, non-permanent residents and tourists are all observers (observation of the Bali city landscape in carrying out work or travel activities), these observers observe all existing elements (Aditya *et al.*, 2018)

These elements are objects that are observed both directly and indirectly forming the city. There are also agrotourism and recreation areas on the island of Bali, one of which is the Gerih Tourism Park which is located on the Gerih highway, Sibang Kaja Village, Abiansemal District, Badung Regency, Bali. One of the elements in plants is vegetation or trees which are adapted to the type, function and properties of absorbing pollutants, producing O₂, reducing noise (Triwibowo *et al.*, 2014). All plant vegetation has pests that damage the plant and can cause death to the plant itself. The importance of recognizing pests and plant diseases is as a basis for protecting plants caused by pathogens. Pathogens are both caused by biotic and

abiotic pathogens. Identifying pests and diseases caused by pathogens, both biotic and abiotic, is very necessary to know how to identify them and how to deal with them to improve plant quality (Triwibowo *et al.*, 2014).

Plant pests and diseases are not widely known or published in general. Therefore, it is necessary to carry out research on Pest Identification at Gerih Tourism Park, Sibang Kaja Village, Abiansemal District, Badung Regency, Bali

2. RESEARCH METHODOLOGY

2.1 Determination of Location

This research was conducted at Gerih Tourism Park, Sibang Kaja Village, Abiansemal Badung District, Bali. Gerih Tourism Park is located in the middle of a rice field area. The research location was chosen purposively by considering the following:

1. Gerih Tourism Park is a tourist destination that has a specific landscape based on the element of water.
2. Gerih Tourism Park has the potential for better development for local tourists.

The sample is part of the total number of individuals who are the object of research (Arukunto, 2006). Mardalis (2009) stated that sampling was carried out using an accidental sampling technique, namely the researcher determined the samples at the park location.

2.2 Types and Techniques of Data Collection

The data obtained from this research is primary data, namely data taken directly from the field. One of the data collection techniques taken is observation. Observation is a method used in research by making direct observations in the field. This method is used by researchers to make observations about pests in Tourism Parks. Apart from that, another method is Documentation. Documentation is a method used by researchers by taking data, images or photos directly to the research object.

2.3 Data Analysis

Data analysis is carried out after the research data is collected, then the data is processed and analyzed to produce correct conclusions so that they can answer the questions being researched and their truth can be confirmed (Sugiyono, 2011).

3. RELATED RESEARCH/LITERATURE REVIEW

3.1 Park

The general definition of a garden is an area that has space in various conditions. The conditions referred to include location, size or area, climate, and other special conditions such as the specific objectives and functions of park development (Sintia and Murhananto, 2004). According to Arifin (2006) a garden is a piece of open land with a certain area in which trees, shrubs, bushes and grass are planted which can be combined with creations from other materials. Generally used for sports, relaxing, playing, and so on.

3.2 Garden Elements

Landscape elements are everything in the form of objects, sounds, colors and atmosphere that form a landscape, both natural and man-made. Landscape elements in the form of objects consist of two elements, namely living objects and inanimate objects, whereas what is meant by living objects are plants, and what is meant by inanimate objects are soil, sand, rocks and other elements. Landscape elements consist of 3 types, namely hard elements, soft elements and supporting elements (Hakim *et al.*, 2003)

3.3 Pests on plants

Pests in a broad sense are all forms of disturbance to humans, livestock and plants. The definition of pests in a narrow sense related to plant cultivation activities are all animals that damage plants or their results, whose living activities can cause economic losses. The presence of an animal in a plant before it causes economic losses is not considered a pest in this sense. However, their potential as pests will need to be monitored in an activity called monitoring. In general, animals that can become pests can be insects, molluscs, mites, mice, birds or large mammals. (Wati *et al.*, 2021). Apart from being able to damage plants, pests can also act as disease vectors, such as some pests that can transmit dwarf virus disease (Nuryanto, 2018).

4. RESULTS AND DISCUSSION

4.1 General description of the research location

4.1.1 Geographical Location

Gerih Tourism Park is located in Sibang Kaja Village, Abiansema District, Badung Regency, Bali. If from Denpasar the distance is around 14 kilometers with a travel time of approximately 30 minutes. Gerih Tourism Park has a land area of 85 acres

4.1.2 General Conditions

Gerih Tourism Park is located in Sibang Kaja Village, Abiansema District, Badung Regency, Bali. This place is used by local tourists as a place to relax while enjoying the cool rural air, enjoying the elements in the park. This place is always visited by local tourists as a place for recreation and selfie sports and there is another thing that is the attraction of Gerih Tourism Park, namely there is a river for playing boats.

4.2 Pests in Gerih Tourism Park

Table 2. Pests on Plants in Gerih Tourism Park

No	Local Name	Latin Name	Family	Order	In Plants
1	Mealybugs	<i>Paracoccus marginatus</i>	Pseudococcidae	Hemiptera	<i>Adenium spp.</i>
2	Mite	<i>Tetranychus urticae</i>	Tetranychidae	Trombidiformes	Rose
3	Dompolan Flea	<i>Planococcus citri</i>	Lepidoptera	Iponomeutidae	Croton

4.3 *Paracoccus marginatus*

The White Flea *Paracoccus marginatus* is a type of flea whose entire body is covered with a layer of white wax. The body is oval-shaped with short, white hair-like appendages. This pest has several developmental phases, namely: egg, immature (nymph) and imago phases (Miller *et al.*, 2002). *P. marginatus* is a small insect that groups in large numbers. This soft-bodied insect is often found in large numbers and attacks plants by sucking fluids from plant twigs and leaves (Borror, *et al.*, 1996). Mealybugs are pests that attack various types of plants, one of which is *Adenium spp.*

Ways to control *P. marginatus* can use biological methods involving the use of natural enemies, such as parasitoids, which can help control mealybug populations. Even though there are many types of parasitoids that exist in nature, only a few of them can be found in Indonesia. This approach plays an important role in developing sustainable management strategies to overcome the challenges faced by farmers in controlling papaya mealybugs (Sumartayasa *et al.*, 2021)

4.4 *Tetranychus urticae*

Mites are a group of small, eight-limbed animals belonging to the suborder Acarina. Mites are a class of plant pest organisms (OPT) on plants (Indayani *et al.*, 2022). Mites are not fleas in the zoological sense even though they are both small (so some people consider them the same). While true lice are members of Insecta, mites are closer to spiders in terms of their relationship (Djaelani, 2016).

Mites are a group of segmented animals (Arthropods) belonging to the Acari subclass of the Arachnida class. Mites number more than 30,000 species and 1,700 genera. The body size of mites is very small, no more than 0.8 mm (Anastya, 2018). Mites are polyphagous, which means they have more than one host, not only found on rose plants, we can also find these mites on other plants (Kristaga *et al.*, 2020). Mites have a haushelata mouth type, namely a piercing and sucking mouth type so that the mites attack plants by piercing the surface of the leaves and sucking the fluid (Hasyim and Setiawati, 2017).

Control Method *T. urticae* can be done in a biological way using soursop plant extract (Indayani, 2022). Mite control can also be done with biology, namely using natural enemies, it can also be done with technical culture, namely planting resistant varieties, fertilizing and irrigation (Maryam *et al.*, 2012).

4.5 *Planococcus citri*

Planococcus citri bugs attack leaf stalks, shoots and bases of fruit, leaving yellow marks that then dry out so that many plant organs fall off. The affected area appears to be filled with white, cotton-like lice. The losses caused are stunted growth, decreased production due to leaf and shoot loss. Bioecology Adult fleas are oval, flat, brownish yellow, light yellow or dark yellow, 3-4 mm long, 1.5-2 mm wide. The body of soft insects is covered with a layer of wax. Along the edges of the flea's body there are 14-18 pairs of spines made of waxy material. A female is capable of laying 300 eggs, placed on plant parts and lasting between 2-17 days (Rosanti *et al.*, 2015)

The dompolan flea population increases in the dry season, especially when the relative humidity during the day is below 75%. The larvae from the eggs that hatch are pale yellow, green or dark red depending on the stage, move away from the mother and look for a place on another plant part. These fleas like places that are somewhat shady but not too humid, and are easily spread by wind and rain. The invading fleas secrete honeydew which produces sooty mold so that photosynthesis is hampered. Filled dompolan lice really like young citrus fruit and can also attack the shoots. The population will increase in the dry season and will decrease in the rainy season. Therefore, this period is a critical phase and monitoring needs to be carried out (Hartono, 2013)

How to control *P. citri* using technical culture methods, including methods that lead to the cultivation of healthy plants, namely: meeting growing requirements (temperature, rainfall, wind, altitude, soil), setting plant spacing, fertilizing and observing (Apriliyani, 2016). Mechanical and physical control is carried out by maintaining the cleanliness of the garden by sanitizing heavily infested weeds, branches and fruit and destroying them. Biological control, by utilizing natural enemies: Predators from the Coccinellidae family, *Scymnus apiciflavus*, *Brumus saturalis* F and *Coccinella repanda* (Hasibuan, 2005)

5. CONCLUSION

Three types of insect pests and three types of attacked plants were found in the Gerih Tourism Park, Sibang Kaja Village, Abiansemal District, Badung Regency, Bali, namely: pests *Paracoccus marginatus* attacks *Adenium spp* plants, *Tetranychus urticae* pest attacks rose plants and pests *Planococcus citria* tacks croton plants.

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EFFECT OF ENDOMYCORRHIZA DOSAGE ON GROWTH OF SALAK PLANTS (*Salacca edulis* L.)

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ABSTRACT

In efforts to increase salak productivity, inorganic fertilizers are often used. This inorganic fertilizer has a negative impact on soil and environmental conditions, including changing the structure of the soil, making the soil compact, reducing the nutrient content in the soil, and causing environmental pollution. Continuous application of inorganic fertilizers over a long period of time can impact the presence of microorganisms in the soil so that ultimately soil fertility will be disrupted. Efforts to maintain soil fertility and environmental sustainability so that plant productivity remains high require efforts to develop cultivation methods using organic fertilizers or biological fertilizers. One source of biological fertilizer is arbuscular mycorrhizal fungi. The research was carried out from August 2023 to February 2024. This research was conducted in Selat Village, Karangasem Regency. The materials used in this research were soil samples, Johnson's solution, endomycorrhiza, urea fertilizer, digrow leaf fertilizer, manure. This research used a Randomized Group Design (RAK). The results showed that the dose of mycorrhiza had a significant effect on the stem diameter and root infection variables. The highest stem diameter was obtained at the D₁ dose (75 spores), namely 1.60 cm, at four months after planting observations which was significantly different from D₀ (control), namely 1.28 cm. Meanwhile, the highest root infection in the two months after planting observation was obtained at the D₃ dose (225 spores), which was 92.50%, which was significantly different from D₀ (control), which was 36.25% in the four months after planting observation. The highest root infection was obtained at the D₂ dose (150 spores), namely 82.50%, which is significantly different from D₀ (control), which is 10.00%. The volcanic sand carrier medium showed the highest total plant dry weight, namely 3.59 g, which was significantly different from sea sand, namely 2.43 g.

Keywords: *endomycorrhiza, salak productivity, microorganisms soil, endomycorrhiza dosage, biological fertilizers*

1. INTRODUCTION

The salak plant (*Salacca edulis* L.) is a plant belonging to the palmae family that can grow in tropical areas. The distribution of snake fruit plants in tropical areas is very wide, one of which is in Karangasem Regency. Farmers in an effort to increase salak productivity rarely use inorganic fertilizers, because inorganic fertilizers have a negative impact on soil and environmental conditions, namely causing the soil to become compacted, the nutrient content in the soil to decrease, and environmental pollution.

The results of interviews with salak farmers showed that farmers use salak leaf litter for fertilization, so that their land often lacks nutrients as a result of which the productivity of salak plants decreases. Efforts to increase soil fertility and

environmental sustainability so that plant productivity remains high require cultivation techniques through the use of biological fertilizers. One source of biological fertilizer is endomycoryza.

The use of endomycoryza as a biological fertilizer can be used as an alternative to avoid soil damage due to the use of inorganic fertilizers. Endomycorrhiza has great potential as a biofertilizer because it can facilitate nutrient absorption in the soil so that it can increase plant growth.

This research was carried out with the aim of finding out the dose of spores required for the growth of salak plants, so that the growth of salak plants would be better, it is not yet known for certain. Therefore, it is necessary to research how the growth of snake fruit (*Salacca edulis* L.) responds to the dose of endomycoryza spores.

2. RESEARCH METODOLOGY

The research was carried out from August 2023 to February 2024. This research was conducted in Selat Village, Karangasem Regency.

The tools used in this research are tissue, plastic bags, label paper, tweezers, petri dishes, oven, glass objects, cover glass, microscope, scales, beakers, spoons, centrifuge tubes, centrifuge machines, spray bottles, micro pipettes, dropper pipette, scale, oven, refrigerator, oose needle, polybag, rice filter, stove, pan, stationery, camera and a set of filters with hole diameters of 1 mm, 500 μ m, 212 μ m, 106 μ m and 53 μ m.

The materials used in this research were soil samples, Johnson's solution, endomycoryza, urea fertilizer, digrow leaf fertilizer, manure.

This research used a Randomized Group Design (RAK):

The number of spores of the endomycorrhizal genus consists of 4 levels, namely:

D_0 = 0 spores per 500 g of carrier material (control)

D_1 = 75 spores per 500 g of carrier material

D_2 = 150 spores per 500 g of carrier material

D_3 = 225 spores per 500 g of carrier material

3. RELATED RESEARCH/LITERATUR REVIEW

Salak is a type of palm fruit commonly eaten. Also known as salak, in English it is called salak because its skin is similar to snake scales, while its scientific name is *Salacca zalacca* (Tim Karya Tani Mandiri, 2010).

In general, the scientific classification of salak is as follows:

Kingdom : Plantae
Division : Magnoliophyta
Order : Liliopsida
Family : Arecaceae
Genus : *Salacca*
Species : *S. zalacca*

The word mycorrhiza comes from the Greek words *myces* (fungi) and *rhiza* (root). Mycorrhiza is a form of mutualistic symbiotic relationship between fungi and the roots of higher plants. This symbiosis is mutually beneficial, the fungus obtains

carbohydrates from the host plant, on the other hand the fungus provides benefits to the host plant, by helping the plant absorb nutrients, especially P elements. Mycorrhizal fungal hyphae can increase P uptake by expanding the absorption area of the plant root system. The effect of endomycorrhiza on growth, P uptake and plant yield is influenced by plant type and variety, soil type, type of endomycorrhiza, type of fertilizer, and environmental factors. (INVAM. 2017)

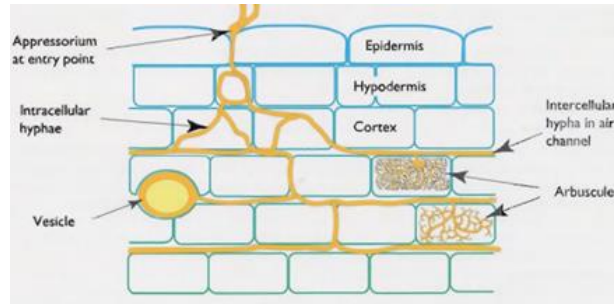


Figure 1. Endomycorrhiza structure in plant roots

Source: Brundrett *et al.*, 1996

The development of endomycorrhiza is influenced by factors such as light, soil pH, temperature, soil moisture, availability of nutrients, heavy metals, fungicides, root residues, organic matter, and host plants. The reciprocal relationship between endomycorrhiza and its host plant is a form of mutually beneficial relationship, with this symbiosis the host plant obtains many benefits for its growth, both directly, namely by increasing the absorption of water and nutrients, protecting the plant from root pathogens and toxic elements, or indirectly, namely playing a role in improving soil structure and increasing the solubility of nutrients.

4. RESULTS AND DISCUSSION

This research shows that the dose of mycorrhiza has a real effect on the observed variables of stem diameter and root infection, almost all of the observed variables show unreal results. The highest root infection was found at D₃ dose (225 spores) at two months after planting observations (92.50%) but was not significant with D₁ (86.25%), and D₂ (91.25%) but was significantly different from D₀ (36.25%). %, while in root infection 2 BST the highest root infection was obtained in D₂ (150 spores), namely 82.50%, not significantly different from D₁ (78.75%) and D₃ (80.00%) but significantly different from D₀ (10.00) the occurrence of root infection in treatment D₀ (control) was caused by a lack of sterilization time in the soil and the occurrence of air splashes in polybags of snake fruit plants so that the mycorrhiza experienced symbiosis in treatment D₀ (control).

Observations of the stem diameter variable showed that the highest value was obtained at 4 BST observations on D₁ (75 spores), namely 1.60 cm, which was not significantly different from D₂ (1.57 cm) but significantly different from D₀ (1.28 cm) and D₃ (1 .44 cm). Yudhistira (2012) reported that giving mycorrhiza to jabon seedlings resulting from generative culture experienced an increase in stem diameter of only 113.95%. It is suspected that endomycorrhizal inoculation has a better effect and response on the growth of stem diameter of snake fruit plants. Diameter increase is secondary growth that thickens the stem and roots in areas of the plant that are younger in stem diameter. This can be seen from the total dry

weight which tends to be higher in the four months after planting observations, namely D₂ (3.42 g) which is not significantly different from other treatments.

Table 1. Effect of Endomycorrhiza Dosage on Salak Plant Growth Two Months After Planting and Four Months After Planting

Variabel	Two Months After Planting	Four Months After Planting
Plant Height (cm)	ns	ns
Stem Circumference (cm)	ns	**
Leaf Area (cm ²)	ns	ns
Number of Leaves (pieces)	ns	ns
Leaf Chlorophyll (spad unit)	ns	ns
Root Length (cm)	ns	ns
Head Fresh Weight (g)	ns	ns
Root Fresh Weight (g)	ns	ns
Header Dry Weight (g)	ns	ns
Root Dry Weight (g)	ns	ns
Total Fresh Weight (g)	ns	ns
Total Dry Weight (g)	ns	ns
Root Infection (%)	**	**
Number of Roots	**	**
Plant P Tissue	**	**

Source: Obtained from primary data, 2024

5. CONCLUSION

Mycorrhizal dosage had a significant effect on stem diameter and root infection variables. The highest stem diameter was obtained at the D₁ dose (75 spores), namely 1.60 cm, at four months after planting observations which was significantly different from D₀ (control), namely 1.28 cm. Meanwhile, the highest root infection in the two months after planting observation was obtained at the D₃ dose (225 spores), which was 92.50%, which was significantly different from D₀ (control), which was 36.25% in the four months after planting observation. The highest root infection was obtained at the D₂ dose (150 spores), namely 82.50% significantly different from D₀ (control), namely 10.00%.

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THE META-ANALYSIS OF PROBLEM BASED LEARNING (PBL) LEARNING MODEL TO IMPROVE STUDENTS' CRITICAL THINKING SKILL

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ABSTRACT

This research aims at identify the effect of Problem Based Learning towards students' critical skill by implementing meta-analysis method. This research is meta-analysis research. The data of the research are collected from national published scientific research related to Problem Based Learning in the last five years. The finding shows the implementation of Problem Based Learning has a significant effect on students' critical skill in Math with average score of 29% ranging from 14,7% to 60,51%. The gap of pretest and posttest score of this research is 38,5%. The finding of this research offers scientific proof of the effect of Problem Based Learning on students' critical thinking skill. The difference between the average pretest and posttest score of the experiment group shows greater score than the control group on the implementation of Problem Based Learning (PBL) model towards students' critical thinking skill aggregation considering the average of pretest and posttest aggregation.

Keywords: meta-analysis, Problem Based Learning, critical thinking

1. INTRODUCTION

Schools are one of the areas where people can gain the knowledge, skills, and attitudes that everyone needs in this day of globalization. A school is an educational establishment with a specific vision and mission that includes organizing, creating, and overseeing the application of learning in a way that speaks to the true objectives of education. In that manner, a person will be able to overcome a variety of issues that arise in life and are encountered in society thanks to the information and abilities acquired via the educational process at school. Given the significance of the role and objectives of education, it is imperative that the curriculum be implemented in a way that is appropriate, considers the characteristics of the students, and aligns with the caliber of educational resources in order to accomplish the desired learning outcomes. Nonetheless, the government routinely examines issues that arise in the field of education, including modifications or revisions to the curricula, in an effort to meet the anticipated educational goals. This is being done in an attempt to improve the quality of education in this country.

Education is an important aspect in creating quality human resources. Education will run well if its quality can be improved. To improve quality good education, it is necessary to improve the development of science. Because good scientific development will also have a positive effect on the quality of existing education. Problem solving ability is one of the abilities that is still a concern in mathematics

learning. Problem solving ability can be said to be a basic skill or life skill that must be possessed, because every human being must be able to solve their own problems. Implementing problem-solving skills as an educational goal is very necessary in obtaining knowledge that can be applied and helping students to be trained in dealing with various problems in students' real lives (Yustianingsih., et al 2017).

In the world of education, one of the important subjects to be taught at every level of education is mathematics. This is because mathematics lessons provide many benefits when related to everyday life and can be applied in various areas of life. Mathematics is a science in which a person's thinking process is reasonable so that they are able to obtain concepts (Isrokatun and Amelia, 2018). Mathematics has the elements of problems, notation, rules, designs, opinions, and theoretical tools (Font et al., 2010). So in learning mathematics, of course, various efforts are needed from teachers and students to achieve the goals of each lesson carried out. Mathematics is also a scientific discipline that is considered capable of improving thinking and argumentation skills, which makes mathematics able to contribute to solving problems in everyday life. Mathematics subjects have one goal, namely that students have the ability to design mathematical models, understand problems, solve models, and interpret solutions obtained by them.

Since mathematics education cannot be divorced from daily life, it is extremely helpful for students. Consequently, teachers must design meaningful curricula to ensure that mathematical objectives are met to the best of their abilities. In addition, the teaching of mathematics at the educational level benefits students by equipping them with the critical, logical, and rational thinking skills necessary to respond to the ever-changing nature of the world (Damayanti, 2017). Permendikbud (2014:325) states that the goal of mathematics instruction is to enable students to comprehend mathematical ideas, articulate how ideas relate to one another, and apply ideas or algorithms in a flexible, precise, accurate, and efficient manner when resolving issues. One method by which educators can help students solve problems successfully and develop their critical thinking skills is by choosing a learning model that relevant with the learning material.

One of the learning models that is able to improve students' critical thinking is the problem-based learning (PBL) model. The PBL model is also one of the recommended models in the 2013 curriculum. Problem-based learning (PBL) is a learning model where the learning process starts with a problem and students are required to solve the problem in order to solve it (Permatasari, 2020). In PBL, in the learning process, students are mostly given problems that can be solved through discussions in class with their classmates. The problem-based learning (PBL) model, according to Erwin (2018), is a sequence of teaching and learning activities that focuses on solving problems that actually occur in everyday life. The problem-based" learning model is closely related to the reality of students' daily lives. In learning, you feel directly about the problems being studied, and the knowledge gained by students does not only depend on the teacher.

Problem-based learning is a model that focuses on bridging students to gain learning experience in organizing, researching, and solving complex problems in everyday life (Torp and Sage in Abidin, 2014: 160). The problem-based learning model (Problem-Based Learning) is a model that directs students to compile their own knowledge, can develop higher skills and inquiry, is able to increase self-

confidence, and requires students to collaborate with other students to solve a problem (Pratiwi and Eunice, 2020). The problem-based learning model directs students to actively explore a problem, and the teacher acts as a facilitator. Problem-based teaching can develop student independence through solving problems that are meaningful for students' lives, forming higher-order thinking skills, and improving critical thinking skills.

The sources of research on the problem-based learning model to improve critical thinking skills include research conducted by Nova Nadila Saputri Sitompul (2021), who conducted research with the title *The Influence of the Problem-Based Learning Model on Improving the Mathematical Critical Thinking Ability of Class IX Middle School Students*. The data from this research were obtained from pre- and post-test scores, which showed an increase in students' mathematical critical thinking abilities. Based on the table above, the value of sig is obtained. (2-tailed) is $0.000 < 0.05$, so it can be concluded that there is a difference in the average mathematical critical thinking of class IX junior high school students in Bilah Hulu between students who receive the problem-based learning model, which is better compared to students who use conventional learning models. Relevant research was conducted by Dian Soraya et al. (2018) with the title *The Influence of Problem-Based Learning (PBL) Learning Models Based on Local Wisdom on Social Attitudes and Critical Thinking in Mathematics Subjects*. The results of the research show that there are significant differences in students' social attitudes and critical thinking, both partially and simultaneously, with a significance level of $0.000 < 0.05$. Thus, the problem-based learning (PBL) learning model based on local wisdom has a positive effect on students' social attitudes and critical thinking in mathematics subjects. Fifth grade students at Gugus Singosari Elementary School, Pekutatan District, Jembrana Regency, Academic Year 2018–2019 Suggestions for further research: it is hoped that the results of this research will be reused in other lessons.

2. RESEARCH METHOD

This research uses a type of research with meta-analysis techniques. Meta-analysis is a systematic review method accompanied by statistical techniques to calculate conclusions from several research results. Meta-analysis research uses the dimension of influence size or effect size of the results of studies that have been combined and then collected and analyzed.

The method used in this research is meta-analysis. Meta-analysis has several stages, namely: 1) Aiming at the theme; 2) Creating an overall design; 3) Looking for research samples; 4) Collecting data; 5) Analyzing data. The meta-analysis process is carried out as follows: First, explain and determine the problem to be studied regarding the influence model.

Problem-Based Learning to Improve Students' Critical Thinking. Second, look for data according to the theme that will be used, namely previous articles that have been published in online journals in the 2011–2020 period. Third, understand the articles that have been collected to look for similarities between the articles and the problem that the researcher will use. Fifth, re-analyze the articles that have been collected to draw conclusion. The data collection technique used is to search for articles that have been published in online journals via Google Scholar. The articles that have been collected are then grouped based on the type of research. Next, code each article. The analysis technique used is to compare the value of the

influence of the problem-based learning model on improving students' critical thinking as seen from the scores before and after using PBL.

3. RESULT AND DISCUSSION

There are 10 articles that matched with this research criteria, these article are published around 2016-2022. The articles are published in SINTA accredited journals; related to elementary school research levels; and related to the Problem Based Learning model and Critical Thinking skill. On table. 1, it can be seen that there are 10 articles with the Problem Based Learning model that are used as data in this meta-analysis research.

Table 1. The classification of Problem Based Learning Model Articles

No	Data Code	Research Title	Researchers' Name	Publication Year	Journal
1	1P	Penerapan Problem Based Learning untuk Meningkatkan Kemampuan Berpikir Kritis Siswa	1. Desy Triana Dewi	2020	Jurnal Pendidikan Ekonomi Undiksha
2	2P	Penerapan Model Problem Based Learning Berbantuan Media Audio Visual Untuk Meningkatkan Berpikir Kritis Kelas 4 SD	2. Susilowati	2018	JIPP
3	3P	Pengaruh Model Problem Based Learning Terhadap Kemampuan Berpikir Kritis Siswa Sekolah Dasar	1. Nurul Hasanah 2. Kiki Pratama 3. Insyirah Shafa	2020	Jurnal Pendidikan Guru Sekolah Dasar
4	4P	Penerapan Model Problem Based Learning (PBL) Terhadap Peningkatan Kemampuan Berpikir kritis Matematis Siswa	1. Ari Septian 2. Riki Rizkiandi	2017	Jurnal PRISMA Universitas Suryakencana
5	5P	Kemampuan Berpikir Kritis dan Penguasaan Konsep Siswa dengan Problem Based Learning Pada Materi Sifat Cahaya	1. Rahmah Kumullah 2. Ery Tri Djatmika 3. Lia Yuliati	2018	Jurnal Pendidikan
6	6P	Penerapan Model Problem Based Learning Untuk Meningkatkan Keterampilan Berpikir Kritis Pada Pelajaran IPS SD	1. Indrianty Rahayu 2. Pupun Nuryani 3. Ruswandi	2019	Jurnal Pendidikan Guru Sekolah Dasar

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7	7P	Pengaruh Model Pembelajaran Problem Based Learning Terhadap Peningkatan Kemampuan Berpikir Kritis Matematis Siswa SMP Kelas IX	1. Nova Nadila Saputri Sitompul	2021	GAUSS: Jurnal Pendidikan Matematika
8	8P	Penerapan Model Problem Based Learning Untuk Meningkatkan Berpikir Kritis dan Hasil Belajar Dalam Tema 8 Kelas 4 SD	1. Faisal Miftakhul Islam	2018	Jurnal Mitra Pendidikan
9	9P	Pengaruh Model Problem Based Learning Terhadap Kemampuan Berpikir Kritis Matematis Siswa Kelas VIII SMP	1. Eko Wahyunanto Prihono 2. Fitriatun Khasanah	2020	EDU-MAT: Jurnal Pendidikan Matematika
10	10P	Pengaruh Model Problem Based Learning (PBL) Terhadap Kemampuan Berpikir Kritis Matematis Siswa SMPN 5 Sumbu	1. Aprilita Sianturi 2. Tetty Natalia Sipayung 3. Frida Marta Argareta Simorangkir	2018	UNION: Jurnal Pendidikan Matematika

Based on the chosen 10 Problem Based Learning Model articles above, this is the following results analysis table of the Problem Based Learning model that has been used as the subject of meta-analysis research.

Table 2. The Result of *Problem Based Learning* Model Analysis

No	Data Code	Pre-test Score	Post-test Score	Improvement
1	1P	50,00	87,5	37,5
2	2P	57,00	81,30	24,3
3	3P	43,00	88,20	45,2
4	4P	17,82	78,33	60,51
5	5P	53,63	74,19	20,56
6	6P	59,00	88,00	29
7	7P	65,27	87,41	22,14
8	8P	65,90	89,60	23,7

9	9P	61,50	81,25	19,75
10	10P	66,8	81,50	14,7
Mean		53,9	92,4	29,7

Based on the data obtained from the journals above, the results of data analysis were obtained that the use of problem-based learning models had a significant influence on students' ability to think critically in mathematics learning with an average gain of 29.7% from the lowest increase of 14.7% to the highest increase of 60.51%. The comparison of the measurement results that have been obtained can be seen as follows.

Table 3. Comparison of Measurement Results of Problem Based Learning Models on Critical Thinking Skills

Measurement	Mean Score	
	Model <i>Problem Based Learning</i>	Difference
<i>Pre-test</i>	53,9	38,5
<i>Post-test</i>	92,4	

In the table above, a difference of 38.5 is obtained. This has proven that the use of the Problem Based Learning model has a major influence on students' ability to think critically in mathematics learning.

Research was conducted to prove a major influence in the use of the Problem Based Learning model on students' critical thinking skills in mathematics learning. This research is a meta-analysis research, the first stage is to make problem formulations and collect data in the form of journal articles from various sources such as Google Scholar. In the study, 10 similar journal articles were used, each of which showed different results. The Problem Based Learning model obtained significant influence results on students' ability to think critically in mathematics learning with an average gain of 29.7% from the lowest increase of 14.7% to the highest increase of 60.51%.

Based on the average results of the pre-test and post-test scores, the difference in the experimental group has a greater value than the control group in the application of the Problem Based Learning (PBL) Model in improving students' critical thinking. In accordance with the characteristics of the Problem Based Learning (PBL) model, the problems used are problems in students' daily life that experienced by students (real problems), problem solving makes students gain student knowledge more actively learning, the learning resources used vary greatly so that teachers must be creative, the learning atmosphere is fun, comfortable, and students can develop critical thinking skills through solving the problems used. So that the use of the Problem Based Learning (PBL) model is effective to be applied to learning.

These results prove that the Problem Based Learning (PBL) model is suitable for use in improving students' critical thinking skills. This is also related to the purpose of the Problem Based Learning (PBL) model which stated by Yamin (2013: 63-64) is to make students develop knowledge that can be applied to everyday life. So

that in learning students do not only rely on memory to memorize, but students are required to be critical in problem solving. The Problem Based Learning (PBL) model also requires students to work together, communicate well in groups, and be responsible for solving a problem. Thus, the Problem Based Learning (PBL) model provides students with opportunities to hone critical thinking skills very large.

4. CONCLUSION

Based on the findings and the analysis of meta-analysis research that has been carried out, it can be concluded that the PBL learning model is able to improve students' critical thinking skills by obtaining the lowest number of 14.70% and the largest number of 60.51% so that 29.7% is the average number. The average pretest rate is 53.9%, and the average posttest rate is 92.4%. So, the use of the PBL model can increase students' critical thinking by 38.5%. From these conclusions, researchers have suggestions, namely; (1) It is expected that teachers can make materials, media and teaching materials well, (2) For students must actively participate in learning to improve critical thinking, (3) For schools are expected to support learning activities by providing completeness of materials used for teaching so that learning objectives can match, (4) Researchers should study learning models other than PBL, in order to provide recommendations to teachers on effective learning models to be applied in learning.

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LEGAL CERTAINTY FOR FILLING THE POSITION OF DEPUTY REGIONAL HEAD OF REGENCY AND MUNICIPALITY

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ABSTRACT

Indonesia is a unitary state that recognizes the sovereignty of the people in a regional head election consisting of 1 (one) pair of regional heads and deputy regional heads. Legal certainty is a principle which states that the law must be clear for filling the position of deputy district and municipal regional head arbitrarily in exercising power based on law without any discrimination.

This research aims to examine issues related to filling the post of deputy regional head and how it is implemented in the Regency/Municipality. So to get relevant data the researcher collects data that limits the norms contained in the laws and regulations.

*The vacancy in the position of regional head due to the request itself, being dismissed, and passing away also causes a vacancy in the position of deputy regional head so that the position of deputy regional head is vacant until the position of regional head is filled again based on the Law on filling positions. It was also found that orders of legal norms were a form of abuse of authority by the authorities (*Determination de Pouvoir*) because they ignored the law and resulted in the loss of legal sovereignty and also people's sovereignty.*

Keywords: Position of Deputy Regional Head, De Pouvoir Detournement

1. INTRODUCTION

Indonesia's independence was de facto proclaimed on August 17 1945, with Pancasila as the state ideology and the 1945 Constitution of the Republic of Indonesia, hereinafter referred to as the 1945 Constitution of the Republic of Indonesia, the form and sovereignty mandated in the Unitary State of the Republic of Indonesia are contained in CHAPTER I Article 1 of the 1945 Constitution of the Republic of Indonesia "Third Amendment" which determines:

1. The State of Indonesia is a unitary state in the form of a Republic;
2. Sovereignty is in the hands of the people and is implemented according to the Constitution;
3. Indonesia is a country of law.

The mandate of the Constitution of the Republic of Indonesia of 1945, if linked to Article 1 paragraph (1) of the Constitution of the Republic of Indonesia of 1945, means that the Unitary State of Indonesia is in the form of a republic, recognizes the sovereignty of the people constitutionally and is based on law where state administration is carried out based on law by all components of the state along with citizens and society through the Judicial Body, the concept of decentralization is the best decision that needs to be taken by this nation, this choice cannot be

separated from the conditions of the country's vast territory so that it is no longer possible for all state affairs to be resolved by the state government domiciled in the center of government of the country's capital, for this reason it is deemed necessary to form local equipment which is distributed throughout the country to resolve regional affairs.

Bearing in mind the important position of regional government in the constitutional system of the Republic of Indonesia, which is an integral part of domestic government, which is the lowest government administration and directly deals with the people in an effort to achieve a just and prosperous society based on Pancasila and the 1945 Constitution, the government regulates village government. This is in a law in an effort to achieve uniformity in village government patterns throughout Indonesia. Regarding Regional Government in the 1945 UUDNRI, it is an embodiment of the principle of decentralization or regional autonomy in government in Indonesia. The granting of autonomy here aims to accelerate equitable distribution of national development and assist the central government in managing the country. This can be seen in considerant points b and c of Law Number 23 2014 concerning Regional Government, In line with the development of the dynamics of homeland politics, in accordance with Article 18 paragraph (4) of the 1945 Constitution of the Republic of Indonesia in conjunction with Articles 56 - 119 of Law No. 32 of 2004 concerning Regional Government, for the first time in June 2005 Regional Head Elections are held directly by the people Indonesia also applies to Regency and Municipal areas.

Districts and municipalities are one of the autonomous regions within the provincial government area, where regional heads in districts and cities experience a vacancy in the position of deputy regional head due to several factors, namely:

- 1) own request, If the Deputy Regional Head resigns at his own request, the dismissal is carried out by the leadership of the Regency and/City DPRD in a plenary meeting and proposed by the leadership of the Regency and/or municipal DPRD to the Minister of Home Affairs through the Governor to obtain a dismissal decision. If the Deputy Regional Head who resigns at his own request is the Deputy Regent and/or Deputy Mayor, the dismissal is carried out by the leadership of the Regency/City DPRD in a plenary meeting and is proposed by the leadership of the Regency/City DPRD to the Minister of Home Affairs through the Governor as a representative of the Central Government to obtain termination determination. In the event that the leadership of the Regency/City DPRD does not propose to dismiss the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor who dies, the Minister of Home Affairs dismisses the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor based on the recommendation. Governor as representative of the Central Government. If the Governor as the representative of the Central Government does not propose the dismissal of the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor who dies, the Minister of Home Affairs dismisses the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor.
- 2) If the Deputy Regional Head dies, the dismissal is carried out by the leadership of the Regency and City DPRD in a plenary meeting and is proposed by the DPRD leadership to the Governor through the Minister of Home Affairs to obtain a determination of dismissal. In the event that the leadership of the Provincial DPRD does not propose to dismiss the Deputy Regent and/Deputy Mayor who dies. If the Deputy Regional Head who dies is the Deputy Regent and/or Deputy Mayor, the dismissal is carried out by the leadership of the Regency/City DPRD in a plenary meeting and is proposed by the leadership of

the Regency/City DPRD to the Minister of Home Affairs through the Governor as a representative of the Central Government to obtain a determination of dismissal. . In the event that the leadership of the Regency/City DPRD does not propose to dismiss the Deputy Regent and/or Deputy Mayor who dies, the Minister of Home Affairs dismisses the Deputy Regent and/or Deputy Mayor on the recommendation of the Governor as a representative of the Central Government. If the Governor as the representative of the Central Government does not propose the dismissal of the Deputy Regent or/or Deputy Mayor who dies, the Minister of Home Affairs shall dismiss the Deputy Regent or Mayor and/or Deputy Mayor.

1. dismissed,
2. End of term of office or unable to carry out duties continuously or permanently absent consecutively for 6 months Dismissal of Deputy Regent and/or Deputy Mayor whose term of office ends or unable to carry out duties continuously or permanently absent consecutively for 6 months carried out by the leadership of the Regency/City DPRD in a plenary meeting and proposed by the leadership of the Regency/City DPRD to the Minister of Home Affairs through the Governor as the representative of the Central Government to obtain a dismissal decision. In the event that the leadership of the Regency/City DPRD does not propose the dismissal of the Deputy and/or Deputy Mayor whose term of office has ended, the Minister of Home Affairs dismisses the Deputy Regent and/or Deputy Mayor on the recommendation of the Governor as a representative of the Central Government. If the Governor as a representative of the Central Government does not propose to dismiss the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor whose term of office has ended, the Minister of Home Affairs dismisses the Regent and/or Deputy Regent or Mayor and/or Deputy Mayor.
3. Declared to have violated the oath/pledge of office as regional head/deputy regional head or not carrying out deputy obligations regional heads comply with all provisions of statutory regulations or violate prohibitions against deputy regional heads or commit disgraceful acts deputy regional heads comply with all provisions of statutory regulations or violate prohibitions against regional heads and deputy regional heads or commit disgraceful acts proposed to the President based on the Court's decision Agung regarding the opinion of the Provincial DPRD that it is declared that they have violated their oath/promise of office, not carried out the obligations of deputy regional heads or violated the prohibitions against regional heads and/or deputy regional heads, if the Provincial/Regency/City DPRD does not hold a DPRD Plenary Meeting to issue a DPRD Opinion regarding Deputy If a Regional Head violates the oath/promise of office, does not carry out the obligations of the Deputy Regional Head, or violates the prohibitions against the Deputy Regional Head, and/or commits a disgraceful act, the Central Government will dismiss the Deputy Regional Head in question. To carry out the dismissal, the Central Government conducted an examination of the Deputy Regional Head to find evidence of violations committed by the Deputy Regional Head. The results of the examination were submitted by the Central Government to the Supreme Court to obtain a decision regarding violations committed by the Deputy Regional Head. If the Supreme Court decides that DeputyThe Regional Head is proven to have committed a violation, the Central Government dismisses him and/or the Deputy Regional Head.
4. Using fake documents and/or information as requirements when nominating a Deputy Regional Head. In the event that a Deputy Regional

Head is suspected of using fake documents and/or information as a requirement when nominating a Deputy Regional Head based on evidence from the institution authorized to issue documents, the DPRD uses the right of inquiry to carry out an investigation. If, as a result of an investigation by the DPRD, the Deputy Regional Head is proven to have used false documents and/or information as requirements when nominating the Deputy Regional Head based on evidence from the institution authorized to issue the document, the Regency/City DPRD proposes the dismissal of the Deputy Regent and/or Deputy Mayor to Minister of Home Affairs through the Governor as representative of the Central Government. Based on the Provincial DPRD's proposal, the Minister of Home Affairs dismisses the Deputy Regent and/or Deputy Mayor no later than 30 days after receiving the proposal from the Regency/City DPRD. In the event that the DPRD does not carry out an investigation into the Deputy Regional Head's violations, the Central Government will provide clarification to the DPRD concerned.

From the vacancy in the position of deputy regional head of district and/or city, the author draws several problem formulations as follows:

1. Regarding the legal certainty of filling the position of deputy regional head of district and/or city in a situation where the position of deputy regional head is vacant;
2. What are the obstacles to filling the position of deputy regional head;

Regarding the legal issue in this research, to find an answer to this problem, it is absolutely necessary to use a legal analogy regarding the suitability of the practice of filling the positions of deputy regent and deputy mayor with statutory regulations and legal teachings so that an answer can be found in accordance with the objectives of this research.

2. RESEARCH METHODOLOGY

This research is Normative legal research, namely rules used as a way to evaluate whether an action, or policy is acceptable or not. which combines material from books and Legislative Regulations to complete the data in research on Legal Certainty for Filling the Positions of Deputy Regional Heads of Regency and Municipalities. The approach method used in this research is an approach using legislation and regulations. The statutory approach is carried out by reviewing all relevant laws and regulations by researching the binding force of court decisions in unlawful acts from the perspective of the judicial trilogy and the principle of *aanmaning*

3. RELATED RESEARCH/ LITERATURE REVIEW

Previous journal writing related to writing this journal includes a journal entitled Portrait of a Political Dynasty in Filling Administrative Positions by Ramlan Darmansya, Siti Desma Syahrani, Zulfa Harirah MS from the government science department at the University of Riau, and a journal entitled Legal Discourse: Alternative Filling Patterns Position of Regional Head during the Covid-19 Pandemic by Richard Keneddy from the Faculty of Law and Communication, Soegijapranata Catholic University Semarang, Indonesia and Bonaventura Pradana Suhendarto from Master of Law Study Program, Faculty of Law, Diponegoro University, Indonesia.

4. RESULTS AND DISCUSSION

Legal Certainty for Filling the Position of Deputy Regional Head of Regency and City

The concept of a unitary state adopted in the Indonesian constitution as regulated in the basic law, namely article 1 point 1 of the 1945 Constitution of the Republic of Indonesia, states that "the State of Indonesia is a Unitary State in the Form of a Republic". in the State.

According to Moh. Kusnardi and Bintan R. Saragih, called a unitary state "if the central government and regional government are not the same and are not equal, central power is more prominent and there is no competition for the central legislative body in making laws, the power of regional government is only derivative". In essence, a unitary state does not recognize any state within a state, there is only one sovereign government, namely the central government. The power in the hands of the Regional Government is a mandate or authority from the center and regional laws must not conflict with national law, central regulations no longer require recognition from the regions.

F Isjawara said that a unitary state is "a form of state in which the highest legislative authority is centralized in one national-central legislative body", according to him a unitary state is the strongest form of statehood when compared to a federation or confederation state, because in a unitary state there are union and unity.

Furthermore, Bagir Manan said that the formation of the Unitary State of the Republic of Indonesia required the centralization of all affairs covering the entire territory of the Unitary State of the Republic of Indonesia. Bagir Manan explained that there was centralization of all affairs over the entire region: "This centralization has two sides (dimensions), namely the duties of the Unitary State of the Republic of Indonesia, towards centralized interests and supervision over the implementation of the interests of the local people."

The concept of a Unitary State adopted by Indonesia is different from the concept of a federation or confederation, because in a unitary state there is unity and unity between the Central and Regional governments in administering the state.

The concept of a unitary state is very appropriate when looking at the conditions of the vast territory of Indonesia, as well as an archipelagic country, to make state administration more effective in accordance with national development goals. then in article 18 paragraph (1) of the 1945 Constitution of the Republic of Indonesia, regional areas are divided into provinces and provincial areas are divided into regencies and cities which have regional governments. Article 18 in this basic law is the normative juridical basis for the formation of regional governments in Indonesia and explains the position of the government. regions in state administration with the principles of decentralization, centralization as well as the principle of assistance and other principles based on applicable laws and regulations. This indicates that regional government is a series of one system (continuum) in state administration in Indonesia, in the sense of Implementation of Regional Government within the framework of the unitary Republic of Indonesia. placing Regional Government as an inseparable part of the Indonesian state, with the aim of accelerating effectiveness and equal distribution of national development as stated in the 1945 Constitution of the Republic of Indonesia and placing the Central Government as the final person responsible for the administration of the State vide Article 5 paragraph (10) of the Law Number 23 of 2014 concerning Regional Government.

When carrying out the administrative functions of regional government, of course the elements of regional government have the authority inherent in their duties and functions. Attributively, the components in regional government have authority among themselves based on Article 65 of Law Number 9 of 2015. The regional

head has the duty to lead implementation of Government Affairs which fall under the authority of the Region based on the provisions of laws and regulations and policies established together with the DPRD; maintaining public peace and order; prepare and submit a draft Regional Regulation on the RPJPD and a draft Regional Regulation on the RPJMD to the DPRD for discussion with the DPRD, as well as prepare and determine the RKPD; prepare and submit a draft Regional Regulation on the APBD, a draft Regional Regulation on changes to the APBD, and a draft Regional Regulation on accountability for the implementation of the APBD to the DPRD for joint discussion; represent the region inside and outside the court, and can appoint a legal representative to represent him in accordance with the provisions of the laws and regulations; and carry out other duties in accordance with statutory provisions.

To carry out the tasks referred to above, regional heads have the authority to submit draft regional regulations; enact regional regulations that have received joint approval from the DPRD; establish regional regulations and regional head decisions; take certain actions in urgent situations that are really needed by the Region and/or the community; carry out other authorities in accordance with the provisions of statutory regulations. Based on the provisions of Article 66 of Law Number 9 of 2015 concerning Regional Government, the deputy regional head has the task of assisting the regional head in:

1. Leading the implementation of Government Affairs which fall under the authority of the Region;
2. Coordinate the activities of Regional Apparatus and follow up on reports and/or findings resulting from supervision by supervisory authorities;
3. Monitor and evaluate the implementation of Regional Government carried out by the provincial Regional Apparatus for the deputy governor; And
4. Monitor and evaluate government administration carried out by district/city, sub-district and/or village regional apparatus for deputy regents/mayors;
5. Provide suggestions and considerations to regional heads in the implementation of Regional Government;
6. Carry out the duties and authority of the regional head if the regional head is serving a period of detention or is temporarily absent; And
7. Carry out other duties in accordance with statutory provisions.

Apart from carrying out the duties as intended, the deputy regional head carries out other government duties and obligations assigned by the regional head as determined by the regional head's decision. In carrying out the duties as intended in paragraphs (1) and (2), the deputy regional head signs an integrity pact and is responsible to the regional head. The deputy regional head is obliged to carry out duties together with the regional head until the end of the term of office. If you look at the description above, regarding the authority of Regional Heads and Deputy Regional Heads as regional government administrators, you can clearly see the distribution of portions of authority for each component, in the implementation of regional government including Deputy Regional Heads. This is what the makers of the Law mean by indicating that each Component is Organizing Regional Government has a clear legal position in regional government so that the duties and functions of each component have clearly defined legal portions.

Based on the results of research regarding the practice of filling the positions of deputy regent and deputy mayor, there are several things that the author found, including the vacancy in the position of district and municipal regional heads, which is one of the causes of vacancies in the positions of deputy regional heads. There is indeed a slight difference in regional conditions caused by the transition of the position of Head. Regions in the middle of the road where the position of Regional Head is automatically replaced by deputy regional heads who are elected in one

pair through a general election and immediately appointed by the Governor as. After the inauguration, there was a vacancy in the positions of deputy regent and/or deputy mayor.

Obstacles in Filling the Position of Deputy Regional Head

Filling out the interim period of office is as per the Norm Order in Law Number 9 of 2015. The obstacles faced include:

1. Constrained by political party lobbying, because the authority in succession is the domain of the political party in accordance with the attributive authority it has where the nomination of the Deputy Regent candidate is in the hands of the political party, this is in accordance with Article 176 paragraph (2) of Law number 10 of the year 2016, Juncto Article 154 paragraph (1) letter d Law Number 9 of 2015 "the political party or coalition of supporting political parties proposes two candidates for Deputy Regional Head (Deputy Regent) to the DPRD through the Regent to be elected at the DPRD plenary meeting."
2. There is a legal loophole which has become a political commodity for certain individuals not to fill positions. This legal gap is a Government Regulation as a mandate from the norms of Article 176 paragraph (5) as a form of delegation of authority in forming regulations as a legal basis for filling the positions of Deputy Regent and Deputy Mayor. Since the position was vacant, it was only published in April 2018, namely Government Regulation Number 12 of 2018 concerning Guidelines for Preparing Rules for Provincial, Regency and City Regional People's Representative Councils (DPRD), and if this is done absolutely it cannot be filled because it is legal to fill the position of Deputy Regional Head if the remaining positions are more than 18 (eighteen) months from the vacancy of the position as regulated in paragraph (4).
3. The next obstacle that causes the failure to fill the vacancies of Deputy Regent and/Deputy Mayor is the absence of sanctions in the case of not implementing the Norm Orders in Article 66 paragraph (4) of Law Number 9 of 2015 in terms of filling the Position of Deputy Regional Head for the Central Government and Government Regions are subject to the legal arrangements of the Aquo Law as well as the lack of systematic control by the Central Government, Provincial Government for the ranks of district and municipal Regional Governments to immediately fill the positions of Deputy Regional Heads of Districts and Municipalities as regulated in Article 173 paragraph (4), (5) Law Number 10 of 2016 concerning Regional Elections in conjunction with Articles 91 – 93 of Law Number 23 of 2014 concerning Regional Government and the lack of legal understanding of Human Resources in government ranks.

Regarding the legal issue in this research, to find an answer to this problem, it is absolutely necessary to use a legal analogy regarding the suitability of the practice of filling the positions of deputy regent and deputy mayor with statutory regulations and legal teachings so that an answer can be found in accordance with the objectives of this research. A little review regarding the non-filling of the position of Deputy Regent of Regency and/or Municipality as ordered by the norms of Article 66 Paragraph (4) of Law Number 9 of 2015 which is caused by the ineffectiveness of these legal norms. The above conditions could have been avoided, if only The regulations for filling the position of Deputy Regent / Deputy Mayor refer to the principles of legality put forward by Lont Fuller in the formation process so that they have effective implementation and binding power, because there is consistency between the regulations promulgated and the daily implementation of these legal norms. .

If it is related in theory to legal teachings, there has been a delegation of authority to form regulations (delegation of legislation), but in practice it can be said that the Government as the recipient of the delegation in making implementing regulations is very slow and gives the impression of not obeying the orders of the Law, thus

causing the Law to be ineffective. In its enactment, the law indirectly loses its validity and binding force from the implementation of this law, resulting in legal uncertainty regarding the legal position of the position of deputy regional head.

To produce good legislation, it must have at least three basic foundations, namely philosophical, sociological and juridical foundations. - invitations that are issued in accordance with the ideals of the law (*rechtside*). The three foundations include:

1. The philosophical basis for the formulation of legislative regulations revolves around the basic values of state ideology (*Pancasila*), which means that every drafting of legislative regulations must be in accordance with the legal ideals referred to by *Pancasila*.
2. Sociological basis for the formulation of the laws and regulations that are formed must reflect the realities of life in society and represent the aspirations of society in the sense that the laws produced in their implementation are accepted in society¹⁶
3. The juridical basis for the formulation of statutory regulations that are formed can be understood through a system approach and hierarchy of legal rules. The juridical basis is divided into 2 types, namely: first, the formal juridical basis, namely the legal provisions that designate or give authority to the institutions/organs that form the Legislative Regulations. -legislation, secondly the material juridical basis, namely the legal provisions that determine the content of the Legislative Regulations that are formed.

Furthermore, apart from these three foundations, in the process of forming a Legislative Regulation it is also absolutely necessary to pay attention to the principles in the formation of Legislative Regulations because the principles in legal teachings are the main pillars and also the basic standards used as a reference in the implementation of the law, especially in a The process of forming laws to produce good legislation can also apply Ann Seidman and Robert Seidman's *Rocipi* method. ¹⁸ The application of this method can be done by:

1. Conceptual Theoretical Justification, that is, before the drafting of Legislative Regulations is carried out, a search is first carried out on the theories, principles used as a basis for justification, for example the Kelsen theory of hierarchy of norms, the principle of *lex Superior derogat Inferiori* (a higher Law overrides existing Regulations). lower), this principle needs to be understood so that the Legislative Regulations that are issued fulfill a sense of justice, legal certainty and suit society's needs for law.
2. Constitutional and Juridical Justification, in relation to the *Rocipi* method, namely to avoid the possibility of a vertical conflict of norms with the basic law (*UUDNRI 1945*) or a horizontal conflict of norms, a formulation like this needs to be carried out so that the resulting legislation is not null and void;
3. The use of deductive and inductive logic in seeking conformity between legal concepts and conformity with basic law and lower statutory regulations, by collecting and/or linking facts related to the drafting of legislation, then identifying them, then formulating them in form of recommendation to be normalized in Legislative Regulations.

Regarding the vacancies in the positions of Deputy Regent and Deputy Mayor, the author can say that this is caused by a lack of understanding of the law and the absence of political power in enforcing and/or implementing norm orders so that the law does not run effectively, especially the implementation of norm orders which results in ignoring legal norm orders by the government and there are no sanctions for the Government in the event that it does not implement the norm orders in the formulation of the material content of the Law so that it becomes a legal loophole to become a political commodity.

The enactment of a number of statutory provisions in implementing regional government, where regional government is essentially an inseparable part of the Unitary State of the Republic of Indonesia, in this case related to the problems of the position of Deputy Regional Head, can be avoided, it has become a juridical consequence that every government action must be based on law. In accordance with the principle of legality in government (*Wetmatigheid*), the government should obey every legal order.

As stipulated in the statutory provisions, the Regional Head and Deputy Regional Head constitute a package resulting from the implementation of the general election for regional heads (*pemilukada*) which is the implementation of people's sovereignty in the region in a democratic manner *vide* Article 1 number 1 of Law Number 8 of 2015. Then next are the main tasks along with the authority of Regional Heads and Deputy Regional Heads are re-regulated in the Regional Government Law.

In essence, the legal position of the Deputy Regional Head is equivalent to that of the Regional Head in running the government, with the exception of determining policy. In carrying out the duties as regulated in Article 66 of Law Number 9 of 2015, the Deputy Regional Head is responsible to the Regional Head. The Deputy Regional Head replaces the Regional Head until the end of his term of office if the Regional Head dies, resigns, is dismissed, or is unable to carry out his obligations for 6 (six) continuous months during his term of office. Thus, normatively, juridically, the position of deputy regional head is very strategic when viewed from the enormous duties and functions of the regional head. The role and function of the deputy regional head is very important in local government, so it is appropriate for the legislators to regulate it in such a way. Therefore, ignoring the vacancy in the position of Deputy Regional Head indirectly results in eliminating the sovereignty of the law and also the sovereignty of the people which is manifested in the legally recognized General Election of Regional Heads (*Pemilukada*). The next question that arises from the form of the government's actions in this case of neglect is whether this action is an unlawful act/an act against the law by the authorities, of course here you have to use the right parameters in measuring this legal act with doctrines or expert opinions. This provision was formulated to re-collect data on the Indonesian constitutional system so that the Indonesian constitutional system can be realized optimally so that a system of checks and balances between state institutions can be realized on an equal footing. Abuse of authority or commonly known as *detournement de pouvoir* according to several experts. *Sjachran Basah* defines it as an official's action that is not in accordance with the objectives but is still within the scope of statutory provisions, while arbitrary action (*abus de Detroit*) is an official's action that is not in accordance with the objectives outside the statutory provisions. According to *Utrecht* and *Moh. Saleh Djindang* occurs when a state instrument uses its power to carry out a public interest that is different from the public interest intended by the regulations that form the basis of that power. Apart from that *detournement de pouvoir* does not only occur in the field of making decisions but is a phenomenon that exists in all fields of government in broad meaning of the word (including the scope of justice).

The above formulation is related to legal events in the Regency and deputy deputy mayor where the vacancy in the position of deputy regional head, as the author explained previously, occurred due to the neglect of norm (legal) orders, namely the norm orders in Article 66 paragraph (4) of Law Number 9 of 2015 in conjunction with Article 176 paragraph (5), Article 205B letters a, c, Article 206 C of Law Number 10 of 2016 which determines that deputy regional heads must carry out their duties until the end of the regional head's term of office, further regulations regarding procedures for filling the position of deputy regional heads are regulated in a Government Regulation, to deal with the legal vacuum that previously existing Implementing Regulations can be used, this Government Regulation is issued no later than 3 (three) months to fill the positions of Deputy Regent and Deputy Mayor.

Therefore, in this legal incident, according to the author, if it is related to doctrine or expert opinion, if there is a vacancy in the position of Deputy Regent and Mayor, this is a form of abuse of authority (*detournement de pouvoir*), this should have been avoided if the provincial government and the ministries in The state carries out control and guidance on the implementation of regional government as regulated in Articles 91-93 of Law Number 23 of 2014.

5. CONCLUSION

Based on the description above, the author can draw the following conclusions:

1. This lack of understanding of the law among stakeholders in administering government can be seen from the legal argument which states that they cannot fill this position because there is no Government Regulation as a legal basis for filling the position of Deputy Regional Head as per the norm in Article 176 paragraph (5) of the Law. Law Number 10 of 2016, is not correct, this is based on the provisions in Article 205B of the transition rules of Law Number 10 of 2016 which determines "When this Law comes into force, all Legislative Regulations which are the implementing regulations of the Law -Law Number 8 of 2015 in conjunction with Law Number 1 of 2015 is stated to still be valid as long as it does not conflict with the provisions of this Law, and in fact Government Regulation Number 102 of 2014 concerning Procedures for Proposing and Appointing Deputy Governors, Deputy Regent, and Vice Mayor.
2. There is a disregard for legal norms in terms of the positions of deputy regent and deputy mayor not being filled and this is a form of abuse of authority by the authorities (*detournement de pouvoir*) in a structured and systematic manner for both the Central and Regional Governments which tarnishes the ideals of the law itself (*recthsiiide*) and results in legal uncertainty. over the position of deputy regional head as well as the loss of forms of legal sovereignty, the sovereignty of the people of district and city communities.

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LEGAL CONSEQUENCES OF FIDUCIARY AGREEMENT MADE UNILATERALLY BY THE FINANCING INSTITUTION WITHOUT THE PRESENCE OF CONSUMER IN FRONT OF NOTARY

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ABSTRACT

This research is entitled "Legal Consequences of Fiduciary Agreements Made Unilaterally by Financing Institutions Without the Presence of Consumer in front of Notary." The problem found in this research is the basis for granting a power of attorney from consumers to financial institutions, due to a lack of understanding from the public regarding fiduciary agreements, the situation This is often used by financial institutions to make unilateral fiduciary agreements and not involve consumers so that problems often arise in the future, including firstly, settlements in cases of default/broken promises occur outside of court by means of intimidation, violence and even ending in criminal charges. The second consequence of consumers not understanding about Fiduciary Guarantee Agreements is that there are losses due to unilateral decisions without involving second parties and third parties, in this case the court. Based on the background of the problems described above, the author formulates the problem as follows: What is the process of forming a fiduciary agreement? made unilaterally by a financing institution without the presence of the consumer before a notary? and What are the legal consequences of a fiduciary agreement made unilaterally by a financing institution without the presence of the consumer in front of a notary? This research study uses empirical legal research, namely a legal research method that uses empirical facts that involve lots of interviewing names, sources and data. Support is presented to complement the facts/interviews conducted through direct observation. This research uses several theoretical bases including: Agreement Theory, Legal Certainty Theory, Legal Protection Theory and Justice Theory. Agreement Theory and Legal Certainty Theory are used to discuss the first problem formulation, and Legal Protection Theory and Justice Theory are used to discuss the second problem formulation. A Fiduciary Agreement is a follow-up agreement to a main agreement (accessoir) which requires the parties to carry out an achievement, which contains rights and obligations so that it is mandatory for the parties to sign the agreement and not be represented by just one party.

Keywords: *Fiduciary Agreement, Consumers, Financing institutions*

1. INTRODUCTION

The banking world recognizes the existence of a guarantee institution that is based on trust, namely Fiduciaire Eigendoms Overdracht (FEO), known/abbreviated as fiduciary. This guarantee institution was previously not specifically regulated in statutory regulations, but since September, 30 1999 the government has promulgated Law Number 42 of 1999 concerning Fiduciary Guarantees. This

guarantee institution is known as *fiducia cum creditore contracia*, which means a promise in the form of trust made with a creditor, that the creditor will transfer ownership of an object to the debtor as collateral for the debt with an agreement that the creditor will transfer ownership back to the debtor when the debt is settled paid off.

The fiduciary cum creditore who gives the fiduciary remains in control of the fiduciary object, so that the fiduciary can use the object. The fiduciary institution as known in the form of *Fiduciary Eigendoms Overdracht (FEO)* is the transfer of property rights in trust, this arises in connection with the provisions in Article 1152 paragraph (2) of the Civil Code concerning pawning which requires that power over the object being pawned must not be vested in pledgor. This prohibition means that the pledger cannot use the pledge collateral. This gives rise to several legal problems and collateral for objects pawned for business purposes.

Article 1 of Law Number 42 of 1999 concerning fiduciary is "The transfer of ownership rights to an object on the basis of trust with the stipulation that the object whose ownership rights are transferred remains in the control of the owner of the object", while fiduciary guarantee is "security rights over movable objects, both tangible and which are intangible and immovable, especially buildings which cannot be encumbered with mortgage rights as intended in the Law. No. 4 of 1996 concerning mortgage rights, which remain in the control of the fiduciary, as collateral for the repayment of certain debts, which gives the fiduciary recipient a preferred position over other creditors." Because fiduciary guarantees give the right to the party giving the fiduciary to remain in control of the object that is the object of the fiduciary guarantee based on trust, the registration system regulated in this law can provide guarantees to the party receiving the fiduciary and parties who have an interest in the object. The imposition of fiduciary guarantees is regulated in Articles 4 to 10 of Law Number 42 of 1999 concerning fiduciary guarantees. In article 4 of Law Number 42 of 1999 concerning fiduciary guarantees, it is stated that: "A fiduciary guarantee is a subsidiary agreement to a main agreement which creates an obligation for the parties to fulfill an achievement."

Furthermore, in article 5 it is stated: paragraph "(1) The encumbrance of objects with fiduciary guarantees is made with a notarial deed in Indonesian and is a fiduciary guarantee deed; "Furthermore, paragraph (2) states that making a fiduciary guarantee deed as intended in paragraph (1) is subject to a fee, the amount of which is further regulated by Government Regulation." From the two articles above, it is known that in a fiduciary guarantee, after a main agreement there is an agreement which follows as a subsidiary agreement in the form of a guarantee agreement which creates an obligation for the parties to fulfill an achievement, then the agreement is stated in a deed which is referred to as the Deed. Fiduciary Guarantee or referred to as Fiduciary Guarantee Imposition.

Initially there was a problem regarding the imposition of fiduciary guarantees where business actors (financing institutions) as fiduciary recipients and fiduciary givers (consumers) never signed a fiduciary agreement (Fiduciary deed) together in front of a Notary, so that the resulting fiduciary agreement was legally weak, the financing agreement (basic agreement) which has been agreed upon and signed jointly between the business actor and the consumer is followed by the signing of a fiduciary agreement (fiduciary deed) in front of a Notary, but what happens is that the consumer is never presented before the Notary to sign the fiduciary agreement, so that the resulting fiduciary agreement becomes legally defective if legally tested, it does not have an element of deed authenticity.

Prohibition for business actors from carrying out unilateral legal relations with consumer fiduciary collateral objects which are still paid in installments. Based on article 18 point 1 d, Law No. 8 of 1999 concerning Consumer Protection, it is stated that: "Business actors are prohibited from declaring the granting of authority from

consumers to business actors, either directly or indirectly, to carry out unilateral actions relating to goods purchased by consumers in installments”.

OJK Regulation No 1/ POJK.07/ 2013 Concerning Consumer Protection in the Financial Services Sector Article 22 Point 3 C "States the granting of authority from consumers to financial services business actors, either directly or indirectly, to carry out all unilateral actions on goods pledged as collateral by consumers, unless such unilateral action is carried out based on statutory regulations.”

Based on the problems above, the researcher is interested in raising this problem in scientific writing with the title "Legal Consequences of Fiduciary Agreements Made Unilaterally by Financing Institutions Without the Presence of Consumers in the Presence of a Notary." unilaterally by a financing institution without the presence of the consumer before a notary and what are the legal consequences of a fiduciary agreement made unilaterally by a financing institution without the presence of the consumer before a notary. The specific objectives of this research are to examine and analyze the process of forming fiduciary agreements made unilaterally by financial institutions without the presence of consumers in front of a notary and to analyze the legal consequences of fiduciary agreements made unilaterally by financial institutions without the presence of consumers in front of a notary. , as well as seeking solutions to legal rules based on positive law. The legal basis for this research is that researchers use Agreement Theory, Legal Certainty Theory, Justice Theory and Legal Protection Theory.

2. RESEARCH METODOLOGY

This type of research uses empirical legal research, namely examining the problems faced from a legal perspective by conducting research that focuses on its empirical nature, namely direct field studies, the main data sources are the results of interviews and observations. This research is descriptive in nature, where this research describes a symptom, event that is occurring now or in the future related to the title of the research. The data sources that are the source of Primary data information are data obtained directly from the results of field research, namely Finance, consumers and notaries. Secondary data is data obtained through literature study, namely Financing Agreements, Fiduciary Agreements and fiduciary certificates as well as primary legal materials related to this research, namely the 1945 Constitution, Law No: 8 of 1999 concerning Consumer Protection, Laws No: 42 of 1999 concerning Fiduciary Guarantees, Law No: 10 of 1998 concerning Banking, Law No: 2 of 2014 concerning Amendments to Law No: 30 of 2004 concerning Notary Positions, Regulation of the Minister of Finance of the Republic of Indonesia No: 130/PMK.010/2012 concerning registration of fiduciary guarantees for financing companies that carry out consumer financing for motor vehicles with fiduciary guarantees and POJK No: 1/POJK.07/ 2013 concerning consumer protection in the financial services sector and secondary law obtained from books, papers and articles from the internet related to research.

3. RELATED RESEARCH/LITERATUR REVIEW

This research uses several books that are references in studying and exploring the problem, in addition to books, this research also uses several journals that are relevant to the topic of discussion, which contains juridical studies that refer to or in accordance with the topic of discussion.

4. RESULTS AND DISCUSSION

Process of Fiduciary Agreement Made Unilaterally by a Financing Institution without the Presence of Consumer in front of Notary

Regarding the form of the fiduciary agreement, it is not binding either verbally or in writing, but in practice it is required to be in writing. From the provisions of law and jurisprudence there are no provisions that regulate the form of a fiduciary agreement, however since the enactment of Law No. 42 of 1999 concerning fiduciary guarantees it has been regulated in article 5 paragraph 1 which states "The encumbrance of objects with fiduciary guarantees is made by notarial deed in Bahasa Indonesia and is a fiduciary guarantee deed" so that with the enactment of the fiduciary law, fiduciary agreements are required to be in writing so that they can provide legal certainty and benefit the parties who make them.

Based on the author's research, fiduciary agreements are made unilaterally by financing institutions only based on a power of attorney under the hand of the fiduciary giver (consumer) to the fiduciary recipient (business actor), for this reason the fiduciary recipient processes the fiduciary agreement at a notary by attaching the parties' financing agreement and a letter. power of attorney under the hand of the fiduciary giver to the fiduciary recipient to represent the interests of the fiduciary giver, including signing a fiduciary deed, this is contrary to Law No. 42 of 1999 concerning Guarantees, especially article 13, that "Applications for registration of fiduciary guarantees are made by the fiduciary recipient or his proxy or representative. "Just registering fiduciary guarantees with the fiduciary office, there are limits on power.

Power of attorney used by business actors is generally regulated in the Civil Code article 1792, but according to Salim HS it still has weaknesses from a sociological perspective. It can be understood that there are regulations regarding the granting of power in a fiduciary agreement that are not in accordance with or contrary to the third condition of the validity of the agreement, namely regarding "a certain thing". This was also emphasized by Gatot Supramono that "the arrangement of power of attorney agreements in fiduciary agreements is not in line with the principle of making agreements in article 1320 of the Civil Code regarding "certain matters" because the object of the fiduciary agreement turns out to be promising things that are outside the scope of fiduciary agreements." 13 of Law No. 42 of 1999 concerning fiduciary guarantees, where the power is limited to the fiduciary recipient registering the fiduciary guarantee with the fiduciary office for the purpose of obtaining a fiduciary certificate.

Regulations regarding the prohibition of power of attorney are regulated in Law No. 8 of 1999 concerning consumer protection Article 18 paragraph 1 d which states that "the granting of power from consumers to business actors, either directly or indirectly, to carry out all unilateral actions relating to goods purchased by consumers in installments". Likewise, the prohibition for business actors relates to power of attorney letters from consumers to business actors as regulated in POJK No: 1/ POJK.7/ 2013 concerning consumer protection in the financial services sector, article 22 paragraph 3 C. prohibition for business actors, which states that " granting authority from consumers to business actors, either directly or indirectly, to carry out all unilateral actions on goods pledged by consumers, unless such unilateral actions are carried out based on statutory regulations."

Regulations regarding the imposition of Fiduciary Guarantee are regulated in Article 5 paragraph (1) of Law No. 42 of 1999 concerning fiduciary guarantees which states that "the imposition of objects with Fiduciary Guarantee is made by notarial deed in Indonesian and is a Fiduciary Guarantee deed". An authentic deed is theoretically a letter or deed that was deliberately and officially made from the beginning as proof if

one day a dispute occurs. Authentic deeds are regulated in the Civil Code Article 1868, namely deeds whose form is determined by law and made by or before an official authorized to make the deed. .

The theory of agreement according to Salim H.S is "Agreement is a legal relationship between one legal subject and another legal subject in the field of property, one legal subject has the right to performance and the other legal subject is also obliged to carry out its performance. To provide legal certainty for the parties, according to Sudikno Martokusumo, legal certainty is a guarantee that requires efforts to regulate law in legislation that has been made by the authorities or those in power, these rules have a juridical aspect that can guarantee legal certainty and can be implemented as a rule or norm that must be obeyed. Based on this description, a fiduciary agreement that is notarized but is not attended by one of the parties, the procedure for executing fiduciary guarantees can only be carried out through a decree of execution from the court to provide legal certainty for the parties.

Legal Consequences of a Fiduciary Agreement made unilaterally by a Financing Institution without the Presence of the Consumer in front of Notary

As a result of the public's lack of understanding about fiduciary agreements, this situation is often exploited by financial institutions to make unilateral fiduciary agreements and not involve consumers so that problems often arise in the future, including first, settlement in cases of default/broken promises occurs outside the court by means of intimidation, Violence even ends in crime.

The second consequence of consumers not understanding about Fiduciary Guarantee Agreements is that there are losses resulting from unilateral decisions without involving second parties and third parties, in this case the courts, both civil in nature. From the description of the problem above, the legal consequences that can arise if a fiduciary agreement made unilaterally by a financing institution is invalid for the parties (does not have executorial rights), based on the Decision of the Constitutional Court of the Republic of Indonesia No. 18 / PUU-XVIII/2019, on 6 January 2020, that to provide legal certainty "Execution of fiduciary guarantees must go through a Court mechanism, if the debtor does not hand over fiduciary guarantees voluntarily" according to the Constitutional Court that, article 15 paragraph 2 of Law No. 42 of 1999 concerning Fiduciary Guarantees, that the phrase "Executorial power" and the phrase "the same as a court decision that has obtained permanent legal force" is contrary to the 1945 Constitution and has no permanent legal force, according to the Constitutional Court that currently creditors cannot sell fiduciary collateral objects unilaterally to fulfill their debt obligations, but there must be an agreement between creditors and debtors. Creditors can also sell the collateral object on the basis of a court decision, which states that the debtor has defaulted. Here it can be seen that the Constitutional Court's decision aims to equalize the position of creditors and debtors.

Based on the author's research, with the prevalence of unilateral fiduciary agreements by financial institutions reviewed legally based on the Decision of the Constitutional Court of the Republic of Indonesia, No. 18 / PUU-XVIII/2019, on January 6 2020, the parties will experience losses as follows:

a) Losses for consumers.

1. If the consumer is in default, then the consumer is deemed by the financing institution to have bad faith and to control the object of fiduciary collateral unlawfully, this can be qualified by the financing institution as a criminal act of embezzlement in accordance with Article 372 of the Criminal Code and then the financing institution reports the consumer on the basis of a criminal act embezzlement.

2. Consumers are bound by clauses in the fiduciary deed that they never knew about which could result in harm to them, for example in relation to the process of confiscating fiduciary collateral by the financing institution unilaterally.

b) Loss for financing institutions.

1. Financing institutions do not have 'droit de suite' rights (a right that follows from the owner of the object/the right that follows from the object in the hands of anyone) and 'preferential rights (priority rights) and do not have a clear legal basis for executing fiduciary guarantees in accordance with article 15 of Law No. 42 of 1999 concerning fiduciary guarantees, it must go through a court mechanism because there is no executorial title in fiduciary agreements made unilaterally.
2. Underhand execution of fiduciary collateral objects is a criminal offense under Article 368 of the Criminal Code (if the financing institution uses coercion and threatens confiscation). The provisions of article 365 paragraphs two, three and four of the Criminal Code also apply to this action if the financing institution uses another party to forcefully take fiduciary guarantees from consumers.

Examining the decision of the Constitutional Court of the Republic of Indonesia No. 18 / PUU- Referring to the theory of justice according to Thomas Hubbes who stated that the definition of justice is an action that is said to be fair if it is based on an agreement that has been agreed, then the responsibility of the financing institution in entering into a fiduciary agreement refers to article 5 paragraph 1 of Law No. 42 of 1999 concerning fiduciary guarantees so that provide legal protection for parties in the future, both financial institutions and consumers.

5. CONCLUSION

The process of forming a fiduciary agreement made unilaterally by a financing institution without the presence of the consumer before a notary is that the formation of a fiduciary agreement made unilaterally by a financing institution is based on a power of attorney under the hand of the fiduciary giver to the fiduciary recipient, to make a fiduciary deed, in the formation The consumer Fiduciary Agreement needs to be presented before a notary because the agreement made is a follow-up agreement to a main agreement (accessoir) and does not provide legal protection for the party giving the fiduciary for that reason. from the fiduciary giver to the fiduciary recipient to represent the interests of the fiduciary giver, including signing a fiduciary deed, this is contrary to Law No. 42 of 1999 concerning Fiduciary Guarantees, article 13 where it is emphasized that the power of the fiduciary giver to the fiduciary recipient is only limited to registering fiduciary guarantees with the fiduciary office.

The legal consequences of a fiduciary agreement made unilaterally by a financial institution without the presence of the consumer before a notary is that the loss for the consumer is: If the consumer defaults, then the consumer is deemed to have bad faith in unlawfully controlling the object of the fiduciary guarantee, for the debtor is bound to For example, clauses that are detrimental to him relate to the process of confiscating goods unilaterally by the financing institution. Meanwhile, the disadvantage for financing institutions is that financing institutions do not have 'droit de suite' and 'preference rights' and do not have a clear legal basis for carrying out execution because there is no executorial title in fiduciary agreements made unilaterally, not in accordance with article 15 of the law. Law No. 42 of 1999 concerning Fiduciary Guarantees, the execution of fiduciary guarantees must go through the court.

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IMPLEMENTATION OF CHILD ADOPTION (ADOPTION) OUTSIDE OF MARRIAGE BY A WOMAN'S FAMILY JUDGING FROM LAMBOYA CUSTOMARY LAW IN WEST SUMBA REGENCY (NTT) BASED ON LAW NUMBER 35 OF 2014 ABOUT CHILD PROTECTION

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ABSTRACT

Adoption is not a new thing for people in Indonesia, as is done by the Lamboya community in the adoption custom. Adoption according to Lamboya customary law is the transfer of child custody to adoptive parents from their biological parents and is carried out according to applicable laws and regulations. The legal basis for child adoption is contained in Law Number 35 of 2014 concerning Amendments to Law Number 23 of 2002 concerning Child Protection. The formulation of the problem is how the implementation of adoption of children out of wedlock by women's families for these children according to custom in Lamboya-West Sumba and Law Number 35 of 2014 and what are the obstacles to adoption of children out of wedlock when viewed from the law there is Lamboya.

The type of research used in this research is a kind of empirical juridical research. The nature of this research is descriptive, the type of data is primary data and secondary data. Data collection techniques are document study techniques, interviews and observations, qualitative data management and analysis techniques. In this study using the theory of legal certainty, theory of legal protection and law enforcement theory.

The results of this study found that law enforcement on child protection in cases of adoption is guided by Law Number 35 of 2014 concerning amendments to Law Number 23 of 2002 concerning Child Protection according to custom, so it is not mandatory for prospective adopted children. parents to give Buffaloes, Pigs, Dogs, Cows and others to the child's biological parents. Adopted children are also given the same rights as biological children of adoptive parents such as being given a name in the parents' family and also having a birth certificate made to record their nationality. Adopted children must also be guaranteed the health, growth and education of the child.

Keyword: *adoption of a child out of wedlock by a woman's family according to Lamboya custom*

1. INTRODUCTION

Adoption of children out of wedlock in the Lamboya area is no longer something strange because adoption refers to a child who was born out of wedlock and has been abandoned by his biological mother. The child's father is irresponsible. The discussion about Ana Junga in Lamboya is the adoption of a child, whether male or female, whose biological father's status is unknown. The child still receives

guarantees from the mother and the mother's family, especially the woman's parents and relatives.

The purpose of granting the status of an adopted child to a biological child is to equalize the position with the woman's family in order to maintain the good name and honor of both the woman and her family. The granting of this status is also intended to be based on the woman's family's sense of responsibility towards her child even though the woman wants it, but because there are things that must be looked after in a family, the child must be with her biological family even though this is not guaranteed. The recognition process is carried out by the head of the family, namely the father and mother, and is followed by his siblings and extended family in one tribe or one big house.

There is implementation *Junga's son* This will also be attended by witnesses regarding the granting of these rights, namely from the extended family and traditional leaders in the environment where the woman's child will become a junga child or legal adopted child for her family and no longer part of her mother.

The things that are given are based on the status of recognition as siblings, namely providing and fulfilling daily needs such as clothing, food, shelter and even empty land because the child has become a family member on a par with the legitimate female sibling in the family. With this as their brothers, with one heart, all their souls, and all their bodies they remain united and protect each other from each other.

Adoption of children in Lamboya, West Sumba-East Nusa Tenggara in particular is carried out according to custom where adoption according to law is an attempt to take a child who is not one's own offspring with the intention of taking care of him and treating him as one's own child. The law governing customary adoption of children is outlined in Law Number 35 of 2014 concerning Amendments to Law Number 23 of 2002 concerning Child Protection which explicitly states that the purpose of adoption child, the motivation for adoption can only be carried out in the best interests of the child and is carried out in accordance with local customs and applicable statutory provisions.

Based on the background above, the author raises two problem formulations, namely: How is the implementation of the adoption of a child outside of marriage by the woman's family for the child according to custom in Lamboya-West Sumba and Law Number 35 of 2014? And what are the obstacles regarding adoption of children outside of marriage if viewed from the Lamboya law?

2. METHODS

The type of research used in this research is empirical juridical research. The nature of this research is descriptive. Types of data are primary data, secondary data, data collection techniques, namely document study techniques, interviews and observations, qualitative data management and analysis techniques.

3. RESULTS AND DISCUSSION

Implementation of Lamboya Customary Adoption of Children Outside of Marriage

Adoption is a legal act based on a mutual agreement to take another person's child with the specific aim of being cared for and raised in an adoptive family which can create a social relationship as well as a biological bond. Adoption of children is included in civil actions which are part of family law, thus it will involve issues

related to human relations, and the institution of child adoption will follow developments in society itself and continue to move towards progress.

Chapter III of Law Number 4 of 1979 regulates the responsibilities of parents for the welfare of children. Where it is said, the first person responsible for the welfare of the child is the parents (article 9). Parents who neglect their responsibilities, which results in obstacles in the growth and development of children. Article 26 of Law Number 23 of 2002 regulates the obligations of parents, namely:

1. Caring for, nurturing, educating and protecting children
2. Develop children according to their abilities, talents and interests, and prevent marriage at a young age.

In principle, adoption of a child must be carried out through the applicable legal process, namely through a court order. The main aim of adopting a child must go through a legal process, namely to provide legal certainty and welfare for the child and the parents who adopt him, thereby avoiding the emergence of problems that will arise in the future, for this reason it must be determined based on the court and applicable laws and regulations.

Explanation of Adoption of Children Outside of Marriage by Traditional Heads

The traditional head explained that in adopting a child to become part of a family, the adoption of a child is not only based on local community customs that must be carried out by the family and the child who will be adopted.

Adopting a child must also ensure that the child's rights and obligations are in accordance with local customs and also the laws that apply to the government

- 1) Among the rights and obligations of adoptive parents towards their adopted child are;
- 2) Children who are adopted from parents who are not married according to custom are not required for the prospective adoptive parents to give buffalo, pigs or dogs to the biological parents.
- 3) Children who are adopted from parents who have entered into a traditional marriage are required for the prospective adoptive parents to give animals, buffalo, pigs, dogs to the biological parents.
- 4) Adopted children are also given the same rights as the adoptive parents' biological children, such as being given a name in the parent's family and a birth certificate is also made to record their citizenship.
- 5) Adopted children must also be guaranteed the child's health, growth and education.

The birth of a child into the world is an important and precious event for every family. Newborn babies must be immediately reported to the civil registration office so that their residence status is recorded even if the baby was born without a father (a child out of wedlock) because residence status is very important for their future life. A child who is born out of wedlock does not have familial ties according to the law with the person who marries him, so the child inherits from his mother and his mother's family. According to Islamic law, a child born out of wedlock cannot be recognized or separated by his father. The child only has a legal relationship with the mother. But the child still has a mother, namely the woman who brought him into the world, with the understanding that there is a legal relationship between a child and the mother. It is the same as a legitimate child who has a father (Poespasari, 2006: Surya & Hajati, 2016).

Civil Law, a child born outside of marriage according to civil law terms is called a natural child. A child born out of wedlock can be recognized by the father or mother. According to a system that has been implemented in the BW (Civil Code) book, the existence of offspring or what can be called the birth of a child outside of marriage does not yet have a family relationship between the child and his parents before the issuance of recognition of a family relationship with all the risks,

especially regarding expert rights. inheritance between the child and the parents who have acknowledged it. So a child born out of wedlock has the status of a legitimate child.

The condition for a child born out of wedlock to be able to receive an inheritance is that the biological parents must legally recognize the child as their own. The Civil Code states the principle that only people who have a legal relationship with the heir have the right to receive an inheritance. A child born out of wedlock is declared to have a legal relationship if the mother's father has given legal recognition. This legal relationship is limited in nature, which means that the legal relationship only occurs between a child who was born outside of marriage and is recognized by the father and mother who only recognize it (Article 873 of the Civil Code).

A child outside of marriage can receive an inheritance only if he has a legal relationship with the heir. This legal relationship exists if the child's parents make a confession. Studies on inheritance rights related to children have appeared in many studies even in the last two decades, such as research conducted by Purwanto (2008); Hendrako (2017); Loho (2017); Deviyanti & Salain (2017). However, regarding legal regulations regarding the position and inheritance rights of children born out of wedlock but adopted by their grandfathers have never been studied, especially in the Bali area. Therefore, this research examines the process of adopting an illegitimate child by his grandfather in Batukaang Village, Kintamani District, Bangli Regency and what the inheritance system is for the child with his grandfather.

Obstacles faced by women's families in adopting children outside of marriage

1) Consent from the adopted child's parents

This adoption is carried out because it is very important in adopting a child to have clarity about everything between the two parties, between the mother of the child being adopted and the party adopting the child. The adoption of this child was also accompanied by several people as desired by both camps because at least it had to be treated with witnesses and a joint prayer event to indicate as proof that the child no longer belonged to the biological mother but to the parents who adopted him. Even though the biological parents of the adopted child give up, their responsibility is still very close, both spiritually and materially, for their child's happiness. This is what strengthens the child when he breaks away from his biological parents because of a promise that he was adopted when he was still a baby.

Adopting a child is not an ordinary thing, but if you have the desire and full responsibility, this can be done, although there are still many things that must be followed in adopting a child, such as treating an adopted child like your own biological child and giving him equal rights and obligations with his siblings.

During the process of adopting a child, you must also be full of patience and not get emotional easily, let alone committing violence against the adopted child because when you commit violence against the adopted child, everything will fade and be in vain with what was promised when you adopted him as an adopted child. When they commit violence and do not fulfill their promises, the adopted child can return to his biological parents, but if he apologizes or asks for forgiveness, the adopted child will stay and carry out his duties and responsibilities.

One day, the adopted child will grow up and want to return to his biological parents. So this is not a compulsion for him even though it is hard to let go, but this is his decision so that both parties, the biological parents and the person adopting the child, will have a closed or open meeting to discuss the child wanting to return to his biological parents so that this does not happen. misunderstandings and for the sake of smoothing the future of the adopted child.

An adopted child returns to his biological parents, maybe the child already knows his biological parents or there are things that make him have to separate from the parents who adopted him.

2) Differences in lifestyle and mindset

The first obstacle to adapting to adopted children is differences in lifestyle and thinking patterns. Adopted children who have grown up under the care of other institutions or families usually have lifestyles and thought patterns that are less in line with or even the opposite of those of the new family. That is why in the adaptation of adopted children, misunderstandings are prone to arise due to small differences such as how to eat and maintain cleanliness, to those related to manners, ways of communicating, or attitudes towards education.

With this process, don't relax the rules so that adopted children feel at home more quickly, Moms. Executive Director of Adoption Choice Inc. Angie Flannery actually suggests that parents start implementing discipline with explanations from the start so that their little ones can adjust quickly.

3) Conflict with adoptive siblings

The next obstacle to adaptation for adopted children is conflict with adopted siblings. Difficulty in establishing closeness with adopted siblings or parents' biological children is also one of the obstacles often encountered by adopted children. Especially if previously the parents did not provide enough understanding. Misunderstandings and small rivalries between siblings are normal, but solutions need to be found immediately if they don't resolve and cause family dynamics to change drastically.

4) Reactive attachment is ordered

Even though it is quite rare, Moms also need to know about the obstacles to adapting adopted children due to trauma in establishing this closeness. According to child and adolescent psychiatrist Sean Paul, MD. Reactive attachment disorder (RAD) is a pattern of behavior that withdraws and closes off emotionally when given affection by parents or caregivers.

In other words, RAD is a social emotional problem where children act cold, stiff, or even react negatively when parents hug them and express their affection. Explained by psychologist Kate Miller, Ph.D. This condition occurs because children are traumatized due to frequent failures in establishing close relationships in the past. For example, because they are often transferred to different families or orphanages.

To overcome the obstacles to adapting your adopted child, Moms must consult a psychiatrist. The good news is that most of the obstacles faced by adopted children when adapting can be overcome with the support, empathy, love and patience of all family members.

Efforts Made to Overcome/Resolve Obstacles in Customary Law Communities Outside of Marriage

- 1) Providing the appropriateness of life for adopted children, such as the need for adequate food and clothing and providing positive directions for a better survival in the future.
- 2) Equalizing rights towards siblings without bias or limited affection because if this is done only to biological children it will become a big question or problem in the family because when adopting a child it has been made clear with several promises that must be proven to the adopted child . If this is not done, it is very likely to be detrimental to the physical health of the adopted child because it seems as if he is being pushed into a corner or even not appreciated, even though at first it goes smoothly and well, in the end it is like that.

- 3) Teach adopted children not to carry out actions that can harm the family and society in the environment or outside the environment, such as killing, stealing or depriving other people of their rights, gambling, drinking, free sex and so on.
- 4) The sense of socialization in society must be high and without distinction between race, religion and ethnicity. This refers to a sense of solidarity that is not towards fellow human beings and the way of getting along does not have to be partial or consider who you are and want to harm someone's good name and can be detrimental to the unity of diversity, where we are different but still one.
- 5) Always live side by side with others in a community environment because this can provide comfort and happiness within yourself both physically and spiritually because in this life we must be people who always love and easily forgive others. This can also facilitate all our prayers and work.
- 6) Being educated means providing support for adopted children to go to school to gain high levels of knowledge so that they will become successful people in the future.

Legal Protection for Families of Women and Children According to Lamboya Customary Law Based on Law Number 35 of 2014 concerning Child Protection

Every person who adopts a child and follows the Lamboya custom will be guaranteed protection for the child and the child's mother in the form of love with all their heart, soul and body to protect both mother and child even if the woman remarries or goes to work outside her hometown. . The promise and protection to them remains strong and not fragile because the party who adopts the child really wants and promises to give them equal rights and obligations with other siblings in everyday life and for the sake of their personal welfare in the future. Therefore, mothers and children are still given the right to freedom in life because they are not perfect humans and they are social creatures who need each other.

The government has created and enforced Law Number 35 of 2014 concerning child protection in which children are obliged to receive legal treatment because these children are members of the nation's generation who uphold cultural values and traditions in society and the country. Here, on the other hand, parents who adopt a child will guarantee the health and education of the adopted child so that the child gets an education in broad and meaningful knowledge and will later be useful in society as in article 1 point 2 of government regulation number 54 of 2007 concerning implementation Adoption is a legal act that transfers a child from the authority of parents, legal guardians or other people responsible for their care and education. This article states that every person who adopts a child does not violate the law because it is for the sake of happiness and for the proper life of a child who has been adopted or becomes the basis for legal protection.

4. CONCLUSION

From the discussion that the author has presented above, the following conclusions can then be drawn:

1. Implementation of Lamboya customary child adoption based on Law Number 35 of 2014 concerning customary child protection means that prospective adoptive parents are not required to give buffalo, pigs or dogs to the biological parents. Adopted children are also given the same rights as the adoptive parents' biological children, such as being given a name in the parent's family and a birth certificate is also made to record their citizenship. Adopted children must also be guaranteed the child's health, growth and education.
2. Obstacles regarding the Lamboya customary adoption of children who are adopted will be given rights and obligations equal to those of their family without any partiality or limited affection because if this is done only to biological children it will be a big question or problem in the family because when adopting a child, several promises have been made clear to the adopted child. If this is not done, it is very likely to be detrimental to the physical health

of the adopted child because it seems as if he is being pushed into a corner or even not appreciated, even though at first it goes smoothly and well, in the end it is like that. Teach adopted children not to carry out actions that can harm the family and society in the environment or outside the environment, such as killing, stealing or depriving other people of their rights, gambling, drinking, free sex and so on.

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THE INFLUENCE OF THE AVAILABILITY PRODUCTION FACILITIES AND FARMING SUBSYSTEM FOR LONG BEANS (*Vigna Sinensis L.*) ON PRODUCTIVITY IN SUBAK DAUH UMA TEBEN, BATUAN VILLAGE, SUKAWATI DISTRICT, GIANYAR REGENCY

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ABSTRACT

*Long beans (*Vigna Sinensis L.*) have good prospects for development; because it has good economic and market value. This research was conducted in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency with purposive location selection. The population is 15 farmers. The research sample was 15 people taken using the census method. Data was analyzed descriptively qualitatively and quantitatively.*

The objectives of this research are (1) to analyze the provision of long bean production facilities in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency; (2) analyze the long bean farming subsystem in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency; and (3) analyzing the productivity of long bean farming in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency.

The research results show that (1) the supply subsystem for long bean production which consists of the availability of long bean seeds, the availability of plant stakes, the availability of nitrogen fertilizer, single fertilizer/NPK, pesticides, cultivators and hand sprayers is included in the moderate category with an achievement score of 3.20 (64.00%); (2) the long bean farming subsystem which consists of land processing, cleaning, making beds, planting holes, spacing, liming, base fertilizing, fertilizing, installing stakes, pruning, weeding and controlling plant pest organisms is included in the medium category with a score of 2.96 (59.37%); (3) the productivity of long bean farming produces an average yield of 6,622 kg/ha in the medium category.

Keywords: production facilities, long beans, productivity

1. INTRODUCTION

Food crops such as rice, paddy and corn have always received top priority in terms of development. This aims to avoid an increase in the price of food commodities which has implications for inflation of other goods. even though if we look at it from the aspect of market opportunities, consumer needs, productivity, revenue and income for farmers, horticultural commodities have promising opportunities and are able to compete with other food commodities such as long bean agribusiness.

Agribusiness is an agricultural business that has a profit orientation or a business consisting of subsystems. Farmers are required to develop innovations in agricultural technology. Long beans. This long bean commodity has a high content of vitamins, minerals and fiber. Apart from that, long beans are also in great

demand among Balinese consumers and are used as a complement to lawar dough.

Research purposes

1. Analyze the provision of long bean production facilities in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency.
2. Analyze the long bean farming subsystem in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency.
3. Analyzing the productivity of long bean farming results in Subak Dauh Uma Teben, Batuan Village, Sukawati District, Gianyar Regency.

2. RESEARCH METHODOLOGY

The location where the research was carried out was Subak Dauh Uma Teben, Batuan Village, Sukawati District, Tabanan Regency, Bali Province. The location selection was carried out purposively with the consideration that Subak Dauh Uma Teben has the potential to develop long bean horticulture every year, and from a market aspect it has good prospects. The population in this study was 15 farmers. The sample taken by census was 15 farmers who planted long beans during the period from July to December 2023. The data sources used were primary data and secondary data. Next, the data was analyzed qualitatively and quantitatively, then analyzed descriptively statistically. All indicators of the research variables are measured using an ordinal scale with a value range of 1 to 5 (very high, high, medium, low and very low) and using the *interval formula class*.

3. LITERATUR REVIEW

The subsystem of procurement and distribution of production facilities is also often referred to as up-stream agribusiness; is defined as activities that innovate, produce and distribute agricultural production facilities, including industrial agricultural machinery, fertilizer, seeds and pest and disease control drugs (Saragih, 1999). The procurement and distribution of production facilities subsystem functions to produce and provide the best agricultural production facilities to be able to produce quality farming products, provide quality services to farming businesses, provide technical production guidance, provide management guidance and agribusiness system relations, facilitate the learning or training process for farmers, filter and synthesize practical agribusiness information for farmers, develop business collaborations that can provide benefits for the parties involved (Suparta, 2005).

The production and farming subsystem can also be called the primary agricultural subsystem (*on-farm agribusiness*), namely cultivation activities that produce primary agricultural commodities which include food crop farming, horticultural farming, medicinal plant farming (*biopharmaceuticals*), plantation farming, livestock farming, fisheries farming, and forestry farming (Saragih, 1998). The cultivation subsystem is the subsystem that converts inputs into primary products; In the cultivation subsystem, what farmers need is business location (agroclimate), availability of labor, superior commodities, mastery of technology, business area, individual, group business, management, and equipment (Department Pertanian 2007, dalam Lolowang *et al.*, 2015).

4. RESULTS AND DISCUSSION

Providing agricultural production facilities for the long bean commodity (*Vigna Sinensis L*), the availability of long bean seeds received an achievement score of 3.20 (64.00%) in the medium category. The availability of stakes to support plants

is classified as easy to obtain (medium) with a value of 3.33 (66.67%). The availability of Nitrogen fertilizer is difficult to obtain (low) with a value of 2.33 (46.67). It is difficult to obtain nitrogen fertilizer because farmers still depend on subsidized fertilizer from the government, even though the long bean commodity does not receive subsidized fertilizer. Farmers' lack of readiness in providing nitrogen fertilizer as one of the production inputs for the production supply subsystem will affect product productivity (Adnyana, *et.al.* 2017). Besides that, the application of single nitrogen fertilizer will be able to increase plant growth in the form of leaf area and crop yields (Syahda and Barunawati, 2022). NPK compound fertilizer and pesticides are very easy to obtain with achievement scores of 4.00 (80.00%) and 3.73 (74.67%) respectively in the high category. The availability and application of NPK fertilizer is very important for long beans because it can affect long bean plant height, total leaf area, length of planted pods and yield of fresh pods (Purwanto, *et al.* 2019). Land cultivation tools in the form of cultivators are very difficult to obtain at the farmer level with an achievement score of 2.53 (50.67%). On average every farmer has a spray tool to eradicate pests and diseases such as a hansprayer in the medium category with an achievement score of 3.26 (65.33%). The average achievement of providing long bean agricultural production facilities obtained a score of 3.20 (64.00%) in the medium category. The availability of this production provision subsystem will influence the strengthening of subak institutions. The better the availability of the production facilities provision subsystem, the stronger the farmer group institutions will be (Adnyana, *et.al.* 2020). The results of providing long bean agricultural production facilities can be presented in Table 1.

Table 1. Achievements from the Provision of Agricultural Production Facilities Long Beans (*Vigna Sinensis L.*)

No.	Provision of Saprotan	Amount	Score	Score achievement		Category
				(Number)	(%)	
1	Long bean seeds	48	3.20	64.00	64.00	Currently
2	Sharpen the plants	50	3.33	66.67	66.67	Currently
3	Nitrogen fertilizer	35	2.33	4	6.67	Low
4	Single fertilizer (TSP, Kcl) /NPK	60	4.00	80.00	80.00	Tall
5	Pesticide	56	3.73	74.67	74.67	Tall
6	Cultivator	38	2.53	50.67	50.67	Low
7	Hansprayer	49	3.26	65.33	65.33	Currently
Average		48	3.20	64.00	64.00	Currently

Long bean farming indicators of land processing, cleaning of plant residues, making beds with a width of 120-150 cm have been carried out in the field with a score of 3.33 (66.67%) respectively; 2.73 (54.67%) and 3.27 (65.33%) in the moderate category. Indicators of farming activities that are included in the high category are making single planting holes when planting 3-5 cm deep, always

installing stakes using bamboo, and when attacked by pests and diseases, plants are always eradicated using synthetic pesticides, each of which has an achievement value. respective scores 3.47(69.33%); 3.60 (72.00%) and 3.53 (70.67%). Farming activities that are rarely carried out by farmers, namely not liming before planting, not providing basic organic fertilization, pruning and weeding at the age of plants 3 and 5 weeks after planting, have a score of 1.73 (34.67%) respectively.) with a very low category; 2.53 (50.67%); 2.60 (52.00%); and 2.53 (50.67%) in the low category. The average yield of long bean farming is in the moderate category with an achievement score of 2.96 (59.37%). Farming results will be able to run more optimally if they are supported by farmers' behavior in preparing agricultural production facilities and carrying out farming activities, because the knowledge, attitudes and skills implemented by farmers will have a good effect on increasing product productivity (Adnyana, 2022). The overall results of long bean farming can be seen in Table 2.

Table 2. Achievements of Long Bean (*Vigna Sinensis*) Farming

No.	Farming	Amount score	Score achievement		C ateg ory
			Number	(%)	
1	Land processing	50	3.3	6	Curr ently
2	Cleaning of plant residues	41	3	6.67	
3	Making beds 120-150 cm wide	49	2.7	5	Curr ently
4	Single planting hole 3-5 cm deep	52	3	4.67	
5	Distance between holes 70X30 cm	48	7	5.33	Curr ently
6	Liming 1-1.5 tons/ha	26	3.4	6	
7	Basic organic fertilization 10-15 tons/ha	38	7	9.33	Tall
8	Basic TSP fertilization 75-100 kg/ha	39	3.2	6	Very low
9	Basic fertilization Kcl 75-100 kg/ha	45	1.7	3	
0	Urea basic fertilization 25-30 kg/ha	40	3	4.67	Low
1	Urea follow-up fertilizer 3 WAP dose of 25-30 kg/ha	50	2.5	5	
1	TSP 3 WAP follow-up fertilizer dose of 100-125kg/ha	51	3	0.67	Curr ently
1	Kcl 3 MST follow-up fertilizer dose of 100-125kg/ha	51	2.6	5	
2	Installation of stakes	44	0	2.00	Curr ently
2	Pruning	44	3.0	6	
3	Weeding at 3 and 5 WAP	54	0	0.00	Curr ently
3		54	7	3.33	
4		39	3.3	6	Curr ently
4		38	3	6.67	
5		53	3.4	6	Curr ently
5		53	0	8.00	
1			2.9	5	

6	OPT spraying	3	8.67	
1				Tall
7		3.6	7	Low
		0	2.00	Low
		2.6	5	Tall
		0	2.00	
		2.5	5	
		3	0.67	
		3.5	7	
		3	0.67	
Average		44.52	2.96	Currentl y
			59.37	

Productivity is the result of long bean farming activities obtained during one planting season. The productivity interval of 4,500 – 5,240 kg/ha was achieved by 2 people (13.33%) of respondents in the very low category. The low category was achieved by 1 respondent (06.66%) in the yield productivity interval > 5,240 – 5,980kg/ha. Productivity yield interval >5,980 – 6,720 (kg/ha) with the category being obtained by 5 farmers (33.33%). Furthermore, the high category was obtained by 4 farmers (26.66%) with a yield interval of > 6,720 – 7,460 (kg/ha). In the interval long bean yield productivity, the highest (> 7,460 – 8,200 kg/ha) was found in 3 farmers (20.00%). The average productivity of ushatani long beans (*Vigna Sinensis*) in one planting season is included in the moderate category with an average productivity value of 6,622 (kg/ha). Apart from the productivity results achieved by farmers, this needs to be supported by good marketing to further increase income through higher sales price margins (Adnyana, 2021; Arvianti and Mubaidi, 2012). Achievements of long bean productivity results can be presented in Table 3.

Table 3. Productivity Achievements of Long Bean (*Vigna Sinensis*) Farming

No	Productivity Interval (kg)/Ha	Number of Respondents	Percentage of Respondents (%)	Category
1	4,500 – 5,240	2	13.33	Very low
2	> 5,240 – 5,980	1	06.66	Low
3	>5,980 – 6,720	5	33.33	Currently
4	> 6,720 – 7,460	4	26.66	Tall
5	> 7,460 – 8,200	3	20.00	Very high
Average 6,622		5		Currently

5. CONCLUSION

Conclusion based on the research results, it can be concluded as follows.

1. The long bean production supply subsystem which consists of the availability of long bean seeds, the availability of plant stakes, the availability of nitrogen fertilizer, NPK fertilizer, pesticides, cultivators and sprayers is included in the medium category with an achievement score of 3.20 (64.00%).

2. The long bean farming subsystem which consists of land processing, cleaning, making beds, planting holes, spacing, liming, basic fertilization, fertilizing, installing stakes, pruning, weeding and controlling plant pest organisms is included in the medium category with a value of 2.96 (59.37%).
3. The average productivity of long bean farming results is 6,622 kg/ha in the medium category.

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LEGAL PROTECTION AGAINST WASTE POLLUTION THAT RESULTS ENVIRONMENTAL DAMAGE IN COASTAL AREAS

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ABSTRACT

Plastic waste is a type of material that is close to everyday life. When we eat, drink from the bottle. The type of research that the author uses in this research is legal research with empirical aspects. Considering the need for legal protection against waste pollution which causes environmental damage in coastal areas.

The legal basis for Law Number 32 of 2009 concerning Environmental Protection and Management is contained in Article 3. In accordance with Article 1, point 14, it explains Law Number 32 of 2009 concerning the protection of environmental management. Mitigating marine pollution and destruction, protecting sea water quality, determining marine quality status by referring to Sea Water Quality Standards (BMAL) and marine damage criteria. Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. article 60 letter g; h. i. and J. Legal Protection against Garbage Pollution which causes Environmental Damage in the Badung Bali Coastal Area related to Law Number 32 of 2009 concerning Environmental Protection and Management is contained in Article 3 of the 2009 UUPPLH. Apart from that, it protects the coastal area ecosystem from waste pollution and maintains its sustainability so that pollution does not occur as a result. rubbish and environmental destruction, both through pollution and protecting environmental damage in the Badung coastal area as a result of violating Article 98 paragraph 1 of Law no. 32 of 2009 concerning Environmental Protection and Management. threatened with imprisonment for a minimum of 3 years and a maximum of 10 years and a fine of at least Rp. 3 billion and a maximum of Rp. 10 billion. Apart from that, Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. Article 60 letters g, h, i. and J.

Keywords: Legal protection. Pollution and coastal areas

1. INTRODUCTION

Waste is waste leftover from a product or item that is no longer used, but can still be recycled into valuable items. Organic waste is waste that comes from the remains of living creatures that easily decompose naturally without human intervention to decompose. Organic waste can be said to be environmentally friendly waste and can even be reprocessed into something useful if managed properly. However, if waste is not managed properly it will cause disease and unpleasant odors as a result of the rapid decomposition of organic waste. Inorganic waste is waste that is no longer used and is difficult to decompose. Inorganic waste buried in the ground can cause soil pollution because inorganic waste is classified as a substance that is difficult to decompose and the waste will be buried in the ground for a long time, this causes damage to the soil layer. Types of Organic Waste. Based on the type, organic waste can be classified into 2 types, including waste. wet and dry organic.

For the environment, plastic can cause pollution, both in land, water and air. In the soil, plastic can block the absorption of water and sunlight, thereby

reducing soil fertility and can cause flooding that ends up in coastal areas. Meanwhile, plastic waste contributes to 90% of the waste in coastal areas. In contrast to plastic waste on the ground which may not be exposed to sunlight if buried, plastic waste in the ocean can be freely exposed to the sun's ultraviolet rays. As mentioned above, photodegradation then occurs which breaks down the plastic into small pieces. Finally, toxic materials from broken down plastic, for example bisphenol A (BPA), enter the food chain, being eaten by living creatures in the sea, from the smallest to the largest. And humans who may be at the top of the food chain, experience the accumulated effects of these toxic substances. In the air, the plastic components are scattered can be dangerous for health and the environment. For example, polyvinyl chloride (PVC) plastic which contains halogens will produce dioxins when burned. Dioxin is one of the most dangerous components produced by humans. Apart from that, many of these offers are also tempting for the community, including fishermen, especially as business groups receive incentives to clean up plastic waste around the Benoa and Tuban coastal areas in Badung Regency.

Joint efforts are needed. Implementing a circular economy can be a solution to dealing with plastic waste found in mangrove forests and this method works more optimally because it is supported by stimulus from caring hands. Even so, joint efforts are needed to prevent plastic waste from being thrown away carelessly and polluting the environment around coastal areas. There is a need for awareness and community participation to help protect the environment by not throwing rubbish carelessly into rivers that ultimately end up in coastal areas. Apart from threatening the ecosystem in coastal areas, the presence of plastic waste can also cause a reduction in the economic income of local communities. Because if there is rubbish around them, the fishing resources they rely on will decrease significantly. "For example, if there is a lot of trash or even overflowing mud crabs and mangrove fish, the mud crabs will not come out,"

organic waste, and toxic hazardous waste (B3). Types of Environmental Pollution Water Pollution Water pollution is a change in the quality of water in a water area such as seas, rivers, lakes and groundwater. Causes of water pollution: (Barlin: 1994). which hinders or encourages environmental guidance and development in Indonesia. This cooperation is also needed to discuss problems and provide influence towards environmental management in a harmonious and integrated manner, in accordance with their capabilities and knowledge for the success of sustainable development. (Wibowo's younger brother: 2014)

Before determining the location, various feasibility studies must be carried out, to avoid things that do not actually provide benefits but instead cause losses and even new problems for the surrounding community. Very detailed arrangements related to implementation requirements must be carried out, but for the record it is more appropriate not to formulate them in law, but only in technical regulations which are more operational (Wayan Budiayasa Suyasa: 2015). Along with the development of modern society in facing globalization and the process of industrialization and modernization, there will be changes in social processes in the order of people's lives. The process of industrialization and modernization and especially forestry industrialization has had a major impact on the continuity of forests as a support for life and living creatures in the world. Forests are a very important natural resource, not only as a wood resource, but more as a component of the living environment (Siswanto Sunarso: 2005). The demand for water use is increasing, water is needed for irrigation, industry, drinking water, recreation, etc. - other. Demand is increasing while water supply is decreasing. Other natural resources such as plants, trees, aquatic sources and mineral sources are very dependent on their management. The problem that arises is that poverty and underdeveloped environmental appreciation emphasize the need to manage natural resources appropriately and effectively, resulting in less attention to environmental factors (Koesnadi Hardjasoemantri: 2005). Mangrove forests are being completely cleared for the ambition to build luxury housing, industrial centers and economic centers, as a result the habitat that should be intended for marine

species is increasingly narrow. Species that live in the air and on land are very dependent on the existence of mangrove forests (Rahmad K Dwi Susilo: 2008)

For the environment, plastic can cause pollution, both in land, water and air. In the soil, plastic can block the absorption of water and sunlight, thereby reducing soil fertility and can cause flooding that ends up in coastal areas. Meanwhile, plastic waste contributes to 90% of the waste in coastal areas. In contrast to plastic waste on the ground which may not be exposed to sunlight if buried, plastic waste in the ocean can be freely exposed to the sun's ultraviolet rays. As mentioned above, photodegradation then occurs which breaks down the plastic into small pieces. Finally, toxic materials from broken down plastic, for example bisphenol A (BPA), enter the food chain, being eaten by living creatures in the sea, from the smallest to the largest. And humans who may be at the top of the food chain, experience the accumulated effects of these toxic substances. In the air, scattered plastic components can be dangerous for health and the environment. For example, polyvinyl chloride (PVC) plastic which contains halogens will produce dioxins when burned. Dioxin is one of the most dangerous components produced by humans. Apart from that, many of these offers are also tempting for the community, including fishermen, especially as business groups receive incentives to clean up plastic waste around the Benoa and Tuban coastal areas in Badung Regency.

Joint efforts are needed. Implementing a circular economy can be a solution to dealing with plastic waste found in mangrove forests and this method works more optimally because it is supported by stimulus from caring hands. Even so, joint efforts are needed to prevent plastic waste from being thrown away carelessly and polluting the environment around coastal areas. There is a need for awareness and community participation to help protect the environment by not throwing rubbish carelessly into rivers that ultimately end up in coastal areas. Apart from threatening the ecosystem in coastal areas, the presence of plastic waste can also cause a reduction in the economic income of local communities. Because if there is rubbish around them, the fishing resources they rely on will decrease significantly. For example, crabs and mangrove fish, if there is a lot of rubbish, it even overflows, the mud crabs will not come out," this is where there is a need for legal protection for rubbish pollution which causes environmental damage in coastal areas to protect the existing ecosystem. This gives the understanding that environmental pollution in marine coastal areas requires intervention. humans directly or indirectly, materials or energy into the marine environment, including waters, which results in or may bring about negative consequences such as damage to the richness of life and life in the sea, danger to human health, disruption to activities in the sea, including fishing and other uses of the sea. Another thing is decreasing the useful quality of sea water and reducing comfort in coastal areas.

Based on the background of the problem above, regarding the problem to be discussed, the researcher formulates the problem:

1. What is the legal basis for regulating waste pollution which causes environmental damage in coastal areas?
2. Legal protection against waste pollution which causes environmental damage in coastal areas?

2. RESEARCH METODOLOGY

The type of research that the author uses in this research is legal research with empirical aspects. Considering the need for legal protection against waste pollution which causes environmental damage in coastal areas, so as to get attention to existing problems.

3. RELATED RESEARCH/LITERATUR REVIEW

Waste is waste leftover from a product or item that is no longer used, but can still be recycled into valuable items. Organic waste is waste that comes from the remains of living creatures that easily decompose naturally without human intervention to decompose. Organic waste can be said to be environmentally friendly waste and can even be reprocessed into something useful if managed properly. However, if waste is not managed properly it will cause disease and unpleasant odors as a result of the rapid decomposition of organic waste. Inorganic waste is waste that is no longer used and is difficult to decompose. Inorganic waste buried in the ground can cause soil pollution because inorganic waste is classified as a substance that is difficult to decompose and the waste will be buried in the soil for a long time, this causes damage to the soil layer.

Types of Organic Waste

Based on the type, organic waste can be classified into 2, including wet and dry organic waste.

1. Wet Organic Waste

Wet organic waste is organic waste that contains a lot of water. For example, wet organic waste is vegetable waste, banana peels, rotten fruit, onion skins and the like. This is what I said, that organic waste can cause an unpleasant odor because of the high water content which causes this type of waste to rot quickly.

2. Dry Organic Waste

Dry organic waste is organic waste that contains little water. Examples of organic waste include wood, tree branches, wood and dry leaves. Most organic waste is difficult to reprocess so it is more often burned to destroy it. Examples of Organic Waste. Examples of organic waste are rice, fruit peels, rotten fruit and vegetables, tea/coffee dregs, animal carcasses, and animal/human waste.

4. RESULTS AND DISCUSSION

4.1 The legal basis for regulating waste pollution which causes environmental damage in coastal areas?

The management of coastal areas is carried out in a planned manner by taking into account the characteristics of coastal areas, uniqueness, beach geomorphology and coastal ecosystem conditions and the size of the island. This means that management of coastal areas in one region will vary according to the different characteristics and uniqueness of that coastal area. forms of management in coastal areas:

- a. In coastal areas with sloping beaches and open to the open sea, conversion of mangroves into ponds or settlements will cause quite strong coastal erosion and degradation of water quality, so this needs to be limited.
- b. The rapidly increasing rate of damage to coral reefs due to mining and destructive fishing activities needs to be controlled with regulatory norms and strict sanctions.
- c. The use of small islands needs to be limited and prioritized for conservation, ecotourism, limited aquaculture, research and small-scale fishing industry bases; Because small islands generally have limited fresh water with shallow soil solum, intensive management of small islands needs to be limited lest the islands experience subsidence or sink.
- d. Coastal areas that are above folds/faults will often experience earthquakes and tsunami disasters, so disaster mitigation measures are needed in their management.

- e. In coastal cities, the need for land encourages the development of beach reclamation activities or the construction of coastal buildings. Reclamation or construction of coastal buildings that do not pay attention to the characteristics of the coastal area can cause damage to adjacent coastal areas. So mechanisms need to be set up so as not to cause casualties to other parties.
- f. In coastal areas whose ecosystems have been damaged, they need to be rehabilitated until they recover again to support the life of marine biota and humans.
- g. Relatively rich coastal resources are often centers of economic growth and dense populations. However, most of the population is relatively poor, and this poverty places pressure on coastal resources which are the source of their livelihoods. If this is ignored, it will have implications for increasing damage to coastal ecosystems. Apart from that, there is still a tendency that industrialization and economic development in coastal areas often marginalize local coastal residents, as has happened in Aceh, Riau, Pantura Java. Therefore, community empowerment norms are needed.
- h. In managing coastal areas, their vulnerable nature needs to be protected but can also be utilized to meet life's needs. Therefore, policies are needed in managing coastal areas that can balance the level of utilization of coastal resources for economic purposes without sacrificing the needs of future generations through the development of conservation areas.

Material offenses in the provisions of Law Number 32 of 2009 concerning Environmental Protection and Management are contained in Article 98 and Article 99, namely every person who intentionally or negligently commits:

- i. Actions that result in exceeding ambient air quality standards, water quality standards, sea water quality standards, or environmental damage standard criteria
- ii. Actions that result in exceeding ambient air quality standards, water quality standards, sea water quality standards, or environmental damage standard criteria and result in injury to people and/or danger to human health
- iii. Actions that result in exceeding ambient air quality standards, water quality standards, sea water quality standards, or environmental damage standard criteria and result in serious injury or death to people.

Formal offense of criminal offense against the environment Article 100 paragraph (1) UUPPLH: Every person who violates waste water quality standards, emission quality standards, or nuisance quality standards shall be punished with a maximum imprisonment of 3 (three) years and a maximum fine of IDR 3.000,000,000.00 (three billion rupiah). The criminal offense as intended in Article 100 paragraph (1) can only be imposed if the administrative sanctions that have been imposed are not complied with. Legal certainty is needed to guarantee legal certainty that regulates the management of coastal resources, especially mangrove forests, clearly and can be understood and obeyed by all stakeholders;

From the results of research on legal protection against waste pollution which causes environmental damage in coastal areas. In Law Number 32 of 2009 concerning Environmental Protection and Management, it is contained in Article 3 of the 2009 UUPPLH. Apart from that, it is related to the Ecosystem from Environmental Pollution in the Mangrove Forest area so that the principle of certainty, the Principle of Openness, the Principle of Decentralization and the role of the Regional Government in regulating and maintaining it can be taken into account. there is no environmental pollution and destruction, either through pollution or protection. Environmental damage in the coastal area in the Badung area results from violating Article 98 paragraph 1 of Law no. 32 of 2009 concerning Environmental Protection and Management. threatened with imprisonment for a

minimum of 3 years and a maximum of 10 years and a fine of at least Rp. 3 billion and a maximum of Rp. 10 billion.

Legal basis for legal protection of waste pollution which causes environmental damage in coastal areas. In Law Number 32 of 2009 concerning Environmental Protection and Management, it is stated in Article 3 that environmental protection and management aims to:

- a. protect the territory of the Unitary State of the Republic of Indonesia from environmental pollution and/or damage;
- b. guarantee human safety, health and life;
- c. ensure the continuity of life of living creatures and the preservation of ecosystems;
- d. maintain the sustainability of environmental functions;
- e. achieve environmental harmony, harmony and balance;
- f. guarantee the fulfillment of justice for present and future generations;
- g. guarantee the fulfillment and protection of environmental rights as part of human rights;
- h. controlling the wise use of natural resources;
- i. realizing sustainable development; The important role of Regional Government is to regulate and maintain so that environmental pollution and destruction does not occur due to waste pollution.

In accordance with Article 1 point 14 explaining Law Number 32 of 2009 concerning the protection of environmental management. Mitigating marine pollution and destruction, protecting sea water quality, determining marine quality status by referring to Sea Water Quality Standards (BMAL) and marine damage criteria. Prevention and damage to the sea is carried out through the following steps, among others:

- 1) Prohibit actions that can cause damage to the sea.
- 2) Require business activities to prevent pollution and marine damage through the following steps to maintain water quality ecosystems and coral reef ecosystems
- 3) Requiring business activities to bear the costs of maritime management and payment of compensation for losses in the event of marine damage.

Apart from that, Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. article 60 letter g. submitting reports and complaints to the authorities regarding losses that befell him relating to the implementation of Management of Coastal Areas and Small Islands;

- a. express objections to the management plan that has been announced within a certain period;
- b. report to law enforcement due to suspected contamination, contamination and/or destruction of Coastal Areas and Small Islands which is detrimental to their livelihoods;
- c. file a lawsuit with the court regarding various problems in Coastal Areas and Small Islands which are detrimental to their lives;

4.2 Legal Protection against Waste Pollution which causes Environmental Damage in Coastal Areas.

In terms of legal protection against waste pollution which causes environmental damage in coastal areas, community participation in obtaining environmental information is required, everyone has the right to play a role and is obliged to take part in environmental management in accordance with Article 67 of Law Number 32 of 2009 concerning Environmental Management. Life which states that every person is obliged to preserve the function of the environment and control environmental pollution and/or damage (Supriadi; 2010). The environment is one of the natural resources that has a very strategic role in the existence of God's creatures, including humans. Therefore, humans as environmental subjects also have an important role in environmental sustainability. The environmental

management law has given humans a role to play in environmental management. This is in accordance with the provisions of Article 5 paragraph 1 of Law Number 23 of 1997 concerning Environmental Management. The legal politics of environmental processing is more concretely reflected in the objectives to be achieved from the issuance of the 2009 UUPPLH. The objectives of environmental protection and processing according to article 3 of the 2009 UUPPLH are: (Muhammad Akib. 2013).

The environment is a place for humans to live, do activities and has an important role in achieving and increasing prosperity. The environment in Indonesia is often also called the living environment. In Law no. 32 of 2009 concerning environmental management, the definition of the environment is the unity of space with all objects, forces, conditions and living creatures, including humans, and their behavior. Which affects the continuity of life and welfare of humans and other living creatures and can affect their lives. The relationship of interdependence between all It is very important to know the elements in this system, especially by humans as the main managers in this system so that the continuity of this relationship can continue to be maintained for the sustainability of the living system on the face of the earth. (Bimber.B: 2003) Caring for the environment is a category of environmental pollution which includes living things, substances, energy and/or other components into the environment by human activities so that they exceed the environmental quality standards that have been determined (Law of the Republic of Indonesia Number 32 2009) concerning Environmental Protection and Management, Chapter I Article I Paragraph 14). The environment as a spatial unity with all objects, forces, conditions of living creatures including humans and their behavior greatly influences nature itself. Nature can be seen as a network of life systems that are interconnected or interconnected with each other. In article 28H of the 1945 Constitution of the Republic of Indonesia, it is stipulated that a good and healthy living environment is a human right of every Indonesian citizen. In fact, the decreasing quality of the environment has threatened the survival of humans and other living creatures, so it is necessary to protect and manage the environment seriously and consistently by all stakeholders. Moreover, dealing with global warming which is increasing, resulting in climate change, thus worsening the decline in environmental quality, therefore it is necessary to protect and manage the environment. The environmental problem in essence is finding ways that must be implemented to guarantee and make the earth and the natural surroundings a habitable space for a peaceful, peaceful and prosperous life. Actions that pollute the environment are the same as killing life itself (Ninie Suparni: 1994). The ecosystem of an environment can be disrupted due to environmental pollution and destruction. The terms pollution and environmental destruction are often confused even though both have their own realities as follows:

- 1) Pollution is a situation in which a substance or energy is introduced into an environment by human activities or by natural processes themselves in such a concentration that it causes changes in the circumstances in question which result in the environment not functioning as before in terms of health and well-being, , and biosafety .
- 2) Environmental destruction is the actions of people who cause direct and indirect changes to the physical, chemical and biological characteristics of the environment so that they exceed the standard criteria for environmental damage.

From the results of research on Legal Protection against Waste Pollution which causes Environmental Damage in the Badung Bali Coastal Area related to Law Number 32 of 2009 concerning Environmental Protection and Management contained in Article 3 of the 2009 UUPPLH apart from that it protects the Coastal Area Ecosystem from waste pollution and maintains its sustainability so that it does not pollution occurs due to waste and environmental destruction, both through pollution and protection. Environmental damage in the Badung coastal area results from violating Article 98 paragraph 1 of Law no. 32 of 2009 concerning Environmental Protection and Management. threatened with

imprisonment for a minimum of 3 years and a maximum of 10 years and a fine of at least Rp. 3 billion and a maximum of Rp. 10 billion. Apart from that, Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. article 60 letter g. submitting reports and complaints to the authorities regarding losses that befell him relating to the implementation of Management of Coastal Areas and Small Islands;

- a. express objections to the management plan that has been announced within a certain period;
- b. report to law enforcement due to suspected contamination, contamination and/or destruction of Coastal Areas and Small Islands which is detrimental to their livelihoods;
- c. file a lawsuit with the court regarding various problems in Coastal Areas and Small Islands which are detrimental to their lives;

5. CONCLUSION

- 1) The legal basis governing waste pollution which causes environmental damage in coastal areas in Law Number 32 of 2009 concerning Environmental Protection and Management is contained in Article 3. Environmental protection and management aims to: a. protect the territory of the Unitary State of the Republic of Indonesia from environmental pollution and/or damage; guarantee human safety, health and life; c. ensure the continuity of life of living creatures and the preservation of ecosystems; d. maintain the sustainability of environmental functions; e. achieve environmental harmony, harmony and balance; f. guarantee the fulfillment of justice for present and future generations; g. guarantee the fulfillment and protection of environmental rights as part of human rights; h. controlling the wise use of natural resources; i. realizing sustainable development; The important role of Regional Government is to regulate and maintain so that environmental pollution and destruction does not occur due to waste pollution. In accordance with Article 1 point 14 explaining Law Number 32 of 2009 concerning the protection of environmental management. Mitigating marine pollution and destruction, protecting sea water quality, determining marine quality status by referring to Sea Water Quality Standards (BMAL) and marine damage criteria. Prevention and damage to the sea is carried out through the following steps, among others: 1) Prohibiting actions that can cause damage to the sea. 2) Require business activities to prevent pollution and marine damage through the following steps to maintain water quality ecosystems and coral reef ecosystems 3) Require business activities to bear the costs of marine mitigation and payment of compensation for losses in the event of marine damage. Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. article 60 letter g. submit reports and complaints to the competent authorities regarding losses that befell him related to the implementation of Coastal Area Management and Small Islands; h. express objections to the management plan that has been announced within a certain period; i. report to law enforcement due to suspected contamination, pollution and/or destruction of Coastal Areas and Small Islands which is detrimental to their livelihoods; j. file a lawsuit with the court regarding various problems in Coastal Areas and Small Islands which are detrimental to their lives;
- 2) From the results of research on Legal Protection against Waste Pollution which causes Environmental Damage in the Badung Bali Coastal Area related to Law Number 32 of 2009 concerning Environmental Protection and Management contained in Article 3 of the 2009 UUPPLH, apart from that it protects the Coastal Area Ecosystem from waste pollution and maintains its sustainability so that there will be no pollution due to waste

and environmental damage, either through pollution or protecting environmental damage in the Badung coastal area as a result of violating Article 98 paragraph 1 of Law no. 32 of 2009 concerning Environmental Protection and Management. threatened with imprisonment for a minimum of 3 years and a maximum of 10 years and a fine of at least Rp. 3 billion and a maximum of Rp. 10 billion. Apart from that, Law (UU) Number 1 of 2014 concerning Amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands. Article 60 letters g, h, i. and J.

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PAKCOY PLANT(*Brassica rapa*, L.) RESPONSE ON RICE WASHING WATER APPLICATION

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ABSTRACT

Pakcoy (Brassica rapa L.) which belongs to the Brassicaceae family is a type of vegetable plant originating from China. The increasing demand for Pakcoy in the market has caused various ways to increase the yield of Pakcoy plants, one of which is by applying rice washing water for watering. The purpose of this study was to determine the response of Pakcoy plants to the application of watering with rice water washing. The study was conducted with a Complete Randomized Design (RAK) of 4 repetitions and each repetition consisted of 6 polybags with a diameter of 20 cm so that the total polybag pots were 24 pieces. The treatment of watering rice water is distinguished by two compositions, namely P1 (1 liter of rice washing water + 1 liter of clean water) and P2 (1 liter of rice washing water + 2 liters of clean water). Observations include observations of plant height, number of leaves, and root length at plant ages of 14 dap and 21 dap. The conclusion of this study was that pakcoy plants responded to the application of watering with rice water wash. This is evidenced by the results of the analysis which shows a real difference between control plants and plants with treatment.

Keywords : pakcoy, rice washing water, plant growth

1. INTRODUCTION

Pakcoy (*Brassica rapa* L.) which belongs to the Brassicaceae family is a type of vegetable plant originating from China, and is currently starting to develop widely in the Philippines, Malaysia, Thailand and Indonesia (Setiawan, 2017). This vegetable is widely consumed as vegetables, a mixture of various dishes and pickles. The nutritional content of Pakcoy is quite high, and good for consumption to support a healthy lifestyle (Jayanti, 2020). According to USDA (2019), in 100 g of pakcoy there are 95.32 g of water, fiber 1 g, energy 13 kcal, protein 1.5 g, calcium 105 mg, phosphorus 27 mg, potassium 252 mg, vitamin A 4468 IU, vitamin C 45 mg and folate 66 µg.

The increasing demand for Pakcoy in the market has caused various ways to increase the yield of Pakcoy plants, one of which is by applying rice washing water for watering. Rice washing water is often considered useless water and is simply thrown away, even though it has the potential as organic liquid fertilizer. The content in rice washing water can be used to meet the nutrient needs of plants (Himayani&Aini, 2018). The chemical composition contained in rice washing water is carbohydrate 41.3 g, protein 26.6 g, fat 18.3 g, phosphorus 0.029 g, calcium 0.019 g, iron 0.004 g, and vitamin B 0.0002 g, (Paulina et al., 2020). Rice starch contains 0.8% N, 0.29% P₂O₅, 0.07% K₂O, 1.48% CaO, 1.14% MgO, 10.04% C- organic with C/N of 13, (Ariyanti et al., 2017). The

purpose of this study was to determine the response of Pakcoy plants to the application of watering with rice water washing

2. RESEARCH METODOLOGY

The study was conducted with a Complete Randomized Design (RAK) of 4 repetitions and each repetition consisted of 6 polybags with a diameter of 20 cm so that the total polybag pots were 24 pieces. The treatment of watering rice water is distinguished by two compositions, namely P1 (1 liter of rice washing water + 1 liter of clean water) and P2 (1 liter of rice washing water + 2 liters of clean water). Observations include observations of plant height, number of leaves, and root length at plant ages of 14 dap and 21 dap.

3. RELATED RESEARCH

3.1 Pakcoy (*Brassica rapa* L.)

Pakcoy (*Brassica rapa* L.) which belongs to the Brassicaceae family is a type of vegetable plant originating from China, and is currently starting to develop widely in the Philippines, Malaysia, Thailand and Indonesia (Setiawan, 2017). The classification of mustard pakcoy plants is as follows: Kingdom Plantae, Division Spermatophyta, Class Dicotyledonae, Order Rhoadales Family Brassicaceae, Genus Brassica, Species Brassica rapa L. Pakcoy leaves are stemmed, oval-shaped, dark green, and shiny, do not form a head, grow slightly upright or semi-horizontal, arranged in a tight spiral, attached to a depressed stem. Petioles, white or light green in color, fat and fleshy, the plant reaches a height of 15–30 cm.

3.2 Rice Washing Water

One of the abundant and easily available liquid organic waste is rice washing water. In addition to containing carbohydrates, rice washing water also contains quite a lot of minerals and proteins (Maharani, 2023). Rice washing water includes liquid organic waste that is abundant and easily available. In addition, rice water also still contains carbohydrates, minerals and proteins that are quite a lot. Rice washing water waste has been used for the growth of various plants. Wulandari et al (2012) stated that this waste can increase lettuce root growth at different types and levels of ar.

4 RESULTS AND DISCUSSION

Based on the results of the study, it was found that the application of watering with rice washing water had a noticeable effect on the growth of pakcoy plants at the age of 14 dap and 21 dap which were described in table 1 and table 2

Table 1. Average effect of rice washing water watering application on plant height, number of leaves, and root length of pakcoy plants aged 14 dap

No	Treatment	Plant height (cm)	Number of leaves (strand)	Root length (cm)
1	Control	9,21 b	4,52 b	2,56 b
2	P1	14,02 a	5,91 a	3,82 a
3	P2	12,44 a	5,53 a	3,71 a

Information: The average number followed by the same letter in the same column shows an unreal difference at the 5% BNT level

Based on the data in table 1 and table 2, it can be seen that the application with rice water watering has a noticeable influence on plant height, number of leaves and root length of pakcoy age 14 dap and 21 dap P1 treatment (1 liter of rice washing water + 1 liter of clean water) has the best effect on the observed growth parameters, compared to P2 treatment (1 liter of rice washing water + 2 liters of clean water), But it does not differ markedly. When compared with controls, treatment with P1 and P2 showed a marked difference.

Table 2. Average effect of rice washing water watering application on plant height, number of leaves, and root length of pakcoy plants aged 21 dap

No	Treatment	Plant height (cm)	Number of leaves (strand)	Root length (cm)
1	Control	13,36 b	6,35 b	4,76 b
2	P1	17,21 a	8,80 a	6,34 a
3	P2	16,40 a	8,47 a	6,21 a

Information: The average number followed by the same letter in the same column shows an unreal difference at the 5% BNT level

Rice washing water is water that comes from household waste that has undergone a process deposition that is usually not utilized, (Paulina et al., 2020). The results of this study are in line with the results of research by Purniawati et al., (2015) which showed that the provision of rice washing water and coconut water gave real results on the growth of rubber seedlings. Research by Baning et al., (2016), also states that the effect of giving brown rice washing water has a real effect ($P > 0.05$) on the vegetative growth of pepper.

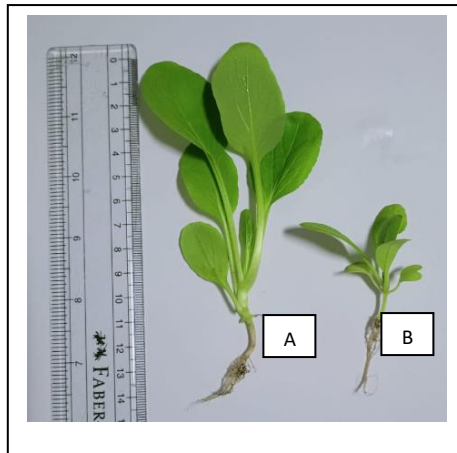


Figure 1. The difference between pakcoy given treatment (A) and control (B) age 14 dap

From Figure 1 it can be seen that there is a real difference between treated pakcoy and untreated pakcoy plants (konrol). The difference that can be seen physically is the height of the plant and the length of the roots.

5 CONCLUSION

The conclusion of this study was that pakcoy plants responded to the application of watering with rice water wash. This is evidenced by the results of the analysis which shows a real difference between control plants and plants with treatment.

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PROTECTION OF CHILDREN AS VICTIMS OF CRIMINAL ABUSE

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ABSTRACT

Acts of violence against children are not only carried out by parents but other close people around the child. Brother, older brother, grandfather, grandmother, or other family member. The formulation of the problem that will be discussed is based on the explanation of the background of the problem above, namely what is the legal regulation regarding the crime of child abuse, and what is the legal protection regarding the crime of child abuse. This research method uses normative legal research methods. To analyze the legal materials that have been collected, several analytical techniques are used, namely, description techniques, grammatical interpretation, evaluation, and argumentation. The conclusion of this research is that the Child Abuse Legal Clause is contained in Article 80 of Law Number 35 of 2014 and provides sanctions against perpetrators of crimes against children. Then legal protection for criminal acts of child abuse is regulated in Article 5 of Law of the Republic of Indonesia Number 31 of 2014 concerning Amendments to Law Number 13 of 2006 concerning the protection of Witnesses and Victims and Article 90 paragraph (1) of Law Number 11 of 2006 2012 concerning the Juvenile Criminal Justice System.

Keywords: Legal Protection, Violence, Children.

1. Introduction

Children are something that cannot be separated from human life and the continuity of the founding of a nation and state (Gusti et al., 2018). In a book written by John Gray entitled *Children are from Heaven*, it explains that good and innocent children are born (Nyoman et al., 2018). Every child needs to get the widest possible opportunities to grow and develop optimally. Protection efforts are needed to realize the welfare of children by providing guarantees for the fulfillment of their rights without discriminatory treatment. Indonesia is a country that highly upholds the values of human rights, especially the rights of children.

In reality, the state is still unable to fulfill children's rights. One of the problems that currently occurs is sexual crimes against children. We cannot deny that Indonesia is a country that is prone to crimes against children. Various cases of crimes against children sometimes appear on Indonesian daily news. One of the highest crimes is sexual crime.

A family is a group of people within a smaller scope who are related to each other by blood through marriage or other ties, living together as a unit led by a head of the family. The family is a place of protection for its members. Fostering and guiding its members towards a better path is the function of the family. Providing happiness and pleasure in life is also part of the family's function.

The level of crime is usually related to societal and individual illnesses such as poverty, poor housing, shabby areas, careless families, mental breakdown, weak thinking power and damaged morals. However, the tendency for crime to occur does not only occur in people at a low economic level but also at people at a high economic level (Momon Martasaputra, 1973, p. 114). An act committed by a person must meet the requirements in order to be declared a criminal incident (Abdoel Djamali, 2013, p. 175).

Acts of violence against children at home are committed by people, family or people around the child. The reasons for acts of violence are carried out because there is

a child's behavior that annoys the parents, so that parents easily hit their children physically and utter verbal words that hurt feelings. Acts of violence from parents towards children are very easy to do when parents are facing problems and lack can control his emotions well. The consequences of physical and psychological beatings on children will have negative impacts, both physically related, in the form of wounds, bruises, bleeding on body parts, torture, lifelong disability and can even cause death to children. Verbal violence against children can take the form of insults, threats, insults, and words that hurt the child's feelings. Acts of violence against children are not only carried out by parents but other close people around the child. Brother, older brother, grandfather, grandmother, or other family member. Children are very easy and vulnerable to violence. Because basically children often make mistakes and sometimes irritate their parents and family.

In general, society considers domestic violence against children to be a family's "kitchen" matter. Parents also, quite a few, think that their children are their property and responsibility so that they have the right to do anything, including slamming them because they are upset because they caused the child to die or in the name of educating, nurturing and carrying out their duties as parents, the child is legally punished. beaten, scolded, pinched, pinched and even tortured. Since childhood, children have been taught to obey and obey their parents through violence. Parents in applying discipline to children often do not pay attention to the child's existence as a human being. Children are often shackled by parents' rules that are irrational and do not respect the existence of children with all their rights, such as the child's right to play. The social hierarchy taught is an authoritarian, arbitrary hierarchy. Not only in villages, but also in cities, this still happens a lot.

The formulation of the problem that will be discussed is based on the background explanation of the problem above, namely:

1. What are the legal regulations regarding the crime of child abuse?
2. What is the legal protection regarding the crime of child abuse?

2. Research methods

This research method uses normative legal research methods. Normative legal research is based on legal materials from several literatures which is a process for obtaining legal rules, legal principles and doctrines to answer the legal issues faced. Using a type of legislative approach and analysis of legal concepts. Using primary, secondary and tertiary legal materials. The legal material collection technique used is a document study technique, namely by searching for materials in books and data analysis is carried out using qualitative techniques. The approach used in this research is the statutory approach. The statutory regulatory approach is an approach that uses legislation and regulations (Peter Mahmud Marzuki, 2007, p. 97). In this research, a legislative approach was carried out by examining the Criminal Code (KUHP).

Starting from the existing problem approach, in this research there are legal materials consisting of: 1) Primary legal materials, namely in the form of applicable laws and regulations related to the issues raised. 2) Secondary legal materials, namely materials that provide explanations of primary legal materials, such as draft laws, legal books, research results, expert opinions, and legal journals, and 3) Tertiary legal materials, in this research The secondary legal material used is the Big Indonesian Dictionary.

Literature studies are carried out by reviewing and researching library data such as primary legal materials and secondary legal materials. It is necessary to record the materials found in this literature study carefully and clearly, this recording is also carried out thoroughly on materials that are relevant to the research (Bambang Waluyo, 2009, p. 50).

To analyze the legal materials that have been collected, several analytical techniques are used, namely: 1) Description technique, by using this technique the researcher describes as it is a condition or position and legal or non-legal propositions, 2) Interpretation technique in the form of the use of types of interpretation in legal science such as analogies and grammatical interpretation, 3) Evaluation techniques are assessments in the form of appropriate or incorrect, agree or disagree, right or wrong, valid or invalid by researchers regarding a statement of the formulation of norms, decisions, good which are stated in primary materials and secondary legal materials, and 4)

Argumentation techniques in the form of statements originating from the author's thoughts or analysis expressed in written form.

3. Results and Discussion

3.1. Legal Regulations Regarding the Crime of Child Abuse

Victims of criminal acts are weak in legal protection, since the victim reports a criminal act and indicates who the perpetrator of the crime is and/or by handing over evidence and it is found at the scene. The verdict includes both physical and non-physical suffering as well as material and non-material losses to law enforcement officials. If the victim has reported this, the victim does not have access to a photocopy of the police report archive. Minutes of examination of victims/reporters and witnesses, investigation warrants, prosecution warrants, decision files handed over to the public prosecutor, handing over of suspects and evidence to the public prosecutor, handing over indictments to the district court, criminal charges and charges and court decisions especially to obtain compensation for the suffering and losses suffered by the victim until it has permanent legal force (Abdussalam, 2010, p. 36).

According to Lilik Mulyadi, from a juridical aspect, the definition of a child in the eyes of Indonesian positive law is defined as a person who is not yet an adult, a person under age or under age, or often also referred to as a child under the supervision of a guardian (Adelina et al., 2018). The rise in cases of violence against children over the past few years seems to have reversed the opinion that children need to be protected. Nowadays, so many children are victims of family, environmental and community violence. This is truly ironic. Understanding, awareness and faith that children are the buds, potential and successors of the young generation to the ideals of the nation's struggle, have a strategic role, special characteristics and characteristics so they must be protected from all forms of inhumane treatment that result in human rights violations (Mas Aryani, 2016). Article 28b paragraph (2) of the 1945 Constitution of the Republic of Indonesia states that;

"Every child has the right to survive, grow and develop and has the right to protection from violence and discrimination."

Violence is often carried out in conjunction with one form of criminal act, acts of violence can be carried out with violence or threats of violence carried out or what tools are used, each depending on the case that arises. This act can happen to anyone, both men and women, from children to adults, especially if the violence occurs within the scope of the household, often this act of violence is called a hidden crime. It is called that, because both the perpetrator and the the victim tries to keep the act secret from public view, sometimes also called domestic violence (Moerti Hadiati Soeroso, 2010, p. 1).

The types of violence according to Johan Galtung (in) are direct violence, namely violence that uses physical or verbal means, structural violence, namely violence carried out by an existing structure, and cultural violence, namely violence that is formed through culture (Helena Lohy & Pribadi, 2021).

There is a lot of violence experienced by children, especially those under 18 years of age at this time. Most of these cases are abuses carried out collectively or in groups. This happens because many children have a play group with several friends which over time the group becomes a gang. In this gang, fights often occur between other gangs or they don't even hesitate to abuse individuals. Of course, this abuse resulted in victims. There are many factors that give rise to an act of abuse, for example grudges between groups of children, personal grudges, trivial problems, and many others.

Many of the victims choose legal channels to resolve this problem in the hope of getting justice and providing a deterrent effect or lesson for the perpetrators of the abuse. But there are quite a few who choose to remain silent and remain silent because they don't want to prolong the problem. Even though there is already a Child Protection Law which regulates every criminal act committed by and/or against children. It also regulates legal protection for victims of violence.

Every person who cares for children must pay attention to and carry out their obligations, which are the rights of their pet children. Article 2 Law no. 4 of 1979 concerning Child Welfare determines that children's rights are in the form of: welfare, care, upbringing, guidance, services to develop their abilities and social life, maintenance and protection from the environment both during the womb and after birth, protection from the

environment which can be dangerous its growth and development (Maidin Gultom, 2014, p. 2).

Article 15 of Law Number 35 of 2014 stipulates that every child has the right to obtain protection from: a. Abuse in political activities

- a. Involvement in armed conflict
- b. Involvement in social unrest
- c. Involvement in events containing elements of violence
- d. Involvement in war, and
- e. Sexual crimes

In Article 2 of Law no. 4 of 1979 concerning Child Welfare, it is stated that:

1. Children have the right to welfare, care, upbringing and guidance based on love, both within their families and in special care to grow and develop naturally.
2. Children have the right to services to develop their abilities and social life, in accordance with the nation's culture and personality, to become good and useful citizens.
3. Children have the right to care and protection, both during pregnancy and after birth.
4. Children have the right to protection from the environment which can harm or inhibit normal growth and development.

The Child Protection Law mentions the protection of children, but in its application there are differences in the protection of children who are victims of criminal acts in cases of abuse.

The Child Abuse Law clause is contained in Article 80 of Law Number 35 of 2014 and provides sanctions for perpetrators of criminal acts against children. Anyone who violates the provisions of Article 76C will be punished with a maximum imprisonment of 3 years in prison. If the child as referred to in paragraph (1) is seriously injured, the perpetrator will be punished with a maximum imprisonment of 5 years. If the child as referred to in paragraph (2) dies, the perpetrator will be punished with a maximum imprisonment of 15 years. If the perpetrator is a parent, one third of the provisions of paragraphs (1), (2) and (3) are added to the sentence.

3.2. Legal Protection Regarding the Criminal Act of Child Abuse

Violence against children is not something new, in fact if we look deeper there are still many cases that have not been reported so that crimes against children in the household can also be said to be hidden crimes (Mulyani & Gorda, 2021). In general, victims are individuals or groups who suffer physically, mentally and socially due to criminal acts. According to Arief Gosita, victims are those who suffer physically and spiritually as a result of the actions of other people who seek to fulfill their own or other people's interests which conflict with the interests of the human rights of those who are harmed (Arief Gosita, 1993, p. 63).

Theoretically, forms of protection for victims can be carried out in various ways by looking at the form of loss or suffering suffered by the victim. Therefore, referring to several crime cases that have occurred, there are several forms of protection for victims that are commonly provided, including the following:

1. Providing Restitution and Compensation

In the explanation of article 35 of Law no. 26 of 2000 provides the definition of compensation, namely, compensation given by the State because the perpetrator is unable to provide full compensation for the losses that are his responsibility.

Meanwhile, restitution is compensation for losses given to the victim or their family by the perpetrator or a third party. Restitution may change:

- a. Return of property
- b. Payment of compensation for loss or suffering; or
- c. Reimbursement of costs for certain actions.

2. Counseling

Providing counseling assistance is very suitable for victims of crimes that cause long-term trauma, such as crimes against morality.

3. Medical services or assistance

Given to victims who suffer medical losses as a result of a crime. The medical services or assistance provided can be in the form of a medical examination and a written report (visum or medical certificate which has the same legal force as evidence).

4. Legal Aid

Legal aid is a form of assistance to crime victims. In Indonesia, this assistance is mostly given to Non-Governmental Organizations (NGOs).

5. Providing Information

Providing information to victims or their families related to the process of investigating and examining criminal acts experienced by victims (Dikdik M. Arief Mansur & Elisatris Gultom, 2006, p. 166).

Article 1 number 3 of Law of the Republic of Indonesia Number 31 of 2014 concerning Amendments to Law Number 13 of 2006 concerning the protection of Witnesses and Victims states that a victim is someone who experiences physical, mental suffering and/or economic loss resulting from an act. criminal. The provisions of Article 5 of this Law determine that witnesses and victims have similar rights:

- a. Obtain protection for personal security, family and property, and be free from threats related to testimony that will be, is being, or has been given;
- b. Participate in the process of selecting and determining forms of security protection and support;
- c. Provide information without pressure;
- d. Get a translator;
- e. Free from ensnaring questions;
- f. Obtain information regarding case developments;
- g. Obtain information regarding court decisions;
- h. Obtain information in the event that the convict is released;
- i. Identity kept secret;
- j. Get a new identity;
- k. Get temporary residence;
- l. Get a new residence;
- m. Obtain reimbursement for transportation costs according to needs;
- n. Obtain legal advice;
- o. Obtain temporary living expenses assistance until the protection period expires; and/or
- p. Get assistance.

Article 90 paragraph (1) of Law Number 11 of 2012 concerning the Juvenile Criminal Justice System explains that Child Victims and Child Witnesses have the right to medical rehabilitation and social rehabilitation efforts, both within the Institution and outside the Institution. Apart from these rights, there are several rights of children as victims to receive media assistance and psycho-social rehabilitation assistance.

4. Conclusion

1. The Child Abuse Law clause is contained in Article 80 of Law Number 35 of 2014 and provides sanctions for perpetrators of criminal acts against children. Anyone who violates the provisions of Article 76C will be punished with a maximum imprisonment of 3 years in prison. If the child as referred to in paragraph (1) is seriously injured, the perpetrator will be punished with a maximum imprisonment of 5 years. If the child as referred to in paragraph (2) dies, the perpetrator will be punished with a maximum imprisonment of 15 years. If the perpetrator is a parent, one third of the provisions of paragraphs (1), (2) and (3) are added to the sentence.
2. Legal protection for criminal acts of child abuse is regulated in Article 5 of Law of the Republic of Indonesia Number 31 of 2014 concerning Amendments to Law Number 13 of 2006 concerning the protection of Witnesses and Victims. Then Article 90 paragraph (1) of Law Number 11 of 2012 concerning the Juvenile Criminal Justice System explains that Child Victims and Child Witnesses have the right to medical rehabilitation and social rehabilitation efforts, both within the Institution and outside the Institution. Apart from these rights, there are several rights of children as victims to receive media assistance and psycho-social rehabilitation assistance

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THE IMPACT OF THE IMPLEMENTATION OF MOBILE APPLICATION FOR CHILDREN WITH DYSGRAPHIA

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ABSTRACT

This study investigates the utilization of mobile applications to provide assistance to children with dysgraphia, a cognitive impairment that impacts their ability to write by hand. The objective of the study is to determine current patterns of research, benefits, and difficulties associated with the utilization of mobile applications for children diagnosed with dysgraphia. The research methodology employed a systematic examination of studies published from 2014 to 2024, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The study findings indicate that the majority of research was carried out in Asia, with a particular focus on the Middle East and South East Asia. The participants consisted of students, teachers, and professionals or experts. Mixed-methods was the predominant research approach. The study also found benefits and difficulties linked to the utilization of mobile applications for children with dysgraphia, such as the requirement for interfaces that are easy to use, customization options, and techniques to enhance engagement. The study highlights the significance of aligning technology initiatives with established instructional goals and safeguarding sensitive data collected by mobile applications.

Keywords: *Dysgraphia, Handwriting, Learning Disabilities, Mobile Application*

1. INTRODUCTION

Learning includes not only reading and writing, but also other fundamental skills. Writing is introduced at an early point in the learning process along with reading (Sihwi et al., 2019). The development of reading skills relies on the early and effective acquisition of writing skills, including handwriting. This acquisition is fundamental for subsequent academic advancement (Barnett et al., 2020). According to Nurchaerani et al. (2022), writing skills are important for school because students need to be able to put their thoughts on paper to explain them or use new information to change or review old ideas. In addition, according to Polat et al. (2023), students who have difficulty with writing may also experience challenges in their academic performance. Some teachers mistakenly assume that their students are lazy when it comes to learning how to write, and as a result, they push the students in an incorrect way, even if the students may be impacted by learning disabilities (Sihwi et al., 2019).

Learning disabilities are a significant challenge for a significant number of students who are affected by them (Molina-Vargas et al., 2021). In addition to their academic difficulties, they also confront significant behavioral and social issues (Atanga et al., 2020). Some examples of learning disabilities are dysgraphia, autism, and dyslexia. According to Gouraguine et al. (2023), dysgraphia is one of learning disabilities that is commonly seen in the educational sector. It significantly affects the individual's academic performance, motor skills, and mental health. Moreover, individuals with dysgraphia struggle with all aspects of writing, including legibility, speed, spelling, syntax, composition, and more (Chung & Patel, 2015). According to Chung et al. (2020) dysgraphia is a disorder characterized by particular characters. These include

difficulties with letter formation or legibility, letter spacing, orthography, fine motor coordination, writing speed, grammar, and composition, as well as an overall lack of proficiency in written communication abilities. Additionally, Dysgraphia has the potential to impact not only academic learning but also various aspects of daily life. Children with this condition may experience adverse emotional and behavioral outcomes, including heightened anxiety, diminished self-esteem, and an early likelihood of dropping out of school (Chung et al., 2020; Feder & Majnemer, 2007). There are three distinct forms of dysgraphia: Dyslexia Dysgraphia, Motor Dysgraphia, and Spatial Dysgraphia (Gkeka & Drigas, 2022). Dysgraphia is usually diagnosed in students after the second year of elementary school, when they should have mastered the basics of handwriting. Unfortunately, dysgraphia is currently nearly impossible to diagnose in children younger than that age, which has devastating effects on the lives of the poorest children (Lomurno et al., 2023). Thus, it is critical to choose appropriate intervention and preventing adverse repercussions in academic, occupational, and daily spheres.

Conventional approaches to the treatment of language-based learning disabilities are time-consuming and frequently expensive. Many children go untreated because medical care is unavailable in their rural or suburban communities (Bhatt, 2020). Assistance, training, and facilitation of learning can all be achieved through the use of digital technologies. Students with impairments may find it easier to integrate into and succeed in regular classrooms with the use of purpose-built apps that pique their interest (Williams et al., 2006). Furthermore, children with dysgraphia may find relief through the use of educational technologies. For children with dysgraphia, there is a multitude of opportunities to learn through their unique qualities, especially with mobile applications (Hopcan & Tokel, 2022). Mobile applications can provide assistance to those with dysgraphia, a learning condition that impacts their writing skills. These applications can offer assistance and intervention for children who have dysgraphia, dyscalculia, semantic dyslexia, and surface dyslexia. Moreover, Mobile technologies in education include the use of mobile devices, such as smartphones, tablets, and laptop computers, to improve and facilitate the learning process. These technologies have altered the educational environment by giving students access to a diverse variety of instructional resources, allowing them to study in a more dynamic and customized way (Criollo-C et al., 2021; Zablotska et al., 2021). Nowadays, there are mobile education applications are designed to improve the learning experience by giving students access to educational resources, interactive tools, and personalized learning opportunities. These programs can be used on a variety of mobile devices to help students learn and engage more (Criollo-C et al., 2021).

There are several previous studies related to mobile application that support children with learning disabilities. The first study is conducted by Bhatt (2020). It focuses on the creation of a mobile application utilizing Apache Cordova and Android Studio. The purpose of this application is to provide support to children who have dysgraphia, dyscalculia, semantic dyslexia, and surface dyslexia. The program is created using a combination of several senses and seeks to create a learning environment that is suitable and appropriate for youngsters. The second, Hopcan & Tokel (2021) investigate the efficacy of a mobile writing application in facilitating the development of handwriting skills in students with dysgraphia. Another study is from Drigas & Angelidakis (2017), they conducted a study that presents a literature evaluation of mobile applications designed for dyslexia screening and intervention. These applications target various parts of dyslexia symptoms, such as difficulties in writing. In a recent study conducted by Muthumal et al. (2022), a novel mobile application named 'Helply' was introduced. This program utilizes a robotic-based simulation to facilitate learning and enhance reading abilities, color recognition skills, and short-term memory skills in children diagnosed with dyslexia. In addition, Madeiraa et al. (2015) examine the utilization of assistive mobile applications for dyslexia, presenting a prototype that specifically targets the Portuguese language and underwent testing with Portuguese students.

In Indonesia, there are several mobile applications that are design and develop for supporting handwriting skill of students. Those application can be downloaded on App Store and Play Store freely. However, Mobile applications provided by the app store and play store are still very limited, especially mobile applications that use Indonesian as a language of introduction. Besides, the applications available in Indonesia are not intended for children with dysgraphia.

Particularly, in Indonesia, there is a scarcity of comprehensive research on mobile application used for enhancing writing of children who have learning disabilities, especially dysgraphia. As a result, there is a scarcity of review research into mobile application for dysgraphia children, and the current study is significant in the field because it provides a systematic review of the findings generated by previous studies in the literature, which can pave the way for future research and give researchers insight. Nevertheless, the purpose of this study is this study aims to examine the studies' research trends, advantages, and challenges concerning the use of mobile application for children with dysgraphia. Responses to the following research questions are solicited for the purposes of the review: (1) what are the research trends of mobile application for children with dysgraphia? (2) What advantages and challenges are presented in implementing mobile application for children with dysgraphia? (3) What are the recommendations for future research and development on mobile application for dysgraphia children?

2. RESEARCH METODOLOGY

Articles published between 2014 and 2024 will assess the influence of mobile applications on the handwriting abilities of children with dysgraphia. Systematic observation techniques were employed to gather pertinent data from several articles. The article selection was in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards established (Page et al., 2021). The PRISMA principle is employed in the process of reviewing articles to establish the framework and aid in the visualization of searching and selecting results. The PRISMA model was utilized to establish research eligibility criteria, devise data collection processes, specify data particulars, identify information sources, and present the findings.

Data Collection Technique

A comprehensive search was performed in the Open Knowledge Maps databases to uncover articles that may be relevant. This study utilized a database as an electronic repository to search for and select articles that were pertinent to the subject of this systematic observation. Within this database, researchers inputted three distinct categories of keywords into the search engine. The specified keywords were "mobile application", "dysgraphia", and "handwriting". A total of 125 items successfully completed the screening step via Open Knowledge Maps. Next, the articles were filtered out based on certain inclusion and exclusion criteria. This stage was conducted to get publications that were more precise or pertinent to the subject of this systematic observation

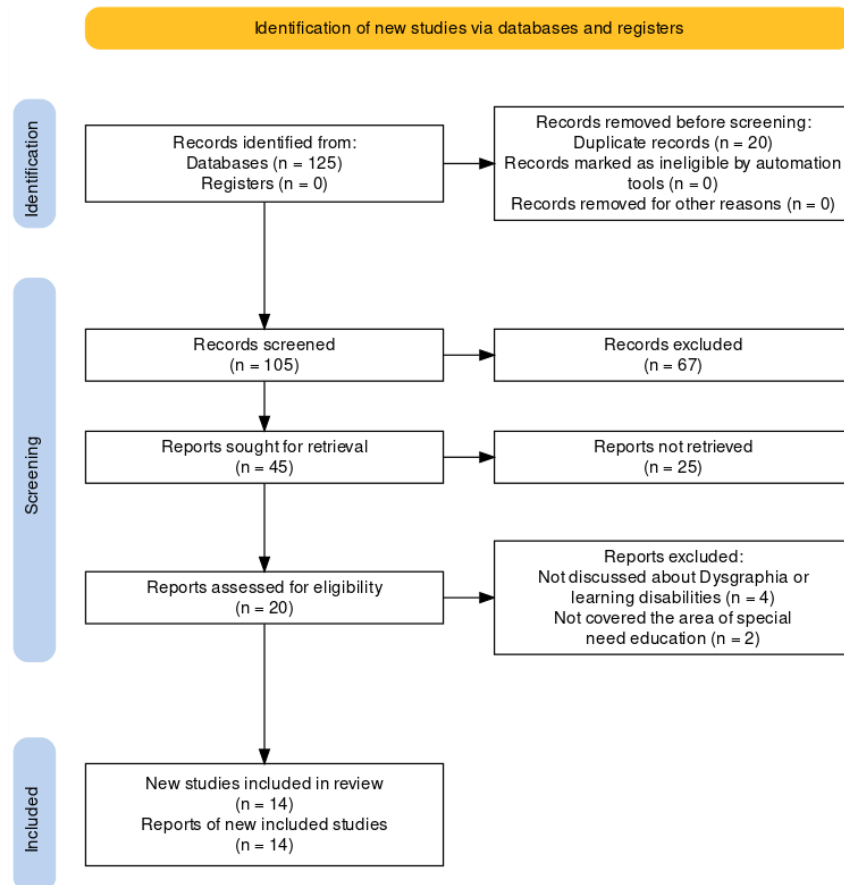


Figure 1. Visual representation of the search and selection process

Data Analysis

A comprehensive investigation was conducted in the study, utilizing Open Knowledge Maps as an online database. This database is enhanced by an artificial intelligence system that facilitates the process of finding and filtering pertinent studies for researchers. This non-profit organization operates the world's largest visual search engine for research, as stated by Kraker et al. (2017). Open Knowledge Maps facilitate the discovery of readily accessible materials by emphasizing open access content, hence eliminating the requirement for a barrier. By consolidating relevant documents, they also facilitate the recognition of pertinent and interconnected information (Vignoli et al., 2022). The organization comprises advisers, partner organizations, team members, support members, and an international community. Open Knowledge Maps offers a range of services that are both free and governed by open licenses. The infrastructure is openly constructed based on the principles of open science (Kraker et al., 2017)s.

Prior to entering keywords, the search engine can be configured as the initial step. The objective is to categorize the data based on certain requirements. For instance, the researcher has the ability to determine the year of publication based on their preferences. For this study, the researcher selected a specific time period spanning from 2014 to 2024. There were two options available: "most relevant" and "most recent". In this instance, the researcher selected the most pertinent articles in order to locate those that were most applicable to the research topic. In addition, there are several document selections available, including journals, newspapers, theses, novels, and others. In this instance, the researcher selected a scholarly journal

article. Subsequently, the high Meta data option was selected due to its ability to offer a selection of summaries of at least 300 words. After completing all the previous steps, the user can proceed to enter the keywords. The initial term entered was "dysgraphia". Subsequently, a total of 100 articles were displayed on the screen. Subsequently, it was reset to display items that were available for open access. A total of 85 articles were published with open access. The second keyword entered was "mobile application". This keyword was set in a manner that is comparable to the first keyword setting. A total of 20 articles were available for retrieval. These papers were freely accessible and may be downloaded.

Once the articles are retrieved from the web database, they are further filtered based on specific inclusion and exclusion criteria. Table 1 provides an overview of the criteria used to pick the articles. The exclusion criteria were employed to eliminate publications that did not align with the research scope, while the inclusion criteria were utilized to choose papers that were relevant to the research focus. Following the completion of the selection procedure, which was based on specific inclusion and exclusion criteria, a total of 14 papers were chosen to be utilized in this study. Out of all the publications reviewed, only fourteen satisfied the specific criteria. These articles primarily focused on the utilization of mobile applications to assist children with dysgraphia. They encompass a wide range of mobile applications that facilitate the enhancement of children's handwriting.

Table 1. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Discuss about Dysgraphia or learning disabilities	Not discussed about Dysgraphia or learning disabilities
Covered the area of special need education	Not covered the area of special need education
Published in the year of 2014-2024	Not published in the year of 2014-2024
Article must be in English	Not in English
Emphasized on the implementation of mobile application for children with Dysgraphia	It is specific described the use of mobile application for children with Dysgraphia

3. RELATED RESEARCH

Researchers from around the world have made substantial contributions to research on using mobile applications to support children with dysgraphia. In Pakistan, Khan et al. (2017) did a study that specifically examined the use of augmented reality to assist students with dysgraphia. Ariffin et al. (2018) conducted a study in Malaysia on the "Dysgraphi Coach" mobile application, which was specifically developed to aid children with dysgraphia. In their study, Sihwi et al. (2019) employed support vector machine approaches to identify dysgraphia by analyzing handwriting patterns.

Bhatt (2020) conducted a study in India to investigate the effectiveness of a customized mobile application in addressing different learning challenges, specifically dysgraphia. John & Renumol (2022) created an Android software with the purpose of enhancing fine motor skills in youngsters who have difficulty with handwriting. In Lebanon, Nabhan & Kamel (2021) did a study on the use of technologically enhanced art therapy to improve morphological awareness in pupils diagnosed with dysgraphia.

In their study, Hopcan & Tokel (2022) examined the viewpoints of special education teachers in Turkey regarding the use of a mobile writing application for children diagnosed with dysgraphia. Gkeka & Drigas (2022) examined the association between information and communication technologies (ICTs) and dysgraphia in

Greece. In their study, Gouraguine et al. (2023) employed convolutional neural networks and child-robot interaction to identify dysgraphia.

Ikermane & El Mouatasim (2023) utilized artificial neural networks to identify dysgraphia through the examination of digital handwriting characteristics. In Italy, Lomurno et al. (2023) did a study that utilized deep learning and Procrustes analysis to identify initial indications of dysgraphia through the utilization of a tablet application. Polat et al. (2023) evaluated the suitability of existing mobile writing applications for children who have dysgraphia.

The researchers' collaborative efforts emphasize the worldwide cooperation and utilization of mobile technologies to aid children with dysgraphia. Their common objective is to improve the educational experiences and general well-being of these children.

4. RESULTS AND DISCUSSION

Result

The Research Trends of Mobile Application for Children with Dysgraphia

The researchers examined the geographical distribution of the nations where the studies were conducted, the composition of the participants, and the research methodology utilized. The subsequent section provides a comprehensive description of each category.

Distribution of Countries

The majority of studies were conducted in Asia, specifically in the Middle East and South East Asia, whereas a limited number of studies were conducted in Europe, including in Italy and Greece. Studies on the use of mobile applications for children with dysgraphia were conducted in 10 countries.

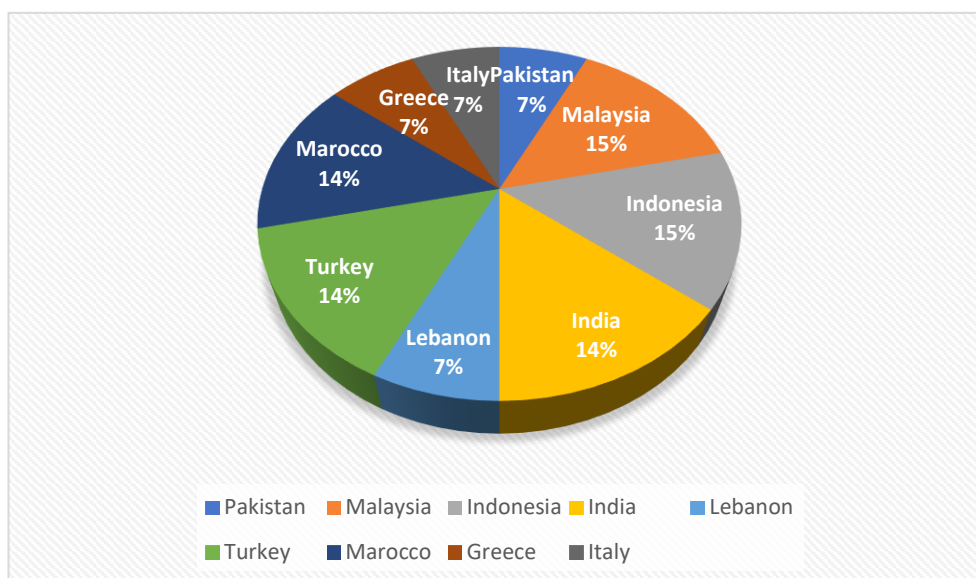


Figure 2. Distribution of countries

Composition of Participants

Figure 3 illustrates that the majority of papers (n=9) selected students as their participants, followed by students, teachers, and professional/experts (n=3), and finally, students and instructors (n=2).

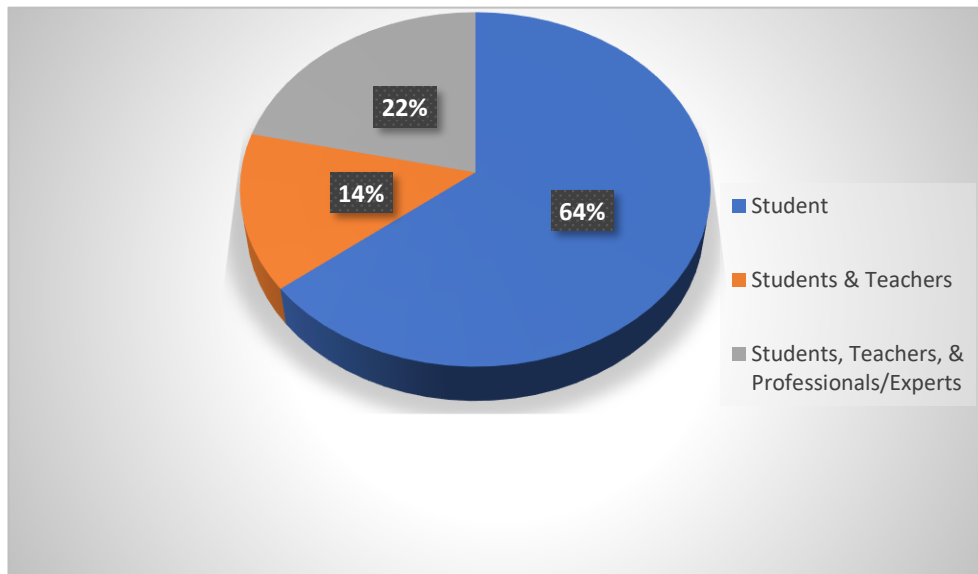


Figure 3. Composition of participants

Research Methods

The research method that was most commonly utilized was mixed-methods, with a sample size of 9, as depicted in Figure 4. The qualitative approach was used by only three participants, while the quantitative approach was used by only two participants. These methods were the least typically utilized.

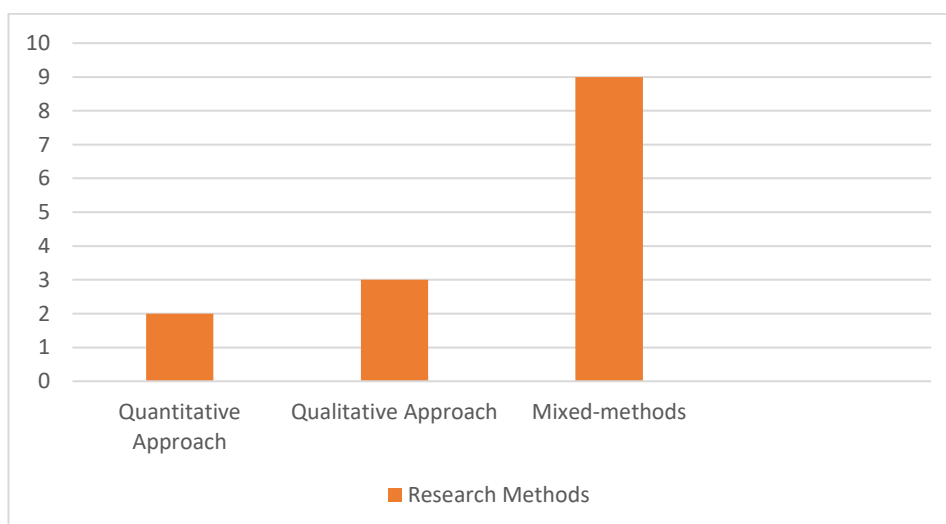


Figure 4. Research methods used in the reviewed articles.

Advantages and Challenges in Implementing Mobile Application for Children with Dysgraphia

The researchers identified and examined the subcategories of benefits and difficulties associated with utilizing the mobile application for children diagnosed with dysgraphia. The subsequent section provides a more detailed examination of the subcategories.

Advantages of Mobile Application for Children with Dysgraphia

Table 2 presents the benefits of mobile applications for children who have dysgraphia. The most often cited reasons are enhancing engagement and motivation ($n = 4$). The writers noted several advantages, including the enhancement of writing abilities, improvement of the learning experience, individualized learning, and increased accessibility and inclusivity. These advantages were mentioned by three authors. Two authors ($n = 2$) have also mentioned additional benefits, including promoting the development of handwriting skills and improving academic achievement. The remaining advantages were only mentioned once in the publications ($n = 1$).

Table 2. Advantages of mobile application for children with dysgraphia

Advantages	Sample articles
Enhancing Writing Skills	Ariffin et al. (2018), Choi Lean (2019), Gouraguine et al. (2023)
Improving Learning Experience	Ariffin et al. (2018), Bhatt (2020), Lomurno et al. (2023)
Supporting Handwriting Development	Gouraguine et al. (2023), Sihwi et al. (2019)
Enhancing Academic Success	Bhatt (2020), Sihwi et al. (2019)
Providing Engaging and Accessible Tools	Sihwi et al. (2019)
Personalized Learning Experience	Ikermane & El Mouatasim (2023), John & Renumol (2022), Polat et al. (2023)
Increasing Engagement and Motivation	Choi Lean (2019), Gkeka & Drigas (2022), Gouraguine et al. (2023), Khan et al. (2017)
Immediate Feedback	Polat et al. (2023)
Accessibility and Inclusivity	Ariffin et al. (2018), Bhatt (2020), Ikermane & El Mouatasim (2023)
Progress Tracking	Polat et al. (2023)

Challenges in Implementing Mobile Application for Children with Dysgraphia

While there were multiple benefits to utilizing mobile applications for children with dysgraphia, the implementation process may not proceed as seamlessly as expected. The authors ($n=4$) have encountered several problems, as shown in Table 3. These challenges include customization and personalization, engagement and motivation, data protection and security, and interaction with educational curriculum. Furthermore, three articles ($n = 3$) have identified cost and accessibility as challenges. The authors encountered two problems in developing a mobile application for children with dysgraphia: accessibility and usability, sensory overload, and user interface complexity ($n = 2$). The other advantages, such as expert advice and generalization of abilities, were mentioned only once in the article ($n = 1$).

Table 3. Challenges in Implementing Mobile Application for Children with Dysgraphia

Challenges	Sample articles
Accessibility and Usability	Khan et al. (2017), Polat et al. (2023)
Customization and Personalization	Ariffin et al. (2018), Choi Lean (2019), Khan et al. (2017), Polat et al. (2023)
Engagement and Motivation	Ariffin et al. (2018), Choi Lean (2019), Khan et al. (2017), Polat et al. (2023)
Data Privacy and Security	Ariffin et al. (2018), Choi Lean (2019), Khan et al. (2017), Polat et al. (2023)
Technical Support	Ariffin et al. (2018), Khan et al. (2017), Polat et al. (2023)
Integration with Educational Curriculum	Ariffin et al. (2018), Choi Lean (2019), Khan et al. (2017), Polat et al. (2023)
Cost and Accessibility	Ariffin et al. (2018), Khan et al. (2017), Polat et al. (2023)
Sensory Overload	Ariffin et al. (2018), Polat et al. (2023)
User Interface Complexity	Choi Lean (2019), Sihwi et al. (2019)
Professional Guidance	Sihwi et al. (2019)
Generalization of Skills	Sihwi et al. (2019)

Discussion

The Research Trends of mobile application for children with dysgraphia

In this study, 14 articles retrieved from Open Knowledge Maps were analyzed in mobile application for children with dysgraphia research trends, advantages, and challenges. The worldwide distribution of research on mobile applications for children with dysgraphia provides useful insights into the global efforts to tackle the difficulties encountered by these youngsters. Research is conducted in multiple nations, demonstrating the worldwide dedication to creating new and creative solutions. Khan et al. (2017) conducted a study in Pakistan to investigate the application of augmented reality in aiding pupils with dysgraphia. Ariffin et al. (2018) conducted a study in Malaysia on a mobile application named "Dysgraphi Coach" designed to assist youngsters with dysgraphia. Researchers Sihwi et al. (2019) employed support vector machine techniques to detect dysgraphia based on handwriting, whereas Nurchaerani et al. (2022) investigated the trait of perseverance in students with dysgraphia. Bhatt (2020) conducted a study in India that specifically examined a mobile application designed to address different types of learning difficulties, such as dysgraphia. Furthermore, John & Renumol (2022) created an Android application with the aim of improving manual dexterity in children who struggle with their handwriting. Nabhan & Kamel (2021) did research in Lebanon on the use of technologically enhanced art therapy to develop morphological awareness in students with dysgraphia. In Turkey, Hopcan & Tokel (2022) conducted a study to explore the perspectives of special education teachers regarding a mobile writing application. Additionally, Polat et al. (2023) conducted research to assess the adequacy of current mobile writing applications. Gkeka & Drigas (2022) conducted a study on the correlation between information and communication technologies (ICTs) and dysgraphia in Greece. In their study, Gouraguine et al. (2023) from Morocco utilized convolutional neural networks and child-robot interaction to detect dysgraphia. On the other hand, Ikermane & El Mouatasim (2023) employed artificial neural networks to detect dysgraphia by analyzing digital handwriting features. Italy's Lomurno et al. (2023) conducted a study on the use of deep learning and Procrustes analysis to detect the risk of early dysgraphia using a tablet application. The wide array of research in this field highlights the global cooperation and focus on using mobile technology to assist children with dysgraphia, with the goal of improving their educational and daily lives.

The diversity of participants in research studies on mobile applications for children with dysgraphia is seen in the composition of these research projects. The majority of research focused on students, who were the main recipients of the mobile applications being evaluated for their efficacy in resolving dysgraphia. Significant research conducted by Ariffin et al. (2018), Bhatt (2020), Gouraguine et al. (2023), Ikermane & El Mouatasim (2023), John & Renumol (2022), Khan et al. (2017), Lomurno et al. (2023), Sihwi et al. (2019) centered on actively involving students in their research endeavors. Furthermore, the research encompassed not just kids but also teachers, professionals, and experts to gain a more comprehensive comprehension of the impact of the applications on dysgraphia. Nabhan & Kamel (2021) and Polat et al. (2023) incorporated these groups into their research to obtain diverse viewpoints and insights. In addition, specific research focused on the interaction between students and teachers to assess the impact of mobile applications on dysgraphia. For instance, Hopcan & Tokel (2022) conducted a study to gather the perspectives of both students and teachers regarding mobile writing applications. The inclusion of a wide range of participants in these studies highlights the collaborative strategy adopted by researchers, which involves incorporating the perspectives and knowledge of children with dysgraphia, educators, and specialists. The multidimensional strategy is to create efficient mobile applications customized to the individual requirements of children with dysgraphia, therefore enhancing their educational achievements.

The study methodologies employed in studies on mobile applications for children with dysgraphia demonstrate the several approaches researchers have adopted to assess the efficacy of technology in aiding individuals with this illness. A prevalent methodology involved employing a mixed-methodologies approach, which entailed the integration of qualitative and quantitative methods to thoroughly evaluate the influence of mobile applications on dysgraphia. Researchers including Ariffin et al. (2018), Bhatt (2020), Gouraguine et al. (2023), John & Renumol (2022), Khan et al. (2017), Nabhan & Kamel (2021), Polat et al. (2023), Sihwi et al. (2019) utilized this strategy to gather both quantitative and qualitative data. Conversely, many research employed a solely qualitative methodology to investigate participants' experiences and perspectives on mobile applications for dysgraphia. The studies conducted by Choi Lean (2019), Hopcan & Tokel (2022), Nurchaerani et al. (2022) focused on exploring the qualitative aspects of how technology can assist children with dysgraphia. Several research utilized a quantitative methodology, which involves analyzing numerical data and performing statistical evaluations to measure the efficacy of mobile applications in addressing dysgraphia. Researchers can gain a comprehensive understanding of the benefits of mobile applications for children with dysgraphia by employing several study methods, such as mixed-methods, qualitative, and quantitative approaches. This comprehensive method enables a comprehensive assessment of the effectiveness of technology-based interventions, which can enhance writing abilities and cater to the educational requirements of individuals with dysgraphia.

Advantages and Challenges in Implementing Mobile Application for Children with Dysgraphia

The advantages of implementing mobile applications for children with dysgraphia, as specified in table 2 and substantiated by multiple authors, illustrate the positive influence of modern technology on improving writing abilities and overall educational experiences for children with dysgraphia. Ariffin et al. (2018), Choi Lean (2019), Gouraguine et al. (2023) have emphasized that mobile applications provide interactive workouts and activities specifically designed to enhance handwriting skills. These applications offer systematic and captivating methods for youngsters to improve their ability to write letters, maintain proper spacing, and develop good

penmanship, resulting in improved writing skills. Furthermore, the inclusion of features that enhance interactivity and enjoyment in educational activities can enhance the learning experience for children with dysgraphia while using mobile apps. Ariffin et al. (2018), Bhatt (2020), Lomurno et al. (2023) suggest that these applications employ gamification, multimedia material, and adaptive learning approaches to accommodate individual learning styles and preferences, hence enhancing the engagement and effectiveness of the learning process. Moreover, mobile applications facilitate the improvement of handwriting skills by providing a variety of tools and activities specifically tailored to target writing challenges. Gouraguine et al. (2023) and Sihwi et al. (2019) highlight the significance of applications that specifically target fine motor skills, letter recognition, and hand-eye coordination in order to improve handwriting proficiency. Mobile applications offer a customized learning experience, adjusting to the specific requirements and difficulties faced by children with dysgraphia. Ikermane & El Mouatasim (2023), John & Renumol (2022), and Polat et al. (2023) observe that these applications provide personalized settings and customized learning paths to guarantee individualized assistance for every child. Finally, mobile applications enhance engagement and motivation by incorporating features that create an enjoyable and gratifying learning experience for children with dysgraphia. According to the research conducted by Choi Lean (2019), Gkeka & Drigas (2022), Gouraguine et al. (2023), and Khan et al. (2017) applications use features such as progress tracking, rewards systems, and interactive challenges to promote active engagement and a feeling of achievement in writing activities. Overall, these advantages illustrate the positive impact of mobile applications on children with dysgraphia, as they improve their writing abilities, enhance their learning process, and increase their involvement in educational tasks.

Challenges in Implementing Mobile Application for Children with Dysgraphia

To ensure that technology adequately supports the learning and development of children with dysgraphia, it is necessary to overcome the many obstacles that arise when implementing mobile applications for this population. As pointed out by Khan et al. (2017) and Polat et al. (2023), designing user interfaces and input methods that accommodate various abilities and assistive technologies for a user-friendly experience is crucial, as is ensuring accessibility. According to Ariffin et al. (2018), Choi Lean (2019), Khan et al. (2017), and Polat et al. (2023), customization and personalization are crucial for making apps that cater to the unique needs and preferences of each child. Although it can be challenging to engage and motivate children, interactive and engaging activities, reward systems, and catering to unique learning preferences can keep their interest sustained (Ariffin et al., 2018; Choi Lean, 2019; Khan et al., 2017; Polat et al., 2023). Additional challenges to implementation include minimizing user interface complexity, protecting sensitive data, managing accessibility and costs, aligning apps with educational curricula, and avoiding sensory overload. If we want technology to help children with dysgraphia as much as possible, we must overcome these obstacles.

The Recommendations for Future Research and Development on Mobile Application for Dysgraphia Children

Improving the efficacy and usefulness of these technologies should be the focus of future research and development in mobile applications for children with dysgraphia. Meeting the specific requirements and challenges of each child requires customization and uniqueness. The personalized approach, which has been emphasized by scholars such as Ariffin et al. (2018) and Gouraguine et al. (2023),

can greatly improve the effectiveness of mobile apps for dysgraphia. The importance of user interface design in guaranteeing accessibility and usability cannot be overstated. According to Khan et al. (2017) and Polat et al. (2023), developers can make users happy and get them involved with technology by making interfaces that are easy to use for people of different abilities. A better user experience for children with dysgraphia can be achieved by adding features that make it more engaging and motivating, like the ability to track their progress, awards, and interactive challenges. In order to keep people interested in and actively involved in writing activities, researchers like Choi Lean (2019) and Khan et al. (2017) highlight the significance of engaging elements. Interventions designed specifically for children with dysgraphia can be more inclusive and successful if researchers from a variety of backgrounds work together. This includes students, instructors, and specialists. Some authors have shown how this kind of teamwork pays off; for example, Nabhan & Kamel (2021) and Sihwi et al. (2019). By incorporating mobile applications into educational curricula, classroom learning objectives can be supported and students with dysgraphia can have an enhanced educational experience. A number of researchers, like Ariffin et al. (2018) and Polat et al. (2023), stress the need to coordinate technological initiatives with established pedagogical objectives. Last but not least, protecting sensitive information gathered by mobile apps requires top priority when it comes to data privacy and security. In order to use technology in an ethical and responsible manner in educational contexts, researchers such as (Ariffin et al. (2018) and Khan et al. (2017) stress the importance of protecting user data. Researchers and developers may improve the support and resources for children with dysgraphia by following these recommendations. This will lead to mobile applications that are more effective, accessible, and user-friendly for this demographic.

5. CONCLUSION

At some point the study stresses the importance of writing abilities in education, drawing attention to the crucial part that handwriting plays in academic success. It talks on how dysgraphia, autism, and dyslexia affect children's social and academic lives, as well as the difficulties these students encounter in the classroom. Teachers must ensure that children with learning difficulties receive the necessary support in order to help them acquire writing skills effectively and at an early age. More specifically, the research looks at how children with dysgraphia can benefit from using mobile apps to practice and improve their handwriting. It talks about how students with dysgraphia might benefit from using technology in the classroom to help them learn. Also emphasized are the need of data privacy, engagement features, and user interface design in mobile apps for kids who have dysgraphia. To sum up, the study sheds light on the difficulties encountered by students with learning disabilities, especially dysgraphia, and the ways in which technology, such mobile apps, might aid their educational path. Educators and researchers may empower kids with dysgraphia and other learning impairments to succeed academically and thrive by recognizing the significance of writing skills, employing effective solutions, and utilizing technological tools.

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REFLECTIONS ON THE JOURNEY OF MERDEKA BELAJAR KAMPUS MERDEKA CURRICULUM (MBKM) IN HIGHER EDUCATION

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ABSTRACT

After a long time since the MBKM program was launched, until now there has been no research that attempts to carry out reflection. Reflection needs to be done to find out whether universities experience obstacles in implementing MBKM. What obstacles do universities experience in implementing the MBKM program? Apart from that, with reflection, universities can rethink the various shortcomings that exist in implementing the MBKM program. In writing this article, the author used qualitative research methods using a library approach. Data collection in this paper begins with collecting various appropriate literature in the form of written text and soft copy, for example books and scientific articles published online. The results of this research show that several problems that need to be reflected on do not only originate from universities and study programs as organizers, but are also faced by implementers, namely students and lecturers as well as partners, both government agencies and partners from the business and industrial world. From the organizers, there are still universities and study programs that have not fulfilled the conversion of student scores. The study program has difficulty adjusting the course load with partner universities. Lack of information in understanding the concept and benefits of the MBKM program. At a practical level, several problems arise for small universities or universities with remote, outermost and underdeveloped geographical locations.

Keywords: *Reflection, Curriculum, MBKM, Higher Education*

1. INTRODUCTION

Merdeka Belajar Kampus Merdeka Program (MBKM) was officially launched by the Ministry of Education and Culture at the end of January 2020 through several regulations. In general, the legal basis for implementing the MBKM curriculum is Minister of Education and Culture Regulation Number 3 of 2020 concerning Higher Education standards, especially Articles 15 to 18 (Santika, 2022). To ensure the implementation of MBKM in higher education, the Minister of Education and Culture has established instruments. An important instrument for implementation is implementing the eight Main Performance Indicators (IKU) determined through the Decree of the Minister of Education and Culture Number 754/P/2020.

The MBKM program is intended to answer the challenges of higher education institutions to produce graduates who are in line with current developments, advances in science and technology, the demands of the business and industrial world, as well as the dynamics of society. The MBKM program is a policy to transform the higher education system in Indonesia to produce more

relevant graduates. The MBKM policy aims to create competitive people; This means that humans are healthy, intelligent, adaptive, creative, innovative, skilled, dignified, productive and have character in accordance with the values of Pancasila. In turn, universities can prepare graduates as future leaders of the nation who are superior and have personality (Sopiansyah, 2022).

MBKM aims to encourage students to gain learning experience with various additional competencies in study programs and/or outside campus. Through the MBKM program, students have the opportunity for 1 (one) semester or the equivalent of 20 (twenty) credits to study outside the study program at the same university; and a maximum of 2 (two) semesters or the equivalent of 40 (forty) credits studying the same study program at a different university, studying at a different study program at a different university; and/or learning outside of higher education. This means that the MBKM program launched by the Ministry consists of 8 (eight) programs, all of which give students the right to study outside the study program for a maximum of 3 (three) semesters equivalent to a maximum of 60 credits (Aswita, 2022).

The MBKM program is being intensively campaigned by the Ministry of Education and Culture, with the aim of getting more universities to implement it. Based on a survey conducted by the Ministry of Education and Culture in September 2023 regarding the independent implementation of MBKM, data was obtained that more than 60% of universities in Indonesia have implemented this policy in the field. During 2023, more than 134 thousand students from various universities will be involved with 8 MBKM programs such as certified internships, domestic and international student exchanges, teaching campuses and entrepreneurship programs.

After a long time since the MBKM program was launched, until now there has been no research that attempts to carry out reflection. Reflection needs to be done to find out whether universities experience obstacles in implementing MBKM. What obstacles do universities experience in implementing the MBKM program? Apart from that, with reflection, universities can rethink the various shortcomings that exist in implementing the MBKM program. Therefore, researchers think it is necessary to reflect in depth. The aim of reflecting on the MBKM journey in higher education is to understand more deeply the education policy and identify opportunities for improvement in practice, and ensure that the policy is not just mere knowledge, but also useful understanding in everyday life.

2. RESEARCH METODOLOGY

In writing this research, the author used qualitative research methods using a library approach. The bibliographic approach is a study that uses data analysis based on written material. The data is described descriptively, thus showing a scientific study that can be developed further. The object of study in this research was related to reflections on the journey of merdeka belajar - kampus merdeka curriculum (MBKM) in higher education.

Data collection in this research begins with collecting various appropriate literature in the form of written text and soft copy, for example books and scientific articles published online. These two types of literature were the main sources that researchers use to explain the variables in this paper. After the data has been successfully collected from various sources, both in text and soft copy form, then comprehensive data identification is carried out by selecting and sorting information that is relevant to this research.

The selection of data is done by studying, understanding and connecting it to the main problem at hand. Next, the author analyzes the data and reduces various relevant information until finally producing a solution to the problem discussed in this research. This kind of data collection and analysis technique is called

triangulation, which tries to combine a set of data taken from various existing data sources.

3. RESULTS AND DISCUSSION

So far, the implementation of the MBKM policy has certainly not been without problems. Some of the problems that need to be reflected on apparently do not only originate from universities and study programs as organizers, but are also faced by implementers, namely students and lecturers as well as partners, both government agencies and partners from the business and industrial world (Sabriadi & Wakia, 2021).

From the organizers, there are still universities and study programs that have not fulfilled the conversion of student scores. So the grades resulting from the MBKM program have not been processed and cannot be used as grades that will be used at the end of the semester (Andari, 2021). Some universities don't even have a system for data management processes. As a result, universities will certainly have difficulty managing the grades and data of students participating in MBKM. Not to mention that data that is not entered automatically can cause other problems, for example hidden data (Bhakti, 2022). This is caused by a lack of socialization about MBKM technical and mechanisms. Another problem faced by organizers is confusion in the process of converting and recognizing the number of credits into the appropriate course (MK) (Santika, 2021). In general, study programs experience difficulties in converting courses to the chosen MBKM program. There are also many cases of not understanding the value recognition process, so that universities cannot fully recognize the value produced by students during the MBKM process. The most crucial mistake when carrying out the MBKM process is making mistakes in value conversion management. This happens because universities do not fully understand how to carry out the value conversion process properly and correctly (Fuadi & Aswita, 2021).

Study Programs Have Difficulty Adjusting Course Loads with Partner Universities. As the MBKM program progresses after facing curriculum changes, each university will certainly have different courses even with the same study program. The same thing related to the obstacles to implementing MBKM is that in order for the curriculum to be effective and efficient in implementing MBKM, the assignment completion schedule for one semester determined by the faculty is in line with the stages of teaching and learning activities in the campus environment (Arifin, & Muslim, 2020).

Lack of information in understanding the concept and benefits of the MBKM program. The lack of information conveyed is due to not being properly disseminated to students and related parties, so understanding and awareness of the program can be hampered (Meke, 2022). It is important for institutions to actively disseminate information regarding the benefits, requirements and procedures of the MBKM program to the entire campus community. The lack of socialization of the MBKM program in universities is also a major obstacle to implementing this strategic program among them (Oksari, 2022). Respondents mostly regretted that there was no socialization carried out by the university management, the majority stated that it was very lacking, so that until 2023 the MBKM program would be minimally implemented, except for programs that have been established such as PPL (Field Experience Practice) which in MBKM is called Teaching Campus, and KKN (Field Work Lecture) (Nofia, 2020).

At a practical level, several problems arise for small universities or universities with remote, outermost and underdeveloped geographical locations. Apart from the issue of collaboration mechanisms between study programs and

universities and large study programs (referring to the level of accreditation), questions arise among study programs and students, what is the financing mechanism for these internship activities. The majority of universities and study programs in the above categories have students from lower to middle economic levels, so financing internships is a big problem. Internship activities require at least transportation costs and other activity support costs.

4. CONCLUSION

So far, the implementation of the MBKM policy has certainly not been without problems. It turns out that several problems that need to be reflected on do not only originate from universities and study programs as organizers, but are also faced by implementers, namely students and lecturers as well as partners, both government agencies and partners from the business and industrial world. From the organizers, there are still universities and study programs that have not fulfilled the conversion of student scores. Study Programs Have Difficulty Adjusting Course Loads with Partner Universities. Lack of information in understanding the concept and benefits of the MBKM program. At a practical level, several problems arise for small universities or universities with remote, outermost and underdeveloped geographical locations.

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POLICY SOCIALIZATION OF CAMPUS CANTEEN AT UNIVERSITAS NGURAH RAI BALI INDONESIA

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ABSTRACT

This research aims to determine the perceptions of canteen visitors regarding the role of the canteen and the socialization of canteen policies at Universitas Ngurah Rai. Apart from that, it is also to find out what food is most often bought in the canteen, whether the canteen is useful for the campus, how often you visit the canteen, and input or suggestions from visitors regarding the canteen. What the researchers observed was data related to the socialization of canteen policies. This research was carried out at Universitas Ngurah Rai, using a survey method. This method is a process, technique or tool used to obtain research information by asking questions to sources or respondents through direct interviews with consumers and distributing questionnaires to all canteen visitors. The results of this research were that 37 people or 41% liked smashed fried chicken, 27 people or 30% meatballs, 10 people or 11% of chicken fresh vegetables, 9 people or 10% liked jingo rice, 5 people or 10% of siomay or pecel rice. 6%, and yellow rice as much as 2 people or 2%. The results of the perception of whether the canteen is useful for the campus, the majority of respondents, 90 people or 100%, stated that the canteen is very useful for the campus. 100% of respondents stated that they go to the canteen very often. Input or suggestions from visitors to the canteen include improving it, adding more food menu variants, asking for more seats to be added and electrical equipment for students to be able to charge cellphones and laptops.

Keywords: *perception, canteen, socialization*

1. INTRODUCTION

Canteen is a commercial establishment whose scope of activity provides food and beverages at its premises. Canteen is one form of public facilities, which besides being a place to sell food and drinks, also serves as a meeting place for students and employees within the school or campus environment (Permenkes,2011).

The canteen is a strategic place for students because besides being a place to eat, socialize, and rest after studying, it also significantly influences students' health. Therefore, the canteen needs more attention. The canteen should not only provide food but also consider health and comfort aspects, so that all the objectives of the canteen can be realized. The food and drinks sold should have economic value that is affordable for students' financial capabilities.

A healthy canteen can be implemented by including the construction of supporting facilities and readiness of food menus that meet health standards. Canteen facilities that need to be well-prepared include: cooking areas, dishwashing areas, handwashing facilities, food storage and serving areas, waste disposal areas, and also cleanliness of the canteen space. Additionally, clean water should be available for cooking purposes. The canteen should always be in a clean condition, as food and beverages are one of the mediums for disease transmission (Djaeni, 2006).

Based on the survey data conducted at Universitas Ngurah Rai in 2024 regarding canteen consumers at the university, such as: how often they visit the canteen, their favorite foods in the canteen, the usefulness of the canteen, and feedback or suggestions related to the canteen. The results show that almost every time respondents visit the campus, the favorite or most frequently purchased foods vary, including meatballs, smashed fried chicken, raw vegetable side dish, steamed fish dumplings, and small portion of rice with side dishes. Regarding the question of how useful the canteen is, most respondents answered that the canteen is useful and very useful. Based on the survey results, there are several suggestions, including adding menu items, adding fans, adding dining tables because when the canteen is crowded, there is often a shortage of tables, adding electrical adapters, improving service or perhaps adding staff because when it's crowded, waiting for orders often takes a long time, and improving canteen cleanliness and paying more attention to animals roaming in the canteen.

This research is conducted to provide an overview of the condition and role of the canteen at Universitas Ngurah Rai and to provide socialization regarding campus canteen policies. The results of this study can be utilized by various parties such as canteen vendors and university authorities responsible for evaluating issues related to canteen facilities and infrastructure. This is done with the aim of improving the canteen infrastructure at Universitas Ngurah Rai.

2. RESEARCH METODOLOGY

The method used in this research is a survey method. This method is considered as a process to collect data using samples from a specific population. According to an expert, Neuman W. Lawrence, the survey method is a quantitative research method. This method gathers responses, opinions, and feedback from a group of people regarding the research object. The results of the survey will enrich information, making the research considered good and close to reality.

Furthermore, the researcher conducted discussions through direct interviews with consumers and distributed questionnaires to all canteen visitors, including students, staff, faculty members, and others. Prior to this, the researcher prepared questions related to the role of the canteen. Additionally, as supplementary data, the researcher also utilized documentary studies, which involve data obtained from physical documents such as records and photos related to the socialization of canteen policies.

3. RESULT AND DISCUSSION

Definition of Socialization

Socialization according to George Herbert Mead in his book "Government Socialization." Socialization is a process in which humans learn through methods, values, and adjust actions with society and culture, observing how humans enhance their personal growth to fit with the conditions, values, norms, and culture of a society that applies around them. through, experiencing, (feeling), and self-confidence and the process of socialization is cultured throughout life." (George Herbert Mead 1863-1931).

Definition of Policy

The word "policy" etymologically originates from the English word "policy," while "kebijaksanaan" (wisdom) originates from the word "wisdom." Policies are created to regulate society's life in order to achieve agreed-upon goals. According to Inu Kencana Syafie in his book titled "Introduction to Political Science," citing the opinion of Harold Lasswell, policy is defined as: "the intellectual task of decision making involving clarification of objectives, analysis of tendencies, examination of conditions, projection of future developments, and research and research, as well as assessment and selection of possibilities" (Lasswell in Syafie, 1992:35).

Definition of Policy Socialization

According to Harton and Hunt (Harton, 1987), policy socialization fundamentally refers to "a way for a policy to achieve its goals." A policy program must be socialized in order to have the desired impact or objectives. Socialization is seen as an interaction process between a set of objectives and actions capable of achieving policy goals, where actors, organizations, procedures, and techniques are used collectively in policy socialization. Regardless of various issues surrounding policy socialization, fundamentally, this process must be conducted in a comprehensive organizational context with clear goals and targets, clear priorities, and clear supporting resources. Meanwhile, according to Vembriarto (in Khairudin 2008, p.63), socialization is a learning process, namely the accommodation process through which individuals restrain, modify impulses within themselves, and adopt the lifestyle or culture of their community.

Policy socialization is closely related to community empowerment. In community empowerment, the government bears significant responsibility for empowering its people. The role of the government is crucial; therefore, the government formulates policies or socializes policies to support community empowerment programs and activities.

There are three assumptions uniformly accepted and implemented by experts and practitioners of empowerment theory as follows:

1. Empowerment takes different forms for different individuals. Perspectives, skills, and actions required to address labor issues will vary between unmarried adolescents and pregnant adult women. Empowerment forms also differ between female farmers and female laborers. Backgrounds, situations, and maturity levels greatly influence this.
2. Empowerment takes different forms for different contexts. Perceptions, skills, and actions required to carry out a specific job differ between workers in authoritative organizations and workers in participative organizations. In the first situation (authoritative organization), workers' initiatives are suppressed at the lowest level, while in the second situation (participative organization), workers' creativity and dynamics are encouraged to flourish as much as possible.
3. Empowerment will fluctuate or change over time. An individual may feel empowered at one time, but later feel disempowered at another time, depending on the conditions they face at a given time. In such cases, time acts as a determining fate regime.

Based on the analysis of canteen consumer survey interviews, there were a total of 90 respondents. They consisted of 2 faculty members or 2.2%, 6 staff members or 6.7%, 78 students or 86.7%, and 4.4% others, including 2 campus security guards, 1 foundation driver, and 1 campus cleaning service staff. The interview results with the respondents are as follows:

Perceptions of Which Foods You Like or Most Frequently Purchase at The Canteen.

The majority of respondents stated that there are many food variations they like, such as smashed fried chicken with 37 people or 41%, meatballs with 27 people or 30%, raw vegetable side dish with 10 people or 11%, small portion of rice with side dishes with 9 people or 10%, steamed fish dumplings or rice with peanut sauce with 5 people or 6%, and lastly, yellow rice with 2 people or 2%. This indicates that the food at Universitas Ngurah Rai's canteen aligns with students' preferences. Someone's preference for a food can be due to its delicious taste, variety of food choices, served hot, attractive presentation, suitable tenderness, and being in a condition of hunger.

Perceptions About the Canteen's Usefulness for The Campus.

The majority of respondents who stated it is very useful are 90 people or 100%. This indicates that the canteen at Universitas Ngurah Rai is highly beneficial for all groups and UNR students.

Perceptions About How Often You Visit The Canteen.

The majority of respondents stated 90 people or 100%. This indicates that students are still actively visiting the canteen to enjoy the available dishes.

Here Are Some Suggestions or Feedback Regarding The Canteen at Universitas Ngurah Rai.

We hope that the cleanliness of the canteen can be improved to provide a more comfortable dining experience for visitors. Our suggestion is to increase the variety of menu options so that visitors have more choices of food and beverages that suit their tastes. It's also necessary to add more seating so that visitors can sit comfortably while enjoying their meals at the canteen. We hope the canteen can provide additional electrical outlets to facilitate visitors who want to charge their electronic devices. These are the main suggestions from several respondents.

4. CONCLUSION

After conducting research on the socialization of campus canteen policies at Universitas Ngurah Rai in Bali, Indonesia, it can be concluded that:

1. The majority of respondents indicated a wide variety of preferred food choices, including smashed fried chicken with 37 people or 41%, meatballs with 27 people or 30%, raw vegetable side dish with 10 people or 11%, small portion of rice with side dishes with 9 people or 10%, steamed fish dumplings or rice with peanut sauce with 5 people or 6%, and finally, yellow rice with 2 people or 2%.
2. All canteen consumers, totaling 90 people or 100%, stated that they visit the canteen very frequently every time they come to campus.
3. The majority of respondents, 90 people or 100%, stated that the canteen is very useful for the campus. It facilitates resting after classes or work breaks, eliminating the need to purchase food outside.

Based on the survey results, research findings, and conclusions discussed, the researcher can provide recommendations for the socialization or role of the Universitas Ngurah Rai canteen as follows:

1. For the University:
 - a) The university administration can reevaluate the canteen facilities that need improvement.
 - b) The canteen management should strongly urge vendors or visitors to pay more attention to the cleanliness of the canteen.
2. For the Vendors:
 - a) Based on feedback from visitors, vendors can innovate by adding menu variations that are currently unavailable or sold in the canteen.
 - b) Adding staff or employees to help serve food to customers because customers often wait a long time for their ordered food.
3. For Future Researchers:

This research is expected to serve as a reference for future improvements. For future researchers who wish to study the same topic, it is hoped that they will use different research methodologies or add other variables to explore several problems quantitatively.

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DIGITAL BOOKS IN THE LEARNING PROCESS: SYSTEMIC LITERATURE REVIEW

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ABSTRACT

Digital books are digital teaching materials that can be integrated with various multimedia, including images, videos, animations or manipulative media. For the next digital book development process, data and information on what types of digital books are and what media have been integrated are really needed. For this reason, a Systemic Literature Review (SLR) was carried out which examined what and how digital books were researched. This research used PRISMA (Preferred Reporting Items for Systemic and Meta-Analysis) guidelines, by searching for Scopus indexed articles in the 2020-2022 period involving a total of 204 articles. After the screening process, 15 articles were obtained which were then analyzed according to the Research Question (RQ) that had been formulated. From the results of the study based on two RQs, it was found that (1) the research design that researches digital books the most is design/development research; (2) The aspect that is least integrated into digital books is animation/manipulative media. These results have limitations in terms of the scope of data sources and the depth of study on the material discussed. So this research provides opportunities for future researchers both in development design and SLR.

Keywords: Systematic Literature Review; Digital Books; Research Design; digital media

1. INTRODUCTION

The development of technology affects many aspects of life, one of which is education. One aspect of education that is growing rapidly along with the development of technology is textbooks. Digital books are a learning resource that utilizes information technology in its development. Digital books have many advantages compared to conventional books. One of the advantages of digital books is a good level of flexibility, where they can be used anywhere and at any time. Digital books have many versions, depending on the type of technology integrated with the digital book.

In the learning process, the use of digital books has a positive impact on student achievement. The use of digital books can improve innovative thinking skills, obtain practical information, student creativity and student learning motivation (Radovic, 2020; Budi Aman, 2021). The use of digital books has a different influence on the level of education of students and the duration of application of digital books. Wijaya (2022) concluded that the application of digital books had maximum impact at the pre-school level and with a duration of less than 4 weeks.

Digital books can be varied by integrating images, learning videos, animations, and other manipulative learning media such as Geogebra. Learning videos are not only related to explaining the material, but can also be integrated with videos of real phenomena related to the material being discussed. Apart from that, digital books can also be integrated with manipulative media such as geogebra. Geogebra is a

medium that is able to display exploration of mathematical concepts that can be manipulated by users. For Mathematics material known to have a high level of abstractness, Geogebra media is seen as capable of providing real simulations.

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Therefore, the aim of this research is to determine what types of digital books have been applied to mathematics learning. Through this systematic literature review, this study aims to identify various types of digital books that provide answers to the following questions.

RQ1 : What research methods were used?

RQ2 : What types of digital books have been researched in recent years?

2. RESEARCH METODOLOGY

Search Strategy

This research uses the Preferred Reporting Items for Systemic and Meta-Analysis guidelines (Moher, 2009). This guide includes SLR steps, such as explaining clear criteria, sources of information, search strategies for the selection process and analysis of search results. The search process was carried out with the help of the Publish or Perish application by searching for Scopus indexed articles from 2020-2022. Keywords used in the search process for this article include "Digital book" and "mathematics digital book". Search results, with the keyword "Digital Book" there are 200 articles, and for the keyword "Mathematics Digital Book" there are 4 articles. So the total initial articles obtained were 204 articles.

Selection criteria for the articles obtained are really needed to maintain the suitability of an article. The required inclusion criteria are as follows, (1) published in English; and (2) explain clearly the type of digital book being used/developed. Meanwhile, the required exclusion criteria are (1) the method used is not clearly explained; (2) is preliminary research from another research; (3) the digital book used/developed is not a digital book; (4) the articles obtained are incomplete; (5) not published in English.

A diagram of the article selection process is shown in the image below.

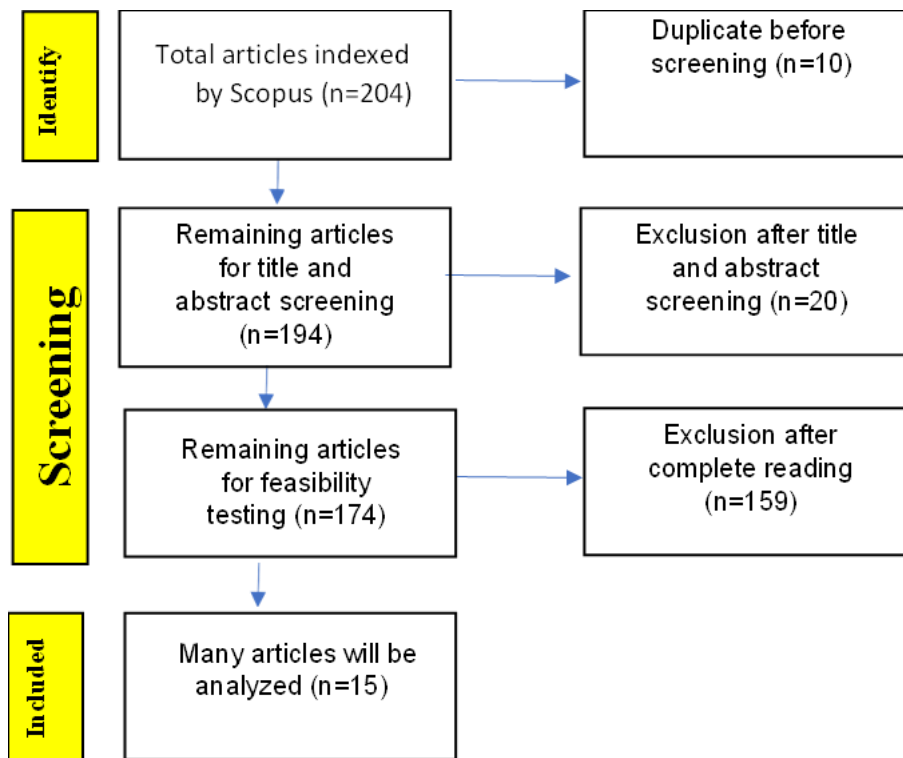


Figure 1. Search and selection process diagram

Illustration of figures and tables must be given identity numbers and information. The illustration must be referred to by the text section. Information is written at the bottom of the picture while information for the table is written at the top. Information is written using Arial 8pt [Center-justified] with sufficient space between the text and the illustration.

The number of articles identified as indexed by Scopus was (n=204). In the first stage, duplication was checked for the identified articles, which resulted in the exclusion of (n=10). So the number of articles remaining for title and abstract screening was (n=194). Exclusions after screening the title and abstract were (n=20) and 174 articles remained for eligibility testing by reading the entire contents of the article. The feasibility test exclusion reduced articles by 159. So the number of articles analyzed was 15.

3. RESULTS AND DISCUSSION

Results and Discussion RQ1: What research methods were used?

The problem formulation tested first is about the research design that is most widely used in the 2019-2022 time period, which is related to the use/development of digital books. Of the 15 articles that were the output of the screening process, the results of the analysis related to the research design used can be presented as follows.

Table 1. Recap of research design

No	Research design	Source
1	Qualitative	(kucirkova, 2021), (Ismail, 2021). (Yasa, 2021), (Bus, 2020), (Sawitri, 2021)
2	Experiment	(Siano, 2022), (Choi, 2020)
3	Design/development	(Budiman, 2021), (Riyanto, 2020), (Saripudin, 2022), (Faizah, 2022), (Setiyani, 2022), (Awaludin, 2020), (Fitriani, 2021)
4	Meta analysis	(Wijaya, 2022)

Visually, the results in the table above are presented in the diagram below.

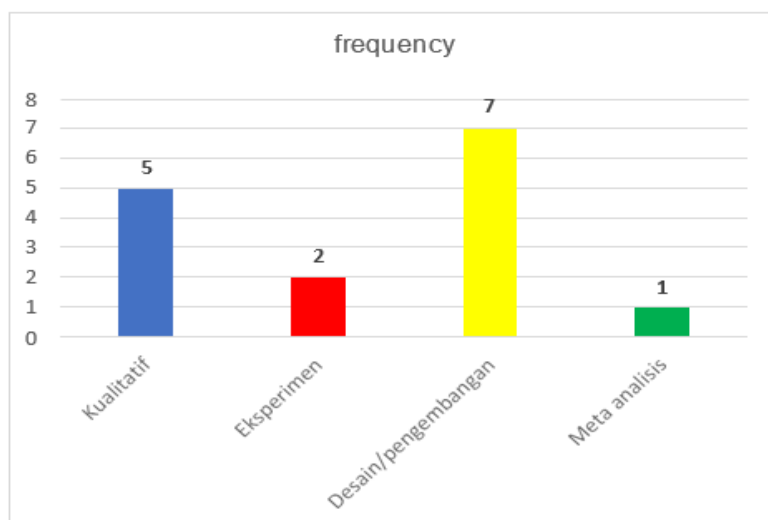


Figure 2. Research design distribution diagram

From the results in table 1 and figure 2 above, it can be seen that 33.33% is qualitative research, 13.33% is experimental research, 46.67% is design/development research and 6.67% is meta-analysis research. The type of research that is most often carried out in relation to digital books is design/development research. This means that there is quite a lot of design/development research related to digital books with their respective qualities.

Results and Discussion RQ1: What research methods were used?

The second problem formulation is about the aspects integrated in digital books. Aspects that can be integrated are text, images/tables/photos/diagrams, videos, and animation/manipulative media. In a digital book, one or even all four of these aspects can be integrated.

Table 2. Recap of aspects integrated into digital books

No	Aspects in the book	Description	Source
1	Text	Digital books that only contain text material	(kucirkova, 2021), (Ismail, 2021), (Yasa, 2021), (Bus, 2020), (Sawitri, 2021), (Siano, 2022), (Choi, 2020), (Budiman, 2021), (Riyanto, 2020), (Saripudin, 2022), (Faizah, 2022), (Setiyani, 2022), (Awaludin, 2020), (Fitriani, 2021), (Wijaya, 2022)
2	Figures/tables/photos/diagrams	Digital books equipped with pictures/tables/photos/diagrams of phenomena related to the concept being discussed	(Choi, 2020), (Budiman, 2021), (Saripudin, 2022), (Ismail, 2021), (Faizah, 2022),
3	Video	Digital books equipped with videos, both learning videos that contain explanations of concepts or videos of phenomena that occur	(Budiman, 2021), (Awaludin, 2020), (Fitriani, 2021), (Siano, 2022),
4	Animation/manipulative media	Digital books equipped with media in the form of animation and manipulative media	(Riyanto, 2020), (Wijaya, 2022), (Awaludin, 2020),

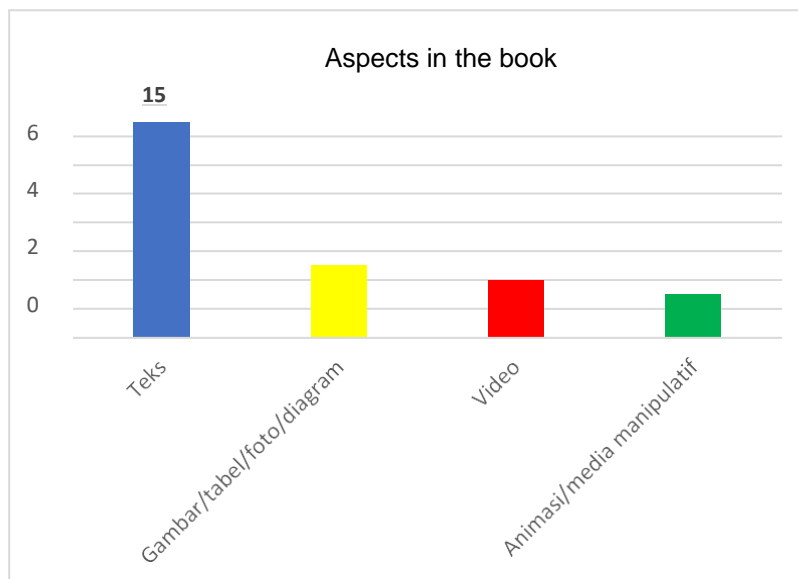


Figure 3. Aspects of the book being researched

From table 2 and figure 3 above it can be concluded that the aspect most researched is text. Text is the dominant aspect for a digital book, so all articles used in this SLR are categorized as containing text aspects. Meanwhile, the aspect that is least integrated in digital books is animation/manipulative media.

Digital books are a learning resource that utilizes information technology in its development. Digital books have many advantages compared to conventional books. One of the advantages of digital books is a good level of flexibility, where they can be used anywhere and at any time. Apart from that, the use of digital books can increase innovative thinking, obtain practical information, students' creativity and motivation to learn (Radovic, 2020; Budiaman, 2021). One manipulative media that can be integrated into digital books is Geogebra or AR.

Much research has been conducted on AR with positive results. The use of AR media provides experiences for students who are able to visualize the abstract aspects of a concept (Faridi, 2020). Furthermore, learning with AR can also make a positive contribution to students' modeling abilities (Cahyono, 2020). Specifically on the topic of geometry, learning with AR makes a contribution and novelty to geometry learning (Hanid, 2022).

Summary of results

From the results of the analysis of the two problem formulations, it can be summarized as presented in the table below.

Table 3. Summary of research design and types of books studied

No	Research design	Aspects of the book	Source
1	Qualitative	Text	(kucirkova, 2021), (Ismail, 2021). (Yasa, 2021), (Bus, 2020), (Sawitri, 2021)
		Figures/tables/photos/diagrams	(Ismail, 2021)
		Video	
		Animation/manipulative media	
2	Experiment	Text	(Siano, 2022), (Choi, 2020)
		Figures/tables/photos/diagrams	(Choi, 2020)
		Video	(Siano, 2022)
		Animation/manipulative media	
3	Design/development	Text	(Budiman, 2021), (Riyanto, 2020), (Saripudin, 2022), (Faizah, 2022), (Setiyani, 2022), (Awaludin, 2020), (Fitriani, 2021)
		Figures/tables/photos/diagrams	(Budiman, 2021), (Saripudin, 2022), (Faizah, 2022)
		Video	(Budiman, 2021), (Awaludin, 2020), (Fitriani, 2021)
		Animation/manipulative media	(Riyanto, 2020), (Awaludin, 2020)
4	Meta Analysis	Text	(Wijaya, 2022)
		Figures/tables/photos/diagrams	
		Video	
		Animation/manipulative media	(Wijaya, 2022)

Visually, the results in table 3 above can be presented as figure 4 below.

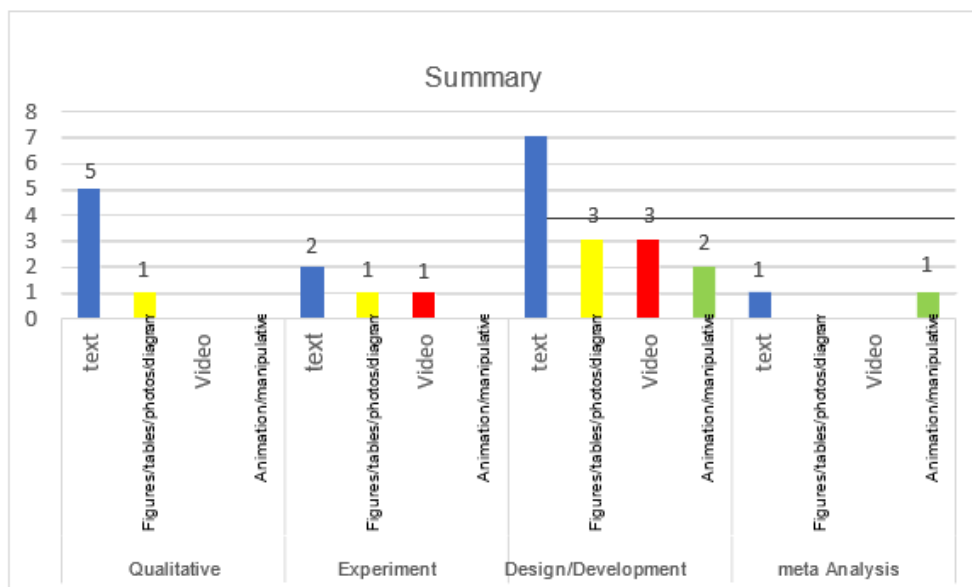


Figure 4. Diagram summarizing the research design and types of books studied

From the summary results in table 3 and figure 4, it can be concluded that each research design is still dominated by text. Perhaps it is natural that text is the dominant aspect of the digital book being studied, because text is the main element in a book. However, if you look more closely, animation elements are still minimally used in digital books for each research design.

4. CONCLUSION

This SLR research reveals what and how digital books are researched. From the results of the analysis of 15 articles that have gone through the screening process, it was found that the research design that researches digital books the most is design/development research. The aspects integrated in digital books are still dominated by text, and quite a few integrate animation or manipulative media in the books studied. These results are certainly an asset in research, especially those that focus on researching digital books.

The results of this research can become basic information for further research. Further research that can be developed includes: (1) developing digital books by integrating aspects that are still minimally researched; (2) SLR by examining in more depth the principles, facts, concepts and procedures in each article.

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IMPLEMENTATION OF PANCASILA VALUES IN THE TRI HITA KARANA CONCEPT

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ABSTRACT

The resulting values within the philosophy and ideology of Pancasila are noble and sustainable, as well as universal. These values grow and develop within the lives of the Indonesian people, believed to be good and true. The Balinese Hindu community also believes in these values, which are described in various philosophical concepts of life, one of which is the Tri Hita concept.

Tri Hita Karana originates from Sanskrit and is formed from three words: Tri, meaning three; Hita, meaning happiness or prosperity; and Karana, meaning cause or causes. Thus, the Tri Hita Karana philosophy contains the meaning of three causes of happiness: a life in harmony between humans and humans (pawongan), humans and the environment (palemahan), and humans and God (parahyangan).

This concept aligns with the concept of life based on Pancasila values. In the life of the nation and state, Indonesia hopes for the realization of a socially just society based on belief in the Almighty God, in harmony with just and civilized humanity, upholding unity and oneness through deliberation to consensus. In this way, the complete development of the Indonesian people and all Indonesian society will be realized, namely a just and prosperous society based on Pancasila.

Keywords: Pancasila Values, Tri Hita Karana, the purpose of human life

1. INTRODUCTION

Pancasila, agreed upon by the Indonesian people as the state ideology regulating national and state life, inherently contains sustainable and universal values. Sustainability implies that Pancasila's values persist in every human life, while its universality extends to the behavioral norms of nations worldwide. Initially formulated by Indonesia's founders into five principles, later named Pancasila, the concept has faced numerous challenges and tests throughout the nation's historical development amid socio-political changes.

As an open ideology, Pancasila implies that its core values should evolve and serve as the foundation for government policies in accordance with societal and national dynamics to achieve state goals. However, in practice, from the Old Order through the New Order and the reform era, the existing philosophical values of Pancasila have been deemed insufficient as assessment indices for operationalizing rules in government policy formulation. Interpretations of Pancasila's values vary, leading to differences in policy formulation among different regimes. Unfortunately, Pancasila has often been used merely as a 'jargon' by ruling regimes to maintain power and suppress dissenting voices.

Consequently, Pancasila has sometimes lost its essence as each government regime constructs its own narrative about its meaning, tailored to its political interests. However, almost every region and ethnic group in Indonesia possesses noble values that can align with Pancasila's principles. These values have grown

and developed within society, evident in various cultural norms, behaviors, and teachings passed down through generations.

These cultural elements often indirectly reflect Pancasila's values and are implemented within its framework. This synergy indicates that community culture, teachings, or concepts can complement and resonate with Pancasila's values when properly implemented, fostering a sustainable cultural and educational ethos. One notable example of this alignment is seen in the Tri Hita Karana concept, derived from Hindu religious teachings in Bali. Tri Hita Karana, meaning 'three causes of prosperity' (Tri = three, Hita = prosperity, Karana = cause), emphasizes balancing and harmonizing life dimensions to attain happiness or prosperity.

2. RESULTS AND DISCUSSION

The values of Pancasila represent a supreme value formulated by the founders of the Indonesian State, detailed within the constitution of Indonesia. Pancasila serves as the foundational norm expressed in the fourth paragraph of the Preamble to the 1945 Constitution of the Republic of Indonesia. During a speech at the BPUPKI session, Soekarno stated that Pancasila originates from the crystallization of values that have evolved within Indonesian society, displaying multiple or heterogeneous characteristics. These values were then synthesized by the founding fathers of the State and formulated into five values that truly reflect the uniqueness of the Indonesian nation, known as Pancasila (Hamid, 1991). As a value originating from societal values that have developed, it cannot be denied that Pancasila's values can indirectly be found in various cultures, behaviors, or teaching concepts already existing in society and passed down from generation to generation, whether before or after Pancasila was established as a State Ideology.

The values, culture, or teaching concepts existing in society continue to be implemented and exist within the framework of Pancasila. This indicates that the culture, teachings, or concepts implemented by the community can be synergistic and align with the Pancasila values formulated by the founders of the State, or it can be said that the culture, teachings, or concepts of the community are an implementation or reflection of the Pancasila values well-implemented by society in the form of sustainable culture or teachings. One of the implementations or reflections of Pancasila values in culture or teachings in Indonesian society can be seen in the concept of the Tri Hita Karana teachings. Tri Hita Karana is a concept of Hindu religious teachings in Bali, believed by the Balinese people to achieve happiness or prosperity through a balanced relationship between humans, the Creator (*parhyangan*), between humans and humans (*pawongan*), and between humans and the environment (*palemahan*).

The implementation of Pancasila values in the Tri Hita Karana Concept allows Balinese people to harmonize dimensions of life to achieve happiness or prosperity. The concept of Tri Hita Karana was popularized in 1966 at the Regional Conference I (one) of the Balinese Hindu Struggle Body at Dwijendra College, Denpasar. However, the spirit of this teaching concept originates from the essence of Hindu religious teachings, as found in the holy book *Bhagavad Gita III sloka 10*, which includes elements such as Sangyang Jagat Karana, Buana, and Prajapati, termed *Parahyangan*, *Pabelasan*, and *Pawongan* in the Tri Hita Karana Concept.

Through this writing, it can be seen that the Tri Hita Karana concept is a Hindu teaching concept which contains a good relationship between humans and their God, humans and their environment and humans and each other, which, if examined in more depth, is very in line or synergistic with the values of Pancasila. owned by the Indonesian people which contains five values namely; Divine Values (religious), Human Values (solidarity), Unity Values (love of the homeland), Democratic/popular values (consensus), Justice and welfare values. So that the values in the concept of the Tri Hita Karana religious teachings, when introduced to the Balinese people, are very easy to understand and accepted by the Hindu community in Bali, therefore it can be said that the Tri Hita Karana concept can be said to be an implementation of

the established Pancasila values. as a State ideology through various implementations in everyday life.

If we study the elements of the Tri Hita Karana in the holy book *Bhagavad Gita* (III. 10), which reads as follows: "**Sahayajnah prajah sristwa pura waca prajapatih anena prasawisyah dhiwan esa wo'stiwistah kamadhuk**" which means: In ancient times Prajapati created humans with yadnya and said: with this you will develop and will become the *kamadhuk* of your desires. In the Bhagavad-Gita sloka there are elements that are interconnected to obtain happiness, namely consisting of three elements, namely, *Sanghyang Jagatkarana*, (God) Bhuana (Universe) and Man himself. The explanation of Tri Hita Karana in the life of Hindus is termed in the form of three harmonious relationships.

The relationship between humans and their God is manifested in the God Yadnya (Perhyangan)

Parahyangan is a harmonious relationship between humans and *Ida Sang Hyang Widhi Wasa* / Brahman the creator / God Almighty. As religious people, based on the theological concepts they believe in, especially Hindus, the first thing they have to do is try to connect with the Creator through hard work according to their abilities.

The relationship between humans and their own environment

The relationship between humans and their natural environment is seen in the *Bhuta Yadnya (Pabelasan)*. In the *Atharvaveda* Book, prayers are made for the earth to be free from disturbances, the atmosphere to be calm, the waters to be soothing, and the vegetation to be beneficial.

The relationship between humans and each others (humans)

The relationship between humans and each other is realized through *Pitra, Rishi, Manusa Yadnya (Pawongan)*. The application of Tri Hita Karana reflects the implementation of Pancasila values in social life. It can be said that the Tri Hita Karana concept is in synergy with Pancasila values, which encompass belief in one God, just and civilized humanity, Indonesian unity led by wisdom in representative deliberations, and social justice for all Indonesian people.

The application of the Tri Hita Karana concept as a means of implementing Pancasila values in people's lives can be detailed through three dimensions of this relationship, as follows:

1. Implementation of the Parahyangan Concept

The Parahyangan concept in Tri Hita Karana represents a harmonious relationship between humans and God (*Ida Sang Hyang Widhi Wasa*), emphasizing the necessity of devotion to God, the Creator of the Universe and its contents. This relationship forms a vertical connection between humans and God. The implementation of the Parahyangan concept involves adhering to religious teachings, conducting religious ceremonies, and constructing places of prayer. To maintain a harmonious relationship with God, it is essential to adhere to His path, avoid His prohibitions, and diligently offer prayers as a form of gratitude for blessings and challenges faced, seeking guidance and striving for personal improvement in the future. In the context of Pancasila, this relationship demonstrates human devotion to the Creator in accordance with the teachings of their respective religions or beliefs. This relationship is inherently personal, allowing individuals in Bali to implement the Parahyangan concept according to the circumstances, space, and time, known as *village, kala, patra*.

In this concept, individuals are expected to follow religious teachings in accordance with their commands and prohibitions while respecting others in their religious practices. The application of Parahyangan according to *village, kala, patra* carries broad and flexible meanings. In Pancasila, belief in the one and only God aligns with just and civilized humanity, signifying worship based on belief/religion adapted to each region and culture, fostering mutual respect among religious followers. This belief concept contributes to the enhancement of faith quality, nurturing individuals

with moral integrity. This faithful and moral behavior is reflected in the religious activities of the Hindu community in Bali, such as prayers or puja mantra aimed at establishing a closer connection with Sang Hyang Widhi Wasa (God Almighty) through worship conducted at various levels, including inter-regional environments known as Khayangan Jagat, sacred places in villages known as Khayangan Tiga, and family circle worship areas known as sanggah, merajan, paibon, or kawitan. The implementation of the Parahyangan relationship in the Tri Hita Karana concept effectively embodies the practice of the value of Belief in One Almighty God (First Principle) in Pancasila, as enshrined in Article 29 of the 1945 Constitution, guaranteeing every citizen the freedom to embrace religion and worship according to their beliefs.

Therefore, the Parahyangan concept in Tri Hita Karana reflects the application of godly values in Bali, which can be implemented effectively and sustainably with freedom and comfort due to adherence to rules, customary laws, the implementation of Pancasila values in religious teachings, and the cultural practices of Hindu society in Bali (*dresta*).

2. The implementation of the Pabelasan Concept

The *pabelasan* concept is essential for understanding the relationship humans have with their environment, as depicted in the *palemahan* concept. This concept underscores human sensitivity and concern for the environment, emphasizing the inseparability of human life from nature. Throughout history, Balinese people have relied heavily on nature for their needs, highlighting the reciprocal relationship between humans and the environment. To honor this interdependence, there is a need for environmental preservation, ensuring that what is taken from nature to meet human needs is returned through conservation efforts.

The concept of *palemahan* in Tri Hita Karana finds expression in various Hindu ceremonies in Bali, serving as manifestations of reverence and care for nature and the environment. For instance, ceremonies like *tumpek bubuk (wariga)* and *tumpek cage (tumpek Uye)* symbolize gratitude for the benefits derived from plants and animals, respectively. Additionally, *pecaruan* ceremonies, ranging from small to large-scale depending on their significance, aim to maintain the balance of both microcosmic and macrocosmic natural life, thus averting potential disasters like earthquakes, landslides, floods, diseases, and pests. It is believed that such practices foster sensitivity and concern for the environment, promoting respect and care for the surroundings.

The application of the *palemahan* relationship in the Tri Hita Karana concept mirrors various values inherent in Pancasila. Specifically, the *palemahan* concept teaches the value of love for one's homeland, reflecting the third principle of Pancasila. It also emphasizes the importance of balancing rights and obligations, echoing the fifth principle, and underscores values of tolerance and care, which strongly align with the second principle of Pancasila.

In summary, the *palemahan* concept in Tri Hita Karana encapsulates practices that promote environmental stewardship and align with the fundamental values of Pancasila, contributing to the well-being of both society and the environment.

3. Implementation of the Pawongan Concept

Pawongan is a human relationship with each other; humans are required to form harmonious relationships with others. These harmonious relationships can be realized in family, friendship, and work contexts. In the holy book *Atharvaveda XII.1.45*, it is affirmed:

"Work hard for the glory of the motherland, shed blood, and unite your people who speak different languages. Give proper respect to those who adhere to different religions. Respect them all like a family living in one house. Pour out your love, like a mother cow who always gives milk to humans. Mother Earth will provide wealth and prosperity to you, mankind, as her children."

Pawongan means that we must be able to maintain harmonious relationships with family, friends, and society. In maintaining harmony, we must avoid discrimination based on rank, religion, or ethnicity. In social life, all people in Indonesia have the same dignity and status, equality in job opportunities, and in the fields of law and government. As citizens, we have the same position before the law; there is nothing in the law that differentiates one citizen from another.

As Indonesian citizens adhering to Pancasila, we are not allowed to infringe upon others. We must humanize each other and refrain from acting solely in our own interests in daily life. Fairness is one of the foundations for practicing the second principle of Pancasila. In problem-solving, the focus must be on the problem itself, not on individual backgrounds such as ethnicity, race, or culture. Everyone has the right to an opinion. To maintain security and comfort in society, it is best to respect others' opinions. We should not impose our desires on others, as we wouldn't want others to do the same to us. Discrimination based on ethnicity, religion, skin color, economic level, or education should be avoided. Love among Indonesian citizens fosters harmony in society and the state. As individuals adhering to Pancasila, we must be willing to help anyone, anytime, and anywhere. As fellow creatures created by God, humans are taught not to differentiate between God's creations and to appreciate the meaning of differences.

The relationship in Pancasila shows the feeling of brotherhood and human concern for each other, both within the same community, among people of different beliefs, and across different regions. In the Hindu community in Bali, the implementation of the *pawongan* concept involves fostering harmonious relationships among other Hindu communities, whether throughout Bali, in village communities known as village krama, or among family members (*kulewarga pesawitran* relationship). The implementation of *pawongan* teachings in the Tri Hita Karana concept in Bali is reinforced by social organizations (*sekaa*), which strengthen relationships between communities in Bali. These social organizations exist across various dimensions of age and profession in the Hindu community in Bali, such as *burdenjaran* (for married or family members), *sekaa teruna* (for young people), *sekaa manyi* (a group involved in rice field work), and *sekaa subak* (irrigation organization in Bali), among others.

The concept of *pawongan* in Tri Hita Karana cannot be separated from human nature as social creatures who cannot live alone. In carrying out life or fulfilling daily needs, assistance from others is required. Relationships in the *pawongan* concept in Bali are not limited to people of the same religion; they also involve positive social interactions with people of other religions, often referred to as building relationships with wong *sunantara* or krama *tamiu* (people from outside Bali). This social relationship can be observed in cultural practices such as *mejenukan* (visiting people in times of happiness or distress) and *ngejotin* (giving something sincerely, often in the form of food), which can be done irrespective of religious or regional boundaries.

The application of the *pawongan* relationship in the Tri Hita Karana concept reflects various values in Pancasila. Apart from teaching the high values of love and humanity as a reflection of the second principle of Pancasila, it also embodies democratic values as a reflection of the fourth principle. These values are manifested in various forms of *sekaa* (social organizations) in Bali. Through these organizations, policies or decisions are made for common goals, often through meetings known as *sangkep* or *paruman*. In these meetings, democratic values are evident through the consensus-building process led by a meeting leader or *klian sekaa*, reflecting both the fourth principle and the value of unity accompanying this social relationship.

All social organizations formed in the Pakraman village in Bali consistently embody religious, humanitarian, unity, deliberation, and welfare values. Since their inception, these organizations have been dedicated to seeking auspicious days (*duasa*), fulfilling duties, and honoring specific rituals as acts of devotion to Ida Sang Hyang Widhi Wasa (God Almighty). In every endeavor, the preservation of human dignity is paramount, fostering unity and solidarity.

The concept of living in harmony, underscored in Hindu religious teachings, is upheld through religious practices. Numerous religious terms convey the notions of "*we are family*" and "*we are brothers*," as encapsulated in the Wasudewa Kutumbakam terminology derived from the Maha Upanishad text. The bond of brotherhood among individuals must be grounded in the principle of mutual care and happiness. Accordingly, everyone should treat others with the same care and consideration they afford themselves. This principle is encapsulated in *Tat Twam Asi*, reflecting the notion that "**humans are essentially the same, despite differing phenomena.**" The ultimate goal of Hindu human life is Mokshartam Jagadita, which encompasses inner and outer happiness and the attainment of reunion with God after death (*moksa*).

3. CONCLUSION

From this discussion, several important conclusions can be drawn. Firstly, the Tri Hita Karana concept, fundamental to Hindu society in Bali, seeks to realize life's ultimate goal: inner and outer happiness (*Moksartham Jagadhita*), achieved through fostering harmonious relationships between humans, Almighty God, fellow humans, and the environment.

Secondly, the practical application of the Tri Hita Karana concept serves as a tangible embodiment of the values encapsulated within the Pancasila Ideology. This concrete demonstration enables individuals to grasp the essence of Pancasila's abstract principles more readily.

Thirdly, within the fabric of national and state life, the Balinese Hindu community seamlessly integrates the values of the Pancasila ideology into their daily existence, without encountering conflict. This harmonious coexistence is made possible by the inherent compatibility and openness of both ideologies, rooted in a relevant ontological basis.

The Balinese Hindu community's ability to implement these two ideologies concurrently, and without conflict, underscores their alignment and compatibility. This harmonious integration fosters a societal framework wherein harmonious coexistence thrives, benefiting both the community and the broader Indonesian society.

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**SERANGAN TURTLE ISLAND:
LOCAL WISDOM OF A TOURISM AREA USING A GREEN
MARKETING APPROACH AND KEY OPINION LEADER (KOL)
MARKETING BASED ON INFORMATION AND COMMUNICATION
OF TECHNOLOGY (ICT)
(Case Study: Turtle Conservation Tourist Attraction On Serangan Island,
Denpasar City, Bali Province)**

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ABSTRACT

Turtle Island is a tourist area with local wisdom belonging to Serangan Village, Bali Province. The form of local wisdom values on Turtle Island has become a tourist attraction with a green marketing approach to preserve local wisdom values in tourist areas, a key opinion leader marketing approach to gain tourists' trust, and information communication of technology as a potential supporter in improving service quality in tourist attraction areas. The research was carried out using qualitative methods with a phenomenological approach, namely an approach that looks at the uniqueness or certain phenomena that occur in tourist areas. Data collection methods use interview methods, observations and document study techniques. The results of the research show that the value of local wisdom from the tourist area, both in the form of traditions and customs, is important, because it can provide its own attraction. The green marketing approach is one of the concrete actions in maintaining and preserving the concept of local wisdom in a tourist area which is known as environmentally friendly educational and conservation tourism, so that the existence of turtles as a mainstay icon of the Serangan Village tourist area remains sustainable and is beneficial for the environment and surrounding communities. Other supporting objects in tourist areas provide added value to a tourist location. The involvement of key opinion leaders who care about tourism potential and objects in promoting sustainable tourist destinations also contributes to the success of green marketing activities as well as activities to preserve the local wisdom values of these tourist areas with the support of information communication of technology media. The research results show that green marketing and key opinion leader marketing have an impact in increasing the value of the local wisdom of Serangan Village tourism based on information communication of technology.

Keywords: development strategy, processed fish products, income

PRELIMINARY

The development of science, technology, information and communication has increased the flow of capital, investment, goods and services from one country to another, from developed countries to developing countries in general. The development in which the world reaches without regional boundaries is known as

globalization. This era of globalization means that a country must have a filter system so that the negative impact or influence resulting from the impact of globalization can be minimized. The value of local wisdom is one of the mainstay strategic moments to minimize the negative effects of globalization.

Local tourist attractions have a positive impact on local wisdom and life values which give importance to life and interactions with each other. The main value is a strategic momentum for local culture to inspire the region to develop local potential, especially in developing natural tourism activities. Efforts to preserve local wisdom values are one of the main things and an important key so that tourism activities and businesses do not forget the existing cultural values and local spirit values.

One of the local tourist attractions is the existence of tourist attractions in an area. Of course there are various types of tourist attractions in various regions, one of which is tourist attractions in the natural resources tourism sector. This type of tourist attraction needs protection and preservation so that it can be used as a potential source of tourist attraction to attract visits from tourists, both local and foreign tourists. Nature tourism consists of tourist attractions and activities related to the utilization of potential natural resources and ecosystems, outdoor tourism activities and of course can provide comfort so that more tourists come.

One of the natural tourist attractions is the beach. Indirect use of the beach is by using the beach as a marine tourism attraction which is equipped with a turtle (turtle) nursery as an added value for local wisdom which must be protected. One of the beach tourist attractions that is worthy of being a tourist attraction is on Serangan Island, Denpasar City, Bali Province. The turtle breeding area on Serangan Island is one of the unique tourist attractions with local wisdom, also known as the "Serang Turtle Island Conservation Area" which still remains in Indonesia and is still preserved.

The value of local wisdom in the Turtle Island tourism area, so that its existence is maintained, can be supported by using a green marketing approach, which is a strategic activity to create profitable environmentally based business opportunities. It is hoped that this green marketing concept will be able to create potential new profitable business opportunities to help the welfare and prosperity of local communities in particular while preserving and protecting the environment is the main focus. The green marketing concept is a variation of terminology from environmental marketing, ecological marketing, sustainable marketing, and green marketing. Real actions of community concern in protecting and preserving tourist areas and the surrounding environment include local wisdom values which will create positive synergy to increase enthusiasm to love the environment again and be proud of the nation and state through the local wisdom values within it. The local wisdom value of Serangan Turtle Island is carried out by involving the participation of the local community in actively protecting and preserving the environment through community-based tourism activities. A community of people who care about conservation activities in tourist areas through the Tourism Awareness Group/POKDARWIS. The involvement of the community who are part of the Sadar Wiata Group is a concrete manifestation of community action that cares about the potential that exists in their regional tourist area, so that the environment remains maintained and running properly according to its function.

The tourist area, especially on Attack Turtle Island, functions as a turtle breeding and conservation area. POKDARWIS as a form of community that cares about the environment and tourism areas positions the community not as objects, but as subjects of tourism activities. This community-based tourism activity is a form of developing the potential and advantages of a region through the tourism sector. Tourism activities are not only aimed at showcasing unspoiled tourism, but can also contribute positively to turtle conservation activities on Serangan Island by involving the community as the main controller in developing tourist areas. This needs to be done because local people understand more about nature and culture which are the potential and selling points of the area as a tourist attraction, so that community involvement is absolute. (Director General of Indonesian Tourism and Culture, 2020).

1. INTRODUCTION

Local wisdom which is inherited from ancestors in the values of life is integrated with forms of religion, culture and customs. Local wisdom is ways and practices developed by a group of people that originate from a deep understanding of the local environment and are formed from generation to generation according to Fathiyah and Hiryanto (2010). Local wisdom is local community knowledge (local knowledge), local intelligence (local genius) and local policy (local wisdom).

A form of local wisdom that exists in the lives of traditional communities who know their environmental conditions well. People live side by side with nature in harmony and harmony, understanding how to utilize natural resources wisely and judiciously. Local wisdom in the form of managing natural resources and the environment is a real form of community conservation. If natural resources are managed well and optimally, they will become potential tourism objects. One of the tourist attractions on the island of Bali is Turtle Turtle Island, located in South Denpasar, Bali with an area of 111.9 hectares consisting of 6,456 ha of residential land, 85 ha of moorland and plantations, 19 ha of swamp or mangrove forest. Viewed from an economic development perspective, this has had a positive impact on the economic cycle of the people in the Serangan area. This is because Serangan Island has local wisdom or local wisdom that continues to protect turtles from extinction and as a tourist attraction for tourists who want to be creative in seeing turtles, feeding them and releasing turtles for breeding. Apart from legal protection efforts based on KSDAHE, protection for turtle population in Bali, especially Attack Island in South Denpasar, by establishing a TCEC (Turtle Conservation and Education Center). This organization is an alternative to saving turtles that are threatened with extinction. TCEC is a conservation vehicle initiated by a number of environmental conservation figures in Bali and the Bali Provincial Government (Prasetyo, 2014).

Several turtle conservation practices in Indonesia have the same concept, namely by taking or moving turtle eggs that are in natural nests, namely on the beach, then placing them in artificial nests that are protected from predators and also protected from coastal erosion. Then a few weeks later, when the eggs hatch, the hatchlings will be released into the sea as their natural habitat. Likewise, the method for turtle conservation on Serangan Island is the same as previously stated. TCEC in its conservation uses the ex-situ method. The management concept is: Education, Ecology and Economics. TCEC is assisted by the Bali Provincial Government and the Denpasar City Government, apart from that it is also supported by WWF (World Wildlife Fund).

If managed well, the benefits and advantages of the Attack Turtle Island tourist attraction will become a superior tourist attraction that is useful if supported by using a green marketing approach. According to the American Marketing Association, green marketing is a process of marketing products that are assumed to be safe for the environment. Polonsky in Sumarwan et al. (1012:216) states that green marketing is not just marketing environmentally friendly products, but also requires a reorientation and environmental responsibility of all areas, activities and departments of an organization.

The goal of green marketing is not only profit as the company's main goal but also concern for the environment. In this era of digitalization, it is also important to implement marketing using Key Opinion Leader (KOL) Marketing based on ICT (Information Communication and Technology). Promotion from Key Opinion Leaders ICT (Information Communication and Technology) plays an important role in conveying information to the wider community via social media by distributing interesting and interactive content because KOLs can share opinions and information with other users. A digital marketing strategy using ICT-based KOL Marketing (Information Communication and Technology) aims to increase consumer trust and convey promotional messages and direct public opinion packaged in the form of content.

The advantage of green marketing compared to others is that the green marketing concept also involves people's concern for the environment. This is of course done to provide knowledge and understanding for the local community and visiting tourists to maintain the preservation of the surrounding environment. The green marketing approach can be used appropriately to market tourist areas by involving all parties to work together and synergize, including with the surrounding community through POKDARWIS.

2. DATA DESCRIPTION AND DISCUSSION

The research method used in this research is a qualitative method and uses a phenomenological approach. An interesting phenomenon from this research is the existence of the Serangan Turtle Island tourist area in Attack Village, South Denpasar, Bali Province. Data collection techniques use interviews, observation, and documentation study techniques. The data from this research was processed using snowball sampling in order to obtain valid and reliable research data, so that the validity of the data from this research activity can be justified. The informants in this research consisted of the Head of the Denpasar City Tourism Office, the Head of the Bali Province Tourism Office, a team from TCEC, the community or local residents,

The results of field interviews show the value of local wisdom in tourist areas which is preserved through local customs. The value of local wisdom in the Serangan Turtle Island area, among others, is as a means of education in the form of environmental and rare animal conservation through turtle breeding and breeding. The value of local wisdom in the Serangan Turtle Island area can be maximized with the help and support of all parties to synergize and work together in actively maximizing its potential, in the form of complete facilities and infrastructure in the tourist area so that in the future it can be used as a tourist village.

The results of the interview activities show the application of a green marketing approach to preserve culture and local wisdom values in tourist areas and can be done by: making the Serangan Turtle Island tourism an educational tourism, managing and creating the area around the Attack Turtle Island into a place to cultivate turtles or breeding hatchlings so that the preservation of this rare animal is maintained and becomes the hallmark of Attack Village.

3. CONCLUSION



The results of the discussion relating to the value of local wisdom in tourist areas as an attraction for tourists show that efforts to make the Serangan Turtle Island tourist area an appropriate educational tourism, the cooperation of all parties to preserve the Serangan Turtle Island area is important to do, for example: cultivating and breeding turtles so that this rare animal remains sustainable. Development of water springs in the Serangan Turtle Island area through water management which is

carried out wisely and periodically so that the assets of the Serangan Turtle Island area can be enjoyed fairly and equally by all parties.

The results of this research activity also show the application of a green marketing approach through Key Opinion Leaders based on Information Communication and Technology in an effort to preserve the value of local wisdom in tourist areas, realized in the form of educational tourism, creating the area around Attack Turtle Island as an activity to protect endangered animals. The marketing carried out continues to promote this tourism and typical souvenirs from Attack Turtle Island. Socialization of marketing movements using the concept of a green marketing approach is an effort to maximize the potential of tourist areas so that they are not claimed or followed by other regions and can be strengthened legally through policies or regulations that support tourism.

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THE IMPLEMENTATION OF COMMUNICATION PSYCHOLOGY IN BUILDING SELF-CONFIDENCE FOR CHILDREN IN ORPHANAGES AMONG CAREGIVERS AT TAT TWAM ASI ORPHANAGE, DENPASAR

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ABSTRACT

This research is a scientific study that discusses how the application of communication psychology is carried out to build the self-confidence of orphanage children in caregivers at the Tat Twam Asi orphanage, Denpasar City. This research aims to find out whether caregivers apply communication psychology in building children's self-confidence in orphanages. This research uses a qualitative descriptive and quantitative descriptive approach with the research subjects namely caregivers at the Tat Twam Asi Orphanage, Denpasar City. The research method uses interview techniques, questionnaires, observation, and documentation. The data collected used interviews, questionnaires, observation, and documentation methods. Based on research results, the application of communication psychology resulted in 60% choosing always and 34% choosing often, with indicators through understanding, enjoyment, influencing attitudes, good social relationships, and actions. The self-confidence of foster children is realized through the achievements obtained by foster children and in the environment both formally and informally. Foster children's self-confidence is built from an attitude of confidence in their abilities, optimism, objectivity, responsibility, and rationality. In the application of communication psychology, a close approach is needed, of course with the word "forum" so that foster children can interact and communicate well.

Keywords: *Communication Psychology, and Confidence*

1. INTRODUCTION

Family and parents are the primary and first institutions for children, where parents have the responsibility in raising them. Additionally, families sometimes experience the release of child-rearing functions, leading to suboptimal child-rearing due to the inability and limitations of parenting. Parents are often vulnerable economically, socially, culturally, and religiously, such as in cases of divorce or the death of one or both parents, which can result in child neglect. In response to such situations, the government is responsible for protecting disadvantaged children, as stated in Article 33 of the 1945 Constitution, which mentions that the poor and disadvantaged children are protected by a state institution and accommodated in a place called an "Orphanage" to provide them with a decent livelihood and social welfare.

The growth and development of children in orphanages are similar to those at home, requiring attention and affection from caregivers. Therefore, the role of caregivers is expected to replace that of parents. The relationship between caregivers and children will determine the communication of the child in their development and growth, especially in enhancing the child's self-confidence. Therefore, caregivers have a responsibility to educate and guide orphanage children to become good and responsible individuals with self-confidence, which is essential for children's socialization.

Fostering children's self-confidence requires approaches such as psychological approaches by caregivers to children in the orphanage. Psychological approaches are efforts to find solutions to problems faced by individuals. Psychology serves as a wise tool to create peaceful, prosperous, and healthier lives. Psychology is the science that studies the soul, including its symptoms, processes, and backgrounds (Abu ahmadi, 2001:1). Communication Psychology is a sub-discipline of psychology. Communication psychology is the science that studies communication from a psychological aspect. It also attempts to describe, predict, and control mental and behavioral aspects of communication, whether interpersonal, intergroup, or mass communication. In communication psychology, self-confidence will affect how individuals interact with their surroundings. Recognizing, predicting, and convincing oneself and others are affected by one's self-confidence in interacting with the environment.

Self-confidence is a valuable attribute in a person's life in society. Without self-confidence, individuals will face many problems. This is because with self-confidence, one can actualize all their potentials. Self-confidence is a belief and attitude of a person towards their own abilities by accepting themselves as they are, whether positive or negative, formed and learned through the learning process with the goal of personal happiness. Self-confidence is the basic capital of a human being in fulfilling their various needs. (Ghufron, 2011:25).

The relationship between foster children and caregivers in orphanages is a relationship between individuals outside the family who replace the family role. In orphanages, caregivers who act as substitute parents should have good interpersonal relationships. Good interpersonal relationships can create openness and interpersonal closeness between foster children and caregivers.

Communication between caregivers and foster children is carried out to facilitate the development of relationships between caregivers and foster children. This relationship development is aimed at creating a good relationship between caregivers and foster children, as seen in Tat Twam Asi Orphanage located at Jalan Jaya Giri no.6 Denpasar.

2. RESEARCH METODOLOGY

This research was conducted at Tat Twam Asi Orphanage, located at JayaGiri Street No.IX, East Denpasar, Bali. The approach used in this research includes both qualitative and quantitative approaches with descriptive narrative. In qualitative data analysis, the process involves systematically searching and organizing data. Data collection was obtained from interviews, field notes, and other materials, making it easily understandable and informative to others. For quantitative data analysis, research data in the form of numbers were analyzed statistically. The quantitative

data analysis technique used in this research is descriptive statistical analysis (Sugiyono, 2014:147).

The informants in this research are caregivers directly involved in a study on communication psychology and self-confidence. The informants are knowledgeable about the issues and possess adequate data, enabling them to explain the factual conditions or phenomena that occur. Three caregivers were interviewed as informants. Subsequently, the collected data were analyzed qualitatively and quantitatively, including data reduction, data presentation, and finally drawing conclusions.

3. RESULTS AND DISCUSSION

The Application of Communication Psychology in Building Children's Self-Confidence

Percentage of Caregiver's Application of Communication Psychology in Building Children's Self-Confidence at Tat Twam Asi Orphanage in Denpasar City, based on age groups, calculated through statistical formulas as follows:

Based on indicators such as understanding, joy, influencing attitudes, good social relationships, and actions. The questionnaire provided the following response options:

Always = 5

Often = 4

Sometimes = 3

Rarely = 2

Never = 1

From the conclusion drawn from the application of communication psychology, the results showed that 60% chose "always" and 34% chose "often". Thus, the success of applying communication psychology in building self-confidence is evident among caregivers at Tat Twam Asi Orphanage in Denpasar City. The positive impact of caregiver actions on foster children is apparent, showing that traits like understanding, joy, good social relationships, and caregiving actions are essential in supporting and motivating foster children to achieve their goals. Implementing such caregiving practices can enhance the enthusiasm of foster children in prioritizing their responsibilities as foster children, ultimately leading to improved self-confidence. According to the theory proposed by Stewart L Tubbs and Sylvia Moss (2001:22-28), effective and wise caregiving is crucial to meet the demands of the caregiving profession, acting as surrogate parents for the children in the orphanage.

Caregiver Approach Stages in Building Children's Self-Confidence

According to Fisher's theory (as cited in Rakhmat, 2005:9), the psychological communication approach can be influenced by sensory stimuli reception, sensory stimuli and response, and response reinforcement, affecting the communication process. As the closest environmental factor, to help fulfill the response reinforcement process. Caregivers and foster children make their closeness limitless by instilling a sense of family among foster children, akin to other children, enabling them to become good individuals and find happiness in building self-confidence. The familial bond established by caregivers makes foster children feel warm and close, like a family, in Tat Twam Asi Orphanage.

Children's Self-Confidence

Self-confidence is an attitude in oneself that can accept reality, develop self-awareness, think positively, have independence, and have the ability to possess and achieve anything desired. The conclusion drawn from the questionnaire results

obtained at Tat Twam Asi Orphanage is positive, indicating that foster children can build high self-confidence.

Supported by interview results stating, "Yes, foster children can build self-confidence by being good individuals with excellent character. It's not easy to be someone who gives up easily; they must rise and be spirited. Even though foster children live in orphanages, they deserve happiness like other children outside.

This is consistent with Lauster's theory (as cited in Ghufron, 2011:35), that individuals with high self-confidence appear calmer, have no fear, and can demonstrate their confidence at all times. This aligns with the theory that positive self-confidence can be built by someone who believes in their abilities. This means foster children can strive for their abilities and achievements, supported by their capabilities and willingness. They are optimistic, meaning they are brave and willing to strive to achieve their goals until they eventually become champions in both formal and informal education. They are objective, meaning they can confidently fulfill their responsibilities as individuals, responsible for their actions both within and outside the orphanage, and rational and realistic according to the circumstances of foster children in Tat Twam Asi Orphanage, influenced by their environment.

4. CONCLUSION

The application of caregiver communication psychology yielded positive results, with 60% choosing "always" and 34% choosing "often." Therefore, caregivers implement it through communication that can be maintained with foster children, both within and outside the orphanage environment. Caregivers must be able to apply it to foster children by having a nurturing spirit and providing understanding, which can make foster children feel comfortable and happy. Visible happiness can influence attitudes that provide positive guidance by supporting foster children and through good social relationships, closeness between foster children and caregivers is evident. Through actions taken by caregivers, foster children can develop high self-confidence.

The communication psychology approach is formed through approaches such as giving equal attention and affection to foster children in the orphanage, even though they live there, they also have the right to happiness like children outside. We also approach by gathering foster children in a forum to train them in communication and to share about their daily lives and achievements both formally and informally. Sensory stimulus reception, the process between stimuli, and response reinforcement yield the same results in being able to communicate, so that foster children can accept input and respond well as educational material by practicing it in the real world, such as achieving achievements. Foster children accept this process happily, so the responses they give can truly manifest in building their self-confidence.

Self-confidence can be achieved through good spirit and aspirations. Even though foster children live in orphanages, they also have the right to livelihoods like other children. By pursuing education formally, it can be seen that achievements can be attained with high levels of self-confidence, and foster children also pursue higher education. Self-confidence is built by foster children at Tat Twam Asi orphanage with a belief in their high abilities to be accepted in an environment, optimism to achieve all achievements supported by individual capabilities, objectivity in determining more beneficial life goals, responsibility in all matters related to the orphanage environment and the outside environment, dedication to education pursued for the

spirit of building self-confidence, and being rational and realistic about all developments in Tat Twam Asi orphanage and in the surrounding environment.

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EXPLORING THAI SCIENTISTS' BEHAVIOR TO ENGAGE IN SCIENCE COMMUNICATION TRAINING

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ABSTRACT

Effective science communication plays a crucial role in bridging the gap between scientific communities and the public, fostering informed societal decision-making, and contributing to sustainable development across various sectors. This study offers a comprehensive analysis of the intentions and behaviors of Thai scientists towards science communication training within Thailand's distinctive cultural and educational landscape. Utilizing Partial Least Squares Structural Equation Modeling and the Integrated Behavior Model, our research examined a sample of 73 scientists from various fields including academia, healthcare, and government across areas in Thailand. The findings reveal that perceived control has a direct impact on Thai scientists' intentions to participate in science communication training and highlight the effect of such intentions on the actual behavior of engaging in these training programs. The study also highlights the role of resource allocation and past behavior in shaping actual engagement in science communication activities. Moreover, we discovered an inverse relationship between injunctive norms and intentions, suggesting that perceived peer pressure or expectations might not invariably foster an individual's intention to undergo science communication training. This finding invites further exploration into the cultural and institutional dynamics that might contribute to this outcome. Our research contributes to the global dialogue on science communication by providing unique insights into the factors that encourage scientists from engaging in communication training within a non-Western context. By underscoring the factors influencing Thai scientists' intentions and participation in science communication training, our goal is to offer insights to institutions and policymakers. This guidance is crucial for the strategic allocation of funding and time in the development of training programs tailored for scientists and science communicators, not only in Thailand but across ASEAN nations. Through this approach, we seek to enhance the effectiveness of science communication, fostering a well-informed public dialogue on scientific issues throughout the region.

Keywords: Science Communication, Thai Scientists, PLS-SEM, Integrated Behavioral Model, Science Communication Training Program

1. INTRODUCTION

In recent years, there has been an increasing acknowledgment of the necessity for scientists to adeptly disseminate their knowledge to the broader public. The imperative for effective science communication stems from various challenges that scientists encounter, including the intrinsic complexity of scientific information and

a lack of training in simplifying these complexities for non-specialist audiences (Radford, 2011; Brownell et al., 2013). The global landscape of science communication research often reflects a Western-centric viewpoint (Guenther and Joubert, 2017). However, it may not universally apply, given the distinct cultural and institutional landscapes across different nations. Despite the global reach of science communication, it is profoundly influenced by local traditions and societal priorities, necessitating adaptations to suit diverse cultural contexts, particularly in developing nations (Schiele et al., 2012; Navarro and McKinnon, 2020). This perspective brings the focus of this research to the context of Thailand.

In Thailand, the approach to science communication is deeply influenced by Thai cultural norms, educational practices, and institutional frameworks. The impact of Buddhism and traditional Thai values significantly shapes the learning process, with local wisdom playing a pivotal role in science education (Yuenyong and Narjaikaew, 2009). Furthermore, the interaction between Science and Buddhism has a notable effect on Thai society, potentially challenging the communication and perception of science in the country (Chinnalong, 2015). These insights highlight the essential need for communication strategies that align with the preferences and values of the Thai population.

This study focuses on Thai scientists' engagement in science communication training, examining their attitudes and behaviors by employing the Integrated Behavior Model (IBM) and Partial Least Squares Structural Equation Modeling (PLS-SEM). It aims to uncover the unique factors affecting science communication in Thailand, providing critical insights for educators and policymakers. The objective is to improve scientific dialogue within Thailand and across ASEAN, supporting a more interconnected and informed scientific community.

2. METHODS

The Integrated Behavior Model (IBM) underpins this study, evolving from the Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) (Fishbein and Ajzen, 2010). TRA focuses on how attitudes and subjective norms shape behavior, while TPB adds the concept of perceived behavioral control, involving the ease or difficulty of performing the behavior. These models primarily assert that behavior is driven by behavioral intentions influenced by attitudes, norms, and perceived control. However, they have limitations, notably in addressing past behaviors and the impacts of societal and ecological factors. IBM builds on these frameworks by incorporating additional factors like knowledge and skills, environmental constraints, behavior salience, and habits (Montano and Kasprzyk, 2015). Building on this theoretical foundation, the study proposes the following hypotheses, each reflecting a specific aspect of the IBM constructs and their influence on the science communication behavior of Thai scientists.

Hypothesis (H1): *Scientists with positive experiences in previous science communication activities are more likely to engage in future science communication.*

Hypothesis (H2): *Scientists who believe that engaging in science communication is instrumental in achieving their professional goals and generating positive public outcomes will show greater willingness to engage in science communication.*

Hypothesis (H3): *Scientists surrounded by colleagues who hold positive attitudes towards science communication are more likely to develop a willingness to engage in it themselves.*

Hypothesis (H4): *Scientists exposed to peers who frequently engage in science communication are more likely to show an increased willingness to participate in science communication activities.*

Hypothesis (H5): Scientists who perceive a supportive environment that enables and encourages science communication are more likely to feel motivated to engage in science communication.

Hypothesis (H6): Scientists with positive self-perceptions regarding their abilities as effective science communicators are more likely to demonstrate a willingness to engage in science communication.

Hypothesis (H7): Scientists who have previously conducted science communication activities are more likely to continue participating in such activities, suggesting a pattern of behavioral continuity in science communication engagement.

Hypothesis (H8): Scientists who perceive that there is adequate allocation of resources towards science communication training and support within their institutions are more likely to be willing to engage in science communication efforts.

Hypothesis (H9): Scientists who demonstrate a strong intention to participate in science communication training are more likely to actively engage in such training programs.

For a visual depiction of these hypothesized relationships, refer to Figure 1 below, which illustrates the interconnected paths and variables of the structural model.

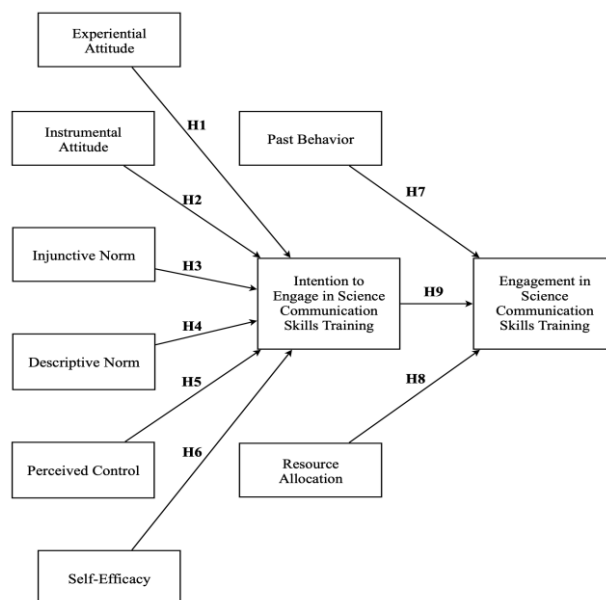


Figure 1. The Proposed Research Model

Sample and data collection

This study adopts a two-phase quantitative approach, beginning with a pilot phase that aims to validate the research tools, which are grounded in the TPB, IBM, and principles of science communication. This initial stage involved 23 science professionals from Bangkok and Chiangmai, Thailand, whose insights were crucial for refining the survey for wider use.

The second phase broadened the research to include a diverse group of Thai scientists from multiple disciplines and regions, including Bangkok, Hatyai, Chiangmai, Khonkaen, and Pathumthani. Utilizing an online survey distributed via Google Forms, the study collected responses through 33 questions rated on a 5-point Likert scale (from 1 - Strongly Disagree to 5 - Strongly Agree), running from

February 22 to March 17, 2024. Eventually, we received 73 complete and valid responses, with no missing values.

3. RESULTS AND DISCUSSION

Demographic profile of the respondents

The demographic profile of the 73 survey participants is detailed in Table 1. The data reveals a diverse range of experiences among the respondents in terms of their tenure in science-related fields: 32.9% have less than 5 years of experience, 35.6% have 6 to 10 years of experience, and 31.5% have dedicated more than 10 years to the field. Participants also represent a variety of sectors. Academia, including universities and colleges, accounts for 43.8% of the respondents. The government or public sector comprises 16.4%, the healthcare sector 34.2%, and research institutes 1.4%. A significant majority of the respondents, 80.8%, work in urban areas, while 19.2% are based in rural settings.

Table 1. Demographic profile of the respondents

Profile of respondents	Response	(%)
Length of career (DM1)	Less than 5 years	32.9%
	From 6 - 10 years	35.6%
	More than 10 years	31.5%
Sector (DM2)	Academia (University/College)	43.8%
	Government/Public Sector	16.4%
	Healthcare	34.2%
	Research Institute	1.4%
	Others	4.1%
Urban vs. Rural (DM3)	Urban	80.8%
	Rural	19.2%
Gender (DM4)	Male	43.8%
	Female	54.8%
	LGBTQ+	1.4%
Religion (DM5)	Buddhism	84.9%
	Islam	2.7%
	Christianity	8.2%
	Catholic	1.4%
	Others	2.7%

Measurement models assessment

In this study, PLS-SEM was employed to evaluate the measurement models. Key metrics such as Composite Reliability (CR), Cronbach's Alpha, and Average Variance Extracted (AVE) were examined, with findings presented in Table 2. According to Hair et al. (2022), constructs exhibiting CR values above 0.70 are deemed reliably consistent. Here, all ten constructs have Cronbach's alpha scores above 0.7, demonstrating solid reliability. Convergent validity was assessed through the AVE metric. Hair et al. (2022) propose that an AVE value of at least 0.5 signifies adequate convergent validity. This study's constructs have AVE values above 0.5 benchmark, confirming strong convergent validity.

Furthermore, discriminant validity, which assesses the distinctness of constructs, was evaluated using the HTMT (Heterotrait-Monotrait) ratio. The HTMT values listed in Table 3 all remain below the 0.90 threshold, indicating no issues with discriminant validity and ensuring the uniqueness of each construct within the study.

Table 2. Construct reliability and validity

	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
BE	0.828	0.845	0.587
BI	0.881	0.890	0.738
DN	0.798	0.822	0.707
EA	0.836	0.876	0.747
IA	0.834	0.841	0.750
IN	0.803	0.803	0.717
PB	0.873	0.880	0.799
PC	0.881	0.883	0.808
RA	0.865	0.865	0.789
SE	0.885	0.898	0.813

Table 3. Heterotrait-Monotrait

	BE	BI	DN	EA	IA	IN	PB	PC	RA	SE
BE										
BI	0.862									
DN	0.763	0.728								
EA	0.371	0.507	0.315							
IA	0.308	0.578	0.438	0.802						
IN	0.494	0.539	0.810	0.415	0.670					
PB	0.781	0.662	0.646	0.173	0.377	0.606				
PC	0.728	0.777	0.795	0.293	0.488	0.572	0.701			
RA	0.792	0.696	0.725	0.133	0.344	0.670	0.875	0.742		
SE	0.534	0.626	0.472	0.644	0.672	0.423	0.327	0.615	0.315	

Structural model assessment

Following the confirmation of the measurement model's reliability and validity, the structural model's assessment was conducted. This analysis employed a bootstrap resampling technique with 5,000 subsamples, using one-tailed tests at a significance level of 0.05. The results, detailed in Table 4, affirm the significance of the hypothesized causal links. Notably, a significant positive relationship was observed between Behavioral Intention (BI) and Actual Behavior (BE) ($\beta=0.459$, $p<0.001$), underscoring the direct impact of BI on BE. Additionally, the analysis reveals positive effects of Past Behavior (PB) and Resource Allocation (RA) on Actual Behavior (BE), with coefficients of $\beta=0.260$ ($p=0.001$) and $\beta=0.230$ ($p=0.008$), respectively.

Table 4. Significance Testing Results of the Structural Model Path Coefficients (Bootstrapping)

	Path Coefficients	p-values	95% Confidence Intervals (with Bias Correction)	Significance ($p<0.05$)?
BI -> BE	0.459	0.000	[0.297;0.593]	Yes
DN -> BI	0.286	0.034	[0.022;0.538]	Yes
EA -> BI	0.194	0.037	[0.011;0.365]	Yes
IA -> BI	0.073	0.259	[-0.124;0.243]	No
IN -> BI	-0.058	0.292	[-0.248;0.099]	No
PB -> BE	0.260	0.001	[0.122;0.403]	Yes
PC -> BI	0.381	0.007	[0.133;0.646]	Yes
RA -> BE	0.230	0.008	[0.062;0.378]	Yes
SE -> BI	0.099	0.202	[-0.1;0.286]	No

An in-depth examination, aligned with Hair et al. (2022)'s methodological guidelines, further explored the model's mediation effects. As indicated in Table 5, Behavioral Intention (BI) serves as a mediator in the relationship between Perceived Control (PC) and Actual Behavior (BE), with a beta coefficient of $\beta=0.175$ and a p-value of 0.011. This analysis highlights the pivotal role of BI in bridging PC and BE, substantiating its mediating influence within the structural framework.

Table 6 shows that the R^2 values for Behavioral Intention (BI) at 0.599 and Actual Behavior (BE) at 0.692 are considered moderate, according to Hair et al. (2011) and Henseler et al. (2009). This suggests the model effectively explains a considerable amount of variance in these constructs, demonstrating robust explanatory power. Table 7 shows all model indicators have Q^2_{predict} values above zero, indicating the model's strong predictive capability beyond a basic benchmark.

Table 5. Mediation Analysis (Bootstrapping)

	Path Coefficients	p-values	95% Confidence Intervals (with Bias Correction)	Significance ($p<0.05$)?
DN -> BI -> BE	0.131	0.051	[0.016;0.28]	No
EA -> BI -> BE	0.089	0.053	[0.007;0.184]	No
IA -> BI -> BE	0.033	0.259	[-0.056;0.111]	No
IN -> BI -> BE	-0.026	0.297	[-0.121;0.044]	No
PC -> BI -> BE	0.175	0.011	[0.066;0.321]	Yes
SE -> BI -> BE	0.045	0.215	[-0.043;0.144]	No

Table 6. R Square Value

	R-square	R-square adjusted
BE	0.692	0.679
BI	0.599	0.563

Table 7. PLS_{predict} Results Report

	Q^2_{predict}	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
BE1	0.421	1.041	0.818	1.269	0.952
BE2	0.302	1.255	1.055	1.520	1.255
BE3	0.567	0.757	0.582	0.988	0.754
BE4	0.193	1.089	0.876	1.369	1.095
BE5	0.176	1.218	1.007	1.527	1.242
BI1	0.262	1.024	0.830	1.206	0.908
BI2	0.525	0.768	0.600	0.931	0.750
BI3	0.354	0.810	0.638	0.983	0.752
BI4	0.288	0.873	0.699	1.070	0.853

Figure 2 presents the PLS results of the research model.

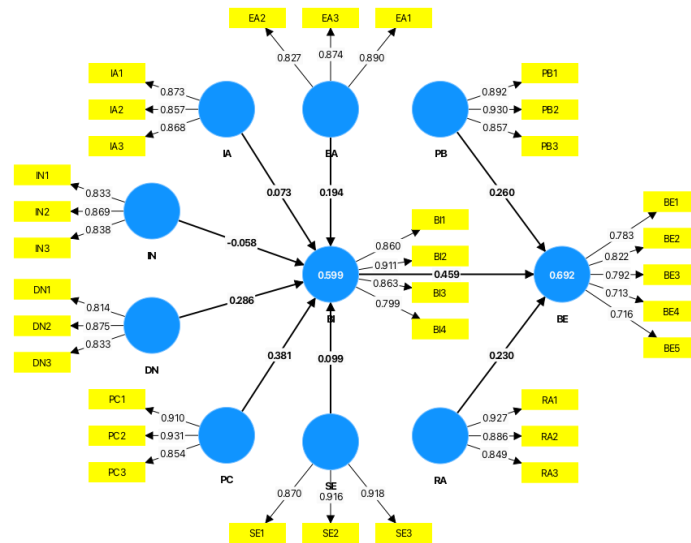


Figure 2. The structural model with path coefficients and R2 values

Discussion

The findings identified Descriptive Norm (DN), Experiential Attitude (EA), and Perceived Control (PC) significantly impact the Intention to Engage in Science Communication Training (BI), as evidenced by notable path coefficients: DN (0.286, $p=0.034$), EA (0.194, $p=0.037$), and PC (0.381, $p=0.007$). Furthermore, Behavioral Intention (BI) was found to have a strong direct positive effect on Actual Behavior (BE) with a coefficient of 0.459 ($p<0.001$). Mediation analysis indicated that BI serves as a mediator specifically between PC and BE (0.175, $p=0.011$), underscoring the critical influence of perceived control over one's actions. Additionally, past behavior was a predictor of future engagement (0.260, $p=0.001$), and resource allocation was directly linked to actual engagement (0.230, $p=0.008$). The study also uncovered an unexpected inverse relationship between Injunctive Norm (IN) and BI (-0.058, $p=0.292$), suggesting that perceived peer pressure or expectations might not invariably foster an individual's intention to undergo science communication training. This finding invites further exploration into the cultural and institutional dynamics that might contribute to this unexpected outcome. Despite confirming several hypotheses, the study found no significant impact from Instrumental Attitude (IA) and Self-Efficacy (SE) on BI, indicating a possible divergence from established theories.

4. CONCLUSION

This study emphasizes the significance of scientists' confidence in their resource navigation capabilities and the foundational role of past interactions and resources in fostering future training participation. While supporting various hypotheses, the study also unveils the nuanced impact of cultural and institutional factors through the lens of injunctive norms, suggesting fertile ground for further investigation.

This study on science communication training among Thai scientists, with a sample of 73 primarily from healthcare (34.2%) and academia (43.8%) in urban areas like Bangkok, Hatyai, Chiangmai, Khonkaen, and Pathumthani, provides valuable insights but has limited applicability across different geographic and sectoral contexts. The focus on specific urban centers and sectors suggests a broader, more diverse sample is needed for generalizable results across Thailand's scientific community. To address these limitations, future research should include a larger, more varied sample from both urban and rural areas beyond the initially studied cities, and from sectors outside healthcare and academia. Future studies should also involve investigating the role of institutional backing, assessing cultural and social norms' effects, utilizing digital channels for broader engagement, and

undertaking comparative studies across cultures to deepen insights and improve training initiatives.

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DEVELOPMENT STRATEGY FOR ARABICA COFFEE FARMING IN MANIKLIYU VILLAGE, KINTAMANI SUBDISTRICT, BANGLI REGENCY, BALI PROVINCE

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ABSTRACT

Coffee is a commodity that plays a big role in the global economy and plays a role in improving people's welfare. Indonesia is known as one of the world's coffee stock suppliers, where coffee from Indonesia is known to have superior and unique sensory characteristics. So Indonesian coffee has an important position in the world coffee trade. One of the sub-districts in Bangli Regency that produces Arabica coffee is Kintamani. Kintamani coffee from Bali is famous for its distinctive floral aroma. Manikliyu Village is one of the villages in Kintamani that grows Arabica coffee. Arabica coffee farmers in Manikliyu Village are faced with a number of challenges and are faced with great opportunities for the Arabica coffee industry with demand for high quality coffee from Bali continuing to increase, both in local and international markets. So developing the right strategy is very important for Arabica coffee farmers in Manikliyu Village which can increase the competitiveness of Arabica coffee products. The aim of this research is to identify internal and external strategic factors and determine a strategy for developing Arabica coffee farming in Manikliyu Village. This research uses IFAS, EFAS, and SWOT analysis. The results of the research show that there are five internal strategic factors consisting of the strengths and weaknesses of the Arabica coffee farming business in Manikliyu Village and external strategic factors consisting of opportunities and threats, there are 3 opportunity factors and 5 threat factors. Based on the results of the SWOT analysis, it is in quadrant I, namely an aggressive strategy for developing Arabica coffee farming businesses. The strategy that can be used by Arabica coffee farming businesses in Manikliyu Village from the SWOT analysis is an aggressive strategy in quadrant I which allows this Arabica coffee farming business to continue to be developed. Thus, several alternative strategies that can be used in efforts to develop arabica coffee farming in Manikliyu Village based on the SWOT matrix are extensification and intensification of arabica coffee cultivation, cultivating pest and climate change resistant arabica coffee, establishing partnerships with arabica coffee processors and exporters, and developing efficient arabica coffee picking technology.

Keywords: IFAS, EFAS, SWOT, Arabica Coffee.

1. INTRODUCTION

The coffee industry is an agricultural sector that has an important role in the global economy. Coffee is a commodity that plays a big role in the global economy and plays a role in improving people's welfare. Indonesia is known as one of the world's coffee stock suppliers, where coffee from Indonesia is known to have superior and unique sensory characteristics. So Indonesian coffee has an important position in the world coffee trade. Based on data from USDA (2023), Indonesia is listed as the 3rd largest coffee producing country in the world in 2022/2023, having produced 11.85 million bags of coffee.

Arabica coffee (*Coffea arabica*) comes from Africa, namely from the mountainous areas of Ethiopia (Rahardjo, 2012). Indonesian Arabica coffee has unique characteristics, depending on the region where it is grown and the processing method used. Based on BPS data from Bali Province (2022), Bangli Regency ranks first in Arabica coffee production at 2,082 tons. One of the sub-districts in Bangli Regency that produces Arabica coffee is Kintamani. The total land area of Kintamani is 3,662 Ha, where almost 2/3 of this area can be planted with Arabica coffee (Asiah, et al, 2019). Kintamani coffee from Bali is famous for its distinctive floral aroma. Manikliyu Village is one of the villages in Kintamani that grows Arabica coffee. Arabica coffee grown in Manikliyu Village has unique characteristics caused by the altitude, climate and soil which are suitable for cultivating quality coffee.

Even though it has great potential, Arabica coffee farmers in Manikliyu Village are faced with a number of challenges such as climate change with increasing irregular rainfall and long dry periods, which can affect coffee productivity and quality. On the other hand, there is a big opportunity for the Arabica coffee industry in Manikliyu Village. Demand for high quality coffee from Bali continues to increase, both in local and international markets. To optimize this potential, developing the right strategy is very important for Arabica coffee farmers in Manikliyu Village. This strategy must be able to increase the competitiveness of Manikliyu Village Arabica coffee products in the global market by paying attention to environmental sustainability and farmer welfare.

2. RESEARCH METODOLOGY

The research location was carried out in Manikliyu Village, Kintamani District, Bangli Regency, Bali Province. The selection of this research location was carried out purposively with several considerations. The first consideration is that Manikliyu Village is one of the Arabica coffee producing villages in Kintamani, Bangli Regency. The second consideration is that Manikliyu Village has natural resource potential, especially fertile agricultural land, human resources who have enthusiasm, hard work and a farming culture that has been passed down from generation to generation. This research was carried out using primary data and secondary data. Primary data collection was obtained from field surveys and interviews. Field survey by distributing questionnaires. Meanwhile, secondary data was obtained through literature studies, books, journals, the internet or other sources that are appropriate to the discussion of this research. Determination of the sample uses the Slovin formula with a sampling error tolerance limit of 10% (Sugiyono, 2017). The data analysis used in this research is qualitative descriptive analysis, IFAS and EFAS matrix analysis, and SWOT matrix analysis (Strengths, Weaknesses, Opportunities, and Threats). According to (David, 2011) the tools used in formulating strategies are the IFAS Matrix and EFAS Matrix. Rangkuti (2006), states that the SWOT matrix is a systematic identification of various factors to formulate strategies, namely strengths-opportunities strategies (S-Ostrategies), weaknesses-opportunities strategies (W-Ostrategies), weaknesses-threat strategies (W-Tstrategies), and strengths-threat strategies (S-T strategies).

3. RELATED RESEARCH/LITERATUR REVIEW

Previous research by Fattarani, et al (2017) regarding the Arabica Coffee Processing Business Development Strategy Case Study: "Kampung Kupa Gayo" Business, Central Aceh Regency stated that there are seven internal strategic factors that determine strengths and weaknesses. The dominant strengths are strategic business location and competitive product prices. Meanwhile, the dominant weakness is that the types of products produced are still lacking. There are five external strategic factors that become opportunities and threats, where the dominant opportunity is that the processed coffee market share is still very large and the dominant threat is competition from similar businesses. The strategy used by Kampung Kupa Gayo based on the results of the SWOT analysis is an aggressive

strategy, namely a strategy that allows this business to continue to develop its business, increase growth, expand and achieve maximum progress.

Previous research conducted by Zakaria, et al (2017), regarding the Arabica Coffee Farming Business Development Strategy (Case of Coffee Farmers in Suntenjaya Village, Lembang District, West Bandung Regency, West Java Province) stated that there are several strategies that are priorities to be implemented to develop their business namely developing processing of farming products, improving technical farming skills to improve product quality, empowering farming business groups to further improve their business.

Previous research conducted by Alam, et al (2019) with the title Arabica Coffee Farming Business Development Strategy (Case Study in Gunungsari Village, Sukanagara District, Cianjur Regency) stated that the results of the SWOT analysis, the priority strategy was to increase coffee production by utilizing sufficient land availability and Skilled human resources, maintaining the superiority of coffee products and meeting the increasing needs of coffee enthusiasts, maximizing coffee land processing through collaboration with agricultural and plantation departments to obtain training, and utilizing superior resources such as human resources, natural resources and machines that can be used to seize opportunities. Based on the results of the QSPM matrix analysis, the priority order of the strategy is to utilize superior resources (human, natural and machine) to seize opportunities with a TAS value of 6.627.

4. RESULTS AND DISCUSSION

Identification of Internal and External Strategic Factors for Arabica Coffee Farming in Manikliyu Village

The internal strategic factors of Arabica coffee farming in Manikliyu Village consist of strengths and weaknesses. Strengths are the resources possessed by the Arabica coffee farming business in Manikliyu Village which can be used to deal with opportunities and threats. Weaknesses are the resources owned by Arabica coffee farming businesses in Manikliyu Village which are difficult to use to deal with opportunities and threats.

The external strategic factors consist of opportunities and threats. Opportunities are external situations of Arabica coffee farming in Manikliyu Village which have the potential to provide benefits for the sustainability of the farming business. A threat is an external situation that has the potential to cause difficulties for Arabica coffee farming businesses in Manikliyu Village. The identification results of each internal and external strategic factor are used to prepare the IFAS and EFAS matrices. The results of the identification of internal strategic factors obtained 10 factors and external strategic factors obtained 8 factors.

Identification of Internal Strategic Factors of Arabica Coffee Farming Business in Manikliyu Village

Internal strategic factors consist of the strengths and weaknesses of the Arabica coffee farming business in Manikliyu Village which are able to support the development of the farming business. Identification of strength factors consists of 5 factors, namely knowledge and experience of cultivating Arabica coffee, availability of land for growing Arabica coffee, superior varieties, adequate physical environment for cultivating Arabica coffee, and the unique characteristics of Kintamani coffee. Meanwhile, there are 5 weaknesses in the Arabica coffee farming business, namely limited labor for picking Arabica coffee, post-harvest processing of Arabica coffee, cultivation of Arabica coffee which is still conventional, sales of Arabica coffee still using the bonded bond system, and Arabica coffee productivity is not yet optimal. These two strength and weakness factors can be seen in Table 1.

Table 1. Strengths and Weaknesses of Arabica Coffee Farming Business in Manikliyu Village

No.	Internal Strategic Factors
Strength	
1.	Knowledge and experience of Arabica coffee cultivation
2.	Availability of land to grow Arabica coffee
3.	Superior varieties
4.	Adequate physical environment for Arabica coffee cultivation
5.	Typical characteristics of Kintamani coffee
Weakness	
1.	Limited labor force to pick Arabica coffee
2.	Post-harvest processing of Arabica coffee
3.	Conventional Arabica coffee cultivation
4.	Sales of Arabica coffee are still based on the bonded bond system
5.	Arabica coffee productivity is not yet optimal

Identification of External Strategic Factors for Arabica Coffee Farming in Manikliyu Village

External strategic factors consist of opportunities and threats that can influence the development of Arabica coffee farming in Manikliyu Village. Based on the results of identifying opportunity factors, 3 factors were obtained, namely the development of the coffee industry, proximity to the Kintamani tourism area, and Arabica coffee marketing partnerships. A threat is an unfavorable environmental trend that can hinder and harm an organization. The threats faced in Arabica coffee farming in Manikliyu Village consist of 5 factors, namely competition from Arabica coffee producing countries, coffee prices which tend to fluctuate, climate change, attacks by coffee pests, and changes in coffee consumer tastes. These opportunity and threat factors can be seen in accordance with the table. 2.

Table 2. Opportunity and Threat Factors for Arabica Coffee Farming in Manikliyu Village

No.	External Strategic Factors
Opportunity	
1.	Development of the coffee industry
2.	Close to the Kintamani tourism area
3.	Arabica coffee marketing partnership
Threats	
1.	Competition between Arabica coffee producing countries
2.	Coffee prices tend to fluctuate
3.	Climate change
4.	Coffee pest attack
5.	Changes in coffee consumer tastes

IFAS Matrix Strategy for Arabica Coffee Farming Business Development in Manikliyu Village

Evaluation of internal strategic factors consisting of strength and weakness factors is analyzed using the IFAS matrix. Each parameter in the strength and weakness factors is given a weight and rating value, then the score is calculated by multiplying the weight value by the rating value for each internal strategic factor parameter. Next, the main strengths and weaknesses factors that could influence the Arabica coffee farming business in Manikliyu Village were determined. The calculation results are in Table 3. The main strength factors are the unique characteristics of Kintamani coffee, adequate physical environment for cultivating Arabica coffee, as well as knowledge and experience of cultivating Arabica coffee. The main weakness factors are post-harvest processing of Arabica coffee, sales of Arabica coffee are still using the bonded bond system, and Arabica coffee productivity is not yet optimal. In Table 3 it can also be seen that the subtotal strength (S) is 2.69 while the subtotal weakness (W) is 2.17. This illustrates the position where the Arabica coffee farming business in Manikliyu Village is able to use its strengths (S) to cover its weaknesses (W).

Table 3. IFAS Matrix for Arabica Coffee Farming Business Development Strategy in Manikliyu Village

No.	Internal Strategic Factors	Weight	Rating	Score
Strength				
1.	Knowledge and experience of Arabica coffee cultivation	0,14	3,91	0,55
2.	Availability of land to grow Arabica coffee	0,14	3,86	0,53
3.	Superior varieties	0,13	3,77	0,51
4.	Adequate physical environment for Arabica coffee cultivation	0,14	3,94	0,55
5.	Typical characteristics of Kintamani coffee	0,14	3,94	0,55
Subtotal Strength (S)				2,69
Weakness				
1.	Limited labor force to pick Arabica coffee	0,06	1,63	0,09
2.	Post-harvest processing of Arabica coffee	0,06	1,77	0,11
3.	Conventional Arabica coffee cultivation	0,06	1,69	0,10
4.	Sales of Arabica coffee are still based on the bonded bond system	0,06	1,77	0,11
5.	Arabica coffee productivity is not yet optimal	0,06	1,74	0,11
Subtotal Weakness (W)				0,53
Total IFAS Matrix		1,00		2,17

Source: Primary Data, 2024

EFAS Matrix Strategy for Arabica Coffee Farming Business Development in Manikliyu Village

The strategic factors analyzed using the EFAS matrix are external strategic factors which include opportunity and threat factors in the Arabica coffee farming development strategy in Manikliyu Village. Each parameter in the opportunity and threat factors is given a weight and rating value, then the score is calculated by multiplying the weight value by the rating value for each external strategic factor parameter. Next, the main opportunity and threat factors that could influence Arabica coffee farming in Manikliyu Village were determined. The calculation results based on the EFAS matrix of strategies for developing Arabica coffee farming in Manikliyu Village are as in Table 4, which is the main opportunity, namely the development of the coffee industry and the main threat is the price of coffee which tends to fluctuate and attacks by coffee pests. In Table 4 it can also be seen that the subtotal opportunity (O) is 2.09 and the subtotal threat (T) is 0.80. This can mean that the Arabica coffee farming business in Manikliyu Village is able to overcome threats by taking advantage of the opportunities that this farming business has.

Table 4. EFAS Matrix for Arabica Coffee Farming Business Development Strategy in Manikliyu Village

No.	External Strategic Factors	Weight	Rating	Score
Opportunity				
1.	Development of the coffee industry	0,19	3,83	0,72
2.	Close to the Kintamani tourism area	0,18	3,74	0,69
3.	Arabica coffee marketing partnership	0,18	3,71	0,68
Subtotal Opportunity (O)				2,09
Threats				
1.	Competition between Arabica coffee producing countries	0,08	1,66	0,14
2.	Coffee prices tend to fluctuate	0,09	1,89	0,18
3.	Climate change	0,09	1,83	0,16
4.	Coffee pest attack	0,09	1,89	0,18
5.	Changes in coffee consumer tastes	0,09	1,77	0,15
Subtotal Threats (T)				0,80
Total EFAS Matrix		1,00		1,29

Source: Primary Data, 2024

SWOT Analysis

The results of the analysis based on the IFAS matrix show that the strength factor (S) has a subtotal score of 2.69 and the weakness factor (W) is 0.53. So if you subtract it the result is 2.16. Meanwhile, opportunities (O) and threats (T) have subtotal scores of 2.09 and 0.80 respectively. Just like strengths (S) and weaknesses (W), if you subtract the result is 1.29. The results of this reduction are placed on the SWOT analysis diagram. The internal strategic factor score becomes a point on the Figure 1.

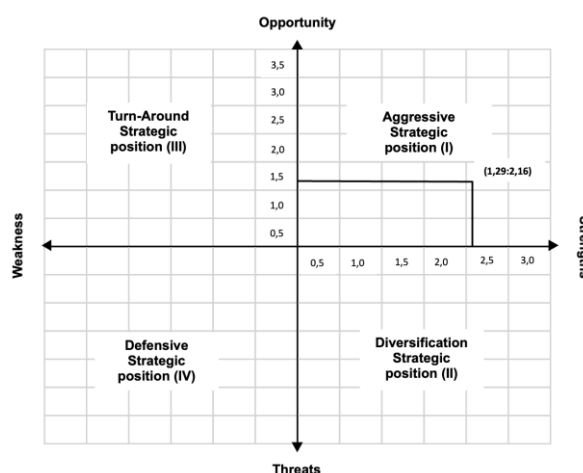


Figure 1. SWOT Analysis Diagram of Arabica Coffee Farming Business Development Strategy in Manikliyu Village
Source: Primary Data, 2024

In Figure 1, it can be seen that the meeting of internal and external strategic factors is in quadrant I which makes it possible for Arabica coffee farming businesses in Manikliyu Village to implement aggressive strategies to develop their farming businesses by using all their strengths (S) to take advantage of existing opportunities (O).

SWOT Matrix

The strategy for developing Arabica coffee farming in Manikliyu Village can be carried out using several alternative strategies. Determining alternative strategies is by creating a SWOT matrix that describes how opportunities and threats can be combined with strengths and weaknesses to produce a strategy formulation for the development of Arabica coffee farming in Manikliyu Village as in Table 5 below.

Table 5. Alternative Strategies for Arabica Coffee Farming Business Development in Manikliyu Village

	Strength (S)	Weakness (W)
	<ol style="list-style-type: none"> 1 Knowledge and experience of Arabica coffee cultivation 2 Availability of land to grow Arabica coffee 3 Superior varieties 4 Adequate physical environment for Arabica coffee cultivation 5 Typical characteristics of Kintamani coffee 	<ol style="list-style-type: none"> 1 Limited labor force to pick Arabica coffee 2 Post-harvest processing of Arabica coffee 3 Conventional Arabica coffee cultivation 4 Sales of Arabica coffee are still based on the bonded bond system 5 Arabica coffee productivity is not yet optimal

Opportunity(O)	Strategy (S-O)	Strategy (W-O)
1 Development of the coffee industry	1 Extensification and intensification of Arabica coffee cultivation	1 Mencari sumber tenaga kerja di luar wilayah Kintamani
2 Close to the Kintamani tourism area	2 Develop Arabica coffee plantation tourism	2 Switch to an environmentally friendly coffee cultivation system
3 Arabica coffee marketing partnership	3 Building the Kintamani coffee study center	3 Establish partnerships with Arabica coffee processors and exporters
	4 Shortening the Arabica coffee marketing chain	
Threats (T)	Strategy (S-T)	Strategy (W-T)
1 Competition between Arabica coffee producing countries	1 Cost efficiency of Arabica coffee cultivation	1 Developing efficient Arabica coffee picking technology
2 Coffee prices tend to fluctuate	2 Comprehensively improving the quality of Arabica coffee	2 Selling Arabica coffee in semi-finished form, not wet cherry
3 Climate change	3 Cultivating arabica coffee varieties resistant to pests and climate change	
4 Coffee pest attack	4 Search for information related to consumer tastes and market needs	
5 Changes in coffee consumer tastes		

Based on Table 5 above, alternative strategies resulting from internal and external factors in Arabica coffee farming in Manikliyu Village are as follows.

a. S-O Strategy

This strategy uses internal strength factors to take advantage of external opportunities. Based on the results of the analysis, a strategy was obtained, namely extensification and intensification of Arabica coffee cultivation. This strategy can be carried out by expanding the Arabica coffee cultivation area and using more efficient technology and cultivation practices in order to increase yields per hectare.

b. S-T Strategy

This strategy uses internal strengths to overcome external threats. Based on the results of the analysis, a strategy was obtained, namely cultivating arabica coffee that is resistant to pests and climate change. This strategy can increase arabica coffee production in a sustainable manner and reduce vulnerability to environmental change.

c. W-O Strategy

This strategy minimizes internal weaknesses to obtain external opportunities. Based on the results of the analysis, a strategy was obtained, namely establishing partnerships with Arabica coffee processors and exporters. So this strategy has the potential to provide significant benefits for Arabica coffee farmers in Manikliyu Village in increasing added value, market access, welfare and technical knowledge.

d. W-T Strategy

This strategy reduces internal weaknesses to be able to overcome external threats. Based on the results of the analysis, a strategy was obtained to develop efficient Arabica coffee picking technology. This strategy is to increase productivity and quality of harvest, as well as reduce costs and time required in the picking process. Thus, developing efficient Arabica coffee picking technology aims to increase productivity, quality and efficiency in the harvest process, as well as reducing dependence on human labor. This is an important step in increasing the competitiveness and sustainability of the coffee industry.

5. CONCLUSION

There are five internal strategic factors consisting of the strengths and weaknesses of the Arabica coffee farming business in Manikliyu Village. Based on the results of the IFAS matrix analysis, the main strength factors are the unique characteristics of Kintamani coffee, adequate physical environment for cultivating Arabica coffee, as well as knowledge and experience of cultivating Arabica coffee. Meanwhile, the main weakness factors are post-harvest processing of Arabica coffee, sales of Arabica coffee are still using the bonded bond system, and Arabica coffee productivity is not yet optimal.

External strategic factors consisting of opportunities and threats for Arabica coffee farming in Manikliyu Village include 3 opportunity factors and 5 threat factors. Based on the results of the EFAS matrix analysis, the strategy for developing Arabica coffee farming in Manikliyu Village is the main opportunity, namely the development of the coffee industry and the main threat is the price of coffee which tends to fluctuate and attacks by coffee pests.

The strategy that can be used by Arabica coffee farming businesses in Manikliyu Village obtained from the SWOT analysis is an aggressive strategy in quadrant I which allows this Arabica coffee farming business to continue to be developed. There are several alternative strategies that can be used in efforts to develop Arabica coffee farming businesses in Manikliyu Village using the SWOT matrix, namely extensification and intensification of Arabica coffee cultivation, cultivating OPT and climate change resistant Arabica coffee, establishing partnerships with Arabica coffee processors and exporters, and developing technology. Efficient Arabica coffee picking.

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THE INTEGRATION OF STIRRING AND SETTling ACTIVITIES IN COMMUNICATIVE ESP CLASSROOM WITH THE USE OF LMS

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ABSTRACT

This study investigates the integration of activities, especially stirring and settling activities, using Learning Management Systems (LMS) in communicative English for Specific Purposes (ESP) courses. While settling activities help with comprehension and language input retention, stirring activities are based on the principles of communicative language education and are designed to pique learners' interest and activate past knowledge. This study intends to clarify the best practice of communicative language teaching in ESP environments by thoroughly explaining the integration of the activities by using LMS and teachers' perceptions of it. The results of this project will advance pedagogical knowledge by providing useful ways to enhance technology-mediated language training and encouraging authentic communication, meaningful interaction, and active participation among ESP learners. The study employs a qualitative approach, including classroom observations, interviews, and documentation to gather comprehensive data on pedagogical practices, teachers' perceptions, and learning outcomes.

Keywords: *ESP, LMS, Classroom Management*

1. INTRODUCTION

English subjects are taught as a foreign language in Indonesia as a compulsory subject, even in vocational high schools and universities, and it demands different knowledge of materials, methods, and strategies (Muliyah & Aminatun, 2020). In order to help students learn target language competencies that are relevant to their specific academic or professional contexts, communicative language education has long been recognized as important in English for Specific Purposes (ESP) pedagogy (Goh, 2012; Hyland, 2019; Scrivener, 2005; Yang, 2016). These specialized uses are frequently related to the workplace: call center operators, hotel receptionists, pharmaceutical salespeople, architects, and many more (Scrivener, 2005). Many approaches have been taken into account in teaching ESP, and Scrivener (2005) mentions that ESP means to combine the knowledge of teaching English and the topic going to be taught; "Go on teaching all the normal English you already teach in all the ways you know how to do already but use lexis, examples, topics, and contexts, that are relevant to the students and practice relevant specific skills." ESP teachers are expected to learn many new things that will help them make their teaching better and more effective, this includes what new teaching techniques to implement (Jendrych, 2013).

The way that pupils learn has a big influence on the teaching style. In contrast to conventional methods that solely focus on grammar and vocabulary, communicative language teaching (CLT) prioritizes meaningful contact and authentic discourse (Larsen-Freeman & Anderson, 2013; Richards, 2005). This method takes into account how language use is evolving in everyday contexts. The CLT method can be used with a variety of teaching strategies and resources, including group projects (Crisianita & Mandasari, 2022; Greenier et al., 2021; Turgunova & Abdurahimovna,

2023), problem-based learning (Malikovna et al., 2022; Seibert, 2021), role-playing (Irkinovich, 2022), and discussion (Dos Santos, 2020). Most of the activities with the CLT approach promote communication that involves two-way communication.

However, to foster student autonomy, teachers usually assign different types of homework, such as written assignments, compositions, or study sessions. It is crucial that educators assign the appropriate type of work to their students (Harmer, 2007). Teaching English classes can be boring and monotonous and an efficient way to minimize these obstacles is to make a profit from the so-called stirring activities, as a way of lightening up the atmosphere in the classroom and providing enough practice in exploring the English language (Kalischová & Dudková, 2014). Teaching students of all ages, from young learners to adults; adults often experience greater anxiety when learning than do younger students (Harmer, 2007). Scrivener (2005) mentions that “experiment with a mixture of quiet, working-alone activities and activities that require active participation” could be applied to teenage classes as much as to adults.

Incorporating stirring and settling exercises (Kalischová & Dudková, 2014) into communicative ESP classrooms is one way to create a dynamic, interactive learning environment that supports language development. Stimulating activities are designed to capture learners' attention, stimulate their curiosity, and activate prior knowledge in order to lay the groundwork for meaningful interaction and engagement. The teacher can integrate stirring activities at any time during the lesson when the energy level is decreased. The following types of stirring activities have been based on the modified list proposed by Clarke (2010): mingle activities, music and songs, drama activities, technology-based activities, and movement games. Role-plays, brainstorming sessions, or multimedia presentations, are the examples such as the CLT approach (Scrivener, 2005), are some examples of these exercises that are intended to pique students' attention and encourage them to participate actively in language learning assignments. Conversely, settling activities let students think back on their education, integrate new words and linguistic patterns, and reinforce what they have learned about language. Stirring activities are described as a teaching tool that helps learners to become more active and more motivated.

Recent technological developments have completely changed the language education field by providing new and creative ways to improve teaching methods and maximize student results. One such technology instrument that has been widely adopted in educational settings globally is Learning Management Systems (LMS), previously called a Virtual Learning Environment (VLE) (Harmer, 2007; Scrivener, 2005). Personalized learning experiences catered to individual needs and preferences, improved access to learning resources, and increased student cooperation are just a few advantages of integrating Learning Management Systems (LMS) into communicative ESP training (Dogoriti et al., 2014; Prasetya, 2021). LMS platforms streamline the teaching and learning process by acting as a central location for managing course materials, promoting communication between teachers and students, and delivering evaluations. Additionally, because LMSs are flexible and scalable, teachers can modify their lesson plans to suit the requirements, preferences, and learning styles of a wide range of students. This fosters diversity and accessibility in language training (Rudneva & Valeeva, 2017; Salekhova et al., 2019; Stepanova et al., 2021; Virginiya et al., 2023).

In communicative ESP classrooms, integrating stirring and settling activities through LMS may have advantages, but the practices of this educational strategy has not been thoroughly studied in the study. This research attempts to contribute to the ongoing conversation on language education and inform pedagogical practices targeted at fostering learners' communicative competence and language proficiency in ESP contexts by examining the effectiveness of this pedagogical approach and identifying best practices for its implementation.

This study employs a qualitative research approach to investigate the integration of stirring and settling activities within communicative English for Specific Purposes (ESP) classrooms using Learning Management Systems (LMS). The qualitative approach allows for a nuanced understanding of pedagogical practices, learner experiences, and the impact of technology-mediated instruction on language learning outcomes. Three primary data collection methods are utilized: classroom observations, semi-structured interviews, and documentation analysis, to answer the research questions: (1) how is the integration implemented as best practice in ESP communicative classroom?, and (2) what are the teachers' perceptions on the integration of stirring and settling activities in ESP classrooms using LMS?

2. RESULTS AND DISCUSSION

Subjects being interviewed and observed are currently teachers or lecturers in either a vocational school or vocational university where they have to teach ESP (English for Specific Purposes) to their students. Subjects are varied, such as English for Room Division, English for Food and Beverage, English for Events and MICE, English for Travel and Tourism, English for Business, English for Public Speaking, English for Hospitality Purposes, and even English for Engineering. It was found that all teachers being interviewed have designed the use of LMS (Learning Management System) as media in the teaching-learning process. They have implemented LMS starting at different times, from last year to since 2009. Canvas Instructure is one of the most popular LMSs used among the teachers being observed and interviewed after the use of Google Classroom. Among others, Edmodo, Schoology, and their locally developed LMS are used in the teaching-learning process. Two subjects mentioned that they always use the LMS in every meeting, three often use it, three others sometimes use it, and only one rarely uses LMS in his teaching and learning process. However, most of the teachers interviewed are not familiar with the term stirring and settling activities: 55.6% are familiar with the terms, and 44.5% are not.

Stirring and Settling Activities Best Practices with the Use of LMS

Based on the results of the observation, one of the subjects (Subject 2) significantly used the Learning Management System (LMS) in the classroom as well as the activities designed in the system. The teacher used Canvas Instructure as the LMS and it was used from the beginning of the semester, in which the students were given the tutorials and self-regulated learning materials that can be accessed within the LMS. Canvas Instructure was used for its extensive features, which not only enable teachers to upload materials from various sources, but also interact with the students in real-time discussions, and help collect the assignments and assessments with personalized rubrics, and announcements (Al Khoeri et al., 2021; Fatimah & Nurfitriani, 2022; Virginiya, 2023). Subject 2 stated that the use of LMS would help her in with the lesson planning she prepared beforehand. She would usually use the discussion feature on the "brainstorming" session in her lesson, have the students engage in group discussions, and have them write their ideas in the "discussion section" set in the LMS. As the answers would appear in real-time, the teacher could easily track and discuss the ideas collected in the section as a whole class. The LMS also helped her in organizing her teaching stages as it would enable her to set the sequence of learning whether the tasks should be done sequentially, with prerequisite modules, or minimum scores to be achieved in quizzes or assignments.

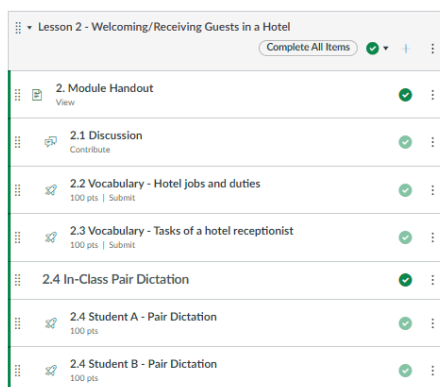


Figure 1. Example of LMS application with stirring and settling activities

Stirring and settling activities are set in the LMS with a code “IC” that refers to In-Class Activities. An example of stirring activities is “Finding Someone Who” - the teacher would set the “hints” to be questioned around in the LMS, and have the students type the answer in the LMS to be viewed later as a whole-class discussion. Another example is when Subject 2 provides external links to Wordwall, Quizziz, or else hints of various communicative activities that can be done by the students. At some time, she would prepare a spinning wheel with topics to be discussed in groups or pair-speaking activities. An example of a communicative settling activity that is set in the LMS is “reading dictation. Here, the teacher would set two sets of incomplete reading passages for the pairs to read to one another. The activities were set with passcodes that would be shared in the face-to-face meeting, and a timer would also be set to help the teacher “maintain” the students’ focus on the task. Follow-up activities are to discuss the reading comprehension questions and pair-check the answers. Therefore, LMS is used at its maximum features to provide stirring and settling activities to promote communicative ESP classrooms.

Teachers’ Perceptions on Integration of Stirring and Settling Activities Using LMS

All teachers agree that multimedia content integration is needed. Therefore, videos, audio recordings, or interactive modules are interspersed into the ESP lessons through LMS. E-learning is more effective and can enhance teaching and learning activities. Before teaching materials are accessed and saved in repositories, educators must properly prepare them (Rabiman et al., 2020). Various ways were used from attaching links of multimedia from multiple sources to the LMS, to attaching and embedding videos audio, and interactive games. Subject 2 explained that LMS was currently used for communicative teachings such as pair-dictation reading which enabled students to have guided conversation and reading continued with follow-up questions to check the student’s understanding on the reading text dictated to each other. Subject 4, meanwhile, used LMS to have the students observe the uploaded video and then have interactions and discussions to have suggestions regarding the news which is about travel safety. Next, students would need to type the result of the face-to-face discussion on the LMS. On the other hand, other Subjects mentioned that LMS is used to upload learning materials and assignments which students would need to access and upload their assignments to the LMS.

LMS does not only provide better communicative ESP teaching but also encourages personalized learning (Jureynolds et al., 2023; Martindale & Dowdy, 2010; Santiana et al., 2021; Sudianto et al., 2019; Zainuddin et al., 2019). “As LMS is customized,

teachers may provide the specific learning materials that students need to learn especially in vocational context the curriculum is made based on industrial needs" mentioned by Subject 5. Subject 8 also adds that LMS supports interactive learning effectively since LMS helps the teacher to expand their teaching not only during learning in the classroom but also outside of the classroom. Many activities have been done by the teachers in fostering collaboration and interactions among students using the LMS in their ESP classrooms, such as pair-dictation reading, guided pair-speaking with hints, group discussions, pair-work writing (Subject 2), group projects (Subject 6, 7, and 9), and group assignments (Subject 1, 3, 8).

Stirring activities are usually injected at the beginning of the lesson such as in Find Someone Who activities or mingling activities to discuss the given topic. Subject 1 and 9 mentioned that filling the information gap is one of the activities that can be done as stirring activities as well. However, none of the subjects mentioned transitioning from stirring activities to settling activities as a two-stage activity. Most of them stated that "ask them to go back to their sitting, and then ask them to give their feedback about the activity". Technology and LMS itself here play a role in providing the information paperless before the students do either the stirring or settling activities.

3. CONCLUSION

A promising strategy for improving language learning experiences is the incorporation of interactive and engaging activities using Learning Management Systems (LMS) in Communicative English for Specific Purposes (ESP) courses. Educators can foster a dynamic learning environment where students actively engage in communicative tasks and develop higher-order thinking abilities by adopting Learning Management System (LMS) platforms. This enables for the integration of in-class and out-of-class learning (Konoplianyk et al., 2021)

Furthermore, the integration of multimedia resources through Learning Management Systems (LMS) can greatly aid in the advancement of students' listening comprehension skills as well as their professional and communication ability (Rebenko et al., 2019; Virginiya, 2023). Students can legitimately practice a variety of English skills through the design of integrated communicative activities utilizing LMS, resulting in a more thorough language learning experience (Sevy-Biloon, 2018). Furthermore, LMS can be used as an instrument for cross-cultural learning, giving students access to foreign cultures and pertinent material unique to their ESP course (Bocanegra-Valle, 2015).

The premise that ESP classroom practices should help students integrate language knowledge with discipline-specific content for real-life communication further supports the efficacy of incorporating interactive activities in communicative ESP classrooms with LMS (Hung, 2022). Within the context of the ESP course, students can improve their communicative competence in certain domains by emphasizing reasoning and argumentation skills (Margaryan et al., 2022).

In conclusion, the incorporation of interactive exercises via LMS integration in communicative ESP classes offers a thorough method of language learning that blends theoretical understanding with real-world application. Teachers may improve communicative competence, intercultural awareness, and skill integration by utilizing the characteristics of Learning Management Systems (LMS). This will ultimately improve the language learning experience for students with exceptional needs.

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SUSTAINABLE DIGITAL FOOD SUPPLY CHAIN IN INDONESIA

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ABSTRACT

Sustainability in the food supply chain is a top priority for various global and local entities, including companies, governments, non-profit organizations, academic institutions, and society. For example, in the 1990s, collaboration between civil society groups and the corporate world aimed to promote sustainability across global supply chains. This is achieved by creating formal organizations that set sustainability standards in sectors such as organic food, fair trade, forestry, and fisheries. The partnership highlights the need for collective action among supply chain participants to effectively address economic, social, and environmental challenges. This article discusses digital food supply chain sustainability research development through a systematic literature review and the influencing factors influencing digital food supply chain business performance. The method used is a mixed method, where in this research, a literature review was used using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and Structural Equation Modeling (SEM) methods. The results show that research on digital supply chain sustainability began in 1998. From 2007 to 2019, the number of journal articles discussing digital supply chain sustainability relatively increased. From 2020 until now, it has decreased. This may happen because the COVID-19 pandemic started in 2020, and researchers may have difficulty conducting such multidisciplinary research. In addition, the SEM results show that only the economic sustainability variable positively and significantly influences the technological sustainability dimension variables and digital food supply chain business performance. In contrast, the other variables show a negative influence.

Keywords: sustainability, digital food supply chain, food supply chain, review, structural equation modelling

1. INTRODUCTION

The sustainability of the agri-food supply chain is essential on the international and national policy agenda for companies, governments, non-profit organizations, academia, and society (Miranda and Dries, 2022). An example is that in the 1990s, civil society organizations partnered with businesses to create green global supply chains by establishing formal sustainability standard-setting organizations in sectors including organic food, fair trade, forestry, and fisheries (Gale, et al., 2017). This is because problems such as economic (Ma and Zhang, 2022), social (Roßmann, et al., 2017), and natural disasters (Papadopoulos, et al., 2016) cannot be resolved without involving cooperation among supply chain actors (Pederneiras, et al., 2021).

Most recent definitions of sustainable supply chains tend to include the three pillars of the triple bottom line definition (Negri, et al., 2021). Sustainability combines three core dimensions, namely, economic, environmental, and social (Miranda and Dries, 2021, Valinejad and Rahmani, 2018). In fact, since 2019, the dimensions of sustainability include economic, environmental, social, technological and institutional (Purvis, et al., 2019). Even Rezhgdeh and Shokouhyar (2020) divided sustainability into 6 dimensions with additional

techniques. Whatever it is, sustainability in the food supply chain is an important thing to do (Dairy Road Map, 2008; Glover, et al., 2014).

Research by Sharma, et al. (2020) and Kittipanya and Tan (2019) linked sustainability to digital supply chains. Sustainability discussed in the 3 articles is social, economic, and environmental sustainability. At the same time, the theme of digital technology in the food supply chain sector starts from production, processing, logistics, and sales to promotion. A key finding is the importance of low-cost digital technologies (including freeware and social media) that can support flexibility, collaboration, visibility, and agility in decision-making. Meanwhile, institutional and technological sustainability in digital food supply chains is still very limitedly researched. Indeed, this paper confirmed five dimensions of sustainability that affected the digital food supply chain.

This study primarily contributes to the digital food supply chain literature by identifying and analyzing sustainability dimensions in digital food supply chains. In assessing research on the dimensions of sustainability in digital food supply chains, this systematic review uses the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and Structural Equation Modeling (SEM) approaches. This review article offers an up-to-date perspective and synthesis of empirical evidence on the study of sustainability dimensions in digital food supply chains. Knowledge identification and synthesis help identify research, practice, and policy gaps and produce relevant recommendations. Therefore, the following two questions will be answered in this review: (1) How is research on sustainability dimensions in digital food supply chains developing? (2) What sustainability factors influence the business performance of the digital food supply chain in Indonesia?

2. RESEARCH METODOLOGY

The research design in this study emphasizes analyzing the resilience of the inclusive fresh product supply chain in more detail and depth. The research location was determined purposefully based on participants who had attended training related to technology, such as smart farming, digital marketing, farming on the cloud, etc., at the UPT BPPSDMP Ministry of Agriculture (table 1).

Tabel 1. Sebaran Responden

No.	Province	Respondent
1.	West Java	90
2.	Central Java	5
3.	South Sumatera	1
4.	South Sulawesi	1
5.	Aceh	2
6.	South Kalimantan	1
Total		100

The keywords used in this research were Scopus, Ebsco Host, Agecon Search, and WUR Library databases. The keywords used in code A are digitalisation OR smart OR automation OR precision OR technology OR technological to describe derivatives of digitalization. Code B uses the keywords food OR agriculture OR agriprocessing OR agribusiness OR agrifood OR agri-food OR agricultural OR "fresh product*" to describe derivatives from the agricultural sector. The keywords supply chain*" OR "value chain*" OR "supply chain management*" OR logistic in code C describe derivatives of the supply chain and, finally, sustain OR sustainability to describe all dimensions of sustainability. Meanwhile, using a combination of codes A to D, the results showed that Ebsco Host provided the most articles, namely 693 articles without any specific filter, and 126 by filtering only journal articles in the form of articles and English, even though the percentage was the smallest, namely only 18% of the comparison. Number of journals filtered by total journal articles. Meanwhile, the least number of journal articles used after filtering was Agecon Search. The Agecon Search database only includes journal articles from the agricultural sector, unlike the Ebsco Host, Scopus, Science Direct,

or Web of Science databases, which filter multidisciplinary research. Finally, the total number of journal articles obtained was 287 (table 2).

Table 2. Keywords Used in Various Databases

Code	Keywords	SCOPUS	EBSCO Host	Agecon Search	WUR Library
A	digitalisation OR smart OR automation OR precision OR technology OR technological	759.000	1.549.487	1.082	10.152.957
B	food OR agriculture OR agriprocessing OR agribusiness OR agrifood OR agri-food OR agricultural OR "fresh product"	2.300.989	815.791	543	4.991.910
C	"supply chain*" OR "value chain*" OR "supply chain management*" OR logistic	763.437	147.188	597	1.010.424
D	sustain OR sustainability	412.301	70.553	1.063	2.028.242
E	A AND B AND C AND D	217	693	51	49
F	LIMIT (Only Article Journal and English Language)	107	126	18	36

Initially, the literature search totaled 287 articles, but using Mendeley, nine duplicate articles were found. The search results use a combination of keywords, then filtered based on title, abstract, keywords, and journal articles in the form of literature reviews during the identification stage. Furthermore, journal articles that did not discuss the food supply chain were eliminated during the screening stage. At that stage, 142 journals did not discuss the food supply chain. The remaining 94 articles were reprocessed at the eligibility stage because the remaining 48 journal articles did not discuss digital technology for the food supply chain. The backward and forward citations were carried out using Scopus and Ebsco Host to obtain 47 journal articles on sustainability in the food supply chain at the included stage. In the end, a total of 93 journal articles were reviewed.

Table 3. Latent and Indicator Variabel (Manifest)

Latent Variabel	Indicator Variabel	Code	Reference(s)
Economy (η_1)	Cost reduction	X1_1	Pacheco. Et al. (2021)
	Cost efficiency	X1_2	Pacheco. Et al. (2021)
	Market access	X1_3	Qureshi, et al. (2021)
	Resource optimization	X1_4	Berni, et al. (2020)
	Value chain integration	X1_5	Chae, et al. (2020)
Environment (ξ_4)	Waste reduction	X2	Hoek and Harrison (2020)
Institutional (η_3)	Collaboration	Y1	Du and Liu (2020)
Social (ξ_5)	Community engagement	X3	Al-Salti and Preece (2020)
Technology (η_4)	Technological awareness	Y2	Singh, et al. (2021); Sundarakani and Venkantesh (2021); Xiong, et al. (2021); Tang (2020); Tapscoot and Tapscoot (2017)
		Y3	Gunther and Kettner (2020)
Business Performance (η_5)	Profitability	Y3	Gunther and Kettner (2020)

Next, to answer the aim of analyzing the factors that influence the sustainability of the digital food supply chain in Indonesia using the PLS-SEM method, compared to other correlation and multivariate analyses, the PLS-SEM method has advantages when the complex structural model includes many constructs, indicators, and/or relationship models (Hair, et al., 2006). The indicators (manifests) are presented in table 3.

The PLS-SEM model in this study consists of three exogenous latent variables, three endogenous latent variables, and 10 observed or indicator variables. The relationships between variables and the structural and measurement models are depicted in the form of a path diagram in figure 1.

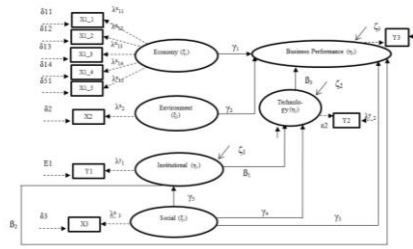


Figure 1. Path Diagram

3. RELATED RESEARCH/LITERATUR REVIEW

Research by Sharma, et al. (2020) and Kittipanya and Tan (2019) link sustainability to digital supply chains. The sustainability reviewed in the 3 articles is social, economic, and environmental sustainability, while the theme of digital technology in the food supply chain sector is from production, processing, logistics, and sales to promotion. A key finding is the importance of low-cost digital technologies (including freeware and social media) that can support flexibility, collaboration, visibility, and agility for decision-making. Meanwhile, research conducted by Nørreemark, et al. (2022), Ciruela, et al. (2020), and Sharma, et al. (2020) does not contain sustainability in digital food supply chains but rather explains the optimization and performance of logistics route planning, the digitalization of agricultural cooperation in the context of smart agriculture, and the role of robots in supporting logistics. Parthiban, et al. (2021) only explain sustainability in the agroforestry industry supply chain, where creating a value chain in industrial agroforestry is initially demonstrated on 200 ha of agricultural land through technological interventions (not digital technology, but cultivation technology), organization and marketing (table 4).

Table 4. Differences in Journal Articles Relevant to This Review Article

Author(s)	Content Analysis (Y/N)	Article Time Span (Year)	Food Supply Chain (Y/N)	Digital Food Supply Chain (Y/N)					Sustainability Digital Food Supply Chain (Y/N)	
				Production	Processing	Transportation	Sale	Promotion	3 Indicators	5 Indicators
Nørreemark, et al. (2022)	Y	-	Y	N	N	Y	N	N	N	N
Villareal (2021)	Y	-	Y	N	N	N	Y	Y	Y	N
Parthiban, et al. (2021)	Y	-	Y	N	N	N	N	N	Y	N
Sharma, et al. (2020)	Y	2002-2018	Y	Y	Y	Y	N	N	Y	N
Sharma, et al. (2020)	Y	1994-2019	Y	Y	N	Y	N	N	N	N
Ciruela, et al. (2020)	Y	-	Y	Y	Y	Y	Y	Y	N	N
Moreno, et al. (2020)	Y	-	Y	N	N	N	N	N	N	N
Kittipanya dan Tan (2019)	Y	-	Y	Y	N	N	N	N	Y	N
Sylim, et al. (2018)	Y	-	N	N	N	Y	N	N	N	N
Schader, et al. (2014)	Y	-	Y	N	N	N	N	N	N	N
This article	Y	1998-2022	Y	Y	Y	Y	Y	Y	N	Y

4. RESULTS AND DISCUSSION

4.1. Sustainability in Digital Food Supply Chains

Research on digital supply chain sustainability began in 1998, pioneered by Clarke (1998) regarding virtual logistics to increase food company revenues. Then, there was a hiatus for seven years from 1999 to 2006. From 2007 to 2019, there was a

relative increase in journal articles discussing the sustainability of digital supply chains. From 2020 until now, it has decreased. This could be because the COVID-19 pandemic began in 2020, and researchers may have difficulty carrying out this multidisciplinary research.

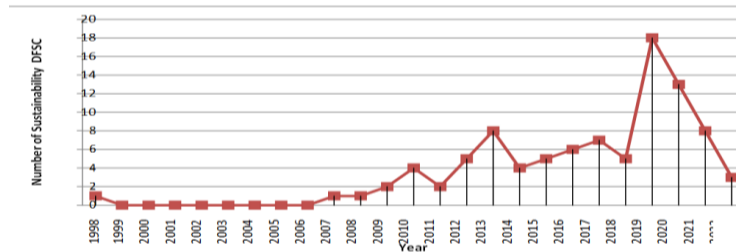


Figure 2. Digital Food Supply Chain Publications per Year

4.2. Discussion of Models from SEM Results Using Smart-PLS

Figure 3 below shows the results of the structural model estimation using SMART-PLS. The results show that the economic dimension variable (X1) positively and significantly influences the digital food supply chain business performance variable (Y3) with an influence of 0.140. So, when the digital food supply chain increases attention to economic sustainability, it will improve the performance of digital food supply chain businesses (Y3). This is also in line with what was expressed by Parrag, et al. (2022) and Rahimifard, et al. (2022) that a digitally driven food supply chain will be able to increase business profits so that the business can continue to run.

Apart from that, the economic dimension variable (X1) positively and significantly influences the technology dimension variable (Y2), with an influence of 0.214. When sustainability in the economic dimension increases, sustainability in the technological dimension will increase. This is due to cost efficiency due to the technology used (World Bank, 2016).

Then, the environmental dimension variable (X2) negatively and significantly influences the technology dimension variable (Y2), which influences -0.104. So, when the environmental dimension increases, the technological dimension in the digital food supply chain will decrease. Integrating environmental factors often drives the need for more advanced technologies to overcome sustainability challenges and improve operational efficiency (Silva, et al., 2022). This could be because food supply chains that are run digitally in developing countries do not yet pay attention to environmental sustainability because although digitalization can increase efficiency and responsiveness in food supply chains, this process requires a lot of resources and takes time, thus preventing attention to environmental problems (Nguyen, et al., 2023; Mogale, et al., 2022).

The social dimension variable (X3) has a negative and significant influence on the institutional dimension variables (Y1), technological dimension (Y2), and profits (Y3) with effects of -0.025, -0.093, and -0.080, respectively. So when the social dimension increases, the institutional, technological and profit dimensions of the digital food supply chain will also decrease.

As the social dimension increases in digital food supply chains, the institutional dimension decreases due to small agricultural enterprises' emphasis on maintaining social identity in the supply chain. These businesses are socialized through their networks, guiding their business processes rather than focusing on adoption attributes such as relative advantage and complexity (Tsai et al., 2021). In addition, applying digital technology in the agri-food sector supply chain can lead to two different approaches: digitalization and digital transformation (DT). Companies wishing to implement DT must select and incorporate digital technologies that fit their DT strategy while ensuring senior management leadership and staff

involvement (Ali, et al., 2021). This shift towards a more socialized approach may eclipse traditional institutional aspects of digital food supply chains.

As the social dimension increases in digital food supply chains, profitability may decrease due to various factors. Research shows that companies in the agri-food sector face challenges in implementing digital technologies, leading to two different approaches: digitalization and digital transformation (DT) (Ribeiro and Navarrete, 2023). Additionally, agri-food companies in Eastern Europe show higher sensitivity to social innovation as a digital transformation factor, indicating a potential trade-off between social incentives and profitability (Barcellos, et al., 2023). In addition, the emergence of social selling, especially during the COVID-19 pandemic, can create risks related to the mishandling of goods, which can impact the profitability of the food sector (Ali and Govindan, 2021). Therefore, the link between social aspects and digitalization in the food supply chain can harm profitability.

The institutional dimension variable (Y1) has a negative and significant influence on the technology dimension variable (Y2) and the profit variable (Y3), with an influence of -0.058 and -0.033. So, when institutional desire increases its attention to the digital food supply chain, it will reduce the technological dimensions and profits in the digital food supply chain. The decreasing technological poverty dimension in the digital food supply chain when the institutional poverty dimension increases is caused by complexity and trade-offs between economic, environmental and social factors (Reddy, et al., 2022). Although digital technology can support extinction initiatives, it can also have unintended negative consequences, resulting in technological extinction (Zoric, et al., 2023). In addition, challenges and obstacles in integrating digital technology for sustainability in supply chains can hinder improvements in technological sustainability aspects (Maha and Akram, 2022; Kenea, 2022). Poor coordination, information transfer problems, food loss, and contamination can destroy and disrupt traditional food supply chains, affecting technology cessation in digital transformation (Maha and Akram, 2022). Therefore, carefully considering all dimensions and consequences is essential to achieve the intended benefits and reduce undesirable adverse impacts in the digital food supply chain.

Additionally, as the institutional dimension of poverty increases in digital food supply chains, profitability decreases due to various factors. Factors such as poor coordination among supply chain participants, food losses, transaction costs, and external elements significantly impact the desirability and functioning of food supply chains (Silva, et al., 2023). In addition, the complexity of food supply chains, which are influenced by poverty factors such as the number of elements, unpredictable variability, and resilience, can increase challenges in maintaining profitability (Zoric, et al., 2023). Additionally, efficient supply chain management, including cold storage and warehousing systems, is critical to ensure fair distribution of crops and food grains, thereby impacting profitability in digital food supply chains (Reddy, et al., 2022). Therefore, addressing these challenges through digitalization and improved coordination is critical to increasing profitability in digital food supply chains.

The technology dimension variable (Y2) negatively and significantly influences the profit variable (Y3), with an influence of -0.112. So when technological variables increase, the profits of digitally driven food supply chains will be reduced. As the dimension of technology availability increases in digital food supply chains, profitability may decrease due to various factors. Factors such as poor coordination between participants, food loss, transaction costs, and control problems significantly impact the viability and functioning of food supply chains (Silva, et al., 2023). Additionally, the complexity associated with technological advances in digital food supply chains, including the need for organizational capacity, supporting technology, and traceability processes, can lead to increased costs and operational challenges, thereby affecting profitability (Zoric, et al., 2023). In addition, the concentration of value in the final link of the food production chain due

to market failures can hinder profitability, especially for small farmers, even though digital technology has potential benefits in increasing market demand and access (Roosevelt, et al., 2022). Therefore, while technological advances can increase poverty, they can also introduce complexity and costs that impact profitability in digital food supply chains.

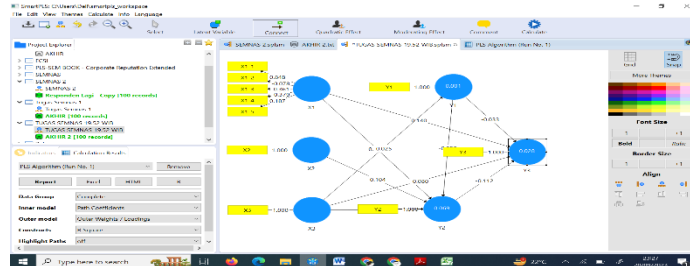


Figure 3. Structural Model Estimation Results

5. CONCLUSION

The results show that research on digital supply chain sustainability began in 1998. From 2007 to 2019, there was a relative increase in journal articles discussing the sustainability of digital supply chains. From 2020 until now, it has decreased. This could be because the COVID-19 pandemic began in 2020, and researchers may have difficulty carrying out this multidisciplinary research. Besides that, SEM results show that only economic variables have a positive and significant influence on the technological dimension variables and business performance in the form of profits, while the other variables show a negative influence.

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THE APPLICATION OF LEARNING TECHNOLOGY TO SHAPE THE MOTIVATION OF WRITING LITERACY AND THE FORMATION HABIT OF RURAL STUDENTS IN INDONESIA

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ABSTRACT

Technology-enhanced learning has become an integral part of contemporary education and has a significant impact on students' writing literacy motivation. This research aims to review the level of writing literacy motivation in rural Junior High Schools (SMP) in Indonesia. Additionally, this study aims to examine the relationship between learning technology and students' writing habits. This research employs a quantitative approach with online survey data collection techniques using the Qualtrics system. The analysis technique used in this study utilizes Structural Equation Model-Partial Least Square (SEM-PLS). The test results indicate that learning technology has a significant influence on writing literacy with a path coefficient of 0.614. This suggests that mastery of learning technology provides a positive boost to students' motivation to write. The impact of learning technology on habits and behavior also has a significant direction with a path coefficient of 0.651. The use of technology has increased students' motivation for writing literacy due to easy access to required resources. Participants feel more motivated to explore new topics and ideas and offer opportunities to express themselves through writing.

Keywords: learning technology, writing literacy, habit and behaviour, rural middle school

1. INTRODUCTION

In an era filled with technological advancements, the approach to education has undergone significant transformation. One major change that has had a significant

impact is the use of technology as part of the learning process to enhance writing literacy and boost writing motivation among students (Yang et al., 2018). Learning technology, with all its innovations, serves not only as an additional tool but also as a catalyst that expands access, supports personalization, and promotes deeper engagement in the writing learning process (Newell, 2014). In this context, the influence of learning technology on writing literacy and writing motivation has become a focus of attention for education practitioners, researchers, and other education stakeholders (Wijayanti, 2020). This paradigm shift is reflected in efforts to understand how technology can be effectively used to stimulate writing interest and improve students' writing motivation at various education levels (Gomez et al., 2019).

However, alongside the rapid growth of technology, questions arise about the extent of learning technology's influence on literacy and student learning motivation (Rosen, 2009). Some studies indicate that the use of technology can enhance students' interest in writing through interactive multimedia content (Wijayanti, 2020). However, there are concerns as well, such as the potential for digital usage to blur students' focus (Uzelac, 2008). For instance, (Gallardo et al., 2019) illustrate that this rapid technological growth actually distracts learners. Students' literacy habits decline with technological advancement (Giannini & Bowen, 2019). This is because students are more interested in using technology for interaction and communication with their peers rather than academic-related activities (Ameliah et al., 2023; Sari et al., 2023).

The development of technology in Indonesia during the period from 2018 to 2022 reflects positive progress, with a significant increase in the technology development index and internet usage. According to the Central Statistics Agency (BPS, 2023), there was an increase of 0.78 points over the course of five years. Data obtained from Kemp (2019) shows that internet usage in Indonesia also increased by 13% within one year. However, there are still significant disparities in access to and utilization of technology, especially in remote areas. Indonesia still faces challenges in leveling accessibility to technology and information, with technology development centers still primarily focused in Java Island. Data reported by BPS (2023) indicates that eastern parts of Indonesia, such as Papua and East Nusa Tenggara, have lower technology and information development indexes compared to Jakarta.

These disparities reflect challenges that need to be addressed in expanding access to and utilization of technology throughout Indonesia (Jalal, 2005). Additionally, the information-rich digitalization era also brings new challenges in information processing and management (Giannini & Bowen, 2019). These challenges are crucial to understand in efforts to effectively integrate technology into learning environments (Chitondo., 2021). By understanding the challenges faced and the potential of existing technology, steps can be taken to maximize the benefits of technology in the learning context (Rosen, 2009). Efforts to formulate effective strategies for integrating technology into learning are crucial to ensure that the benefits of technology are evenly felt by all Indonesian communities and to address challenges arising from this digitalization era.

Thus, this research will explore the influence of learning technology on writing literacy motivation. This study will also elaborate on how learning technology can provide more detailed measurements of writing literacy progress. Through a deeper understanding of the dynamics outlined, it is hoped that this research can formulate more effective strategies for integrating technology into the learning environment. This will strengthen writing literacy and foster sustainable writing motivation for students at various education levels.

2. LITERATURE REVIEW

Writing Literacy Motivation

Literacy is the process of developing individual knowledge and potential, focusing on understanding, assessing, using, and engaging with written texts (OECD, 2019).

Good literacy skills enable individuals to access information, analyze texts, and make decisions based on a deep understanding of the material read (Esmer & Gunes, 2019). This emphasizes that literacy is not just about technical skills but also about the ability to understand, evaluate, and interpret information found in written texts (Linnakyla et al., 2004). The emphasis on cognitive skills required in the writing process, as expressed by Adams (1990), also indicates that writing is a process that requires various complex cognitive skills.

Several studies reveal that achievement in literacy is influenced by various complex and multidimensional factors (Koyuncu & Firat, 2020). The first influence is fluent writing motivation (Kim et al., 2010) and understanding the structure of texts to help interpret and connect the information read (Pyle et al., 2017). This is because understanding the structure of texts is a form of cognitive construction that plays an active role in individuals (Becker & McElvany, 2010). The use of cognitive and metacognitive strategies plays a crucial role in understanding and managing information obtained from writing texts (Firat & Kocak, 2019). Lastly, high motivation for writing will encourage individuals to actively engage in understanding writing texts (Logan et al., 2011). A deep understanding of these factors can help in developing effective educational strategies to enhance students' holistic writing comprehension.

The connection between students' writing literacy levels and writing literacy has a close and mutually influential relationship in developing someone's language skills (Geske & Ozola, 2008). Individuals with high levels of writing literacy tend to have better understanding of grammar, vocabulary, and sentence structure, which are crucial components in effective writing (Koyuncu & Firat, 2020). Writing books, stories, and various articles can broaden one's imagination and stimulate creativity. This helps in generating new ideas and composing interesting stories or writings (Williams & Bearn, 2017). Good writing literacy can provide inspiration and fuel for someone's writing ability (Gnach et al., 2007). Thus, emphasis on literacy development in schools and other learning environments is an important step in enhancing overall education quality and preparing students for success in various academic and professional aspects (Esmer & Gunes, 2019).

Empirical studies have shown a positive and moderate relationship between intrinsic motivation and literacy (Taboada et al., 2019; Schaffner & Schiefele, 2007). Writing motivation arising from individual interest and enjoyment is considered the most important type of motivation (Schiefele et al., 2012). When individuals feel intrinsic motivation to read, it tends to increase their level of engagement in the writing process, which in turn can lead to improved writing motivation and achievement (Becker et al., 2010; Cartwright et al., 2016). This emphasizes the importance of creating environments that support and cultivate interest and enjoyment in literacy, which ultimately helps improve individuals' writing literacy motivation overall (Yang et al., 2018).

Learning Technology

The use of literacy learning resources facilitated by technology is becoming increasingly important in the field of education (Rusyidah et al., 2020). This is because technology-based learning can present instructional material in contextual, visual, and auditory ways that are engaging and interactive (Chan et al., 2017). In line with Minister of Education Decision No. 22 of 2016 regarding the standards of basic and secondary education processes, information and communication technology must be applied integratively, systematically, and effectively considering conditions and situations in the field (Permendikbud, 2016). By utilizing digital literacy, teachers can present learning materials more dynamically and attractively to students (Rusyidah et al., 2020). This not only makes the learning process more interesting but also helps students to be more engaged and understand the material being taught.

Learning technology creates broader access to a variety of writing resources, such as e-books, online articles, and interactive learning platforms (Rosen, 2009). This innovation can help improve access to diverse writing materials, providing more

options for students to expand their knowledge and deepen their understanding of various topics (Gomez et al., 2019). Learning technology can be packaged interactively and attractively through various media, such as video, audio, animation, and educational games (Gallardo et al., 2019). Packaging learning using technology can increase students' interest and engagement in writing materials. By presenting information through various media, students can have a more varied and engaging learning experience (Chan et al., 2017). This can strengthen students' motivation to read more because engaging learning tends to stimulate students' interest and curiosity in a topic (Booton et al., 2023).

The integration of information and communication technology in the learning process has been proven to help students develop digital skills that are very important in today's era (Gomez et al., 2019). Technology skills are an integral part of the concept of literacy (Cajas, 2002). Thus, literacy here not only encompasses the technical ability to use technology but also a deep understanding of how technology can be effectively used for learning, working, and collaborating (Kirylova et al., 2023). Therefore, literacy not only involves technical skills but also contextual understanding of the role of technology in everyday life (Sari & Chou-Liu, 2023; Sukmayadi & Yahya, 2020). The importance of technology skills and literacy becomes increasingly relevant in preparing students for a future that is increasingly digitally connected (Light et al., 2009). The ability to use technology wisely and effectively is an important asset that can help students adapt to the developments and changes of the times.

3. RESEARCH METODOLOGY

The sampling method employed in this study utilizes a cross-sectional design. The cross-sectional method is a research approach involving the collection of data at a single point in time from various individuals, groups, or different variables. It aims to provide a representative overview of the situation or the relationship between variables at a specific moment. This approach does not involve collecting data from the same individuals or groups periodically over a certain period of time.

As for the method of analysis used to answer the hypotheses in this study, it is the Structural Equation Model-Partial Least Square (SEM-PLS) with the assistance of SmartPLS3 software. SEM-PLS is a powerful analysis method because it does not assume data with scale measurements and small samples and can be used for nominal, categorical, ordinal, interval, and ratio data (Hair et al., 2017). Additionally, SEM-PLS also has advantages in its flexibility to handle complex models, address multicollinearity, and estimate asymmetric models well. This makes it an ideal choice for research with relatively small samples or when data do not meet the assumptions of normal distribution (Hair et al., 2017).

4. RESEARCH RESULT

Participants in this study are junior high school students in Indonesia, both male and female, studying in rural schools, categorized as 7th, 8th, and 9th graders, aged 12-15 years old. The survey is a self-report survey distributed over 5 months, with a total of 1024 participants, but in this article, respondents who meet the criteria by completing the questionnaire in full are 601 respondents. Below are the results describing the characteristics of the respondents:

Table I. Respondent demographic

Demographic Items	Frequency	Percentage (%)
School		

SMP Negeri 5 Angkona	79	13.1%
SMP Negeri 2 Kalaena	93	15.5%
SMP Negeri 1 Kalaena	190	31.6%
SMP Negeri 3 Kaimana	239	39.8%
	601	100.0%
Gender		
Male	243	40.4%
Female	358	59.6%
	601	100.0%
Grade		
7th	181	30.1%
8th	211	35.1%
9th	209	34.8%
	601	100.0%
Age		
12th	80	13.3%
13th	197	32.8%
14th	214	35.6%
15th	88	14.6%
	601	100.0%
The period of use of learning technology or socio-cultural applications or the like		
0-1 years	136	22.6%
1-2 years	146	24.3%
3-5 years	319	53.1%
	601	100.0%

The research results provide demographic descriptions of participants from four junior high schools in various locations. SMP Negeri 3 Kaimana contributed the most with 41.45%, while SMP Negeri 5 Angkona contributed the lowest percentage with 14.13%. Based on gender characteristics, the majority of participants are female (60.16%), while males contribute 39.84%. In terms of grade level, there is a balanced distribution with 7th grade (28.67%), 8th grade (35.53%), and 9th grade (35.80%) each showing significant contributions. In terms of age, the majority of participants are 14 years old (36.88%) and 13 years old (34.05%), while 15 years old contributes 15.21%. This indicates that the majority of participants are in the middle to late teenage age range.

Table II. Correlation matrix for measurement scales

	Mean	SD	LTA	WLM	HB
LTA	3.89	0.595	0.719		
WLM	3.91	0.591	0.644**	0.714	
HB	3.91	0.582	0.611**	0.680**	0.738

Note: LTA: Learning_Technology_AScL,

WLM: Writing_Literacy_Motivation,

HB: Habits and Behaviour

SD: standard Deviation

Diagonal elements are the square roots of the AVE for each construct

Pearson correlations are shown below the diagonal
Significant at *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

This correlation table illustrates the relationship between constructs measured in this study. The measurement scales include Learning Technology (LTA), Writing literacy motivation (WLM), and Habits and Behavior (HB). The results show that there is a significant positive relationship between almost all constructs. The main diagonal of the table shows the square root values of the AVE for each construct, which is a measure of how much variance of the construct variables can be explained by the measurement items. The AVE values are relatively high, indicating that these constructs are well measured by the existing items. When comparing AVE values with correlations between construct variables, it is observed that the AVE for each construct is greater than its correlation with other constructs. This indicates that the variance of the construct is greater than its correlation with other constructs, indicating that the construct can indeed be considered as separate and measurable. These results affirm the reliability and measurement quality in this study, and strengthen confidence in the validity of the analysis results.

Table III. Measurement results

Constructs	Factor Loading	Composite reliability (CR)	Average of variance extracted (AVE)	Cronbach's α
Learning_Technology_ASCL				
LTA1	0.696	0.838	0.509	0.758
LTA2	0.766			
LTA3	0.767			
LTA4	0.716			
LTA5	0.612			
Writing_Literacy_Motivation				
WLM1	0.717	0.867	0.544	0.791
WLM2	0.743			
WLM3	0.771			
WLM4	0.723			
WLM5	0.734			
Habits and Behaviour				
HB1	0.780	0.842	0.518	0.758
HB2	0.735			
HB3	0.744			
HB4	0.684			
HB5	0.647			

Additionally, the validity and reliability tests of the questionnaire for each construct can be observed in the measurement results presented in Table III, which show factor loadings, Composite Reliability (CR), Average of Variance Extracted (AVE),

and Cronbach's α for each construct variable in this study. High AVE values indicate that most of the variance of the construct is explained by the measurement items, and high Cronbach's α indicates the reliability of the construct measurement.

1. Learning Technology (LTA): This construct variable has three measurement items (LTA1, LTA2, LTA3, LTA4, LTA5). Each item has significant factor loadings, indicating that these items effectively reflect the Learning Technology construct. The high Composite Reliability (CR) also indicates that this construct is well measured. The high AVE values indicate that most of the variance of the construct is explained by the measurement items, and the high Cronbach's α indicates the reliability of the measurement of this construct.
2. Writing literacy motivation (LM): This construct has three measurement items (WLM1, WLM2, WLM3, WLM4, WLM5). These items have significant factor loadings. High CR and AVE values indicate that this construct is well measured.
3. Habits and Behavior (HB): This variable is measured by five items (HB1, HB2, HB3, HB4, HB5). The factor loadings for these items are significant. High CR and AVE values indicate the reliability and validity of the Habits and Behavior construct.

The measurement results indicate that all construct variables in this study are well measured by their measurement items, with high values of CR, AVE, and Cronbach's α . This indicates the reliability and validity of the measurement for each construct variable in this study.

Goodness of Fit Test

	R Square	GoF
Writing literacy motivation	0.377	0.457
Habits and Behaviour	0.423	

The results of the goodness of fit evaluation show the extent to which the developed model can explain the variability of the independent (X) and dependent (Y) variables. The goodness of fit evaluation results indicate how well the estimated model fits the observed data. Here is the interpretation of the results:

- For the WLM variable, the R Square value is 0.377. This means that approximately 37.7% of the variability in the WLM variable can be explained by the LTA variable, while the rest is influenced by variables outside the model.
- For the HB variable, the R Square value is 0.423. This means that approximately 42.3% of the variability in the HB variable can be explained by the LTA variable, while the rest is influenced by variables outside the model.
- The value of GoF (goodness of fit) ranges from 0 to 1, with the interpretation of the value being >0.1 (small GOF), >0.25 (moderate GOF), and >0.36 (good GOF). The GoF value in this research model is 0.457, which means it has a good GoF.

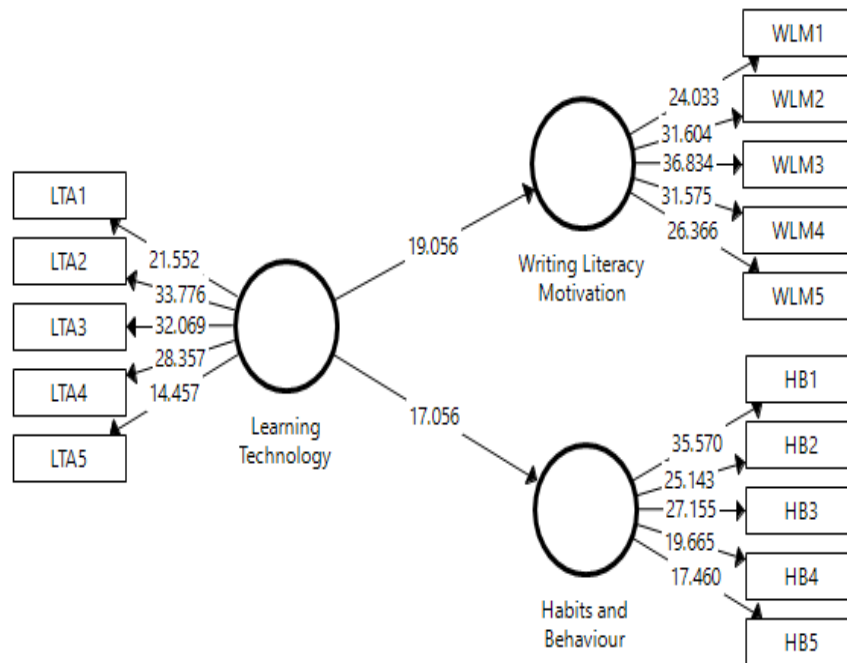


Figure 1. Conceptual Model

Table V. Proposed model results

Hypotheses	Path	Coefficients	T	Test results
H1 Learning Technology ASCL	□ Writing Literacy Motivation	0.614	17.06	Supported
H2 Learning Technology ASCL	□ Habits and Behaviour	0.651	19.06	Supported

Table V presents the results of hypothesis testing for the proposed model in this study. Here are the detailed results of the hypothesis tests:

a. H1 (ASCL learning technology → Writing literacy motivation)

The test results indicate that ASCL learning technology has a significant influence on writing literacy motivation ($T > 1.96$). The influence has a positive direction with a path coefficient of 0.614. This result means that mastery of learning technology with a focus on cultural and social literacy provides a positive boost to students' motivation to write. By utilizing technology related to cultural literacy, students are more likely to be motivated to deepen their writing skills.

The test results showing a significant influence of ASCL learning technology on writing literacy motivation provide valuable insights into the potential of

technology in the educational context. With the right approach, learning technology can be a powerful tool in enhancing students' writing skills and fostering their interest in learning. However, the use of technology should be carefully considered and tailored to the needs and learning contexts of students to ensure its effectiveness.

b. H2 (AScL learning technology → Habits and Behaviour)

The test results indicate that AScL learning technology has a significant influence on habits and behavior ($T > 1.96$). The influence has a positive direction with a path coefficient of 0.651. This indicates that mastery of learning technology with a focus on cultural and social literacy enriches students' habits and behavior. In an era where technology is becoming increasingly important in the learning process, understanding how learning technology can influence students' habits and behavior is highly relevant.

The use of AScL learning technology focusing on cultural and social literacy provides new opportunities to transform and enrich students' habits and behavior. The test results showing a significant influence of AScL learning technology on students' habits and behavior demonstrate the great potential of technology in shaping more effective and meaningful learning. By using this technology wisely and purposefully, educators can harness the power of technology to help students acquire positive habits and behavior, thereby enhancing their overall learning experience and outcomes.

5. DISCUSSION

Learning Technology as Literacy Media

Technology has brought about fundamental changes in the world of education, especially in the context of learning. These changes not only affect how we access information but also have a significant impact on students' motivation, habits, and writing behavior. Technology acts as a mediator that stimulates imagination to generate new ideas and strengthens students' independence during the learning process (Norouzi, 2021). Furthermore, technology-supported learning encourages critical thinking processes in students, which potentially enhances their academic achievement (Hidajat et al., 2023). Through technology, students have broader access to educational resources, including learning materials, writing materials, and writing tools (Zarycka et al., 2021). This enables them to explore various topics and express their ideas in a more creative and innovative manner. With technology, students can also learn independently and develop their writing skills without relying on traditional learning environments.

The research findings indicate a significant relationship between the use of technology in writing literacy and literacy motivation. This confirms that mastery of learning technology can provide a positive boost to students' motivation to write. Consistent with the findings of Kyrylova et al. (2023), which highlight that learning technology has great potential to enhance students' motivation in writing. Through the use of various technological tools and platforms, students can experience more engaging and interactive writing experiences. The use of technology can also help students feel more connected to the topics they write about and provide opportunities to explore various social and cultural aspects related to those topics (Light et al., 2009). Furthermore, the use of technology is no longer just a process of pouring out ideas but also evolves into a framework for writing (Turner & Katic, 2009). Technology assists students in becoming more engaged in the writing process, expanding their understanding of the topics being discussed, and providing space for creative exploration in their writing expression.

The use of technology must be directed effectively and sustainably. A planned and targeted approach to integrating technology in writing literacy can ensure that students are truly engaged and motivated to write actively (Rose et al., 2015). Educators need to consider various factors, including the selection of platforms or applications that are suitable for students' needs and interests, as well as providing constructive guidance and feedback to help them develop their writing skills

(Dangprasert, 2023). Another issue to be addressed is ensuring the absence of a technology and information access gap between rural and urban areas (Turner et al., 2020). Therefore, educators need to develop appropriate strategies to integrate technology in learning to maximize its benefits while overcoming potential risks and barriers (Sukmayadi & Yahya, 2020). Thus, it is important for educators to realize the potential of technology in enhancing students' motivation to write, while paying attention to effective strategies in its application (Zarycka et al., 2021). With the right approach, learning technology can become a powerful tool in strengthening students' writing literacy and stimulating their interest in exploring the world of writing more deeply.

It is important to pay attention to how technology is applied in shaping positive habits in students' writing literacy, despite its advantages in enhancing literacy motivation (Sari & Chou-Liu, 2023; Williams & Bearn, 2017). Research results indicate a significant relationship between the use of technology in shaping students' writing habits. The flexible nature of technology opens up opportunities for students to express ideas and concepts in various ways (Gnach et al., 2007). They can use various platforms to share their writings and receive feedback from fellow writers. The feedback received is a crucial element in continuously improving the quality of students' writing. Through feedback, students have the opportunity to refine and develop their writing skills (Lenhart et al., 2008). The presence of this feedback is one of the advantages of using technology in writing literacy.

Students can also collaborate in the writing process, provide feedback to each other, and learn from others' writing experiences. Collaboration among students not only enriches the learning experience but also allows them to sharpen their writing skills together (Turner et al., 2020). Additionally, through technology, students can deepen their understanding of grammar, writing structure, and the use of appropriate writing styles (Mills, 2011). With interactive and collaborative learning experiences, students can feel naturally motivated to write (Sari et al., 2024; Turner et al., 2020). The integration of technology in writing instruction has a significant positive impact on shaping students' writing habits (Williams & Bearn, 2017). A wise approach to using technology not only strengthens students' writing skills but also stimulates their interest in exploring the world of writing more deeply and diversely (Gnach et al., 2007). Thus, learning technology can be an effective tool in strengthening students' writing skills and fostering sustained interest in writing literacy.

6. CONCLUSIONS

The use of learning technology has brought significant changes in students' motivation regarding writing literacy. Integrating technology into writing instruction has boosted students' motivation by providing easy access to learning resources. Students feel more motivated to explore new topics and ideas and are offered opportunities to express themselves through writing. Quick and measurable feedback from technology allows students to see their progress more clearly and provides opportunities to improve their writing skills directly.

However, it is important to note the negative impacts of technology use in writing instruction, such as distractions from social media or confusion due to too many options. Therefore, educators need to take a balanced approach to integrating technology into writing instruction, ensuring that its use supports and enhances student motivation rather than hindering it. Overall, learning technology has opened doors for significant development in students' writing skills. By harnessing the potential of technology wisely and being aware of the associated challenges, it can continue to advance students' motivation and writing skills to meet the demands of an increasingly digital and interconnected world.

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BALINESE LANGUAGE LEARNING IN THE ERA OF MODERNIZATION

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ABSTRACT

Balinese is the mother tongue of the Balinese people. As time goes by, the use of the Balinese language is experiencing degradation. This is because Bali is a very famous tourist destination in the world, therefore many Balinese people / Balinese manners prefer to learn a foreign language so they can work in the tourism sector and thus the use of Balinese is put aside. In fact, very few of the younger generation rarely, or even cannot, use Balinese. In fact, Balinese language learning has been introduced from elementary school to high school or vocational high school. To follow up on this, the Bali Provincial Government has made an effort, namely by implementing a vision and mission Nangun Sat Kerti Loka Bali with one of its visions, namely, preserving the Balinese language and Balinese culture in the era of revolution 4.0. One way to learn Balinese in this era of modernization is digitalization. Digitalization has developed very rapidly, one of which is website. Website can be used as a means to maintain the mother tongue, especially Balinese. The website is used to introduce the Balinese language to the eyes of the world. In this era of modernization, the Balinese language plays a role in restoring the identity of the Balinese people because native Balinese people have experienced a shift in the use of the Balinese language.

Keywords: Learning, Balinese language, modernization

1. INTRODUCTION

Balinese is a language that is still preserved on the island of the gods, Bali and most Balinese people use it to communicate. Balinese itself has become a social language, especially for teenagers, there are quite a few teenagers who still do not use Balinese as their daily social language, especially in urban areas. In this era of modernization, the existence of the Balinese language must be prioritized to maintain its sustainability. Sociolinguistically, the use of Balinese is divided into: speak your language (Coarse, Regular, and Fine). In this era, the Balinese language experienced many shifts or frictions with Indonesian and other foreign languages, so that it cannot be denied that the Balinese people are bilingual and have also become a multilingual society. The inability of minority languages to follow the same patterns as other languages has caused the mother tongue (Balinese) to experience shifts over time.

At the moment it's a challenge internal norexternal The Balinese language is something that threatens the existence of the Balinese language. This challenge can cause a lack of knowledge about the Balinese language, especially for teenagers, where teenagers still have very unstable thoughts about understanding the anggah ungguhing basa Balinese. To overcome this challenge, all levels of society from young to old must participate in it by prioritizing the Balinese language, so that in this era of modernization the Balinese language can remain sustainable and the Balinese language skills of the younger generation continue to

be maintained as a noble cultural value. In accordance with the vision and mission Nangun Sat Kerti Loka Bali, which means maintaining the purity and harmony of Balinese nature and its contents, one of which is the Balinese language. In this era of modernization, the Bali Provincial government has a mission, one of which is related to the use of the Balinese language. The government hopes that with this mission, manners Bali is increasingly aware of the importance of preserving the Balinese language, because if it is not the Balinese people themselves who preserve the Balinese language, who will preserve the Balinese language.

The government has even prepared a draft government program by issuing Bali Governor Regulation No. 80 of 2018 concerning the Protection and Use of Balinese Language, Script and Literature and the Implementation of Balinese Language Month. The Governor's Regulation (Pergub) issued by the government clearly emphasizes the protection and use of the Balinese language. The government has also determined a month to commemorate Balinese Language Month. One month is used to hold competitions related to the Balinese language to increase interest and talent in using the Balinese language, such as Balinese MC, Speech, Mesatwa (storytelling) Balinese, write letters (writing script) Balinese, Balinese poetry competition, creating Balinese short stories and others. Language month activities are mandatory for all parties to participate in, and these competitions are organized by the Bali Government.

The government's program for the protection and use of Balinese language, script and literature is also supported by students, academics, language experts, Balinese writers and other manners Bali itself. Students, academics, language experts and Balinese writers innovate to fight for and promote the Balinese language so that it can be known to the world. This aims to preserve Balinese language and culture. One of the breakthroughs made by students, Balinese Language and Culture academics and manners Bali, namely, encouraging the Balinese language to enter the digital system. As we know, digital systems in the form of websites, one of which is the Bali Wiki language site, can be used to access and display works related to the Balinese language. In this era of modernization, digital systems such as websites contain various information and discuss various languages, cultures and many other things in the world, and can be accessed freely and freely by the whole world. By including Balinese on the website, it is hoped that Balinese can occupy the same position as other foreign languages and can be known throughout the world.

This research discusses the role of the Balinese language in the era of modernization, which can be an effort to maintain and preserve the heritage of our ancestors in the field of language, especially Balinese, in this era of modernization with digital media. This research was researched using sociolinguistic theory, namely language maintenance. In general, language maintenance is defined as a decision to continue using a language collectively by a community that has used that language previously (Fasold: 1984). In this case, it is the use of Balinese by the Balinese community, whose use is increasingly rare because it is influenced by Indonesian and other foreign languages. This is because Bali is a world tourist destination that is always visited by tourists from various countries, where knowledge and use of foreign languages is very important. In the midst of the development of the modernization era, the use of the Balinese language has greatly decreased, causing the position of the Balinese language as the mother tongue/region of Bali to experience a shift. To overcome this challenge, all levels of society from young to old must participate in it by encouraging the Balinese language to be involved in digitalization such as websites and YouTube. In this way, it is hoped that it can support the Balinese language in this era of modernization and become better known to the wider world, and it is hoped that it can attract the interest of the younger generation and foreign tourists who vacation

in Bali to learn Balinese. With the existence of a Balinese language website, it is hoped that Balinese language learners can easily access information and thus are expected to be able to maintain Balinese culture in the field of language.

2. RESEARCH METODOLOGY

The research methods used in this research are data collection methods and techniques, data analysis methods and techniques, as well as methods and techniques for presenting data analysis results according to Sudaryanto (1993). The data collection method used in this research is the library method and interview method with advanced techniques, namely note-taking techniques. The library method was used to search for data related to Balinese Wikipedia, then supported by interview methods with students, academics, language experts and Balinese writers to obtain data. The data is then recorded and classified. After the data is classified, the data is then analyzed using the matching method, namely the determining tool is outside, apart from and not part of the language (language) concerned (Sudaryanto, 1993), with descriptive techniques. Methods and techniques for presenting data analysis results use informal methods, namely presenting analysis results using words and explanations (Sudaryanto, 1993).

3. RESULTS AND DISCUSSION

3.1 Regulations of the Governor of Bali

The government issued a pergub (governor's regulation) aimed at preserving Balinese language and culture, with Bali Governor's Regulation No. 80 of 2018 concerning the Protection and Use of Balinese Language, Script and Literature and the Implementation of Balinese Language Month. This was done because of increasingly rapid developments in the era of evolution 4.0, the use of Balinese is starting to be abandoned. The government designs various programs that can protect and preserve the Balinese language. The government issued a program, namely, Bali Language Month. Balinese Language Month is the implementation of various activities related to Balinese language, script and literature which lasts for one month throughout Bali. This Language Month is used to hold competitions related to Balinese to increase interest and talent in using Balinese, such as Balinese MC, Speech, Mesatwa (storytelling) Balinese, write letters (writing script) Balinese, Balinese poetry competition, creating Balinese short stories and others. Language month activities are mandatory for all parties to participate in, and these competitions are organized by the Bali Provincial Government. According to Aryasuari (2019: 941) the government also issued regulations so that all government agencies use Balinese and wear traditional Balinese clothing on Thursdays. This aims to preserve the heritage of our ancestors so that it remains strong and sustainable in the current era of modernization. In fact, the responsibility for preserving and preserving the Balinese language does not necessarily fall on the government. The growth, development and maintenance of the Balinese language is determined by three The centers of education are family, community and school. The family is the spearhead of Balinese language education, because the family environment is the first to teach the mother tongue (Balinese). Second is the community environment. The community environment has an important influence on how a child's character is formed. If he grows up and socializes in a Balinese-speaking community, then of course the child will also speak Balinese. The third is the school environment. This environment plays an important role in students' formal education. Theoretically, it is in this environment that students will be taught Balinese.

3.2 Causes of the Decline in Interest in Using the Balinese Language

There are several reasons for the decline in interest in using Balinese, namely changes and developments in Balinese culture within the context of the Unitary State of the Republic of Indonesia and the use of Balinese language which is considered difficult by Balinese youth.

3.2.1 Balinese Culture in the Context of the Unitary State of the Republic of Indonesia

When the New Order government came to power in Indonesia, this regime implemented cultural politics with the main target being to ensure that regional culture could develop within the framework of the Unitary State of the Republic of Indonesia. The cultural politics implemented by the New Order government not only had a positive impact on the cultural development of each region, but also gave rise to various internal problems for the regional culture itself. The reason is, with cultural politics like that, regional culture, including regional languages within it, will not only come into contact with regional culture/regional languages and other regional languages in Indonesia, but it cannot be denied that it will also come into contact with national culture, including the national language, namely Indonesian and global culture with its international language, namely English. The very pluralistic condition of the country as described above, the New Order government then implemented cultural politics, the challenges faced were not only in the form of technological backwardness, but how to realize Indonesian unity in the third principle of Pancasila, namely Indonesian Unity in the form of Unity Diversity. With the development of regional culture within the framework of the unitary state of the Republic of Indonesia, it could also result in the degradation of regional culture, including regional languages as lingua franca.

Likewise, the use of Balinese as a symbol of local culture. The difficulties experienced by teenagers in speaking Balinese do not actually lie in the complexity or specificity of the grammatical patterns of the Balinese language itself, but are determined by a lack of interest and practice in speaking Balinese. This is proven by almost all informants who stated that in their daily interactions teenagers prefer to speak Indonesian rather than Balinese. Moreover, Balinese is only used in the smallest environment, namely the family. There is very little use of the Balinese language in schools, workplaces or other public places. This makes teenagers increasingly isolated from their own cultural roots, namely the Balinese language.

3.2.2 Increased Use of Balinese Language Which is Considered Difficult by Teenagers

Anggah-ungguhing basa Balinese is a term used to indicate language levels in the Balinese language, the use of which was formalized at the III Balinese Language Pesamuhan Agung (Workshop) in 1974 in Singaraja. Previously there were several terms to refer to language levels in Balinese, including: Masor Singgih or Sor Singgih Basa, Kasar-Alus, Undag-undagan Basa, and Language Colors (Suasta: 14). Of these terms, the one we hear most often and which Balinese people often say to this day is Sor Singgih Basa.

Existence of Balinese language which was inherited by Balinese ancestors, actually originates from the existence of social stratification among Balinese society, which is called the caste system. The existence of social stratification in the life of Balinese society means that Balinese people in speaking must follow the social structure mentioned. Teenagers who speak Balinese language. The social stratification of

Balinese society can be divided into two types, namely social stratification Bali Purwa (traditional) and Bali New (modern). Social stratification of society Bali Purwa based on hereditary factors, namely heredity brahmin (good idea, good idea and Ida Ayu), descendant knight (Ida Cokorda, Ida Anake Agung etc.), hereditary yes (I am beautiful, I am ugly and so on), descent sudra (i wayan, i made and others). Meanwhile the stratification of society Bali New based on social position in society, for example as chancellor, governor and so on before. While the group parajana, namely sweepers, gardeners and so on. The existence of this kind of social stratification of Balinese society causes the use of the Balinese language to follow modest language. To understand the usage polite Balinese language, teenagers need to be given learning from childhood to formal education.

Moreover, it can be seen from the fact that the use of Balinese among teenagers is currently decreasing or being degraded. This phenomenon has raised concerns among Balinese linguists, including language enthusiasts. In this regard, efforts to preserve and socialize the existence of the Balinese language are very necessary, considering that the position of the Balinese language as a regional language is currently in a difficult position in the midst of modernization of culture. This symptom is caused by Balinese people not caring about their identity, namely an identity that is based on religion, custom and culture. To anticipate the decline or degradation of the existence of the Balinese language, the Governor of Bali I Wayan Koster issued Gubernatorial Regulation No. 80 of 2018 concerning the Protection and Use of the Language, Balinese script, literature and the implementation of Balinese Language Month which has been in effect since October 5 2018. The issuance of this Gubernatorial Regulation is the first step for the Balinese government to preserve the existence of the Balinese language.

3.3 Balinese Language in the Era of Modernization

In this era of modernization, Balinese is the language used by the Balinese people. As time progresses, the use and knowledge of Balinese language and culture continues to decline. In fact, some terms in the Balinese language and Balinese culture are rarely used and are starting to be forgotten, so that today's generation does not know these terms. The percentage of use of the mother tongue or Balinese regional language in keeping with the changing times is still far less than Indonesian, English and other foreign languages. This problem requires special attention, especially for the Balinese people manners Bali and also other elements such as students, academics, linguists and Balinese writers, about how to support the Balinese language in this era of modernization so that Balinese can still compete with other foreign languages. The use of digitalization is one example. With digitalization, Balinese language can not only be learned from books. With the rapid progress of the era, learning Balinese is very easy to get, for example from websites, youtube and many other means of digitalization.

The inclusion of Balinese on the website It is hoped that it can introduce the Balinese language throughout the world, so that the Balinese language has the same position as Indonesian, English and other foreign languages. In this modernization era, it is hoped that not only Balinese people will learn Balinese, but foreign tourists can also learn Balinese. Balinese has Taksu / a very strong authority in his pronunciation, with the provision of Balinese language on the website expected authority/taksu of the Balinese language is increasing.

3.4 Maintaining the Balinese language through digitalization

Language maintenance, as shown by the results of studies conducted by language maintenance experts, is an effort to ensure that a language continues to

be used and appreciated, especially as an identity for a group in the language community concerned (Kridalaksana, 2001: 159). Jendra (2012:26) states that language maintenance is a situation when a community can maintain or continue the use of their language from generation to generation even though there are conditions that can influence them to switch to another language. Through the positive attitude of the language community to maintain their language, language shift will be prevented which will lead to language extinction. On the other hand, without a society's awareness of maintaining or preserving its language, it will accelerate the extinction of languages, especially Balinese regional languages. Maintaining the mother tongue can occur in a speech community that is monolingual or does not acquire another language. However, not acquiring another language does not guarantee that a language can survive because nowadays people know other languages besides their mother tongue. Therefore, the mother tongue can survive based on the dynamics of the speaking community in relation to the social, political, economic and cultural developments of the local community. In addition, the maintenance of a mother tongue in a region can also be determined by the vulnerability of the speaking community to the processes of urbanization, industrialization, language politics, and the level of mobility of the community speaking that language (Yuniarti, 2017: 40).

The preservation of the Balinese language really needs special attention, this is as previously explained, the Balinese people not only use Balinese to communicate, but also use Indonesian and other foreign languages, causing the Balinese people to be bilingual or multi language, which means that Balinese people master a language other than their own mother tongue (Balinese). Apart from all that, digitalization is a very appropriate tool to take because with digitalization archiving of Balinese language documents can be done, for example, Balinese language writing (lontar), pupuh books and many others. In this day and age, it is better known as the era now Balinese language has started to develop rapidly in the digital world, for example there is Bali Simbar Dwijendra, learning Balinese through youtube, instagram, facebook and also WhatsApp. Thus, the development of the Bali language in this era of modernization has been very good by utilizing various ready-made media, the roles played by students, academics, language experts, Balinese language writers and other people. Bali itself meets the target. Also the vision and mission of the Bali Province government, namely Nangun Sat Kerti Loka Bali went according to expectations.

Apart from that, according to Aryasuari (2019: 941), one of the efforts to maintain the Balinese language amidst the onslaught of progress in the modern era, is the Balinese Wikipedia. Balinese Wikipedia is one of the breakthroughs made by Balinese students, academics, linguists and writers to preserve and maintain the Balinese language. Students, academics and others are fighting for the Balinese language to be included and accessed on Wikipedia. Wikipedia is an international site that can add to and edit the web. Wikipedia contains various information that can be accessed throughout the world and is free. Students, academics, linguists and writers gathered and united in their mission to encourage the Balinese language so that it can be accessed on Wikipedia. The association was given training by Wiki Media. Wiki Media is part of Wikipedia. At the Wiki Media training, students, academics, language experts and others received training to increase their knowledge of how to include Balinese in Wikipedia. The inclusion of Balinese on Wikipedia is expected to introduce Balinese language and culture throughout the world. Balinese is expected to occupy the same position as Indonesian, English and other languages in the eyes of the world. It is hoped that Balinese Wikipedia

can increase the interest of readers and language learners to research and get to know Balinese language and culture, both locally and internationally. For Balinese language learners, it is hoped that it will make it easier for students to learn Balinese language and gain easy access to Balinese language. As explained previously on Wikipedia, we can access and edit or add knowledge of Balinese Language and Culture, so that all elements of Balinese society can easily add knowledge about Balinese Language and Culture.

4. CONCLUSION

In this era of modernization, the Balinese language really needs to receive special attention and a main place in the hearts of the Balinese people. Even though the Balinese language is decreasing day by day, the Bali provincial government has issued a vision and mission, namely Nangun Sat Kerti Loka Bali, which means maintaining the purity and harmony of Balinese nature and its contents to create lifemanners Prosperous and happy Bali, occasionally. The government also issued Bali Governor Regulation No. 80 of 2018 concerning the Protection and Use of Balinese Language, Script and Literature as well as the Implementation of Balinese Language Month and the Implementation of Balinese Language Month which has been in effect since 5 October 2018. Apart from the government, students, academics, literary experts and other parties are fighting for the Balinese language to be included and accessible on the Website. A website is a site that can add and edit websites. The website contains various information that can be accessed throughout the world and is free. The inclusion of Balinese on the website is expected to introduce Balinese language and culture throughout the world. Balinese is expected to occupy the same position as Indonesian, English and other languages in the eyes of the world. It is hoped that the Balinese language website can increase language learners' interest in researching and getting to know Balinese language and culture, both locally and internationally. For Balinese language learners, it is hoped that it will make it easier for students to learn Balinese language and gain easy access to Balinese language. It is hoped that the Balinese language website can support the maintenance of Balinese language and culture in the modernization era so that Balinese language and Balinese culture can survive and continue to be used from generation to generation and not become extinct.

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SERVANT LEADERSHIP STRATEGIES BY PRINCIPALS TO INCREASE TEACHERS' WORK MOTIVATION

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ABSTRACT

Servant leadership is a leadership paradigm that emphasizes a leader's devotion to serving his subordinates, not just controlling or governing. This study aims to explore how servant leadership strategies implemented by school principals can increase teacher motivation in the school environment. This research uses qualitative methods with a case study approach in three public high schools in the city of Denpasar. Data were collected through in-depth interviews and participatory observation. The results showed that there are several effective servant leadership strategies implemented by principals to increase teacher motivation, including: building a shared vision to create a supportive work environment, empowering to provide professional development opportunities, effective communication in order to strengthen interpersonal relationships between principals and teachers, recognizing and rewarding teacher contributions, and welfare support for teachers. Principals who successfully implement servant leadership strategies are found to have good communication skills, strong empathy, and a commitment to the development of their staff. From these findings, it can be concluded that servant leadership plays an important role in increasing teachers' work motivation, which in turn can improve the quality of education in schools.

Keywords: servant leadership, teacher work motivation, principal, professional development, educational work environment.

1. INTRODUCTION

Leadership in the context of education has undergone significant evolution over time. In this modern era, leadership effectiveness is measured not only by the ability to direct, but rather by the ability to serve and inspire. Servant leadership, first introduced by Greenleaf (1970), emphasizes the importance of leaders to be servants first, a concept that is now widely adopted in various organizations, including in the education sector (Greenleaf, 1970; Spears, 2010).

In the school environment, the headmaster plays a crucial role in creating a positive and productive work climate. A number of studies show that the principal's leadership style has a significant impact on teachers' work motivation (Leithwood et al., 2020). According to Stone, Russell, and Patterson (2004), servant leadership in particular, has great potential in increasing work motivation because of its focus on the growth needs and well-being of individuals in organizations.

A number of researchers have explored the relationship between steward leadership and various aspects of performance in schools, including teacher job satisfaction, organizational commitment, and student learning outcomes (McCann, 2019; Ethics, 2021). Interestingly, research by Smith et al. (2018) shows that when principals apply servant leadership principles, not only does teacher motivation

increase, but also a more collaborative and innovative learning environment is created.

However, although the evidence supporting the benefits of servant leadership in education is growing stronger, there are still challenges in its application. According to Jensen and Bro (2017), one of these challenges is the principal's unpreparedness and inability to apply the principles of servant leadership effectively. This often has to do with a lack of training and understanding of the essence of servant leadership itself.

Given the importance of this topic, this study aims to identify and analyze servant leadership strategies that principals can implement to increase teacher work motivation. Focusing on three public high schools in Denpasar, the study explores how principals utilize aspects of servant leadership in daily practice and their impact on teachers' work motivation.

The findings of this study are expected to provide new insights into the practice of servant leadership in the context of school leadership, as well as its contribution to increasing teacher work motivation. In addition, this study also aims to provide practical recommendations for school principals and stakeholders in education to support and develop more serving leadership practices.

2. RESEARCH METHODOLOGY

This research uses a qualitative approach with a case study method to deepen the understanding of servant leadership strategies applied by the principal in increasing teacher work motivation. The case study approach was chosen because it allows researchers to explore phenomena in real and detailed contexts, according to the complexities involved in leadership practice in the school environment (Yin, 2018). Purposive sampling techniques were used to select schools and respondents who had direct involvement with the implementation of servant leadership. Three public high schools in Denpasar that have been known to implement servant leadership by their principals were chosen as research locations. School selection is based on the principal's leadership reputation and recommendations from the local Education Office.

Primary data were collected through in-depth interviews with principals, and several teachers in each school. The semi-structured interviews were designed to explore perceptions and experiences related to the influence of the principal's servant leadership on their work motivation. In addition to interviews, direct observation on daily interactions at school and analysis of documents such as school policies, teacher performance reports, and professional development programs are also conducted. This data triangulation approach reinforces the validity of research findings by comparing information from multiple sources (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014).

Data analysis was carried out using thematic coding techniques, where the collected data was organized and categorized to identify key patterns and themes related to servant leadership and teacher work motivation. This process involves thorough repetition of data, code generation, and formation of themes that reflect the phenomenon under study (Braun & Clarke, 2019). This analysis helps in understanding how and why servant leadership strategies contribute to increased teacher work motivation.

Research ethics are maintained high, where all participants provide informed consent before engaging in research. The identities of the school and all participants are kept confidential through the use of pseudonyms and other sensitive data. This research has received approval from the ethics committee of the university to which the researcher is affiliated, which guarantees that all ethical procedures have been complied with (Smith & Noble, 2018).

3. RELATED RESEARCH/LITERATURE REVIEW

Research conducted by Thompson and Gaudreau (2021) explores the relationship between servant leadership and teacher work motivation. Through a survey conducted in several secondary schools in Canada, the study showed that servant leadership implemented by principals has a significant positive correlation with increased intrinsic and extrinsic motivation of teachers. Servant leadership is associated with increased job satisfaction, organizational commitment, and the intention to stay in the profession. This study provides empirical evidence supporting the theory that service-oriented leadership can result in a more positive work environment and higher work motivation (Thompson & Gaudreau, 2021).

Forsberg and Svensson (2022) conducted a qualitative study in Sweden to assess how principals use servant leadership strategies to increase teacher motivation and achievement. The study revealed that elements such as active listening, empathy, and empowerment in servant leadership greatly influence teachers' attitudes and work performance. Teachers feel more valued and supportive of the principal's initiative when they feel the principal is behaving as a true steward of their needs. The results show increased collaboration, innovation in teaching, and job satisfaction among teachers (Forsberg & Svensson, 2022).

The study by Ramirez and Carpenter (2020) compares the effectiveness of servant leadership with transformational and transactional leadership styles in an educational context. They found that although all leadership styles had a positive influence on teachers' work motivation, servant leadership consistently excelled at influencing job satisfaction and organizational commitment. This research provides valuable insights into how servant leadership can be integrated into school leadership practices to obtain better outcomes in teacher motivation and retention (Ramirez & Carpenter, 2020).

A study by Singh and Raj (2022) in India looked at the influence of servant principalship leadership practices on teachers' intrinsic motivation. They used a blended research design to collect and analyze the data, finding that servant leadership, specifically aspects of listening and empowerment, increased teachers' intrinsic motivation by creating a supportive and inclusive work atmosphere. The study affirms the importance of strengthening two-way communication and engagement in decision-making processes in schools (Singh & Raj, 2022).

Research by Ortiz and Fitzgerald (2023) in Spain explores the long-term effects of servant leadership on teacher work motivation. Through a longitudinal study, they assessed changes in teacher motivation over three years and found that servant leadership had a sustained positive impact on teacher motivation. This research shows that consistency in servant leadership is key to maintaining and increasing teacher work motivation in the long run (Ortiz & Fitzgerald, 2023).

4. RESULTS AND DISCUSSION

The results of interviews with several principals and teachers showed a variety of significant factors. First, principals who implement servant leadership often emphasize the importance of creating a shared vision, in which teachers are actively involved in the decision-making process and development of the school's vision. This increases the sense of ownership and commitment to the school's goals.

Second, it was found that empowering teachers through the freedom to initiate and implement innovative learning methods is key. Principals who provide sufficient support and resources for educational experiments encourage teachers to be more creative and dedicated in their work.

Third, open and constructive communication between principals and teachers is very influential in creating a positive work environment. Successful principals are those who practice two-way communication, listen to teacher feedback and provide feedback that helps in the teacher's professional and personal development.

Fourth, regular recognition and appreciation of teachers' efforts and achievements was found to be very effective in increasing motivation. Principals who regularly recognize and celebrate teacher successes, both on a small and large scale, create a more motivating environment.

Fifth, supporting teacher welfare is also the main focus. Principals who were proactive in coping with job stress and supporting teachers' work-life balance with health and wellbeing programs showed higher levels of job satisfaction and motivation among teaching staff.

Overall, the results show that servant leadership strategies implemented by principals, which include building a shared vision to create a supportive work environment, empowerment to provide professional development opportunities, effective communication in order to strengthen interpersonal relationships between principals and teachers, recognizing and rewarding teacher contributions, and welfare support for teachers, effective in increasing teachers' work motivation. This approach leads to a more cooperative and productive educational environment, where teachers feel valued and supported in their professional roles.

The results of this study are consistent with previous research that found that servant leadership can positively influence work motivation (Greenleaf, 2020; Patel & Cardon, 2019). Servant leadership that focuses on listening, empathy, and development is key in creating a supportive work environment, which in turn increases teacher motivation and work commitment (Smith et al., 2021). What's more, this study broadens our understanding of how specific aspects of servant leadership such as support for personal growth directly affect teachers' intrinsic motivation.

In the context of increasing teacher work motivation, the servant leadership strategy implemented by the principal plays a crucial role. Servant leadership, which puts the needs of others above the needs of the leader, has been shown to be effective in improving performance and job satisfaction in various sectors, including education (Greenleaf, 2023). This approach is particularly relevant in educational settings because of its strong focus on personal growth, empowerment, and supportive community building.

According to Smith (2021), principals who adopt a waitress leadership style tend to build stronger relationships with their staff, leading to increased teacher engagement and dedication. This research indicates that when teachers feel supported and valued, they are more motivated to not only meet, but also exceed the expectations placed on them.

Studies conducted by Johnson and Sanders (2022) state that one of the key components of servant leadership is the ability to listen actively. In a school context, this means that headteachers prioritize time to listen to concerns and suggestions from their teachers, which further fosters an environment based on trust and mutual understanding.

Additional research by Lee and Choi (2020) found that empathy is another important factor in servant leadership. Principals who show high empathy for their staff often see improvements in morale and work motivation, as teachers feel that their personalities and problems are understood and supported by their leaders.

Teacher empowerment is also a common theme in the literature on servant leadership. Wallace and Hardy (2021) show that teachers who feel empowered by their principals tend to have greater initiative and creativity in teaching. This

empowerment is often manifested in giving teachers more autonomy in making decisions about curriculum and teaching methods.

Greenleaf (2023) highlights the importance of professional development in servant leadership. Principals who emphasize continuous professional development create a dynamic and adaptive environment in which teachers are constantly learning and developing, which directly contributes to the improvement of their motivation.

In relation to professional growth, Morgan and Turner (2019) elaborate that recognition is an important component that is often overlooked. Recognition of the teacher's hard work and achievements reinforces positive behavior and increases the teacher's work motivation.

Work by Taylor (2020) reveals that leadership transparency can increase trust in teams. Principals who are transparent about school policies and decisions create a supportive atmosphere of trust, which is important for teachers' work motivation.

In a broader context, teacher welfare is an important focus in servant leadership. Research by Evans (2021) shows that when principals pay attention to teachers' well-being, it has a positive impact on their work motivation. This includes supporting work-life balance and handling work stress effectively.

Finally, as pressures increase in the educational environment, conflict management becomes crucial. Franklin and Marshall (2022) identified that principals who use servant leadership strategies are often more proficient in managing and resolving conflict, which helps in creating a more harmonious work environment and higher teacher motivation.

This support is important in an educational context because it helps teachers feel that they are an important part of the school's vision, which often increases their desire to contribute more to educational goals (Jones & Lentz, 2022). The practical implications of these findings suggest that principal training programs should incorporate elements of servant leadership to develop leadership strategies that are more effective in increasing teacher motivation.

5. CONCLUSION

This research has identified and analyzed how servant leadership strategies adopted by principals can influence and increase teachers' work motivation. The results showed that servant leadership strategies, which include building a shared vision to create a supportive work environment, empowerment to provide professional development opportunities, effective communication in order to strengthen interpersonal relationships between principals and teachers, recognizing and rewarding teacher contributions, and welfare support for teachers, effective in increasing teachers' work motivation. Principals who implement these principles not only help create a supportive work environment but also facilitate a collaborative and innovative culture in the school. Recognition, support for work-life balance, as well as ongoing professional development opportunities, are some of the key factors contributing to improved teacher motivation and performance.

Based on these findings, it is suggested that educational institutions should further explore and apply servant leadership practices in school management. It is important for school leaders to conduct regular training on the principles of servant leadership, which will help them in understanding and applying this approach more effectively. In addition, schools should create strong feedback mechanisms that allow teachers to openly share their thoughts and input. This will reinforce a sense of belonging and job satisfaction. Finally, there is a need for further research examining the long-term impact of servant leadership on overall school

performance, including student academic achievement, to further strengthen this practice in an educational context.

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BALI HONEY BEE CULTIVATION COMMUNITY PARTNERSHIP PROGRAM KELE AGROWING ETHNO BALI IN BAHA VILLAGE

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ABSTRACT

Balinese Etno Bee Agrotourism is located in Baha village which is engaged in cultivating honey bees. Kele is a partner in PKM activities. The aim of this PKM is (1) to overcome pests that attack kele honey bees in an effort to increase production yields, (2) to increase sales of honey produced by kele honey bee cultivation. Solutions to overcome attacks from bee enemies: (1) To prevent ants from entering the bee house, the legs supporting the bee house are smeared with oil or placed in a bowl filled with water. To prevent night moths, this is done by keeping the bee house clean, making the door smaller so that the butterflies cannot enter, strengthening the colony and setting traps at night. (2) Increasing marketing is carried out through online and off-line marketing promotions. To reach a wider range of consumers, the honey packaging is varied with varying volumes, namely 250 ml and 500 ml with attractive labels attached to the packaging bottles. Offline marketing is assisted by inviting consumers directly to the location to show that the honey is truly pure cultivated honey. Online marketing is assisted by promotions through digital media. The results of PKM are an increase in bee cultivation, increased skills in cultivating kele honey bees and an increase in sales income from honey production.

Keywords: agrotourism, cultivation, kele bees, marketing

1. INTRODUCTION

Baha Village is in Mengwi District, Badung Regency, which is an area with a land height of 250 meters above sea level, with relatively low rainfall, suitable for honey cultivation. Kele bees are honey bees that do not have stings, so these bees produce propolis as a means of self-defense. Kele bee honey is pure and original honey produced by the kele bee propolis type (Badung Regency Central Statistics Agency, 2020). This is what makes trigona honey have high quality and the price is more varied because production is limited (Dewantari, M., Sumardani, N. L. G., & Suranjaya, I. G., 2020). The Baha village area is very suitable as a location for developing kele honey bee cultivation because its location is on the outskirts of gardens with potential natural resources for honey bees in the form of the availability of garden vegetation flowers and coffee flowers which are a source of bee food.

Factors that are very influential in the development of bees are the availability of food and environmental factors such as air temperature, air humidity, rainfall and altitude which are very influential (Sardiana, I.K., NLR Purnawan., 2016). Cleanliness and safety of stups (honeycombs for kele honey bees), the use of modern stups, the application of good bee cultivation techniques, as well as controlling bee pests and diseases are closely related to efforts to increase production, both quality and quantity (Surata, I.K. 2017). By increasing honey

production, it is hoped that it will ultimately increase the income of the honey bee group in particular and the Baha village community in general.

According to Surata (2017), honey bees are relatively docile and do not sting so they do not harm tourists. Besides that, maintenance does not require a large area of land. Before and after training, a pretest and post-test are given and the results can be seen together. The demonstration activity was carried out by assisting target partners on the box system stup design and colony transfer techniques (Ginting, G., Tariningsih, D., & Lestari, P., 2020). During this demonstration, a discussion took place between members of the bee group and experts regarding making stups of various sizes, maintaining the stups and how to move the bee colony (queen).

According to data from the Department of Forestry of the Republic of Indonesia (2009), currently hundreds of local bees have been developed, both managed on a large scale and small scale as a side business (Surata, I.K. 2017). Honey bees are often attacked by various pests and diseases. Some of them are mild and can be controlled even after they have spread. Hence they will not threaten the survival of the colony. It is important that all beekeepers must have established good pest and disease control strategies, which may differ significantly between countries, legal frameworks, personal philosophies, means of production, product target markets (Baiquni, M. 1999).

Beekeepers must know about pests and diseases in bees. By knowing more about these things, beekeepers will be able to overcome or at least avoid pest and disease attacks (Sihombing, D.T.H., 2005). The animals that are often enemies of bees are ants, mites and night moths. Meanwhile, the diseases that often attack bees are larval rot and poisoning. That's why to face all attacks from bee enemies, beekeepers must look for and know the prevention. The problems that need to be addressed are: (1) Weaver ants are very dangerous because they disturb the colony by destroying food supplies (pollen, honey) and killing bee chicks. (2) Mites. There are two types of mites that attack bees, namely *Varroa jacoboni* mites and *Tropilaelaps clareae* mites. *Varroa* mites are reddish brown in color and larger in body. Meanwhile, *Tropilaelaps* mites are gray-brown in color. These mites attack bees from larval to adult levels by sucking the bees' body fluids. As a result, bees' growth is stunted and they even die before they are born. 3) Night Moths, butterfly insects that are active at night, often lay their eggs at the top of the nest in the bee house. After the eggs hatch into caterpillars, they will eat the beehive wax, so that the nest combs become damaged, night moths can attack old nests and newly formed nests. In severe attacks, it can cause the bee colony to move/abandon (Nurrahmi, M., Saepudin, R., & Zain, B., 2019).

When determining the location, it is necessary to consider the availability of food, data collection on the types of nectar and pollen producing plants, plant age, plant density and fertility. The condition of the apiary location is closely related to the placement of the number of maintenance stops per unit area (Chambers, R., 1987). The harvest period for kele honey is between 3 and 6 months. Harvesting can be done for years as long as the catfish do not move from their nests. The taste of kele honey is very natural which can help maintain body vitality or maintain health. To ensure the authenticity of kele honey, buyers can come directly and buy at each breeder's house. This is important in order to really get real honey which is produced from Kele bees.

Kele honey has high osmolality so it is difficult for bacteria to live. Honey has hygroscopic properties, that is, it attracts water from the surrounding environment.

Kele bees are known as bees that produce more propolis than honey. Based on the results of observations and interviews, there are 2 (two) most basic problems that need immediate solutions. The partner's priority problems that will be assisted are as follows: (1) Pest problems in kele honey bee cultivation, and (2) Marketing problems.

2. RESEARCH METODOLOGY

The methods used to help Balinese Ethno Bee Agrotourism are detailed counseling, training, mentoring and dissemination. The methods applied to empower this target partner group are as follows: (1) Socialization and coordination with the target partner group. Brief counseling and training on how to cultivate kele honey bees and (2) Periodic and continuous assistance to the target group so that it can be implemented independently.

Meanwhile, the implementation of practical activities for kele honey bee cultivation includes: (1) Participatory coordination and communication with target groups to formulate programs starting from planning, operations and evaluation; (2) Extension of honey bee cultivation techniques and honey bee group management training; (3) Colony transfer training, box system setup design and assistance in kele honey bee cultivation and (4) Monitoring and Evaluation.



Figure 1. Phase I Workshop and Training Activities

Partner Participation in Program Implementation

To ensure the smooth running of the activities to be carried out, partners also help by providing contributions from both the Chair and members who involve students as described as follows:

3. RELATED RESEARCH/LITERATUR REVIEW

Evaluation of Program Implementation and Sustainability

To determine the level of success of mentoring, before and after the mentoring activities a pre-test and post-test will be carried out. From these results, it will be possible to measure the group's level of understanding in understanding the material presented, whether the material provided can be understood or not, and whether there is a need for further deepening of the material that has been provided. In assessing the skill level of the group in the training carried out, an assessment is carried out in the process of implementing these skills which is seen from the stages that must be carried out in cultivating kele honey bees. In the group kele honey bee cultivation business and the final results of the training. Apart from that, the increase in productivity of kele honey bee cultivation will also be a comparison before and after this activity to see the results of honey production.

Table 1. Participation in the Implementation of the PKM Program

No	Parties Involved	Participation or Contribution
1	Chairman	<ul style="list-style-type: none"> - Coordinate with the implementation team and group members in each activity carried out - Prepare a place for socialization and training - Help prepare food during activities
2	Member	<ul style="list-style-type: none"> - Follow every activity carried out - Willing to be assessed during activities - Conducting Kele Honey Bee Cultivation training at Bali Ethno Agrotourism - Provide mutual motivation for the success of activities and sustainability of activities - Create PKM reports
3	Student	<ul style="list-style-type: none"> - Assisting with activities requested by the lecturer of the Kele Honey Bee Cultivation Service Team in Bali Ethno Agrotourism - Help search for data, record data and document PKM activities



Figure 2. Phase I Assistance

4. RESULTS AND DISCUSSION

The process of introducing cultivation was explained to the participants by a service team from PGRI Mahadewa Indonesia University (UPMI) lecturers formed by 3 students. The final product that will be produced through the bee cultivation process is natural honey bees produced by local bees of the *Apis cerana* type through the cultivation (farmed) process. The natural honey produced comes from nectar sucked by bees from plant flowers. When searching for nectar, bees are actually helping the process of pollinating plant flowers, which is an important process in plant reproduction. The sweet taste of honey is obtained from a biological process that produces monosaccharides, fructose and glucose in honey. The nectar that worker bees obtain from plant flowers will be taken back to the nest. After the nectar is collected, the bee returns to the nest and then another worker bee (usually younger) sucks the nectar from the stomach of the worker bee who has just returned using the proboscis. Young worker bees in the nest then

convert the nectar into honey. This is done by adding various enzymes from the mouths of worker bees to the nectar to then turn it into raw honey. This process takes approximately 20 minutes. The raw honey produced is then stored in the honeycomb. At this stage honey still has a high water content. Raw honey will then gradually reduce its water content. The flapping of bees' wings in the hive is one way for bees to reduce the water content in raw honey. Honey is considered mature if the water content has dropped to a certain level. Ripe honey will be protected and stored with the help of wax produced by a kind of sheet under the bee's stomach. After this process, the honey is ready to be used by the honey bee colony or harvested by humans (Sebayar et al., 2017).

The solution to dealing with all attacks from bee enemies, beekeepers must look for and know the prevention.

- 1) Ants. Prevention: to prevent ants from entering the bee house, the legs supporting the bee house are smeared with oil or placed in a bowl filled with water. Nests that have been damaged are immediately destroyed by burning.
- 2) Mites. Prevention: spraying with an acaricide type drug (dose 1 cc / 1 liter of water) three times, with a spray interval of 4 days. Spraying activities are carried out in the morning or afternoon.
- 3) Night Moth. Prevention to prevent night moths can be done by keeping the bee house clean, making the door smaller so that the butterflies cannot enter, strengthening the colony and setting traps at night. If eggs, caterpillars and moths are found in the nest, they must be immediately removed and destroyed.
- 4) Bee Larvae. Prevention of this disease can be done in several ways, including: Strengthens bee colonies so they can kill bacteria that attack larvae. Take the infected comb, then destroy it by burning it. Provides sugar stimulation mixed with terramycin.

For marketing, there needs to be marketing promotions both online and off-line. Improving production quality, maintaining the quality of honey sold to consumers, making bottle packaging as attractive as possible and filling with special labels to protect the name of the producer.

To carry out service to a nationally competitive community with this Community Partnership Program (PKM) Scheme, the Implementation Team from the Mathematics Education, Physical Education, Health, Recreation and Biology Education Study Programs at PGRI Mahadewa Indonesia University will be able to complete it well, because it is supported by qualified human resources in the field of service to people who have previously won PKM grants. The team has experience in honey bee cultivation capabilities.

Balinese Ethno Bee Agrotourism PKM activities include: Extension activities, training and mentoring in the field of application of kele honey bee cultivation. Dissemination takes the form of:

- 1) Pest problems in kele honey bee cultivation
Pests like Star Ping that appear every prolonged rainy season. If just one colony is affected by the Bintang Keping pest, if it is too late to treat it, it will spread to other colonies very quickly. Ants are the pests that most often appear in every colony. Likewise, Cicak and Toke pests always eat bees. Balinese Ethno Bee Agrotourism has difficulty dealing with kele honey bee

pests, because it must avoid the use of pesticides and otar which contain poison.

- 2) Marketing problems. The processing of kele honey is still traditional, convincing consumers that the honey sold is genuine honey, packaging the honey in bottles to attract consumers, and the price of kele honey is more expensive than forest honey.

The solution to dealing with all attacks from bee enemies, beekeepers must look for and know the prevention.

- 1) To prevent ants from entering the bee house, the legs supporting the bee house are smeared with oil or placed in a bowl filled with water. Nests that have been damaged are immediately destroyed by burning them, to prevent mites by spraying with an acaricide (dose of 1 cc / 1 liter of water) three times, with a spray interval of 4 days. Spraying activities are carried out in the morning or afternoon. To prevent night moths, you can do this by keeping the bee house clean, making the door smaller so that the butterflies cannot enter, strengthening the colony and setting traps at night. If eggs, caterpillars and moths are found in the nest, they must be immediately removed and destroyed. Strengthens bee colonies so they can kill bacteria that attack larvae. Take the infected comb, then destroy it by burning it. Likewise, dealing with lizard and toke attacks requires traps.

- 2) For marketing, there needs to be online and off-line marketing promotions. The group continues to improve production quality, maintains the quality of honey sold to consumers, makes bottle packaging as attractive as possible and contains special labels to maintain the good name of the producer.



Figure 3. Photo on the left of the initial condition of the honey packaging bottle with the correct size large and without labels and the right side of the packaging bottle is filled with labels

Cultivating kele honey bees is not difficult. Cultivators do not need to provide food because the kele bees usually find their own food. Cultivators only need to adjust the kele bee house close to the flowering plants. This is because kele bees eat flower and fruit juice as a basic ingredient for honey.

The Balinese Ethno Bee Agrotourism Group received input in the form of knowledge and skills from the dissemination provided. So the expected output is to achieve an increase in production results from cultivating Kele honey bees, increasing skills in cultivating Kele honey, and increasing knowledge in marketing the production.

5. CONCLUSION

Based on the results of the service implementation in the Balinese Ethno Agrotourism honey bee farmer group, Mengwi District, Badung Regency, it can be concluded: (1) There was an increase in the scores from the initial test (before socialization took place) to the final test (after socialization took place) in the partner farmer group. This means that understanding increases skills about how to handle pests in kele bees, honey yields from cultivation increase, (2) Knowledge in selling honey increases. Increasing the quality of output targets such as: 100% increase in handling of Kele honey bee pests, 100% increase. Honey production results, 100% increase in economic income in kele honey bee cultivation. In general, bee farming groups understand modern bee cultivation. The Balinese Ethno Bee Agrotourism Group received input in the form of knowledge and skills from the dissemination provided. So that the expected output is an increase in the production of kele honey bee cultivation, increasing skills in kele honey cultivation and increasing knowledge in marketing the production results. The outcome of the activities at the Bali Ethno Bee Agrotourism is to increase the productivity of kele honey bee cultivation, improve the group's skills in managing kele honey bees and increase sales of kele honey.

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MARKETING COMMUNICATION STRATEGY IN SALES OF WE COFFEE ROASTER PRODUCTS

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ABSTRACT

The process of marketing products cannot be separated from the strategy that every company has so that its goals are achieved. Of course, it requires an effective marketing communication strategy to market its products. The purpose of this research is to analyze and develop marketing communication strategies used in the sale of WE Coffee Roaster products. This study used a qualitative descriptive method with the subject of the study, namely the Marketing & Communication Manager of WE Coffee Lab. In this study, researchers used data collection techniques in the form of observation, direct interviews with resource persons and documentation. The findings in research at PT Wilindo Jaya Utama WE Coffee Lab show that supporting marketing communication strategies in selling WE Coffee Lab products is the 7P marketing mix, namely: 1) The products offered have varied; 2) The price offered is affordable to the public; 3) Promotional media used are Instagram and Facebook social media and events in the coffee industry; 4) The distribution location is strategic so that it is easy to reach; 5) The company selects employees according to the required requirements; 6) Physical evidence that can be seen is the results of lab tests in the form of machines suitable for use and user friendly machine designs; 7) The process of presenting the product is that the customer places an order, after which the payment and product are ready to be shipped.

Keywords : *Strategy, Marketing Mix, Product Sales*

1. INTRODUCTION

Strategy is a large-scale plan, with a future orientation, to interact with competitive conditions to achieve company goals (Pearce II & Robinson, 2008), it can be concluded that the understanding of strategy is an action planning process to achieve goals that have been set, by doing things that are continuous according to mutual decisions and based on the point of view of customer needs. In developing a strategy, of course, communication is needed so that the planning prepared can be achieved. Communication is a process that involves many factors or elements, factors or elements in question, among others: can include actors or participants, messages (including forms, content and ways of delivery) channels or tools used to convey messages, time, place, results or consequences that occur and situations or conditions during the communication process (Effendy, 2003). Communication becomes one of the determining factors and also as a driver to realize the goals of the business that will and has been carried out.

The process of marketing products cannot be separated from the strategy that each company has in order to achieve the goal of marketing its products, companies also need communication. So that a communication strategy process is formed to market trade products. Marketing communication is an activity that seeks to disseminate information, influence and persuade or increase the target market of

the company and its products to be willing to accept, buy and be loyal to the products offered by the company concerned (Djaslim Saladin, 2001). To increase competitiveness in the current era, the way that companies use to carry out marketing communication strategies. Marketing communication strategy is an informative or persuasive communication activity to build understanding and support for an idea, idea or case, product or service planned by an organization, both for-profit and non-profit, with goals, plans, and various alternatives based on research and evaluation (Smith, 2005).

A good marketing communication strategy can help companies promote their products and services effectively, build a strong brand image, increase sales, and maintain customer loyalty. In this case, companies must consider various factors, such as target markets, competitors, and market trends, to develop the right marketing communication strategy. In introducing products to the market, brand awareness is very important. Marketing communication strategies should be designed to increase brand awareness, by conveying consistent and compelling messages to target customers. In the marketing communication strategy, the company must reflect brand values, product uniqueness, product benefits, and differences from the product with competitors.

In addition to increasing brand awareness, marketing communication strategies also play an important role in increasing sales. When a product is launched into the market, companies must provide customers with enough information for them to make an informed purchasing decision. In this case, the marketing communication strategy should be designed to motivate and convince customers to buy the product. The messages conveyed in the marketing communication strategy must be clear, interesting, and easy to understand by customers. In addition, companies must also target the right audience, by understanding the needs and preferences of potential customers.

Furthermore, marketing communication strategies can also play a role in increasing customer loyalty. After successfully selling products to customers, the company must constantly communicate with them to maintain a good relationship. Continuous and effective marketing communications can help companies maintain close relationships with customers, provide information regarding new products, send special offers, or provide satisfactory customer service. In this case, the marketing communication strategy should be designed to build trust, meet customer expectations, and create a positive experience.

PT. Wilindo Jaya Utama *WE Coffee Lab* is a company that has only been running for the last 10 years but has many enthusiasts. This is also inseparable from the marketing strategy owned by PT. Wilindo Jaya Utama *WE Coffee Lab*. Along with the times, if you do not participate in the latest selling/promoting goods and services that often change from time to time, the company will be left behind with other companies. Until now, many companies use social media to promote the goods sold. Likewise with PT. Wilindo Jaya Utama *WE Coffee Lab* is also one of the companies that participates in promoting/marketing their products through the internet, especially on social media (Instagram, Facebook, WhatsApp, and YouTube) so that *WE Coffee Lab* products are well known by the public, through online *shops* (tokopedia and shopee) for consumers who are far from *WE Coffee Lab* outlets can be through online *shops* to buy products that are of interest and can also visit the *WE Coffee Lab offline store* directly to find items that are in demand by consumers.

There are several factors to consider in developing an effective marketing communication strategy for *We Coffee Roaster products*, such as competition in the coffee market, consumer behavior in buying coffee products, and coffee industry market trends. Market competition in the increasingly competitive coffee industry requires *We Coffee Lab* to develop a strong and consistent brand to differentiate themselves from competitors. In addition, consumer behavior in buying coffee products also needs to be considered, such as taste preferences, lifestyle, and preferences for how to present the product.

A proper marketing communication strategy is essential for *WE Coffee Lab* to *introduce* its brand and products to potential consumers, build brand awareness and influence purchasing decisions, as well as retain loyal customers and attract new ones. In this case, the *7-P marketing mix* can be used as a framework for developing an effective marketing communication strategy.

Based on the discussion above, researchers are interested in conducting research related to the phenomenon of marketing communication strategies in the sale of *WE Coffee Roaster* products so that it can be a reference for researchers and readers about the importance of marketing communication strategies that will be used by a company / business actor to increase sales and also maintain consumer attraction for the sustainability of a company.

2. RESEARCH METODOLOGY

This research was conducted at PT. Wilindo Jaya Utama *WE Coffee Lab* Bali Branch located at Ikat Plaza Building, Jalan Bypass Ngurah Rai No.505, Pemogan Village, South Denpasar District, Denpasar City, Bali Province, this company is engaged in the production of coffee drinks, coffee beans, coffee roasting machines and *coffee machine spare parts* to be sent to domestic areas and even abroad. The approach used in this study is a qualitative approach.

The approach in this study is qualitative research, qualitative research is an effort by researchers to collect data based on natural settings (David Williams, 1995). Of course, because it is done naturally or naturally, the results of the research are also scientific and can be accounted for. Therefore, this research is a direct interview with the resource persons and provides questions about the research. So that the results of the research to be researched can be accounted for. And can make observations at the research location to add insight into the subject to be studied. Researchers use a qualitative approach with a descriptive case study method. Researchers use this type of research with the aim of attaching data that has been found systematically, actually and factually. This research focuses on how marketing communication strategies in selling *WE Coffee Lab* products.

The informants in this study are staff who are directly involved with the marketing of PT. Wilindo Jaya Utama *WE Coffee Lab* Bali branch, which aims to obtain accurate and factual research results in this study. The research subjects who will provide information related to marketing communication strategies in selling *WE Coffee Roaster* products in this study are the Manager of *Business Marketing & Communication WE Coffee Lab*.

Data generated through two sources, namely the first data data, namely data collected by the researcher himself directly from the first source or place where the object of research is carried out. Researchers use the results of interviews obtained from informants regarding research topics as primary data and second data, secondary data are data collected by researchers indirectly so that in this study the secondary data sources are e-books, journals, articles related to

research topics regarding marketing communication strategies. Researchers use data collection techniques in the form of observation, direct interviews with sources and documentation. Data analysis techniques in this study are qualitative descriptions by summarizing, choosing the main things, focusing on important things that are in accordance with the research topic, then presenting data in the form of a brief description of the relationship between categories and the like but what is often used to present data in qualitative research is with narrative text, after that conclusions about findings can be in the form of descriptions or descriptions of an object the previous one is still unclear so that after research it becomes clear (Sugiyono, 2018).

3. RESULTS AND DISCUSSION

Marketing communication plays an important role in a company's ability and capacity to innovate. Successful marketing communications fully provide a competitive response through offering added value to their customers. And now marketing communication is a major need and not just an option for institutions in the world.

Marketing communications allow companies to connect their brands to people, places, events, experiences, feelings, and other things. Marketers can contribute to brand equity by embedding brands in consumers' memories and creating their image, as well as increasing sales while influencing stock value (Keller and Kotler, 2005). The main task of a market-oriented company is to build and maintain relationships or relationships with consumers, therefore the company needs marketing communications.

One strategy related to a company's marketing activities is the *marketing mix strategy* defined by Kotler and Armstrong (1997) which states that *marketing mix as the set of controllable marketing variables that the firm bleads to produce the response it wants in the target market*"It can be interpreted that the marketing mix is considered as a combination of variables that can be regulated by the company to achieve certain goals in the intended market and marketing uran is considered as a combination of variables that can be arranged by the company to achieve certain goals in the intended market. And for service / product businesses there are 7 elements of *marketing mix*, namely: *Product, Price, Promotion, Place, Participation/People, Process, and Physical Evidence*.

In developing a marketing communication strategy, companies must consider various factors, such as marketing objectives, target markets, competitors, market trends, and available budgets. Companies should also use a variety of effective communication tools, such as advertising, public relations, direct selling, and online marketing. By understanding the background and needs of the market, companies can develop appropriate marketing communication strategies, which can help them achieve their goals.

Based on the results of research that has been done and the discussion in the previous explanation, the author concludes the marketing communication strategy in the sale of *WE Coffee Roaster* products from the indicators used is the *7-P marketing mix* (product, price, place, promotion, people, process & physical evidence) as follows: 1) The products offered by *WE Coffee Lab* vary from: (a) Coffee roasting machine (from 120gram/*batch* to 12kg/*bacth capacity*); (b) Coffee Education Class, Q-Processing *Class* (introduction to the diversity of all types of coffee), *Roasting Class* (private class for coffee roasting), *Cupping Class* (introduction to the taste of various types of coffee); (c) Coffee accessories &

coffee roasting machine spare parts, so that for consumers who want to try products from WE Coffee Lab, various product options are available according to consumer needs; 2) WE Coffee Lab provides products at prices that are in accordance with the range of consumers so that when they want to try products from the company, consumers do not have to spend a very large cost; 3) Location selection is strategic enough because it is easily accessible to consumers and can expand the reach of marketing and product distribution; 4) Promotional media used by WE Coffee Lab through social media (Instagram & Facebook) and participating in exhibitions / events to introduce products widely to consumers; 5) WE Coffee Lab selects employees who behave well, the rest are able to be responsible for their duties and obligations, then able to communicate both ways well. Because the more positive the performance given to consumers, the better the impact in making purchasing decisions; 6) In general, the physical evidence that can be seen by consumers from our company is as follows: (a) Machine lab test results, in the form of reports that the machine is suitable for use; (b) User friendly product design; 7) In the process of preparing products, WE Coffee Lab has dexterous and reliable employees so that it is very necessary in an effort to be effective in providing products for consumers.

In general, the marketing communication strategy carried out by WE Coffee Lab in selling WE Coffee Roaster products is: 1) Promotional media used to introduce products to the audience is social media, the use of this media is good enough so that many consumers are interested especially young people who are just starting to start a business in the coffee industry can try machines or products from WE Coffee Lab. Because the impact of promoting products through social media sales are quite increasing but it is also undeniable that WE Coffee Lab is always consistent in maintaining service and product quality; 2) Product sales through *offline stores, online shops* and *marketplaces* make it very easy for consumers to buy goods provided by WE Coffee Lab, even though consumers are in a place that is quite far from the reach of the consumers themselves, can buy goods through an *online shop*, while consumers who are still in one area can visit the store directly to find products that suit consumer needs and can also go through the *marketplace*; 3) In terms of location, WE Coffee Lab is also quite strategic because of the location of the *store* It is in the urban area and close to the shopping center area in the Bypass area so it is easy to reach. In fact, location also affects the increase in sales of a product; 4) Service from WE Coffee Lab staff also affects sales, during interviews the service from WE Coffee Lab staff is very good, starting from receiving input from consumers, providing solutions when there are problems with shipping goods, when shipping goods the staff ensures the product will not be damaged in shipping. The CS staff is also very friendly so that people who want to know information about the products provided by WE Coffee Lab, with friendly service will make consumers enthusiastic to know the products in the WE Coffee Lab company; 5) With Coffee Education Class and Q-Processing Class, *Roasting Class, Cupping Class*, WE Coffee products Lab is increasingly known from Sabang to Merauke even abroad, by *touring* around Indonesia to do Q-Processing CEO / *Founder* of WE Coffee Lab does not forget to introduce and teach how to use the product, when there are consumers who may be interested in this field but previously did not have experience or basic knowledge about the field of WE *coffeeCoffee* Lab provides this Q-Processing to help coffee enthusiasts who are interested in learning. The CEO/*Founder* of WE Coffee Lab is very motivating for consumers or people who want to try new things and new experiences.

4. CONCLUSION

In this study, it was found that marketing communication strategies have an important role in the company's ability and capacity to innovate and provide competitive responses through value-added offerings to customers. Marketing communication strategies allow companies to connect brands with people, venues, events, experiences and other things, as well as contribute to brand equity by embedding the brand in consumers' memories and creating a corporate image.

In the context of selling *WE Coffee Roaster* products, marketing communication strategies include the 7-P *marketing communication mix*, namely (*product, price, place, promotion, people, process & physical evidence*). The products offered vary and there are coffee education classes, coffee accessories, and coffee roasting machines with different capacities. The price offered is in accordance with the reach of consumers and strategic locations are easily accessible to consumers. Promotional media used through social media and exhibitions / *events*. The selected employees are well-behaved, able to be responsible, communicate both ways well, and are reliable in preparing products. Physical evidence that can be seen by consumers includes machine lab test results, user-friendly product design, and dexterous employees. In order to build and maintain relationships with consumers, companies need to use effective marketing communications. Thus, the marketing communication strategy that has been prepared can help *WE Coffee Lab* to improve its corporate image and product sales.

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DEVELOPMENT OF VEGETABLE SALES ACTIVITIES THROUGH DIGITAL TECHNOLOGY IN THE PASAR RAKYAT GIANYAR

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ABSTRACT

Indonesia is an agricultural country that has a fairly large territory with diverse resources. In utilizing these resources, activities are carried out, one of which is in the agricultural sector, thereby producing food, energy sources and other things for the community. Gianyar Regency is one of nine regencies/cities in Bali Province. The livelihood of the people in the Gianyar Regency area is mostly farming

One of the developments in vegetable sales activities at the Pasar Rakyat Gianyar can be done through social media technology, so that production results can be absorbed more optimally, but an effective social media marketing strategy must be adjusted to target consumers and the products needed by consumers. Judging from the vegetable marketing planning vegetables at the Gianyar People's Market: (a) The products sold, especially vegetables, are very diverse and in fresh condition when sold to consumers, but there are also many traders selling similar goods so there is still a lot of competition in selling similar products (b) Prices offered to consumers is also different depending on the type of consumer who buys retail or wholesale, so that consumers who buy in bulk get cheaper prices. (c) In simple terms, the place for vegetable sales activities at the Pasar Rakyat Gianyar is strategic and easy to reach for consumers because it is located in the middle of the city. Traders usually sell in the parking basement and on the 2nd floor of the market, with strategic selling places consumers can choose and make purchase transactions easily (d) The promotions carried out are still lacking because they only rely on buyers coming in person, but some traders are already using digital technology to place orders via WhatsApp.

From the conclusions above, the following suggestions can be drawn. More vegetable products are being sold, so consumers are interested in shopping, especially cafes or restaurants that require organic raw materials. Prices are maintained for consumers who buy in bulk so that consumers do not switch to other traders. Distribution is carried out widely, not only in the surrounding area. Promotion through the use of digital technology to be carried out to develop sales.

Keywords: Digital Technology, Vegetables

1. INTRODUCTION

Indonesia is an agricultural country that has a fairly large territory with diverse resources. In utilizing these resources, activities are carried out, one of which is in the agricultural sector, thereby producing food, energy sources and other things for the community. The agricultural sector is an important sector for survival. Agriculture is an important sector that absorbs labor and provides income for most rural households in Indonesia. (Dewi, 2021). The need for food, one of which is vegetables, is increasing, vegetable consumption is in second place after grains. Consuming vegetables is very important for human needs because they contain various nutrients that can prevent several diseases. (Julianto 2021)

Gianyar Regency is one of nine regencies/cities in Bali Province. The livelihood of the people in the Gianyar Regency area is mostly farming. According to 2018 Gianyar Regency GRDP data, the agricultural sector is still the sector that contributes the largest GRDP, namely 17.17% in 2010 and 13.81% in 2018. Even though it has experienced a quantitative decline, the agricultural sector still contributes GDP above 10%. It can be assumed that the wheels of the economy in the Gianyar Regency area are driven by synergy between the agricultural sector, the tourism sector and socio-cultural aspects which attract tourists but it cannot be denied in detail, the agricultural sector is

becoming a sector that is increasingly being sacrificed, especially in efforts to improve supporting facilities & infrastructure tourism.

One of the developments in vegetable sales activities at the Pasar Rakyat Gianyar can be done through social media technology, so that production results can be absorbed more optimally, but an effective social media marketing strategy must be tailored to the target consumers and the products needed by consumers. In reality, this market still uses a simple sales method, namely consumers visit the seller's location directly. The consumers who usually come are households and large party buyers such as food stalls, cafes and restaurants, besides that the prices are also different from one consumer to another.

2. RESEARCH METODOLOGY

The research was conducted at the Gianyar People's Market, Gianyar Regency. In this research the author uses empirical research methods. The type of research used in this research is empirical research or in other words research that focuses on examining a phenomenon or situation of the research object in detail by collecting the facts that occur and developing existing concepts. The data obtained is then processed and then analyzed qualitatively, namely describing the data in a quality manner in the form of sentences that are orderly, coherent, logical, overlapping and effective, making it easier to interpret the data and understand the results of the analysis. In preparing this journal, the nature of the research used is descriptive in nature which aims to describe, record, analyze and interpret conditions that are currently occurring or existing. The population is a large group of research generalization targets. The population used was vegetable traders at the Gianyar People's Market, Gianyar Regency, who were determined purposively, numbering 20 people. In this study the entire population was used as research respondents so that the number of respondents was 20 people

3. RELATED RESEARCH

3.1 Marketing Planning

Planning is the most important thing in running a business, with careful planning it can bring optimal profit results. The marketing mix strategy uses 4P, namely product, price, place and promotion

3.1.1 Product

There are several kinds of products sold at the Gianyar People's Market, such as vegetables, clothing, household items and ceremonial equipment. The dominant products that are much sought after are household food needs such as vegetables. There are quite a variety of vegetable products and most of them are fresh when sold to consumers and there are also many traders who sell similar products. The vegetables sold are usually sent from Klungkung Regency and resold by traders.

3.1.2 Price

The prices set by each trader vary according to the target consumers who make purchases. The prices offered to consumers who buy retail are usually different compared to consumers who buy in large quantities

3.1.3 Place

In simple terms, sales distribution is still direct to consumers who come to the market, and there is no use of platforms such as Gojek and Grab which can be ordered directly via communication tools without having to visit the market.

3.1.4 Promotion

Promotion must be carried out in the development of a business. Business development through direct marketing, personal selling and through social media. Direct marketing is carried out by contacting via cell phone and social media such as WhatsApp and providing information

about the products offered and the company to potential buyers. Personal selling is carried out by offering and promoting products directly by bringing vegetable samples to introduce the product directly.

4. CONCLUSION AND SUGGESTION

4.1 CONCLUSION

The conclusions that can be drawn are as follows.

Judging from the marketing planning for vegetables at the Gianyar People's Market: (a) The products sold, especially vegetables, are very diverse and in fresh condition when sold to consumers, however, there are also many traders who sell similar goods so there is still a lot of competition in selling similar products. (b) The prices offered to consumers also differ depending on the type of consumer who buys retail or wholesale, so that consumers who buy in bulk get cheaper prices. (c) Affordable places are easy for consumers to find. (d) The promotions carried out are still lacking because they only rely on buyers coming in person, but some traders are already using digital technology by placing orders via WhatsApp .

4.2 SUGGESTION

From the conclusions above, the following suggestions can be drawn

1. More vegetable products are being sold, so consumers are interested in shopping, especially cafes or restaurants that require organic raw materials.
2. Prices are maintained for consumers who buy in bulk so that consumers do not switch to other traders
3. The place for selling vegetable products should be made into one place and not scattered between the basement floor and the second floor so that consumers can easily find producers
4. Promotion through the use of digital technology should be carried out so that consumers are helped in fulfilling their needs

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DESIGNING THE BUSINESS STRATEGY FOR PT XYZ: A COMPANY SPECIALIZING IN HEALTH INSURANCE SERVICES IN SIDOARJO, EAST JAVA.

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ABSTRACT

Insurance has a significant part for the Indonesian economy. Insurance can enhance the allocation of public funding to address financial risks, particularly in industries with elevated health risks and work accidents. However, the level of competition in the insurance industry is rising. In 2020, the Financial Services Authority (OJK) reported that there were 376 insurance businesses with valid business licenses operating in Indonesia. The objective of this research is to develop a business strategy for PT XYZ that will ensure the long-term viability of the company and identify areas for improvement. PT XYZ, located in Sidoarjo, East Java, is a company that specializes in providing health insurance services to a diverse range of organizations. Strategy formulation necessitates the examination of industrial structure through Porter's five forces and SWOT analysis. This analysis serves as an input stage in evaluating business strategy formulation, specifically in assessing the significance of Internal Factor Evaluation (IFE), External Factor Evaluation (EFE), and Competitive Profile Matrix (CPM). During the matching stage, an analysis was conducted to align opportunities and threats with strengths and weaknesses. This analysis involves the use of the SWOT matrix, IE matrix, and GSM matrix. The decision stage involves making a decision to establish a strategy by utilizing the Quantitative Strategy Planning Matrix (QSPM). Therefore, an appropriate course of action to be undertaken at PT XYZ is the market development for health insurance services.

Keywords: health insurance, business strategy, market development

1. INTRODUCTION

Insurance has a crucial role in both the Indonesian economy and society. Insurance can enhance the allocation of public funding to address financial risks. The insurance industry plays a crucial part in the national development process by providing substantial quantities of funding over a long period of time. These monies can then be utilized as a source of economic and development resources (Keuangan, 2015). According to Sastratwidjaja & Endang (1993), insurance offers significant and crucial advantages in today's world, including providing a sense of security in corporate operations and enhancing firm efficiency and productivity. The level of market rivalry in the insurance services sector is steadily rising. According to data acquired from the Financial Services Authority, often known as OJK, in 2020 there were a total of 376 businesses that possessed the necessary authorization to conduct business operations in Indonesia. The proliferation of

insurance businesses engenders intense competition, hence necessitating meticulous attention to business planning, including comprehensive consideration of marketing elements, in order to remain abreast of market developments.

PT XYZ is a health insurance firm based in Sidoarjo, East Java, Indonesia. PT XYZ provides a health insurance plan in partnership with other companies to ensure coverage for insurance members. The quantity of companies that are clients of PT XYZ fall can be attributed to the proliferation of several health insurance firms, both domestic and foreign, as well as the intense competition within the insurance market. Additionally, the company's lack of reputation and low competitiveness have also contributed to its decline. In addition, PT XYZ lacks a coherent corporate strategy in its operations. Hence, it is imperative to formulate a suitable business strategy in order to sustain the operations and enhance the competitive edge of PT XYZ.

2. RESEARCH METODOLOGY

This research employs a qualitative methodology, specifically utilizing a case study approach. The data utilized consists of primary data and secondary data. The collection of primary data involved conducting face-to-face interviews with the directors and management of PT XYZ, as well as mailing questionnaires to customers. Additionally, secondary data was acquired by doing literature reviews and utilizing online resources. The primary and secondary data analysis yielded findings that were subsequently utilized to ascertain Porter's 5 forces and SWOT analysis. These findings were then employed as inputs in the strategy-formulation analytical framework, as outlined by David and David (2016). The strategy-formulation analytical framework consists of three distinct stages.

Stage 1 (input stage) involves the entry of data for analysis. This includes the use of an EFE (External Factor Evaluation) matrix, which utilizes external analysis data of the organization. Additionally, the IFE (Internal Factor Evaluation) matrix is used to analyze the company's internal data. Lastly, the Competitive Profile Matrix (CPM) is employed in this stage.

During stage 2, which is known as the matching stage, the analysis is centered around three matrices based on the collected data: the IE (Internal-External) matrix, which utilizes values from the EFE and IFE analyses; the SWOT matrix, which incorporates data from both internal and external analyses of the company; and an alternate approach, known as GSM (Grand Strategy Matrix), utilizes data obtained from CPM (Competitive Profile Matrix). The CPM data is gathered through interviews with directors and managers, as well as customer questionnaires.

Stage 3, the decision stage involves the use of the QSPM (Quantitative Strategy Planning Matrix) to analyze alternative strategy obtained from the SWOT matrix, IE matrix, and GSM. These alternatives are then compared with the weights in the IFE matrix and EFE matrix. Through discussions with the company, this assessment process generates alternative strategies that can be considered for business strategy decisions.

3. RELATED RESEARCH/LITERATUR REVIEW

When creating a corporate strategy, it is important to do an analysis known as Porter's five forces analysis (David & David, 2016). This approach is used to build strategies in different industries. This analysis facilitates the attainment of a competitive edge and the realization of pre-established objectives. There are five indications referred to as threats of new entrants, bargaining power of buyers, bargaining power of suppliers, threats of substitutes, and rivalry among existing competitors (David & David 2016). SWOT Analysis, as described by Kotler et al (2005), is a comprehensive evaluation of a company's internal and external factors.

Its purpose is to assist the organization in identifying and addressing difficulties, as well as identifying potential opportunities for growth. The SWOT analysis framework consists of four key components: Strengths, Weaknesses, Opportunities, and Threats (David & David, 2016).

Once familiar with Porter's five forces and SWOT considerations, it becomes possible to do a strategic analysis. Strategy formulation analysis, as described by David & David (2016), is a method of analyzing basic information from a corporation in order to facilitate the development of alternative strategies. Strategy formulation techniques can be incorporated into the three stages of the decision-making process. The three stages consist of the input stage, matching stage, and decision stage. The three stages have been elaborated upon in greater depth in the sub-chapter on research methodology above.

Strategy formulation is influenced by various types of firms and the outcomes of Porter's five forces and SWOT component analysis, leading to diverse strategy formulations. For instance, conducting a strategic analysis of local enterprises that manufacture outdoor gear yields market penetration and product development strategies (Wibisono, 2019). The Village Unit Cooperative "BATU" not only engages in product sales but also develops a market penetration strategy (Putra et al., 2014). According to Faruq and Usman (2014), analysis suggests that Scissors Convection company should focus on implementing product development strategies in order to enhance competitiveness.

For the service industry, a viable strategy analysis for PT Metra Digital Media, an advertising agency company, is to implement downsizing or regrouping by reducing expenses and reallocating assets (Setiawati & Wahyudi, 2015). At PT Smartfren Telecom, a participant in the Cellular Telecommunications Industry, an analysis of market penetration and product development strategies can be conducted. This analysis can be supported by prioritizing cost allocation and efficiency, as well as implementing attractive promotional activities (Pari and Munir 2021). Another instance is PT Inhealth Indonesia Life Insurance, an insurance firm that has successfully applied a product development strategy as its best approach (Chaira et al, 2023).

4. RESULTS AND DISCUSSION

4.1 Porter's five forces and SWOT

Porter's five forces are a set of five major factors used to analyze the structure of an industry. The first force is threats of new entrants which relatively weak as the stringent licensing framework imposed by the central government necessitates substantial financial resources, a strong corporate image, and significant market reach. The second force, buyers have a significant (strong) bargaining power with PT XYZ due to the specific focus on financial and service sectors during the bargaining process. The third force affecting PT XYZ is the suppliers' bargaining power, which falls within the medium category. This is because PT XYZ does not rely on suppliers for financial resources and human capital, but rather relies on health care providers. The fourth force, which pertains to the threats of substitutes for PT XYZ, is considered mild due to government regulations mandating businesses to offer health insurance to their employees. However, policies regarding BPJS (social security agency of Indonesia) have a limited impact on market share. The fifth force, categorized as moderate, lies in its ability to surpass similar companies by offering customized solutions that cater to customer desires and needs. Additionally, it consistently upholds the quality of its services, ensuring customer satisfaction.

The SWOT analysis is also examined through comprehensive interviews. The key strengths of PT XYZ are its competitive pricing, streamlined organizational

structure, and excellent customer service. However, there are weakness in terms of inadequate advertising, a restricted network of health services, and low financial resources. However, there are certain opportunities that exist for individuals who are not eligible for inclusion in BPJS by customers. These opportunities include government rules that require firms to provide mandated health insurance and a growing awareness of the crucial function of insurance for companies. Meanwhile, the threats encompass the implementation of universal coverage through the BPJS program and the rivalry among health insurance firms.

4.2 Input stage

As stated in the research methodology for developing corporate strategy utilizing the strategy-formulation analytical framework, the process commences with the input stage, which encompasses an assessment matrix utilized to condense fundamental data and devise alternative options.

The first matrix is the External Factor Evaluation (EFE) matrix, utilized to assess the external variables of the organization pertaining to opportunities and threats, as presented in Table 1.

Table 1. External Factor Evaluation (EFE) Matrix

No	External Factor Evaluation (EFE) Matrix	Weight	Rating	Weight x Rating
Opportunity				
1	Excluded individuals from BPJS enrolment by consumers	0,3	3	0,9
2	Government policy on health insurance obligations for customers	0,2	3	0,6
3	Heightened recognition of the crucial significance of insurance for businesses	0,1	4	0,4
Threats				
1	Comprehensive healthcare coverage provided by the BPJS program	0,3	2	0,6
2	Rivalry among health insurance companies	0,1	2	0,2
Total		1,0		2,7

The second matrix is the IFE matrix, which serves as a tool for condensing and assessing the strengths and weaknesses in functional domains. It establishes a foundation for identifying and evaluating these areas, as depicted in Table 2.

Table 2. Internal Factor Evaluation (IFE) Matrix

No	External Factor Evaluation (EFE) Matrix	Weight	Rating	Weight x Rating
Strengths				
1	A cost-effective price	0,3	4	1,2
2	Straightforward corporate bureaucracy	0,2	4	0,8
3	Excellent service	0,15	3	0,45
Weakness				
1	Insufficient advertising or marketing efforts	0,2	2	0,4
2	Limited network of healthcare facilities	0,1	2	0,2
3	Financial constraints	0,05	1	0,05
Total		1,00		3,10

The CPM Matrix is a comparative matrix that assesses a company's strengths and weaknesses in respect to its competitors and their business strategy stance (David and David, 2016). The factors utilized in CPM are derived from data collected from CSF, which is gained through customer questionnaires and interviews conducted with directors, management, and workers of PT XYZ. Additionally, the weights assigned to these variables can be found in Table 3.

Tabel 3. Competitive Profile Matrix (CPM)

CSF	Weight	PT XYZ		PT Nayaka Era Husada		PT Ramamuza Bhakti Husada	
		Ranking	CPM value	Ranking	CPM value	Ranking	CPM value
Service quality	0,27	3	0,81	3	0,81	2	0,54
A cost-effective price	0,27	3	0,81	3	0,81	2	0,54
Customer loyalty	0,18	2	0,36	3	0,54	2	0,36
Straightforward bureaucracy	0,1	3	0,30	2	0,20	2	0,2
Partnership with medical institutions	0,1	2	0,20	3	0,30	2	0,2
Efficiency of claims processing	0,08	2	0,16	3	0,24	2	0,16
Total	1		2,64		2,90		2,00
Ranking		2		1		3	

4.2 Matching stage

The matching stage generates feasible alternative plans based on the primary internal and external aspects of the firm. The IE Matrix is a tool that is utilized to assess the strategic position and potential strategic alternatives for a corporation in the context of competition and growth (David and David, 2016). Considering the assessment in the EFE and IFE matrices, PT XYZ is located in quadrant IV and falls under the "grow and build" category. This category encompasses various strategy such as market penetration, market development, and product development.

The SWOT Matrix is a tool that compares external and internal factors to create four strategic options: strength-opportunities strategy, weakness-opportunities strategy, strength-threats strategy, and weakness-threats strategy (David and David, 2016).

The acquired S-O strategy encompass comprehending customers' knowledge of the company's established system and supplied rates, as well as delivering exceptional service to establish customer trust. Meanwhile, the S-T strategy is to highlight the benefits of the company's health insurance, taking into account the current circumstances, and to streamline the process of transferring and registering for membership to ensure customer satisfaction. Alternatively, the W-O strategy involves utilizing online platforms to advertise health insurance, establishing partnerships with healthcare institutions to meet client demands, and implementing strategies to expand the market. Meanwhile, W-T's strategy involves prioritizing client demands for health insurance services, seeking investors to secure funding, and enhancing brand recognition through various social media platforms including Facebook, Instagram, and others.

The GSM Matrix is a strategic tool that combines two evaluation dimensions, competitive position and market growth, to build alternative strategies (David and David, 2016). Based on the CPM results, PT XYZ is in a highly competitive position as its CPM value is similar to that of the rival with the strongest position. PT XYZ is currently experiencing rapid market expansion. According to data from OJK for the period of 2016 to 2020 (Keuangan, 2020), the assets of the insurance sector in Indonesia showed an average growth rate of 8.74%. Similarly, the investment in the insurance industry also witnessed an average growth rate of 8.94%. Hence, PT XYZ is located in quadrant 1, indicating a high competitive position and a high market growth.

4.2 Decision stage

The process of creating strategy formulation decisions is based on the combination of analysis and intuition at the decision stage (David and David, 2016). The decision stage employs the Quantitative Strategic Planning Matrix (QSPM) as its methodology. The QSPM is a technique used to assess different strategies by considering external and internal important success variables that have been previously discovered (David and David, 2016).

Based on the findings of the SWOT matrix, a total of 10 different strategies were derived and subsequently categorized according to their respective types of implementations. By engaging in conversations and discussions with the PT XYZ management, subsequently, a favorable rating was assigned to the three strategy that had been categorized (Table 4).

Table 4. Quantitative Strategic Planning Matrix

No	Strategy Alternative	Weight	Service Development		Market Penetration		Market Development	
			AS	TAS	AS	TAS	AS	TAS
			Strengths					
1	A cost-effective price	0,3	2	0,6	3	0,9	2	0,6
2	Straightforward corporate bureaucracy	0,2	2	0,4	3	0,6	3	0,6
3	Excellent service	0,15	3	0,45	4	0,6	3	0,45
Weakness								
1	Insufficient advertising or marketing efforts	0,2	2	0,4	3	0,6	3	0,6
2	Limited network of healthcare facilities	0,1	4	0,4	3	0,2	2	0,2
3	Financial constraints	0,05	3	0,15	2	0,1	3	0,15
Total		1	2,4		3,1		2,6	
Opportunity								
1	Excluded individuals from BPJS enrollment by consumers	0,3	2	0,6	3	0,9	4	1,2
2	Government policy on health insurance obligations for customers	0,2	3	0,6	3	0,6	4	0,8
3	Heightened recognition of the crucial significance of insurance for businesses	0,1	3	0,3	3	0,3	4	0,4
Threats								
1	Comprehensive healthcare coverage provided by the BPJS program	0,3	2	0,6	3	0,9	2	1,2
2	Rivalry among health insurance companies	0,1	2	0,2	3	0,3	4	0,4
Total		1	2,3		3,0		3,4	
Total TAS			4,7		6,1		6,6	

The QSPM calculation yields the Total Attractiveness Score (TAS) for service development, market penetration, and market development. The TAS for service development is 4.70, for market penetration is 6.10, and for market development is 6.20. The highest TAS is achieved by market development. The market development strategy is a crucial element in PT XYZ's alternative approach. Market development plans entail the introduction of items or services into previously untapped geographical areas. The outcomes of the market development plan encompass the promotion of health insurance via online platforms, the establishment of a branch in Gresik, the pursuit of investors to secure funds for a

new branch, and the enhancement of brand recognition through social media channels like as Facebook, Instagram, and others.

5. CONCLUSION

The research employs a strategy-formulation analytical framework, commencing with an analysis of the industrial structure utilizing Porter's five forces and SWOT analysis. The input stage of data processing for business strategy development yielded a value of 3.10 from the IFE matrix and a value of 2.70 from the EFE matrix. PT XYZ's CPM was ranked second among the two other competitors, earning a total CPM score of 2.64. PT Nayaka Era Husada holds the top position as the strongest contender, ranking 1st with a score of 2.90. PT Ramamuza Bhakti Husada, on the other hand, ranks 3rd with a total CPM score of 2.10.

After the matching stage, it has been determined that in the IE matrix, PT XYZ is located in quadrant IV, specifically in the growth and build category. Therefore, suitable alternative strategies include market development, market penetration, and product development. In addition, the SWOT Matrix yielded 10 potential strategies. Considering the expansion of the insurance company market in Indonesia, PT XYZ is positioned in quadrant 1 based on the GSM value acquired from CPM.

PT XYZ use the Quantitative Strategic Planning Matrix (QSPM) during the decision-making process to select the most suitable alternative approach. The outcomes of the IE matrix, SWOT matrix, and GSM serve as a guide for choosing alternative strategies, which are determined by the type of strategy, namely market development, market penetration, and service development. The alternative approach is determined by utilizing the QSPM, which results in the highest Total Attractiveness Score (TAS) of 6.60 for the market development plan. PT XYZ implemented the market development plan as an alternative approach.

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THE LEGAL POWER OF THE NOTARY'S COVERNOTE IN CREDIT AGREEMENTS GUARANTEE LEGAL PERSPECTIVE

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ABSTRACT

The notary's covernote is a document typically made by a notary to provide assurance for a transaction or credit. This covernote is commonly used to secure credit provided by a bank or other financial institution to the borrower. The existence and legal strength of the notarial covernote in credit agreements are influenced by the laws applicable in the country where the transaction takes place. However, generally, the notarial covernote can have several functions and legal strengths in the context of credit agreements, especially from the perspective of security law. The results of this study indicate that the authority and responsibility of the notary in credit agreements serve to bridge the interests of creditors and debtors in the preparation of deeds in credit agreements. Legal protection for creditors in credit agreements through the use of notarial covernotes is basically not prohibited and is permissible according to Law Number 10 of 1998 concerning Banking and Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning Notary Positions. However, the notary issuing the cover note as the basis for bank credit disbursement must be careful and thorough in checking the documents of the collateral object and verifying the involved parties to prevent issues in the land registration process and granting mortgage rights to the land office.

Keywords: *guarantee legal, legal strength, notary covernote*

1. INTRODUCTION

One of the requirements imposed by banks in granting credit is that the debtor must have protection or collateral, to be provided by the debtor to the creditor as a guarantee that the debtor will repay their debt for security and legal certainty, especially in the event of debtor default. To examine the collateral, the bank requests the Land Deed Official (PPAT) for the verification process. Article 1 number (1) of Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning Notary Position (hereinafter referred to as the Notary Law), stipulates that a notary is a public official authorized to create authentic deeds and has other authorities as referred to in this law or based on other laws. The role and function of a notary are crucial in assisting the government and other parties in need to provide legal certainty, order, and protection in the creation of authentic deeds (Ghansham Anand, 2018: 12). As evidence of this capability, the notary issues a covernote as a prerequisite for the effective disbursement of credit in the credit agreement.

This article aims to explore the use of covernotes in credit agreements and the legal protection for banks in credit agreements concerning the utilization of notarial covernotes, examined based on guarantee legal in Indonesia. This research will be beneficial for the community and government in providing answers regarding credit agreements using Notarial Covernotes.

In this article, the author will discuss the authority and accountability of notaries in credit agreements from the perspective of security law, and the legal protection for creditors in credit agreements regarding the use of notarial covernotes.

2. RESEARCH METODOLOGY

This research falls under the category of normative legal research. The research approach to be used in this study includes statutory approach and conceptual approach. The type of data that the author will use in this research is secondary data, obtained through a review of existing literature, where secondary legal materials include journals, books, and doctrines by experts regarding an analysis, as well as Primary Legal Materials as legally binding and fundamental legal sources. The legal research data collection technique to be used in this study is document study or library study.

3. RESULTS AND DISCUSSION

A covernote is a certificate or often referred to as a closing note issued by a notary. It is issued by the notary because the notary has not yet completed their duties in relation to the task and authority to issue authentic deeds. The cover note is merely in the form of a certificate used as a basis for the bank to disburse credit funds to the debtor, aiming to avoid prolonged waiting until all processes are completed.

A covernote is a document containing information created by a notary, where the covernote is issued by the Notary at the time of the credit agreement to make the agreement binding on the collateral of a credit agreement issued by the bank. The bank acts as the creditor or loan provider in this case. The reason for issuing the covernote is because a notary has not been able to complete the work related to their authority and duties regarding the issuance of an authentic deed. The existence of this cover note is considered crucial regarding the granting of credit by the bank, but the fact is that, from a juridical perspective, the regulation concerning this covernote has not been explicitly stipulated in the legislation, neither in Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning the Position of Notary nor in Law Number 4 of 1996 concerning Mortgage Rights Over Land and Related Assets.

Cases that often occur in the practice of providing collateral with mortgage rights in credit agreements arise due to the existence of collateral in the form of a piece of land whose ownership is still in the form of a seal, certificate of land rights (girik), or certificate of land status (petok) under the name of the prospective borrower. The notary declares willingness to assist the bank and prospective borrowers in the process of registering land rights until the issuance of the Certificate of Ownership (SHM) and the binding of collateral with mortgage rights until the issuance of the mortgage certificate. As evidence of this capability, the notary usually issues a Cover note as a prerequisite for the effective disbursement of credit in the credit agreement. Considering the duties and authority of Notaries in the Notary Law, there is no provision that clearly states that a notary can issue a cover note to explain that the deed to be made is currently being processed.

Disbursement of credit with a deed made before a notary, creditors, and the bank will deal with the notary who generally becomes the bank's partner to then proceed with the notarized binding as evidence of the validity of the credit agreement that has taken place. The use of a cover note is also often used for other purposes, and the issuance of a covernote as a certificate does not only occur in security law in the form of a mortgage certificate. Credit that uses a certificate as collateral usually requires the granting and encumbrance of mortgage rights to be preceded by a promise to provide mortgage rights as debt settlement in a separate agreement from the debt agreement, the granting of mortgage rights should be done with a deed of granting mortgage rights made before a notary who also acts as a Land Deed Official (PPAT). The issuance of a cover note, which is a regular certificate

issued by a notary who is also a PPAT, is due to their unfinished work or the inability to issue the mortgage rights. A covernote is a certificate signed by a notary/PPAT made by a notary where the covernote contains promises.

A. Authority and Accountability of Notaries in Credit Agreements from the Perspective of Guarantee Legal

Collateral is wealth in the form of assets owned by the debtor that will be used as collateral in the event of the debtor's inability to repay the debt owed based on the existing credit agreement. The use of Notary services is now very common among the public in matters pertaining to civil law. The legal basis for the authority of a notary as a public official empowered to create authentic deeds can be seen from the provisions of Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning Notary Positions (hereinafter referred to as UUJN). Article 1 number 1 of UUJN stipulates that the public official authorized to create authentic deeds and have other authorities as referred to in this law or based on other laws is a notary. The role and function of a notary are crucial in assisting the government and other parties in need to provide legal certainty, order, and protection in creating authentic deeds.

The role of a notary is to provide the best and fairest service to the public in need of notarial services, and the notary must adhere to obligations according to the law and professional code of ethics. With legislation and also in accordance with the Notary Law, which must be in line with Article 15 Paragraph (1) of the Notary Law, stating that a Notary is a public official authorized to create authentic deeds regarding all agreements or contracts, acts, and determinations required by general regulations. A notary is fully responsible in the event of issues related to the deeds they make, whether civil, criminal, or ethical.

In legal theory, it is also necessary to provide an explanation between the responsibility of a notary and the duties or authority of a notary based on notary position laws. That a notary, as a public official, is regulated by legal rules aimed at providing services to the public in need of their services in creating authentic written instruments related to events or actions related to the law.

To bind the debtor so they do not default on their obligations to the bank or creditor, the bank or creditor collaborates with a notary public to create a credit agreement deed, as stated in Article 15 Paragraph (1) of the Notary Law, which grants notaries the authority to create authentic deeds such as agreements or contracts.

B. Legal Protection for Creditors in Credit Agreements Regarding the Use of Notarial Cover Notes.

The presence of law in society serves as a means to create tranquility and orderliness, ensuring that the interests of individuals within the community are preserved in their interactions with one another. Law, in essence, is the protection of human interests in the form of norms or principles. Law, as a collection of rules or principles, contains content that is both general and normative: general because it applies to everyone, and normative because it determines what can and cannot be done, as well as how to comply with the applicable principles.

A Notary Public is an official entrusted with providing legal services to the public to ensure legal certainty and legal protection. In order to provide legal certainty and legal protection, the notary creates authentic deeds concerning a situation or an event.

Notarial cover notes in credit agreements are not fundamentally prohibited but must still exercise caution and diligence in verifying the truth and validity of the

documents that will serve as collateral. Article 1 Paragraph 2 Letter C of Law Number 10 of 1998 Regarding Banking states that one of the parties that can have a relationship or is related is a party that provides services to the bank. The role of the cover note in credit agreements is essential, where creditors or banks, in practice, may have specific reasons, such as business competition, to prevent customers or debtors from switching to other parties due to delays in document verification. Hence, the issuance of a cover note as a notarial certificate. Apart from restraining debtors or customers from going elsewhere, creditors or banks can also exercise caution because, fundamentally, the credit issued will not be problematic. Article 29 Paragraph 3 of the Banking Law states that in providing credit or financing based on principles and conducting other business activities, banks have an obligation to take various measures that do not harm the bank and the interests of customers who entrust their funds to the bank. In credit disbursement, the cover note plays a crucial role where its function as evidence binds the collateral or serves as temporary security for the bank.

Legal protection for creditors in cases where the collateral binding is imperfect, resulting in the non-issuance of the mortgage certificate, essentially still receives protection from Articles 1131 and 1132 of the Civil Code. However, the protection provided by Articles 1131 and 1132 of the Civil Code only grants the bank the position of a concurrent creditor. This certainly provides insufficient protection for the bank, considering that as a concurrent creditor, the bank must proportionally share with other creditors in the settlement of its claims from the proceeds of the sale of the entire debtor's assets. In this case, it is highly possible that the credit granted to the debtor may not be fully recovered, especially if the debtor's assets are insufficient to settle its debts proportionally to its creditors. Additionally, the efforts that can be undertaken by the bank as a creditor generally can still be pursued through litigation or non-litigation processes. However, these efforts require time-consuming and costly processes, which are certainly not desirable for the bank.

Legal protection for banks in credit agreements with land collateral has been regulated in the Mortgage Law. The Mortgage Law has provided protection to creditors with the position of preferred creditors for mortgage holders, so that if the customer/debtor defaults, the bank can easily execute the collateral according to the provisions in the Mortgage Law. Furthermore, the bank can recover its debts from the proceeds of the sale or auction of the collateral. The credit agreement as the principal agreement, followed by the agreement to encumber collateral with mortgage rights as an additional agreement, is actually a form of protection for both the bank and the customer/debtor. The existence of this credit agreement provides legal certainty for the bank to determine its rights as a creditor to the customer/debtor in the implementation of the credit agreement. Additionally, with the credit agreement tied to the mortgage rights, it can also protect the customer/debtor.

Security plays a crucial role in a credit agreement, providing assurance to the creditor regarding the return of funds disbursed to customers/debtors. In addition to protecting the creditor, providing security in accordance with applicable regulations can also offer protection to the debtor. The law should provide equal protection to all parties. In ensuring protection for both the bank and the debtor in credit agreements, the process of granting mortgage rights should be carried out in accordance with applicable procedures or according to the law.

4. CONCLUSION

The authority and responsibility of a notary in credit agreements are to bridge the interests of creditors and debtors in drafting deeds for credit agreements. Borrowing agreements are also regulated by the Civil Code from Article 1754 to

Article 1769, which states that credit agreements are identical to borrowing agreements, thus the notary is also responsible as a public official regulated by legal rules aimed at providing services.

Legal protection for creditors in credit agreements regarding the use of Notarial Cover Notes is not fundamentally prohibited and is permitted according to banking regulations and mortgage laws. However, the notary, in issuing a cover note as the basis for bank credit disbursement, must exercise caution and diligence in checking the documents related to the collateral object and verifying the involved parties to avoid issues in the land rights registration process and granting of mortgage rights to the land office. Legal protection for banks in credit agreements related to the use of notarial cover notes, in the event of default before the issuance of mortgage rights, positions the bank only as a concurrent creditor. Legal protection for banks is based on Articles 1131 and 1132 of the Civil Code.

5. SUGGESTION

The bank should apply the principle of prudence in using notarial cover notes for credit disbursement to customers to avoid causing losses to the bank. Additionally, the notary public should be firm in carrying out the credit agreement process so that the notary's accountability in the credit agreement can be upheld. For the government, it is advisable to make amendments to the Notary Law to ensure legal certainty regarding the use of cover notes.

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DYNAMICS OF POLITICAL COMMUNICATION OF PURI UBUD FIGURES IN THE GLOBAL ERA

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ABSTRACT

Puri, or noble houses in Bali, still play a significant role in Balinese history. Although some may consider it outdated, Puri Ubud among the puri in Ubud, Gianyar Regency, remains a barometer of the development of various traditions, politics, and even the economy in Gianyar. Progress due to rapid tourism growth and state administration supported by the development of mass media further strengthens the occurrence of change. One parameter is the transition from classic authoritarian and feudalistic Balinese culture to modern, democratic, and egalitarian Balinese culture (Naya Sujana, 1994:56). Besides cultural transitions, shifts also occur in various aspects, such as governance, leadership, and information dissemination media. Thus, the authority of the puri and its figures also begins to experience changes. The changes in governance from post-independence to the New Order era limited the authority of Puri Ubud, prompting Puri Ubud figures to make improvements to ensure that previous traditions and functions of the puri were not lost due to globalization. The opportunity widened after the reform era, as Puri Ubud figures entered various traditional, social, and political organizations. The previous weakened authority began to be taken over through broader influence in the fields of custom, religion, history, culture, and science. Francis Fukuyama refers to this as social capital in the form of social networks. French sociologist Pierre Bourdieu (2010) refers to symbolic capital, alongside economic capital. Furthermore, according to Bourdieu, there are four forms of capital that can be used to support political communication: economic capital, social capital, cultural capital, and symbolic capital. This research uses descriptive qualitative techniques, data collection through interviews, observation, document studies, with descriptive-qualitative data analysis. Two theories are used, namely, Practice Theory and Mass Communication Theory. This research reveals the forms or traditions implemented to enhance the ability and political communication activities of pre-Puri Ubud figures. The existence of traditions in Ubud is also influenced by market ideology, branding, power practices, and capital (social, economic, cultural, symbolic). These factors are interconnected and symbiotic in maintaining the traditions and political power of Puri Ubud figures in the modern era.

Keywords: dynamics, political communication, Puri Ubud figures.

1. INTRODUCTION

Maintaining Tradition in the Modern Era poses a challenge to all components of the nation, even though these traditions embody the invaluable spirit of a nation. Indonesian society's culture is highly exclusive, known worldwide, and in Bali itself, traditions and culture are priceless legacies. Besides, Bali without its traditions would be unable to sustain its existence in various social and cultural aspects; in other words, tradition could be called Bali's lifeline. Since the Indonesian Archipelago became the Unitary State of the Republic of Indonesia, changes have occurred in various social aspects of Balinese society, including in Ubud Village, Ubud District, Gianyar Regency, Bali Province. These changes undoubtedly affect traditions, even to the governance system.

The leadership pattern of ancient Bali before the Independence of the Republic of Indonesia utilized a kingdom system. However, after independence and the country's transition to a republic, leaders are democratically elected. Nevertheless, changes in the governance system and leadership do not erase the old values that form the essence and are still practiced in Balinese society, including in Ubud. This phenomenon is inseparable from the role of puri or former royal palaces.

Puri Ubud in Ubud District, Gianyar Regency, is one of the puri that still holds traditional values. Not only that, but Puri Ubud is even considered a barometer for preserving traditions in Bali. The puri still maintains the ancestral heritage traditions, including its leadership values. This can be evidenced by various rituals, architectural forms, social activities, and various aspects of Ubud community life. All these activities, including the democratic system, still adhere to the traditions held by the Puri Ubud community. The democracy practiced in the current republican era varies in its implementation, mainly sourced from the culture and traditions underlying Balinese community life. Similar practices can also be found in almost all ethnic groups and tribes, as they represent the original democracy of local communities in various regions of Indonesia (Alfian, 1991:134-135).

Although different from the leadership pattern of the Indonesian state, it is the royal tradition that has made Ubud one of the world's best tourist destinations. Ubud's traditions attract millions of tourists to come to Ubud. However, without realizing it, tourism greatly influences the social order of Ubud society. The influence of globalization and technological advances makes traditions increasingly forgotten. To counteract this, Puri Ubud figures and the community always strive to preserve their ancestral traditions, ensuring that the community's order remains sustainable and can serve as a foundation for tourism.

Preserving these traditions is inseparable from the role of Puri Ubud figures, who are committed to maintaining cultural order. Since being introduced to the outside world around the 1930s, one of the Puri Ubud figures at that time, Tjokorda Gede Agung Sukawati, who was crowned as the King of Ubud, traveled across Europe. Moreover, this puri figure opened his palace doors to foreigners and became the forerunner of tourism in Ubud. At that time, even long before, puri in Bali was still selective in accepting foreign guests, or access was only opened to residents who were servants or subjects of the puri with their own etiquette. The policy of the King of Ubud at that time was quite phenomenal, so many residents around him also opened access to travelers and became the forerunners of Home Stays in Ubud.

Such preservation activities will gradually become ineffective without sufficient capital, as they may not generate enough economic benefits for the practitioners. Some puri in Bali also undertake similar activities, but due to various obstacles, especially capital, traditions fade over time. Besides the community's economic needs, the intention to serve tradition is waning. Unlike in the past, where economics was not the primary goal. Traditions can still be maintained through service, alongside fear of punishment by the king. To anticipate this, some Puri Ubud figures have begun to engage in various social activities, from leading social

organizations, establishing art studios, political parties to becoming regional leaders.

This article outlines what political communication strategies are used by Puri Ubud figures to maintain traditions (politics) in Bali.

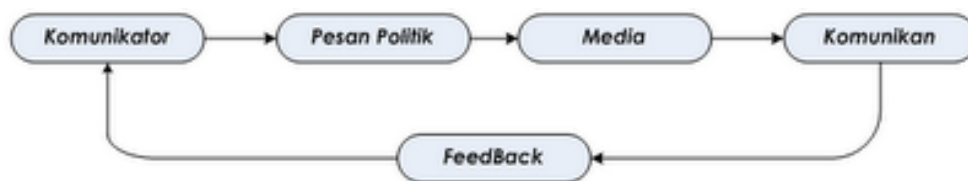
2. RESEARCH METODOLOGY

This research employs a qualitative approach with field research. Data is obtained through in-depth interviews with informants from the Ubud Palace community who are active in practical political activities. For analytical purposes, it is linked to secondary data such as information from the media.

3. LITERATUR REVIEW

The research attempts to use several theories of political communication because several studies have shown that the media plays a central role in political activities. Dominik (1972) cited in Cangara (2009:118) stated that out of fifteen sources of political information asked to respondents, ten sources stated that they obtained information from the media, while the rest were obtained from other places. Through the media, the activities of palace figures can be known, whether as politicians or through the media, society also gets to know about the thoughts of palace figures, statements, and other information.

In this study, the researcher will use several Mass Communication theories. To facilitate explanation, it is necessary to provide a brief scheme of the political communication process. This scheme is useful for analyzing the political communication process that will be studied later.



Stephen W. Littlejohn in Robert Craig (2009:51) divides the world of communication theory into seven schools of thought or seven thought traditions:

Firstly, Semiotics views communication as a process of giving meaning through signs, i.e., how signs represent objects, ideas, situations, and so on that are outside the individual. Semiotics is used in topics about messages, media, culture, and society.

Secondly, Phenomenology views communication as an experience through oneself or through others via dialogue. The tradition sees humans actively interpreting their experiences so that they can understand their environment through personal and direct experiences with the environment.

Thirdly, Cybernetics views communication as a system in which various elements interact and influence each other. Communication is understood as a system consisting of parts or variables that influence each other. Cybernetics is used in topics about individual selves, conversations, interpersonal relationships, groups, organizations, media, culture, and society.

Fourthly, Socio-psychology, under the umbrella of socio-psychology, views individuals as social beings. The theories under the socio-psychological tradition focus on individual behavior, the influence of personality and individual traits, or how individuals perceive.

Fifthly, Socio-cultural perspectives emphasize the idea that reality is constructed through a process of interaction that occurs within groups, societies, and cultures. Socio-cultural is more interested in studying how society collectively creates reality from their social groups, organizations, and culture.

Sixthly, Critical perspectives on questions of power and privilege received by certain groups in society become very important topics in critical theory. Critical theory views communication as a form of thought that opposes injustice.

Seventhly, Rhetoric. Rhetoric is defined as the art of constructing arguments and the art of speaking. In its development, rhetoric also includes the process of adapting ideas to people and adapting people to ideas through various messages.

The literature review and these theories will be used as a reference in carrying out and completing this written work. Because both focus on Communication and Political Communication.

4. RESULTS AND DISCUSSION

According to several historical records and foreign studies, Ubud in the 17th century was still largely comprised of rice fields, shrubs, and forests. A small portion of it was inhabited by local leaders known as Kuwu-kuwu (Pondokan), residing in areas such as Jungut, Taman, and Bantuyung. It remained under the authority of the Sukawati Kingdom, established around 1710, with its first king named Sri Aji Maha Sirikan, Sri Aji Wijaya Tanu. Meanwhile, in Peliatan Village, King I Dewa Agung Made led, and his two younger brothers were assigned to govern different areas: Ida Tjokorda Gde Karang in Padang Tegal Village and Ida Tjokorda Tangkeban in Ubud, who later left Ubud.

Upon the initiative of a descendant of the Bandesa Mas living in Jungut, the community leaders of Ubud visited the Peliatan Palace with the aim of appointing a leader for Ubud to oversee its economic, religious, and social activities. This initiative led to the continuation of Ubud's leadership by the Ubud Palace, ensuring its recognition and continuity into the future.

Under the direction of the Peliatan King at the time, Ida Tjokorda Batuan, Ida Tjokorda Putu Kandel, a descendant of the Sukawati family, was appointed to lead Ubud. Ida Tjokorda Putu Kandel, as the leader of Ubud, then established the Puri Saren Kangin Ubud. Between approximately 1823 and 1850, after Ida Tjokorda Putu Kandel's passing, he was succeeded by his son, Ida Tjokorda Putu Sukawati, who built the Puri Saren or Rangki and Saren Kauh Palaces.

During his leadership, Ubud progressed in various fields. In the spiritual and cultural realm, Ubud began to thrive with the creation of Barong Ket as a symbol aimed at uniting the community. The vibrant cultural and religious activities in Ubud inspired its people, leading to the growth and development of arts and culture in the area. Art and tradition are inseparable aspects of religion, customs, culture, and daily life in the community.

The leadership was then passed on to his eldest son, Tjokorda Rai Batur, around 1850 until 1880, and subsequently from 1880 to 1917, it was led by Tjokorda Gde Sukawati. In 1900, Ubud requested to become a Dutch protectorate. After that, colonial intervention was minimal, allowing Ubud's arts and culture activities to continue. After Tjokorda Gde Sukawati's passing, he was succeeded by his youngest son, Tjokorda Gde Agung Sukawati, who opened the palace to the outside world. During this period, the Dutch had established a government in Ubud, led by a perbekel. However, the palace's leadership structure continued to follow tradition. Tjokorda Gde Agung Sukawati was the last king of Ubud, crowned in 1917.

Since the Dutch rule in Bali and Ubud, the Ubud Palace no longer governed the Ubud region as a kingdom. Instead, the Dutch authorities appointed new leaders in Ubud. However, a significant change occurred in Ubud during this period. This era

marked the beginning of modernization in Ubud, around the 1930s, when artists, supported by the royal family, began performing in the town and even in Europe. European travelers started residing in Ubud, with figures like Walter Spies and Rudolf Bonnet significantly promoting Balinese arts and culture abroad. In the 1960s, adventurous tourists began arriving.

This continued until the Japanese occupation in 1942. However, according to tradition, Ubud's community was still led by the Ubud Palace family. Furthermore, the extended family of the Ubud Palace continued to adhere to the institutional structure inherited from their ancestors. During the independence movement, the Ubud Palace was one of the opponents of the Dutch colonizers, with one of its members, Ida Tjokorda Putra Sudarsana, dying from Dutch gunfire. After independence, President Sukarno visited the Ubud Palace several times to witness Ubud's artistic works.

Subsequently, the leadership of the Ubud Palace was continued by its nephew from the Saren Kauh Palace, the son of his twin sister, Tjokorda Gde Agung Suyasa, around 1979-2008. Tjokorda Gde Agung Suyasa was designated as the caretaker of the palace without being crowned like in the royal government era since Ubud was no longer a kingdom. However, among the palace family, respected figures are still honored as kings. Currently, the Ubud Palace family has expanded to around 100 households or even more, and the leadership decision is usually made through consensus meetings. Therefore, the leadership continues, typically with a figure residing in the main palace.

Physically, the Ubud Palace is divided into several areas according to its composition. These include Puri Saren Kangin Baleran in the northeastern side, Puri Saren Kangin Delodan in the southeastern side, Puri Saren Agung or Rangki in the center, and Puri Saren Kauh in the western side. Other palace families have also built new palaces in Ubud and its surroundings, known as Ksatria Dalem Sukawati (KDS).

Today, several palaces have been built, such as Puri Anyar, Puri Kantor, Puri Saraswati, Puri Sosrobahu, Puri Kelodan, and others. After Tjokorda Gde Agung Suyasa's passing (2009), the leadership of the Ubud Palace returned to Saren Agung or Rangki, appointing Tjokorda Gde Putra Sukawati, the seventh generation, as the head of the family, now known as Pengelingsir Puri or the respected figure. Since the leadership of the two Pengelingsir Puri, the palace no longer follows the kingdom system. By then, Indonesia had become a Unitary State of the Republic of Indonesia. Palace figures now only play a ceremonial role according to tradition.

The presence of the Ubud Palace family, initially located in the Ubud Palace, has now spread to build several palaces as residences. Most of these palaces are still within the Ubud region. However, due to limited space in Ubud, some families have established their own palaces outside Ubud but still maintain their status as Ubud Adat citizens. (Babad Dalem Sukawati, Tjok Agung Suyasa, 2005).

Furthermore, several figures now dominate culture, politics, and economics, including Drs. Tjokorda Gde Putra Sukawati, Prof. Dr. Ir. Tjok Oka Artha Ardhana Sukawati, MSi, Prof. Tjokorda Gde Raka Sukawati, Ec, MM, Cokorda Asmara Sukawati, and Tjokorda Raka Kerthyasa, S.Sos, M.Si.

Political Communication Strategy of Puri Ubud Figures

The Ubud community is one of the resources or assets to drive development and preserve traditions in Ubud. This community also becomes a determinant of the success of the elite of Puri Ubud in maintaining its existence. However, if the traditions implemented are detrimental, it will be difficult to implement them, although these traditions support tourism, albeit with somewhat incongruent impacts.

In 2023, the population of Ubud was 13,145 people compared to its area of 7.8 km², resulting in an average population density of 1,800 people/km² in 2023. When compared to the population density standard according to FAO, which is 240 people/km², the population density in the Ubud sub-district falls into the category of very dense.

At this point, Puri figures begin to build their roles in society, such as becoming religious figures, leading major ritual ceremonies, heading the Community Empowerment Institution of the Ubud sub-district, leading the Pakraman Village Council of Ubud, or leading the Ubud Customary Village and various formal or informal organizations. On the other hand, some Puri figures also hold positions in government, entrepreneurship, and have successfully built various facilities supporting community activities.

Previously, a figure from Puri Ubud, the late DR. Ir. Tjokorda Raka Sukawati from Puri Sosrobahu Ubud, made a significant contribution to the progress of the nation, especially in the field of physical development. He created a patented construction technique called "Sosrobahu", which is a technology for building elevated roads known as the Free Flow Interchange Technique, developed for elevated road construction in Jakarta and worldwide. This technology is very beneficial for human life and the development or existence of Puri Ubud.

During the era of the RIS government, Tjokorda Raka Sukawati, who had previously been a member of the Volksraad, was appointed as the President of the State of East Indonesia (NIT) as part of the Republic of the United States of Indonesia (RIS). This role was very beneficial for Puri figures in strengthening their political foundation with the government and political parties. These activities were also used as a source and political capital. In Bourdieu's concept in Fashri (2007: 95), it is stated that the field is an arena of power where there is an effort to compete for resources and to gain access close to the hierarchy of power. This role is essential in realizing the political strategy of Puri Ubud figures who seek support from political parties and the community to attain positions in government or organizations.

Puri Ubud and the figures within it are active members in building social relationships with the surrounding community. Furthermore, Puri Ubud is also known for its success in various aspects, especially in cultural preservation, which contributes to the enhancement of the four assets of Puri Ubud. This situation is reinforced by Pierre Bourdieu's opinion that there are four types of assets that can be used by the Puri to establish political communication. These four assets are Economic Assets, Social Assets, Cultural Assets, and Symbolic Assets. Fashri (2007) in Wilasa (2011: 131).

Economic Assets

According to Fashri, economic assets are the means of production (machines, land, labor), materials (income, objects), and money that are easily used for various purposes. These assets can also be passed down to the next generation. Puri Ubud is one of the palaces in Gianyar known to have a solid economic capability, especially in terms of owning rice fields, gardens, and assets in the tourism sector. This facility serves as an asset for palace figures to remain recognized and acknowledged in society or in various political events. Moreover, they are capable of recruiting and employing thousands of people in their various enterprises.

These economic assets have been cultivated since the ancestors of Puri Ubud, and have continued to be developed according to current circumstances. For example, in the past, land and gardens were given to residents as cultivators, which naturally created a psychological bond between these residents and the palace family. Thus, resident cultivators from the general population were indirectly made servants of the palace. Now, several gardens and rice fields around Ubud

have been converted into tourism businesses. These businesses also employ thousands of workers, and although the psychological treatment and bond with the palace are not much different from the past, they are managed in a more modern and professional manner.

Puri Ubud also opens its palace access for various artistic activities. These activities are centered in the Ancak Saji area (the front part of the palace). Besides being used as a location for various art performances, this part of the palace is also used for artistic training. Every night, various Balinese dances are performed here, which are usually watched by tourists vacationing in Ubud. On the other hand, these art performances directly contribute to the revival and preservation of dance art in Ubud. Every morning, this location is used for dance training for children and teenagers from Ubud, accommodated in a studio. Politically, this area is also often used as a meeting place or to welcome important guests.

Even during specific ceremonies, Ancak Saji is the main area for receiving state guests or other religious activities; this area serves as the social media of the palace family. Although major ceremonies or state guest reception activities are rarely held, only situationally, Ancak Saji stage is visited by 500 to 800 tourists every day. Therefore, besides being used as a venue for religious ceremonies and guest receptions, this area also serves as a cultural preservation and tourist destination. This asset is highly visible in maintaining the overall existence of Puri Ubud.

Puri Ubud figures also have successful businesses in the tourism sector, and cumulatively, the Puri Saren Ubud family is among the richest in Bali. Some other members of the extended palace family also own tourism-related businesses such as hotels, restaurants, accommodations, and other tourism services. This economic asset makes Puri Ubud known to the public in economic terms and has an impact on the preservation of traditions. Traditional performances are not only an obligation but also indirectly benefit economically.

Social Capital

In addition to economic assets, social capital also a crucial role in supporting the political communication activities of Puri Ubud figures. Social capital refers to the social networks possessed by individuals or groups in their relationships with others who hold power. Bourdieu in Fashri (2007:99). In the context of this research, social capital refers to the social networks within various community groups owned by the Puri Ubud family. These networks extend not only within the Ubud region but also beyond.

These networks are also strengthened by increasingly sophisticated communication channels, such as social media and the digital world, indirectly enhancing the popularity of Puri Ubud. While palace figures already had significant networks previously, their presence on social media has further expanded the palace's existence. Photos of palace achievements, cultural activities, environmental initiatives, and traditional life in the palace are becoming more widely known through these media.

The Puri Ubud family is also known for its philanthropy, contributing wealth, ideas, and goods to various temple construction activities. Alm Tjokorda Gde Agung Suyasa was not only known in Ubud or Bali but was also recognized in Java, Kalimantan, Tambora, Lombok, and various other temples in Indonesia. The palace family is known for always being at the forefront of temple construction. If a resident seeks assistance, the palace family is always willing to help, not only with ideas but also with wealth and goods.

One of the temples successfully built at the initiative of Puri Ubud is the construction of Pura Mandhara Giri Semeru Agung in Senduro District, Lumajang Regency, East Java Province. This largest temple in East Java was initiated by Puri Ubud figures and was inaugurated in 1992. Since then, every year during

ritual ceremonies, the temple committee always seeks guidance, and one of the Puri Ubud figures is appointed as the Chairman of the Committee (Pengrajaeg Karya). Other temples include those in Kutai Kartanegara, East Kalimantan, Rinjani in Lombok, Tambora in Nusa Tenggara, and other large temples outside Bali.

In Bali, Puri Ubud figures are also entrusted with the role of Pengrajaeg Karya and have successfully renovated several temples in and around Ubud, and even throughout Bali. Thus, this asset indirectly enhances the spread of traditions and increases the existence of Puri Ubud. Especially during the implementation of the Ritual Mendem Pedagingan or the establishment of temple foundations, Puri Ubud figures always donate these basic facilities as capital or investment to the deity in the temple. Therefore, temple owners always remember the palace's contributions.

On the other hand, in increasing devotion to the deity, Puri Ubud figures are also known for their expertise in making masks or masks. These masks are specially made sacred objects used for specific purposes in certain temples. Masks in the form of Barong or others require unique processes and traditions. From the selection of the wood or material to be used, which is chosen based on auspicious days with special rituals, to the use of high spiritual abilities. Similarly, the process always begins with specific ceremonies and choosing certain days. Thus, these masks or barongs are made sacred through specific traditional processes.

The involvement of palace figures, besides being very useful in setting an example for cultural preservation, is always remembered by the assisted community. The masks or barongs made are sanctified and used as a means to increase devotion to the deity. Consequently, the assisted community will continuously remember the previous processes in which the Puri Ubud family contributed. Cultures and traditions passed down, such as the making of Barong or masks, the procedures for religious ceremonies, and other traditions, are simultaneously instilled into the community's fabric. On the political side, palace figures are indirectly known, and if they enter political parties, they will not require expensive political expenses.

During large religious ceremonies, villagers around Ubud and even beyond often seek guidance regarding the implementation of these ceremonies. Palace figures, especially Puri Saren Agung and Puri Saren Kauh Ubud, are often asked by the community to be the Pengrajaeg Karya or leaders of special ceremony implementations. The ability of these figures to lead ceremonies is well known, so it is not uncommon for residents around Ubud and even outside Bali to expect the assistance of Puri Ubud figures in leading religious ceremonies.

Francis Fukuyama mentions that social capital in the form of social networks is still strong in today's era. The ability to build social networks or socialize and the ability to serve the people (social capital) are still strong in Puri Ubud. This tradition is very attractive and still prevalent in the era of globalization, where palace figures still maintain hegemony or ideologies to support, preserve, and justify involvement in the contemporary political landscape of Bali. Through this sophisticated process, the palace is reclaiming the power of the past that has long been lost. Palace figures seem to be reassuming their role in power, even though governance is now in the era of democracy. Through a broader influence in customs, religion, history, culture, and knowledge, palace figures are beginning to emerge. Leadership capital is not only wealth (in the form of land) or power but also cultural, distinctive cultural models.

The task of preserving these traditions is also one of the social capital assets of Puri Ubud figures in carrying out political communication; the emotional bond between the community and Puri Ubud becomes stronger and can influence society. According to Cangara (2009:411), influence can occur in the form of changes in knowledge, attitudes, and behavior. At the level of knowledge, influence can occur in the form of changes in perception and opinion. In many cases, especially those related to beliefs or ideologies, people change their attitudes

because they see that what is known or introduced by palace figures during ceremonies is something worth emulating.

Giddens in Suryadi (2007:14) reveals that consistent tradition implementation can increase the charismatic nature of palace figures, in addition to their pre-existing special aura. The object of community compliance in this case refers to individuals with supernatural advantages or special auras or personal qualities greater than most others. It is no wonder that the leadership of the Puri Ubud family is always considered wise in various aspects. The belief in the ceremony leader, the construction of temples, or the Barong has an impact on internationally recognized activities. The palace elite is also trusted to lead international events such as the Ubud Festival and Ubud Writers Readers Festival. The Ubud Festival is held regularly, serving as a platform for Ubud society to showcase its artistic and cultural potential. Meanwhile, the Ubud Writers Readers Festival serves as a meeting place for writers from foreign countries, also held annually.

Cultural Capital

Cultural capital, inherited not only from ancestors as holders of the Ubud Palace throne, is a venerable heritage that must be preserved. This capital is what has made Ubud and the Ubud Palace renowned, not only due to their wealth but also because of the knowledge they possess. The grandeur of the Ubud Palace's name is also attributed to the knowledge held by the palace family, as they have always pursued education to high levels, with some even studying abroad. This education serves as a means of exploration in preserving various ancestral cultural heritages in the Ubud region, thus making Ubud famous not only for its natural beauty but also for its culture.

The palace family also acquires informal education, as palace figures are not hesitant to learn about culture and traditions from various other sources, such as priests or community figures who are experts in certain fields. For example, in the construction of Balinese buildings, the creation of ceremonial facilities, or the crafting of funeral biers (Bade), which the palace family may not be familiar with, they would learn from experts. Additionally, the palace family also possesses a library of palm-leaf manuscripts as references for the implementation of traditions and rituals. The younger generation of the Ubud Palace is starting to translate these family manuscripts to make them easier to learn and pass down to the next generation.

Several palaces in Bali also develop various tourism businesses, ultimately contributing to building the palace's image through social, cultural, religious, historical, and other means. Graeme MacRae (2004). The image and reputation of the palace are shaped by subtler aspects and traditional values such as assisting in temple repairs, helping traditional villages, and participating in other religious ceremonies. There are times when people come to the palace, and the palace never refuses the community's requests. These requests are not only material but also include advice, information, historical explanations, and the community generally feels indebted (moral obligation). The Ubud Palace's diligence in preserving traditions makes the community trust all moral guidance related to customs and rituals sought at the Ubud Palace.

Therefore, when there are ceremonies or any activities at the palace, people come to volunteer or help without being asked. The assistance given previously, such as advice on customs, religion, and history, is a strength that falls under the category of "knowledge is power." The emotional attachment of the assisted community is one of the palace's cultural assets and is a method of communication used by Ubud Palace figures in developing culture and political capital. In addition to its beautiful natural scenery and cultural arts, the customs, traditions, and religiosity of the Ubud community make Ubud an attractive destination for tourists. The atmosphere of Ubud, with all its contents, is a great potential perfectly combining tradition and culture, which is a strong characteristic of the Ubud community.

During the Great Cremation ceremony or the cremation ceremony for palace family members, this activity further enhances Ubud's character and traditions. The Ubud Palace always pays special respects to the deceased, believing that it will enhance the quality of reincarnation and provide the best path for the deceased. In various cremation ceremonies, the Ubud Palace always creates Bade or funeral biers with heights reaching 25 meters and weights of up to 10 tons. Even during the last cremation ceremony attended by thousands of residents and national figures, the head of the Ubud Palace, Tjokorda Gde Raka Sukawati, set a MURI record for the tallest Bade. Religious activities like these successfully attract the attention of both locals and tourists.

Such ceremonies serve as assets in introducing traditions and the Ubud Palace to the community. Moreover, these rituals are covered in several national print and electronic media outlets, while internet advancements also contribute to spreading information about the cremation ceremonies among internet users on social media. In addition to captivating local attention, these traditions also introduce palace figures and their successes in enhancing the Ubud Palace's image. Meanwhile, thousands of residents participate in these ceremonies.

Symbolic Capital

Symbolic capital, being a member of the Ubud Palace family, is believed by some members of the community to be descendants of kings. Especially in ancient times, kings were likened to gods in the world. Some members of the community still believe that descendants of kings or palaces do not come from ordinary people; they belong to a special class and are associated with divine descent. In addition, the services of palace figures serve as one of the benchmarks for the community in positioning the family and the Ubud Palace as a special class. This is evidenced by several historical records, such as those of Tjokorda Gde Agung Sukawati and other Ubud Palace families whose contributions are invaluable in building a civilized civilization in Bali.

Tjokorda Gde Agung Sukawati once provided a place for great painters like Walter Spiece, Bonnet, Arie Smit, and also Blanco in Bali. He gave birth to world-renowned artists in Bali through the Pita Maha association and several museums he established. This association honed the skills of talented Balinese artists, especially in understanding color and perspective. Thanks to him, traditional Balinese painting styles flourished, and Ubud has now become an art village.

Events and reputations create symbolic capital such as trust, prestige, authority, reputation, noble names, or legacy names. Material capital is merely a tool to acquire symbolic capital. Symbolic capital is still strong in Southeast Asia. Moreover, there is a belief among the Balinese community that if a twin male-female offspring is born to royal descendants, they are believed to be incarnations or incarnations of gods who will become great kings. There are members of the Ubud Palace family who were born as male and female twins (known as "buncing"), and descendants born from these twins are believed to have their own class.

Tjokorda Gde Agung Sukawati and Tjokorda Istri Muter are twin sons of Tjokorda Gde Sukawati. Their descendants now reside in the Puri Saren Agung and Puri Saren Kauh Ubud. The descendants of Tjokorda Gde Agung Sukawati from Puri Saren Agung live in Puri Saren Agung, while his twin sister married into Puri Saren Kauh. Tjokorda Gde Agung Sukawati is the biological father of Tjokorda Gde Putra Sukawati, Tjokorda Oka Artha Ardhana Sukawati, and Tjokorda Gde Raka Sukawati. Meanwhile, his twin sister married into Saren Kauh Ubud and gave birth to Tjokorda Gde Agung Suyasa. The descendants of these two palaces are still believed to have charisma and abilities beyond the ordinary people. This was explained by C. Geertz (1980), stating that our society is still in transition; traditional things cannot be abandoned so easily.

Various positions further strengthen the message that the palace family still holds certain authority and legitimacy in society. As such, the position of the Ubud Palace as community leaders is reinforced, placing them above the general populace. These societal practices accumulate and further enhance the symbolic capital gained in the past.

Requests for support in politics are not explicitly stated, thus figures from the Ubud Palace in Gianyar Regency have repeatedly become regents of Gianyar, members of the Regional Representatives Council, and held positions in political parties. Indeed, the political communication of Ubud Palace figures is continuous but not overtly expressed. They prioritize matters of religion, custom, or tradition when serving. These activities are not only showcased in mass media, the internet, and social media platforms of palace figures but are also shared by various social media owners in Bali and even worldwide.

5. Conclusion

Based on the descriptions and analyses in the previous sections, several conclusions can be drawn from this research.

Firstly, overall, the political communication of Puri Ubud has been conducted long before Indonesia became a democratic country. This communication has been established among the members of Puri Ubud since the royal era. Besides serving the interests of the royal power, communication has also been used to enhance the prestige of the palace. During the struggle for independence, some figures from Puri Ubud still held prestigious positions and even held important positions, with one of them becoming the President of the State of East Indonesia during the formation of the United States of Indonesia.

After independence, some freedom fighters from Puri Ubud also had close relationships with the government, leading to several visits by President Soekarno to Puri Ubud. Following Indonesia's transition to a unitary state, Puri Ubud no longer crowned one of their descendants as a king due to the change in the government system from a kingdom to a republic. However, in terms of customs, religion, culture, and tradition, the Puri Ubud family is still involved in their implementation and often serves as leaders in religious rituals. This preservation is also limited to the community members who have emotional ties to the palace, such as land cultivators, palace servants, and the Ubud community.

The dedication to maintaining and implementing religious, customary, cultural, and traditional orders attracts the attention of tourists to visit Ubud. As a result, the development of cultural tourism in Ubud is increasingly recognized and has become one of the world's best tourist destinations. The impact of this cultural tourism development has enabled the Puri Ubud family to develop its existence. In addition to social and symbolic capital, cultural and economic capital began to develop among the Puri Ubud family members.

The development of these four capitals directly impacts the existence of Puri Ubud. Previously, if the community only sought advice, sought to become "Pengraja Karya," made masks or Barong, or sought knowledge about customs and culture, with the economic development, people began to seek material assistance from Puri Ubud. This development automatically increases the network and social capital of Puri Ubud. The increasing number of people assisted and seeking help from Puri Ubud makes it easier for the Puri Ubud figures to disseminate and provide knowledge related to the traditional order that must be implemented. Whether it's traditions supporting ritual ceremonies, art, or traditions that can generate economic capital in the tourism sector. These four capitals support and enhance the existence of Puri Ubud and its traditions.

Secondly, the development of cultural tourism initiated by Puri Ubud figures has a significant impact not only on the Ubud community but also benefits Gianyar and the Balinese community in general. Automatically, the existence of the Puri Ubud

family is increasingly recognized by the community. Especially in this modern era, Puri Ubud figures can disseminate information about traditions and palace activities not only through personal communication, groups, or public communication but also through mass media, social media, and the internet. Through these media, Puri Ubud figures have successfully built public opinion regarding the importance of tradition in boosting the economy and tourism, which is the largest contributor to Bali's foreign exchange.

The implementation of spectacular and rare traditions is often disseminated through various media channels. While traditional media from the Puri Ubud family still use traditional patterns by conducting face-to-face communication and interpersonal communication, the reach of traditional communication is limited to residents who have close relationships with Puri Ubud. However, thanks to various mass media, social media, radio, and the internet, the Puri Ubud family can disseminate palace traditions and activities to the public.

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MANAGEMENT AND BUSINESS

The Effect of Swot Analysis and Computer Information Technology (Ict) In the Digital Business 5.0 On the Development of Culinary Msmes In Pematang Siantar City, North Sumatra

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ABSTRACT

This study aims to determine the effect of SWOT analysis and Information Technology in the digital business era 5.0 in the city of Pematang Siantar. This research shows many results in the form of a description or phenomenon that occurs regarding how SWOT analysis and Information Technology in the Digital Business Era 5.0 can affect the development of local MSMEs in Pematang Siantar City, North Sumatra. In addition, researchers also took some sample data on local MSMEs which were used to show the progress of local MSME businesses in Pematang Siantar City both in pictures, or other data presented by researchers. The method used in this research is a qualitative research method with a descriptive approach. In this method, the author explains to the readers about what is presented through exposure in the form of words conveyed through the author's own language based on several sources such as books and internet sites which are in the form of images, graphs, or tables taken from several sources for this research.

Keywords: *SWOT analysis, information technology, digital business*

1. INTRODUCTION

Nowadays, local MSMEs in Indonesia are increasing rapidly in the fields of culinary, fashion, agribusiness and other fields. Quoted from ((Databooks, 2023) the Ministry of Cooperatives and Small and Medium Enterprises noted that there are 64.2 million micro, small and medium enterprises (MSMEs) in Indonesia in 2021. On the other hand, Indonesian MSMEs are able to take 97% of the workforce, provide 57% of Gross Domestic Production (GDP), and are able to contribute 15% to national exports. Furthermore, it is predicted that MSMEs in Indonesia can certainly develop if MSMEs do not face challenges such as lack of knowledge of digitalisation, lack of capital, and difficulty in penetrating international markets. Thus, the government is expected to continue to pay attention to MSMEs in Indonesia so that they can lead

to a developed country and have high potential to compete with foreign countries such as Japan, Europe, China, and other developed countries.

SWOT analysis is a strategy used in analysing and helping a person or business in determining strengths, weaknesses, opportunities, threats related to planning before starting a business. SWOT analysis can be used to make the right decisions in developing good or effective business strategies and plans. In digital marketing SWOT analysis is very useful for developing sustainable businesses, determining marketing strategies, and improving the performance of appropriate marketing strategies. In establishing Culinary MSMEs, SWOT analysis is very useful for business continuity to keep operating and making the right decisions in establishing these culinary MSMEs so that they are right on target to whom to sell their products, where to place them, what are the weaknesses and strengths of their products, and whether these products can continue to be in demand by consumers. In addition, when making a SWOT analysis for culinary MSMEs, it is necessary to make a 5W + 1H problem formulation, namely What (What), Where (Where), When (When), Who (Who), Why (Why), and How (How). This is used to gather the information needed to create an effective business plan before starting operations.

The role of information and communication technology (ICT) in increasing the presence of MSME products in the form of handicraft and food products that benefit the creativity of the community. One form of information technology is the emergence of the Internet, widespread information networks, and the existence of e-commerce companies, which provide another option for business people. In addition, the development of information technology in Indonesia, its constraints and expectations. The role of technology seems to be very integrated in human life today. It can be said that humans are highly dependent on the benefits of information and communication technology (ICT) and the role of ICT should not be underestimated in the business world either. Nowadays, many entrepreneurs are changing their thinking from traditional offline marketing sales to online sales via the Internet. The benefits of the Internet cover all areas of life, including business. Its function is to promote/campaign for products, interact with consumers, or find references for products you want to sell. With the Internet/online business, everything becomes easier and everyone can connect and build their own business ecosystem.

Pematang Siantar City is one of the cities in North Sumatra Province and is the second largest city after Medan. The location of Pematang Siantar City is very strategic, which is located on the Cross Sumatra Highway. So that Pematang Siantar City has many culinary MSMEs ranging from local snacks, fast food, and many types. This certainly makes Pematang Siantar City a tourist city visited by many people, starting from local tourists or foreign tourists. One of the famous MSMEs in the city of Pematang Siantar is Roti Ganda. Roti Ganda is visited every day, especially to taste soft bread and studded with chocolate ceres and sugar apple jam. In addition, Pematang Siantar City also has many culinary MSMEs that are not inferior to Roti Ganda.

2. RESEARCH METHODOLOGY

In making this research, we made this research using a qualitative method with a descriptive approach. Where, this research method emphasises the depiction of data taken based on the research title above, such as graphs, images, and tables in accordance with the research title. And in this study also uses the author's own

language which has been based on taking various data from sources / references taken by the author for this study.

According to Sukmadinata (2017: 72) in (Krisnan, 2022) states that "Descriptive research is a type of research that aims to describe or explain existing phenomena, both natural and caused by humans, including activities, characteristics, changes, relationships, similarities, and differences between one phenomenon and another including differences".

The data collection techniques used in this study are:

1. Observation

Observation is the activity of carefully observing a particular subject at a research site to assess the situation at the research site or prove the validity of the research conducted, research can also use tests, questionnaires, and pictures to make observations. According to (Cresswell, 2010) qualitative observation is observation where the researcher goes directly to the field and observes the behaviour and activities of people in the research site.

2. Secondary Data

Secondary data is the type of data in research depending on how it is obtained. This means that research data sources are obtained and collected by researchers indirectly, but in collaboration with other stakeholders and are supporting data to improve the quality of research. Quoted from (Azis, 2023) Secondary data according to Sugiyono (2018) is data obtained indirectly by researchers or data collectors. It is called indirect because the data is obtained through intermediaries, namely other people or documents listed in books or internet sites.

The research framework is made as follows:

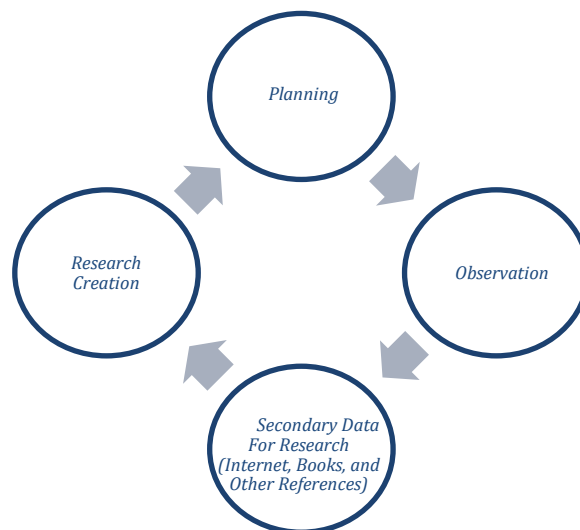


Figure 1. Research Freamwork

3. RELATED RESEARCH/LITERATUR REVIEW

Definition of SWOT Analysis

SWOT analysis is the identification of several factors used systematically to formulate a company's strategy in order to develop strategic planning and strategic management designed to identify weaknesses, opportunities, and threats related to business or business competition. Although SWOT analysis is very simple, it is very useful in developing a business strategy for a project. (Meilinaeka, 2022)

Benefits of SWOT Analysis

Quoted from (Great Nusa, 2023), it is explained that SWOT analysis is very valuable for carrying out digital marketing strategies today, as follows:

1. Determine Marketing Objectives.
2. Determine Digital Marketing Strategy.
3. Improve Marketing Strategy Performance.

Factors Affecting SWOT Analysis

According to (Mohammadi, 2022) When using SWOT analysis to develop a strategy, there are factors that affect it Internal and external factors also have an effect in SWOT analysis. The following factors can have an impact:

1) Internal Factors

Internal Factors in SWOT analysis consist of strengths and weaknesses Identifying internal factors usually includes: The company's experience, both successful and unsuccessful, finances in the Business, resources owned by the company, and the company's strengths and weaknesses.

2) External Factors

External factors in SWOT analysis include opportunities and threats Identifying external factors usually includes: Environment, Government regulations, Cultural trends, ideologies, social, and economic policies, current events, sources of capital, and Technological developments.

Definition Of Information Technology

Information technology is the study, design, implementation, development, support, or management of computer-based information systems, specifically computer hardware and software applications. Information technology uses electronic computers and computer software to convert, store, process, protect, transmit, and receive information securely. Information technology is very important today along with the many organizations that apply information technology to support their organizational activities. (Amira, 2022)

4. RESULTS AND DISCUSSION

Making SWOT Analysis of Culinary MSME Samples in Pematang Siantar City

In making a SWOT Analysis for business of culinary MSMEs in Pematang Siantar City, it must have a problem formulation such as the usual 5w+1H. Therefore, this is presented in the table now:

Table 1. 5W+1H Problem Formulation

Methods Used	Example Of Problem Formulation
What	What type of business to create?
	What is the name of the business?
	What is the purpose of the business?
Where	Where is the business located established?
When (Kapan)	When was the business established?
Who (Siapa)	Who owns the business?
Why (Kenapa)	Why was the business established?

After we use the 5W+1H method. Of course we will get the answer to the method used. Next, start the SWOT Analysis to find out the potential success and failure of the business before starting business. Therefore, a SWOT analysis can be made for the sample below:

Table 2. SWOT Analysis of Culinary MSME Samples in Pematang Siantar

MSME SAMPLE	SWOT ANALYSIS			
	Strength	Weakness	Opportunities	Threats
Toko Roti Ganda (a)	Strength and well known brand	Limited space	Expanding a limited space	Increase in raw material prices
	Diverse and quality products	Lack of promotion	Improving promotion	Competition from online bakeries
	Strategic location	Intense competition	Opening new branches outside the city	Changes in consumer tastes
	Affordable price		Developing new products	
	Good service			
	Available on Online Food order app			
Roti Ketawa Sambo (b)	Unique and delicious flavors	Limited production capacity	Increased demand	Increasingly fierce competition
	Distinctive texture	Lack of promotion	Market expansion	Increase in raw material prices
	Strong and well-known brand	Unattractive packaging	New product development	Changes in customer tastes
	Affordable price		Social media utilization	
	Ease of Access			

Based on table 1.2, it can be seen from making a SWOT analysis for the samples of Toko Roti Ganda **(a)** and Roti Ketawa Sambo **(b)** that they a major influence on the sustainability of the business. Because sample **a** has the potential to increase

competitiveness because it has advantages that can be compared to sample **b**, namely there are food orders that can be ordered online through the gofood and grabfood applications. Meanwhile, sample **b** does not have online food ordering for consumers who do not visit the store. On the other hand, there are many similarities in the strength, weakness, opportunities, and threats sections. Therefore, making a SWOT Analysis for Culinary MSMEs in Pematang Siantar is very important and influential for the sustainability of the business.

The Effect Of Information Technology On Samples Of Culinary MSMEs in Pematang Siantar City

Basically, information technology plays an important role in Culinary MSMEs in Pematang Siantar City which is indicated by the use of the tools or information technology as a payment platform such as QRIS, EDC, and Bank Transfer, besides that there is also computerization to create consumer order numbers, a system for recording financial activity transactions carried MSMEs without having to record manually so that this can be monitored by the owner to employess remotely, E-Commerce to conduct transactions via online with consumers. The presence of information technology plays an important role in supporting the success and smooth running of Culinary MSMEs in Pematang Siantar City. The following table the use of Information Technology in the sample of Culinary MSMEs in Pematang Siantar City:

No	Sampel UMKM	Sampel Name	Types Of Information Technology						Number Of Ticks (X1)	Cross Sum (X2)
			QRIS	EDC	Bank Transfer	Cashier Post System	Order Number Computerisation	E-Commerce		
1.	Toko Roti Ganda	a	✓	✓	✓	✗	✗	✓	4	2
2.	Roti Ketawa Sambo	b	✓	✗	✓	✗	✗	✗	2	4
3.	Aplus Café and Resto	c	✓	✓	✓	✓	✓	✓	6	0
4.	Voi Churros	d	✓	✗	✓	✓	✗	✓	4	2
5.	Chatime Siantar	e	✓	✓	✓	✓	✓	✓	6	0
6.	France Bakery	f	✓	✓	✓	✗	✗	✓	4	2
Total Sum Of Each X1 and X2									26	10
Total Amount X1 + X2									36	
Average Number									6	

Figure 1. Use Information Technology For Culinary MSMEs in Pematang Siantar

Based on Figure 1.2 , the use of information technology in the Pematang Siantar Culinary MSME sample, there are 6 types of information technology indicators used to measure the use of information technology. It can be concluded that the complete use of information according to these indicators is only found in samples **c** and **e**, which shows that the numbers in both samples c and e have a value of X1= 6 and X2= 0. In addition, for the total number of each X1= 26 and X2= 10, while the total X1+X2 = 36, and the average number is 6. It can be concluded that the influence of information Technology plays a very important role in Culinary MSMEs in Pematang Siantar City to increase stability in the current Digital 5.0 business era.

The Relationship Between SWOT Analysis and Information Technology to The Development Of Culinary MSMEs in Pematang Siantar City

Based on the discussion above, there is a relationship between SWOT Analysis and Information Technology, namely from the data listed in the table, it has significance for the development of Culinary MSMEs in Pematang Siantar City such as making

SWOT Analysis which is well made in making decisions in the business plan for Culinary MSMEs based on 5W+1H along with a table describing samples of making effective SWOT Analysis. In addition, the indicators used in this type of information technology use 6 indicators such as QRIS, EDC, Bank Transfer, Cashier Post System, Computerized Order Numbers, and E-Commerce. Both, have an important relationship with each other in the development of Culinary MSMEs in Pematang Siantar City.

5. CONCLUSION

As for the conclusions for this study as follows :

- Based on table 1.1 regarding making of SWOT analysis sample **a** has the potential to increase competitiveness because it has advantages that can be compared to sample **b**, namely there are food orders that can be ordered online through the gofood and grabfood applications.
- Based on table 1.3, the use of information technology in the Pematang Siantar Culinary MSME sample, there are 6 types of information technology indicators used to measure the use of information technology.

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IMPROVING HOTEL EMPLOYEE PERFORMANCE THROUGH THE MEDIATING ROLE JOB SATISFACTION

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ABSTRACT

Human resources play a vital role in helping hotels achieve their organizational goals. For hotels to succeed, they need employees who perform well. Unfortunately, the Kuta Central Park Hotel experienced a 3.5% drop in employee performance during 2020-2021, which is a significant issue. A poor work environment can lead to job dissatisfaction, which can negatively impact employee performance. This study aims to understand the impact of the work environment on employee performance, using job satisfaction as a mediator. The research was conducted on the employees of the Kuta Central Park Hotel, with a sample size of 39 people, using a saturated sampling method. The path analysis and Sobel test were used to analyze the data. The results show that the work environment has a positive and significant effect on employee performance and job satisfaction. Moreover, job satisfaction has a positive and significant impact on employee performance. The work environment indirectly affects employee performance through job satisfaction, and job satisfaction partially mediates the relationship between the work environment and employee performance. The study recommends conducting operational checks to reduce the number of damaged equipment, checking work infrastructure at regular intervals, providing motivation, and conducting employee evaluations to improve employee performance and build trust in their work.

Keywords: *work_environment, job_satisfaction, employee_performance*

1. INTRODUCTION

Human resources play a crucial role in helping hotels achieve their organizational goals. Hotels need competent and skilled human resources to enhance employee performance, which has a direct impact on the company's overall performance. Employee performance is determined by the work an employee completes within a set period, compared to predetermined standards, targets, or criteria that have been mutually agreed upon (Arda, 2017). This means that employee performance is the actual result of an employee's work, based on the job requirements set by the company, and it can help the company achieve its goals, such as providing customer satisfaction, building a good company image, and ensuring the well-being of all employees in both the internal and external environments. This can be supported by job satisfaction.

Employee performance indicators are used to measure and evaluate the individual performance of an employee. According to Suryani and Resniwati (2022), these indicators include the amount and quality of work, punctuality, attendance, and

cooperation. Marbun and Jufrizen (2022) state that performance indicators can be categorized into three aspects: quality, quantity, and working time. According to Ayunasrah (2022), there are seven indicators of employee performance, including future goals, feedback on standards, tools or resources, competence, motivation, and opportunities.

According to Marbun and Jufrizen (2022), job satisfaction is a positive attitude shown by employees towards their work. It allows employees to work happily without feeling burdened by the work and provide optimal results for the company. Job satisfaction is a perception or impression of employee performance and expectations by achieving work goals, placement, treatment, and the atmosphere of the work environment. Lie (2018) state that indicators of employee performance include work quality, quantity, timeliness, effectiveness, and independence. Nabawi (2019) adds that satisfaction with salary or wage payments, satisfaction with the job itself, satisfaction with colleagues, satisfaction with promotions, and satisfaction with work supervision are also important factors in determining job satisfaction.

A good work environment is one where employees can carry out their tasks optimally, safely, healthily, and comfortably. According to Siagian and Khair (2018), the work environment encompasses everything around the employee that can influence their work performance. It can be classified into two categories: physical work environment and non-physical work environment. Physical environment refers to the physical conditions around the workplace that can affect employees directly or indirectly, such as lighting, workplace temperature, air humidity, air circulation, noise, work tools, or equipment. On the other hand, non-physical work environment refers to all conditions related to work relationships, including relationships with superiors, co-workers, or subordinates. Jerry et al. (2012) suggested several indicators for measuring the work environment, such as work equipment, employee services, working conditions, and personal relationships. Wuwungan et al. (2017) also identified indicators of the work environment, including light, air temperature, workspace, security, and employee relations.

According to a study conducted by Putri and Mani (2019), it was found that the work environment has a significant and positive impact on the performance of employees. Another research conducted by Cahyoseputro et al. (2021) focused on the Intercontinental Midplaza Hotel Jakarta and found that the work environment has a significant and positive effect on job satisfaction. Similarly, Suryani and Resniawati (2022) conducted a study with 69 respondents and found that job satisfaction influences employee performance at the Harper Purwakarta Hotel. Hanafi et al. (2017) also found that job satisfaction plays a mediating role in the relationship between the work environment and employee performance, and has a positive impact on both.

Based on the author's observations, the decline in employee performance at the Kuta Central Park Hotel is caused by various factors related to the work environment. There appears to be a lack of cooperation among employees, resulting in decreased initiative and less conducive working conditions. For instance, the kitchen chimney was not cleaned enough, causing it to rust and resulting in a small fire. The office space is also not neatly arranged, making it difficult to locate necessary items. Additionally, the work environment is toxic, with employees gossiping about each other. Furthermore, employees expressed dissatisfaction with their salaries and the lack of promotion opportunities. These factors can significantly impact employee performance. If the work environment is more comfortable and conducive, employee job satisfaction will increase, leading to an improvement in their performance.

The presence of a research gap allows researchers to propose a hypothesis by identifying factors that affect job performance, specifically the role of job satisfaction as a mediator. Hanafi's (2017) previous research revealed that work environment variables did not significantly influence employee performance.

However, Ayunasrah (2022) found that job satisfaction partially mediates and weakens the impact of the work environment on employee performance. Similarly, Putri and Mani (2023) concluded that the work environment does not significantly affect employee performance at the Liberta Kemang Hotel. These studies provide empirical evidence that the work environment has varying effects on job performance. This research aims to test these findings by introducing a mediating variable, job satisfaction, to determine the direct and indirect influences between the variables. The study tests the mediating variable of job satisfaction on different objects and at different times, recognizing that each research object has unique characteristics. The novelty of this research lies in the addition of mediating variables to increase the impact between variables and its location at a different time and research object from previous studies.

Various studies have shown that the work environment plays an essential role in determining the performance of employees. This holds true for hotel employees (Widiantari and Santoso, 2019) as well as for employees in private companies (Bhasary, 2018; Hanafi 2017). Further, research has indicated that a positive work environment has a significant impact on employee job satisfaction (Cahyoseputro, et al, 2021; Mariyanti and Saputri, 2019; Aruan and Fakhri, 2015), which ultimately affects employee performance positively (Suryani and Resniawati, 2022; Siagian and Khair, 2018; Febriyana, 2015). This research aims to determine the influence of the work environment on employee performance both directly and indirectly with the mediating role of job satisfaction.

2. RESEARCH METODOLOGY

This research was conducted for the employees of Kuta Central Park Hotel, which operates in the accommodation and food and beverage sectors. The study aimed to assess job satisfaction among employees. The research population initially included all 40 employees, but to maintain independence, eliminate bias, and ensure research objectivity, the researcher was excluded from the population and not used as samples or respondents. Therefore, the sample size for the study was 39 people from Kuta Central Park Hotel. Data collection was carried out using observation, interviews, documentation, literature, and questionnaires. The questionnaires used a Likert scale with five answer choices ranging from strongly disagree (with a value of one) to strongly agree (with a value of five). The instrument testing was carried out by testing validity and reliability using SPSS software. The study used path analysis and Sobel test to determine the job satisfaction variable as a mediating variable.

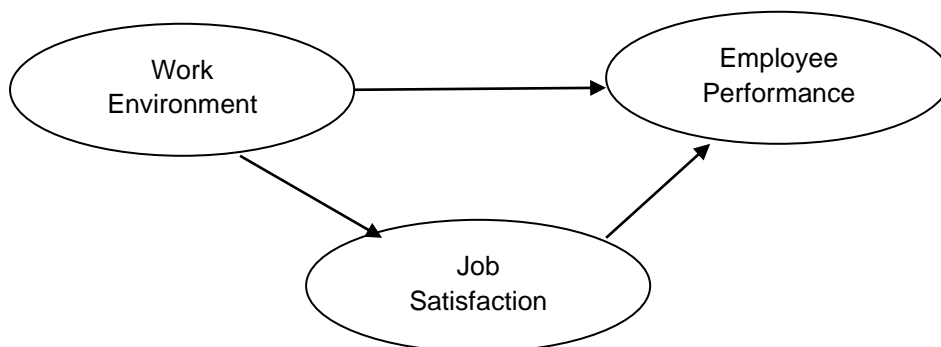


Figure 1. Research Model

3. RELATED RESEARCH/LITERATUR REVIEW

According to research conducted by Widiantari and Santoso (2019) on the employees of the Grand Inna Hotel Kuta-Bali, the work environment has a positive and significant impact on the performance of the hotel's employees. This finding is supported by Bhasary (2018), and concluded that work environment variables, as well as occupational health and safety, have a significant influence on employee performance both independently and collectively. Additionally, Hanafi (2017) affirms that work environment variables have a positive and significant effect on job satisfaction.

Cahyoseputro et al. (2021) found that the work environment has a positive and significant impact on job satisfaction. The second hypothesis that presented the relationship between the work environment and job satisfaction was also supported by the research conducted at the Intercontinental Midplaza Hotel Jakarta. By testing this hypothesis, the previous research findings regarding the positive impact of the work environment on job satisfaction by Mariyanti and Saputri (2019) at the Syariah Hotel in Padang City were also supported. Aruan and Fakhri (2015) also conducted research at Distribution PT. Freeport Indonesia, which supported the claim that both the physical and non-physical work environments positively and significantly influence employee job satisfaction.

According to previous research conducted by Siagian and Khair (2018), job satisfaction has a positive and significant impact on employee performance. Similarly, Suryani and Resniawati (2022) found that job satisfaction affects employee performance at the Harper Purwakarta Hotel. Another study by Wanda Febriyana (2015) also supports the idea that job satisfaction has a positive and significant correlation with the performance of employees at PT. Kabepe Chakra.

4. RESULTS AND DISCUSSION

Path analysis was used to test relationship patterns and reveal variable influences. Regression analysis via SPSS was used for parameter estimation.

Table 1. Coefficients Substructure 1 (Model 1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,695	6,548		0.870	0.390
	Work Environment (X)	0.577	0.181	0.458	3,192	0.003
	Job Satisfaction (M)	0.443	0.177	0.359	2,503	0.017
R2	0.543					

a. Dependent Variable: Employee Performance (Y)
Source: processed data (2024)

$$\text{Equation 1: } Y = 5.695 + 0.577 X + 0.443 M + e$$

Calculating path coefficients individual based on the results of the analysis in Table 1, it can be seen that the regression coefficient of the work environment on employee performance is 0.577 with the absolute value t 3,192 and sig value. 0.003 < a (0.05) so that indicate that the work environment has a positive and significant effect on employee performance. The regression coefficient of the job satisfaction on employee performance is 0.443 with the absolute value t 2.503 and sig value. 0.017 < a (0.05), that mean the jobsatisfaction has a positive and significant effect on employee performance.

Table 2. Coefficients Substructure 2 (Model 2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20,579	5,056		4.070	0.000
	Work Environment (X)	0.633	0.132	0.615	4,799	0.000
R2		0.543				

a. Dependent Variable: Job Satisfaction (M)
Source: processed data (2024)

$$\text{Equation 2: } M = 20,579 + 0.633 X + e$$

Based on the results of the analysis in Table 2, it can be seen that the regression coefficient of the work environment on job satisfaction is 0.663 with an absolute value of t 4,799 and sig value. $0.000 < \alpha (0.05)$ so that indicate that the work environment has a positive and significant effect on job satisfaction.

Based on the calculation results, it is obtained that Z-count is $2.19 > Z$ table 1.96, thus the job satisfaction variable has a mediating role in the relationship between the work environment and employee performance. Based on substructure 1 and substructure 2, it can be seen that the magnitude of the direct, indirect and total influence between the research variables is:

Table 3. Direct and Indirect Influence

Variable		Direct influence	Influence through job satisfaction	Total influence
Work environment	→ Employee performance	0.577	0.294	0.871
Work environment	→ Job satisfaction	0.633		0.633
Job satisfaction	→ Employee performance	0.443		0.443

Source: processed data (2024)

Based on Table 3, the results of the research state that the analysis of the work environment on employee performance has a direct influence, it is known that the regression coefficient is 0.577 with an absolute value of t 3.192 and Sig value. 0.003. These results mean that the work environment has a positive and significant effect on employee performance. It is also interpreted as the better the work environment, the better the employee's performance. The results by analyzing the work environment on job satisfaction state, that there was a direct influence with the coefficient 0,633 and an absolute value of t 4.799 and a Sig value. 0.000. These results mean that the work environment has a direct, positive and significant effect on job satisfaction. It is also interpreted as the better the work environment, the greater the job satisfaction of employees. On the relation of job satisfaction to employee performance, there was a direct influence with the coefficient is 0.443 (positive) and a Sig value 0.017). These results mean that job satisfaction has a direct, positive and significant effect on employee performance. It is also interpreted as the more satisfied employee satisfaction will provide optimal employee performance.

The results of the research state that the calculation results obtained are Z-count $2.19 > Z$ table (1.96), thus job satisfaction mediates the work environment on employee performance. The influence of the work environment on employee performance, it was found that the work environment has a positive and significant direct and indirect influence through job satisfaction on employee performance with coefficient values of 0.577 and 0.294 respectively so that the total influence is 0.871. So, the job satisfaction variable can be said to be a partial mediation variable. This result means that the better the employee's work environment and the increased job satisfaction, the lower the decline in employee performance in the company.

5. CONCLUSION

According to the research, the work environment has a positive and significant impact on the performance of employees. This impact is mediated by job satisfaction, which also has a positive and significant effect on employee performance. It means that improving the work environment and ensuring job satisfaction can lead to increased employee performance at the Kuta Central Park Hotel. Therefore, it is important to conduct regular operational checks to reduce the number of damaged equipment, maintain work infrastructure, provide motivation, and evaluate employees to improve their job satisfaction and performance.

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**MANAGEMENT AND BUSINESS:
INFLUENCE OF PRODUCT QUALITY AND PRICE ON
INTERESTED TO BUY SKINCARE
SKINTIFIC PRODUCTS FOR STUDENTS OF UNIVERSITY
ECONOMIC FACULTS**

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ABSTRACT

The aim of this research is to find out the difference between product quality and price simultaneously against interest in buying skincare skintific. This research is research using quantitative methods, where the object used is a student of the Faculty of Economics of the University of Simalungun. As for the number of samples to be used in this study, it was 54 respondents. Data is collected directly from respondents using the research instrument in the form of a questionnaire through Google Form and purposive sampling technique. Then the results are processed using SPSS version 25 data processing application. The results of this study prove that the F test results simultaneously obtained the value of Calculus > Ftable 263.053 > 3.18 and the p-value obtaining the column sig 0.000 < 0.05 means significant. This suggests that product quality and price simultaneously have a significant influence on purchasing interest skincare skintific and the results of the determination coefficient calculation, an adjusted value of R Square obtained at 0.910 (91%). This indicates that the product quality variable (X1) and the price variabel (X2) affect the purchasing value variables (Y) at 91.0% while the remaining 9.0% are influenced by other factors not discussed in this study.

Keywords: product quality, price, buy interest

1. INTRODUCTION

Body care is a duty that no one, especially young people, can abandon. (remaja). Young people are often categorized as consumers who tend to be open to new products that are being marketed. In addition to making the appearance attractive, facial care is also important for the health of the face skin. (Situmorang, 2017). There are many different types of skin care that are produced for different skin types. To fit your needs, there are tips that you can try when choosing skin care or

skin care products. The contents of skin care products have been adapted to the needs of each individual skin.

Before choosing skin care, one is advised to check the skin condition to the doctor first. This is important to do so as not to be wrong in determining skin type. Because, if one has not known the skin type it will be difficult to determine the right skin care (Sahal, 2022). Therefore it is important before buying skincare products should pay attention to the quality of the products available on the market. Kotler & Armstrong (2012) defines product quality as the ability of a product to perform its functions, including overall durability, reliability, accuracy, ease of operation, and repair of the product as well as other product attributes. (Ibrahim & Thawil, 2019).

With increasing demand for skin care products, local brands are increasingly eager to produce high-quality products that can meet customer needs. Skintific is one of many local skin care brands available. Kotler and Philip Keller (2018) stated that buying interest refers to a consumer's reaction to an object represented by their preference to buy. In order to attract consumer interest, companies have to do a variety of things to make consumers interested in the products they sell. During the purchase process, consumers have a motivation to buy this product.

Having a desire to buy this must be influenced by several factors. One of them is the price of the goods and the quality offered. To increase customer purchasing interest in the product sold, it is necessary to consider a number of factors, including the quality of the product and its price. Tjiptono (2015) explains that product quality includes the expected quality level as well as various control measures to the expected product quality level. When the product is of good quality and meets the needs of the customer, more and more people will buy the product. To maintain customer satisfaction and ensure that the buyer feels satisfied with the product, it is important to pay attention to the quality of the products. Skin care companies must be registered with the Drug and Food Supervisory Authority (BPOM) and have a halal certificate for their products so that consumers are sure that their products are safe for everyday use.

The last factor is the price. According to Armstrong and Kotler (2015), price is the amount given for a product or service provided. Women who want to have healthy and beautiful skin often spend money on buying skin care products, so they can find the right price for the product. Therefore, the price of the product should be proportional to the service provided. Consumers tend to choose more affordable prices to buy products, according to Agustin and Amron (2022). Today, many skin care products are sold at cheap prices but have good quality.

From the above description the author is interested in research with the title **"Influence of Product Quality and Price on Buying Interest Skincare Skintific Products for Students of Simalungun University School of Economics"**.

2. RESEARCH METODOLOGY

A. Research Design

The type of research used in this research is quantitative research, the data required is a data in the form of quantity represented by numbers (numerik). Quantitative research methodology can also be understood as a methodology based on the philosophy of positivism, used to research on a particular population or sample. Data collection using statistical data analysis research instruments using SPSS version 25 with the aim of testing the hypotheses that have been established. Research design provides the procedure for obtaining the information necessary to formulate or solve problems in research. As for the research design used in the writing of this research, it is as follows:

- 1) Field research is research that is carried out by digging data directly from the research site. This research is done by collecting primary data and disseminating questionnaires to students of the University of Simalungun Faculty of Economics.
- 2) Library research is a step to obtain data through certain sources. This research is carried out by collecting data from literature, teaching materials, and other research related to the object of research. It's done to add insight into the research that's under way.

B. Population and Sample

Population in this study amounted to 1073 Students from 3 student study programmes for 2020-2023 against users of the application Shopee Students of the Faculty of Economics University of Simalungun. The *purposive sampling* technique is selected by the author to represent the character of the population that corresponds to the research. According to Sugiyono (Stevy, 2019) "Sample is part of the number and characteristics that the population possesses". Based on the number of students of the Faculty of Economics of Simalungun University of the entire force 2020-2023 that numbered 1,073 students then based on the table above, the amount of samples in this study is as much as $5\% \times 1,073 = 53,65$, applied to 54 student samples.

C. Data Collection Techniques

Data collection techniques are the most strategic step in research, as the main goal of research is to obtain data.

1. Data sources. The types and sources of data used in carrying out this research are data related to the research object, i.e. primary data.
2. Data Collection Techniques. Data collection techniques by making lists of statements in the form of questionnaires through google forms aimed at students of the Faculty of Economics University of Simalungun forces 2020-2023.

3. RELATED RESEARCH/LITERATUR REVIEW

A. Product Quality

According to Kotler and Keller in the research journal Hapzi Ali, et.al (2017), product quality is the ability of a product to deliver performance that fits or even exceeds what customers expect. There are nine dimensions of product quality according to Kotler and Keller (2009:8), which are as follows: form, feature, performance quality, durability, reliability, repairability, style, design (design). In line with this theory, in the research journal of Hapzi Ali and Rizza Anggita (2017), product quality is a characteristic of a product in its ability to meet defined and latent needs. This product is defined as anything that can be offered to the market for attention, expertise, utility, or consumption that meets a desire or need. According to Philip Kotler (2007:94) explaining one of the main values that customers expect from suppliers is the high quality of products and services. It can then be stated from the statement that the quality or quality of the product can influence the consumer in the decision to acquire the product. According to Tjiptono quoted in the research journal Hapzi Ali, et.al (2017) which reflects the quality of all dimensions of product supply that generates benefits for customers. There are eight dimensions of product quality that are considered as attributes of a product that is evaluated by the consumer and will be used in this research, namely: product performance, product features, reliabilities, conformance, durability, service ability, aesthetics, fit and finish.

B. Price

The price in the research journal Hapzi Ali, et.al (2017) is one of the critical success factors of a company because the price determines how much profit the company will gain from the sale of its products in the form of goods or services. Setting a price too high will cause sales to fall, but if the price is too low it will reduce the profits that the organization can get. Price dimensions according to Gitosudarmo in the research journal Hapzi Ali, et. al. (2017) This theory includes: price reduction, price compatibility with product quality. Hermawan Kertajaya in the research journal Hapzi Ali and Rizza Anggita (2017) added that the cheap price does not guarantee the product will be sold but the price is too expensive will cause consumers to feel deceived if it does not match the perceived value available. The price dimension in this theory consists of: price based on perceived value, and price according to current price.

According to Kotler and Amstrong (2008:62), price is defined as something given or sacrificed to obtain a service or product. The price is a monetary unit or other measure (including goods and services) exchanged in order to acquire the right of ownership or use of a good or service. From a customer's point of view, price is often used as an indicator of value when the price is linked to the perceived benefit on a good or service. According to Kotler and Amstrong (2008:62) the price dimension encompasses the following things and will be used in this study, namely: price affordability, price correspondence with product quality, price competition, and price compatibility with benefit.

C. Buying Interest

In order to attract the attention or interest of consumers, manufacturers must first understand how consumers behave in making decisions. According to Philip Kotler (2003:568); "A minat is a step taken by a consumer before planning to buy a product." Elements that trigger consumer interest according to Barry Berman (2001:202) : In order to get attention to a person's consciousness, after reaching the sensory receptor, then the stimulus must vibrate the sense nerve and cause a direct response to the brain, for example when a person feels interested to know more about the company's store design activities. Sources from the consumer's memory to choose the goods or services that satisfy them Information that involves advertising. Ensure the characteristic nature of each available choice Consumer collects information related to the characteristics of each choice, after knowing the choice consumer decides the goods or services to be purchased. Purchasing is a stage in which consumers have made choices and are ready to spend their money to be exchanged for goods or services. At the previous stage, the consumer first determines the best decision among the brands of products that have been collected. In addition to the consumer's decision and tendency to a product independently, there are two factors that determine the purchase decision: other people's attitudes and unexpected situations. Next he'll make a purchase.

4. RESULTS AND DISCUSSION

A. The impact of product quality on minat buy *Skincare* Skintific products for students of Simalungun University School of Economics

The positive impact can be seen from the results of the statistical test where the value of b_1 on linear regression obtained is positive 0.134 which means that if the product quality variable increases by one unit, then the purchase interest will increase by 0.134, and vice versa, if the Product quality variabel decreases by a unit, the buying interest will decrease by 0,134.

On the other hand, the statistical test results indicate that the *t*-value obtained is 1.733 larger than the table value at the significance level of 0.05, which is 1.675 and the *p* value on the sig column is $0.020 < 0.05$ which means significant. It explains that the quality of the product has a positive and significant influence on the interest in buying skincare skintific on the graduates of the Faculty of Economics University of Simalungun forces 2020-2023.

B. The impact of price on interest in buying Skincare Skintific products for students of Simalungun University School of Economics

The positive effect can be seen from the results of the statistical trial where the value of *b*₂ on linear regression obtained is positive 1,008 which means that when the price variable increases by one unit, then the purchase interest will increase by 0.134 units and vice versa, when the prices variable decreases one unit then the buying interest will decrease by 0.133 units.

On the other hand of the statistical test results stated that the *t*-value obtained is 9.915 greater than the value of the table at the significance level of 0.05, i.e. of 1.675 and the *p* value value on the sig column is $0.015 < 0.05$ meaning significant. It shows that the price has a positive and significant influence on the interest in buying skincare skintific on graduates of the Faculty of Economics University of Simalungun forces 2020-2023.

C. The impact of product quality and price on interest in buying Skincare Skintific products for students of Simalungun University School of Economics

The results of the statistical tests show that the obtained calculation value is 263.053 greater than the *F*-table value at the significance level of 0.05, i.e. 3.18, and the *p* value obtaining on the sig column is $0,000 < 0.05$. This means that the quality of the product and the price simultaneously have a significant influence on the interest in buying skincare skintific in students of the Faculty of Economics University of Simalungun forces 2020-2023.

Hermita Princess and Risk Taufik Hidayah (2023) conducted a study entitled "Influence of Product Quality, and Price Affecting Interest in Buying Avoskin Skincare Products on Shopee". The test results revealed that there is a significant influence of 19.5% between product quality and price on purchase interest in products on the Shopee marketplace. These results indicate the existence of a positive relationship between the quality of products, the effectiveness of promotional efforts, and increased interest in purchasing the product on the Marketplace Shopee.

5. CONCLUSION

From the results of the exposure and discussion of the data above, the conclusion of this study is:

- 1) Based on the results of the hypothesis test (test *t*) that the product quality variable has a positive and significant influence on the interest in buying skincare skintific for students of the Faculty of Economics of Simalungun University of 2020-2023. It is shown with a positive value of *b*₁ of 0.134 and a *t*-value of 1.733 > *t*-table of 1.675 as well as a *p* value in the sig column of $0.020 < 0.05$.
- 2) Based on the results of the hypothesis test (test) that the price variable has a positive and significant influence on the interest in buying skincare skintific for students of the Faculty of Economics of Simalungun University of 2020-2023. It

is shown with a positive value of b_1 of 1,008 and a t hitung value of 9,916 > t table 1,675 as well as a p value in the sig column of $0,015 < 0,05$.

- 3) Based on the results of the F test simultaneously the value of $\text{Calculus} > F_{\text{table}}$ is obtained $263.053 > 3.18$ and the p -value value of the column sig $0,000 < 0.05$ is significant. It shows that the quality of the product and the price simultaneously have a significant influence on the interest in buying skincare skintific for students of the Faculty of Economics University of Simalungun forces 2020-2023.
- 4) Based on the calculation of the determination coefficient, an adjusted R Square value of 0.910 (91%) is obtained. This indicates that product quality variables (X_1) and price variable (X_2) influence the purchasing interest variability (Y) of 91.0% while the remaining 9.0% are influenced by other factors not discussed in this study.

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THE ROLE OF *PERSONAL SELLING* IN MEDIATING THE EFFECT OF SALES PROMOTION ON THE DECISIONS TO PURCHASE REVLON BEAUTY PRODUCTS AN EMPIRICAL STUDY AT NATALIA'S SHOP IN DENPASAR

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ABSTRACT

Purchasing decisions are the process of selecting a product or brand from various existing alternatives and determining attitudes after the actual purchase is made. Purchasing decisions are strongly influenced by sales promotions and direct interactions between sellers and potential consumers, which are generally carried out through personal selling activities. This study aims to analyze and evaluate the effect of sales promotion on purchasing decisions with personal selling as an intervening variable. This study was conducted at a special retail store located at Natalia Shop Denpasar. The sampling method in this study uses a non-probability method. The sampling technique used was accidental sampling. The sample size for this study was 130 respondents. The data collection method was carried out through a questionnaire with a question format. The analysis technique used in this research is multiple linear regression analysis with intervening variables using the causal step method assisted by SPSS software. The results show that sales promotion has a positive and significant effect on purchasing decisions. Sales promotion also has a positive and significant effect on personal selling. Sales promotion and personal selling partially and simultaneously have a positive and significant effect on purchasing decisions. The Sobel test results show that the personal selling variable is able to mediate the effect of sales promotion on purchasing decisions.

Keywords: *personal selling and purchase decision, sales promotion*

1. INTRODUCTION

Beauty has long been a desire for women, because beauty is synonymous with loveliness and attractiveness (Satria and Junaedi, 2022). The charm of beauty has now become a necessity for women to support their appearance and create a confidence in every activity (Diantary, 2019). Looking beautiful does not solely arise because of the woman's own personal desire to support her appearance, but because of work demands requiring women to use beauty products to appear more attractive. The need to look beautiful and attractive has encouraged most women to allocate part of their income to purchase beauty products. This condition then encourages increased market demand for beauty products which in turn will have an impact on increasing revenue in the beauty industry sector.

Revlon is a beauty product founded by Charles Revson, his brother Joseph Revson and chemist Charles Lachman in 1932 in New York, USA. The company started by introducing a new type of nail enamel for Hollywood actresses. Today, its expanding product line includes: Make up, Beauty Tools, Hair and Nail (www.revlon.com). The brand holder distribution of Revlon products in Indonesia is

currently held by Tempo Scan Group Ltd with its marketing and product distribution network reaching all corners of the archipelago through 46 sales branches, more than 100 sales points with Distribution Centers in 4 major cities. The company serves approximately 100,000 off-line outlets/consumers including pharma trade, modern trade, and general trade channels. The company also serves consumer purchases from e-Commerce channels (www.temposcangroup.com).

The marketing distribution network of product includes retail stores, both local and national chain retailers. One of the micro, small and medium enterprise stores that belongs to the category of local retail specialty stores that specialize in selling beauty products in Bali is "Natalia Shop" located at Kerta Wijaya Mall B14-B16, Maluku Street, Dauh Puri, West Denpasar, Denpasar City. The specialty store marketing distribution system makes Revlon have to compete with other brands that are no less famous such as *Maybelline*, *Wardah*, *SK-II*, *Herborist*, and dozens of other brands that are no less attractive. This of course has an impact on Revlon products sale.

Sales of Revlon show sharp sales fluctuations, where the highest total sales amount occurred in December 2022 with a sales value of Rp.96,252,000, while the lowest total sales value occurred in February 2022 amounting to Rp.36,292,000. This trend shows the level of sales value fluctuations that occur in the market and the potential risk of a sharp decline in sales that might occur in the future if marketers do not take preventive action through sales promotion instruments. Revlon needs to redesign a more effective sales promotion supported by a reliable sales force to maintain its business continuity in the market by increasing efforts that can realize consumer purchasing decisions to maintain and increase sales of its products in the cosmetics market.

Purchasing decision is a decision-making process and concrete actions to make purchases by people involved in the process of purchasing and consuming products (Putro and Santoso, 2020). On the other hand, Kosasih et al. (2021) state that purchasing decisions are the process of choosing a product or brand from various existing alternatives and determining attitudes after making actual purchases. Another perspective also states that purchasing decisions indicate a series of processes in which consumers integrate knowledge, recognize existing choices and choose at least one of them (Putra et al., 2021). Purchasing decisions are influenced by sales promotion and personal selling (Santosa and Chayaningtyas, 2020).

Sales promotions in a number of empirical studies that have been conducted show that there is a positive and significant influence on consumer purchasing decisions. The study of Affif et al. (2020) revealed that sales promotions carried out on an ongoing basis have an impact on increasing consumer purchasing decisions. The results of this study are supported by Azmi and Karsa, (2022); Gultom et al. (2022); Hastuti and Anasrulloh (2020); Prilano et al. (2020). On the other hand, some empirical findings provide different conclusions. Research by Yuvita et al. (2019) and Purba and Saifullah (2020) show that sales promotion has no significant effect on purchasing decisions. The conclusion is also supported by the research of Muhtarom et al. (2022) that sales promotion has a negative and insignificant effect on sales decisions.

Substantial empirical studies have been conducted to test and analyze the effect of sales promotion on purchasing decisions (Hastuti and Anasrulloh, 2020; Lukito and Fahmi, 2020; Maryana and Permatasari, 2020; Solihin, 2020; Amba and Sisnuhadi, 2021; Ernawati et al., 2021). The results of this study as a whole conclude that sales promotion has a positive and significant effect on purchasing decisions. However, the main difference between this study and previous studies lies in the role of the personal selling variable as a mediator of the effect of sales promotion on purchasing decisions, which has not received much attention from researchers.

Kotler et al. (2020) mention personal selling is a personal presentation that can influence purchasing decisions, attract customers and build customer relationships.

2. RESEARCH METODOLOGY

The population in this study were all Natalia Shop consumers who bought Revlon products with an unknown number. The size of the sample refers to Hair et al. (2010), which is 5 to 10 times the number of research indicators. This study uses 26 indicators, referring to the provisions of Hair et al., then the minimum sample size required is $(26 \times 5) = 130$ respondents. The sampling method uses a non-probability method (non-probability sample). The sampling technique used is accidental sampling with the data collection method carried out through a questionnaire with a question format.

The analysis technique used in this study is multiple linear regression analysis with mediation variables using the causal step method assisted by SPSS software. The classical assumption test is carried out to get the best linear unbiased estimation regression coefficient. To test the magnitude of the indirect effect of the independent variable (X) on the dependent variable (Y) through the mediating variable (M), the Sobel Test was conducted. The regression equation model is formulated as follows.

$$\text{First regression equation } Y_i = \beta_0 + \beta_1 X_{1i} + e_i \dots\dots\dots(1)$$

$$\text{Second regression equation } M = \beta_0 + \beta_2 X_{1i} + e_i \dots\dots\dots(2)$$

$$\text{Third regression equation } Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 M_{2i} + e_i \dots\dots\dots(3)$$

Where:

Y= Purchase Decision, X = Sales Promotion, M = Personal Selling,

β_1, \dots, β_3 = Regression coefficient, i = observation index, e = error.

3. RELATED RESEARCH/LITERATUR REVIEW

Personal selling, is a promotional action in the form of direct personal contact between potential consumers and sales person (Firmansyah, 2018: 202). Furthermore, personal selling can be interpreted as direct communication from the seller to the buyer to introduce the product so that consumers become interested in the product (Putra et al., 2021). Personal selling is an impressive method because there is direct communication between sales person and consumers to convince consumers to be directly interested in the product in making purchasing decisions (Wahyuningtyas and Soedarsono, 2020). Based on various empirical and theoretical studies, it can be stated that personal selling is a sales technique carried out by sales person through communicating directly with potential consumers to encourage consumer purchasing decisions.

Sales promotions are various incentives offered to the market or consumers within a short period of time with the aim of encouraging purchases or increasing product sales (Fakhri, 2020). Sales promotion is a marketing initiative by providing short-term price discounts carried out with the aim of increasing market response to company offers (Pramezwarly et al., 2021). Sales promotion is one of the main things in a marketing campaign, consisting of several incentive tools, most of which are short-term, designed to influence more quickly the purchase of certain products or services by consumers (Anbiya and Sofyan, 2021). Explicitly, Kotler et al. (2020) say the main objective of sales promotion is to encourage short-term consumers to buy products or increase brand-oriented customer engagement.

Purchasing decision is a decision-making process and the actual act of making a purchase by consumers involved in purchasing and consuming products (Putro and Santoso, 2020). On the other hand, Kosasih et al. (2021) suggest that purchasing decisions are the process of choosing a product or brand from various

existing alternatives and determining attitudes after the actual purchase is made. According to Putra et al. (2021) purchasing decisions indicate a series of processes in which consumers integrate knowledge, recognize existing choices and choose at least one of the existing alternatives.

Sales promotions affect consumer purchasing decisions because sales promotions can influence consumer behavior in making purchasing decisions. The influence of this variable has been confirmed by Afifi's study (2020) which states that sales promotion has a positive and significant effect on consumer purchasing decisions. This study is also supported by several research results that corroborate previous studies Gultom et al. (2022); Lahensel et al. (2022); Tolan et al. (2021). Based on the results of previous studies and research, the hypothesis of this study is formulated as follows.

H1: Sales promotion has a positive and significant effect on purchasing decisions.

The influence of sales promotion on personal selling has long been an object of research in modern marketing management. Several studies have shown that sales promotion is influenced by the role of personal selling variables because of the two-way interaction factor that can provide a comprehensive explanation of better product benefits for consumers. Kristina S and Surbakti's research (2023) implicitly reveals that personal selling has a positive and significant effect on increasing sales volume because it is supported by the important role of sales promotion. This study is supported by the research by Octavianita and Dermawan (2021); Ervandi and Nainggolan (2021); Satoso et al. (2022); Putro and Santoso (2020). Based on previous studies, the hypothesis of a study is formulated as follows.

H2: Sales promotion has a positive and significant effect on personal selling.

Sales promotion has long been recognized in marketing literature as an important variable in influencing consumer purchasing decisions. Gultom et al. (2022) suggests that sales promotion is a value activity carried out by companies to influence potential and actual consumers to make purchases. However, companies cannot ignore the role of personal selling in mediating purchasing decisions. Study Putra et al. (2021) personal selling has a positive and significant effect on consumer purchasing decisions. The study are supported by Santoso et al. (2022); Mardiyono and Digdowiseiso (2023) reveal that sales promotions can influence purchasing decisions and personal selling is able to mediate the effect of sales promotion on purchasing decisions. The results of this study are supported by several previous studies Yasin (2020); Wahyuningtyas and Soedarsono (2020); Rumbiati (2021). Based on the previous studies and research, the hypothesis of a study is formulated as follows.

H3: Personal selling plays a significant role in mediating the effect of sales promotion on purchasing decisions.

4. RESULTS AND DISCUSSION

Table 1. Hypothesis Test Results (t Test) Sales Promotion on Purchasing Decisions

No.	Variables	β	Std. Error	t	p-value	Conclusion
1	Constant	7,2100	0,9490	7,5990	0,0000	
2	Sales Promotion	0,4830	0,0320	15,2180	0,0000	Reject H ₀

Source: data processed from questionnaire(2023)

Table 1 presents a hypothesis testing with the t test which shows that the conclusion fails to reject the null hypothesis (H₀) where the p-value <0.05. It can be

concluded that sales promotion has a positive and significant effect on purchasing decisions. The partial test show that the hypothesis (H1) is proven. This study provides empirical support for previous research conducted by Afifi (2020), Gultom et al. (2022); Lahensel et al. (2022); Tolan et al. (2021). This study rejects the research by Yuvita et al. (2019) and Purba and Saifullah (2020).

Table 2. Hypothesis Test Results (t Test) Sales Promotion on Personal Selling

No	Variables	β	Std. Error	t	p-value	Conclusion
1	Constant	15,0710	2,1190	7,1130	0,0000	
2	Sales Promotion	1,4990	0,0710	21,0840	0,0000	Reject H0

Source: data processed from questionnaire (2023)

Table 2 presents a hypothesis testing with the t test which shows the conclusion of failing to reject the null hypothesis (H_0) where the p-value <0.05 . It can be concluded that sales promotion has a positive and significant effect on personal selling. The partial test show that the hypothesis (H2) is proven. The study provides empirical support for the research previously conducted by Kristina and Surbakti (2023), Octavianita and Dermawan (2021), Santoso et al. (2022). This study rejects the research by Yudhiartika and Haryanto (2012) and Julitawaty et al. (2020) which states that sales promotion is not influenced by personal selling.

Table 3. Hypothesis Test Results (t Test) Sales Promotion (X) and Personal Selling (M) on Purchasing Decisions (Y)

No.	Variables	β	Std. Error	t	p-value	Conclusion
1	Constant	4,2880	0,9750	4,3970	0,0000	
2	Sales Promotion	0,1730	0,0600	2,9070	0,0040	Reject H0
3	Personal Selling	0,2040	0,0340	5,9130	0,0000	Reject H0

Source: data processed from questionnaire (2023)

Table 3 presents a hypothesis testing with the t test, the sales promotion variable has p-value <0.05 , partially fails to reject H_0 . Meanwhile, the personal selling variable has a p-value <0.05 , partially also fails to reject H_0 . It can be concluded that sales promotion and personal selling partially have a positive and significant effect on purchasing decisions, so based on the causal step method, the personal selling variable partially mediates the effect of sales promotion on purchasing decisions (Munawaroh et al., 2015). (2015). The results of mediation test prove that the hypothesis (H3) is proven.

Mediation Test (Sobel Test)

The role of personal selling variables in mediating the effect of sales promotion on purchasing decisions was carried out with the Sobel test. According to Munawaroh et al. (2015), if the value of $Z_{count} > Z_{table}$, the variable hypothesized as the mediating variable is concluded to mediate the effect of the independent variable on the dependent variable. The Sobel test formula is formulated as follows.

$$Z = \frac{ab}{\sqrt{(b^2 SE_a^2) + (a^2 SE_b^2)}} \\ Z = \frac{0,438 \times 0,204}{\sqrt{(0,204^2 \times 0,032_a^2) + (0,438^2 \times 0,034_b^2)}} \\ Z_{count} = 5,7137 \text{ and the vaule of } Z_{table} = 1,96$$

Based on the results of the Sobel test, the value of Z_{count} (5.7137) > Z_{table} (1.96), it can be concluded that the personal selling plays a role in mediating the effect of sales promotion on purchasing decisions. The Sobel test prove that the hypothesis (H3) is proven.

5. CONCLUSION

The study prove that sales promotion is an important variable in influencing consumer behavior to determine purchasing decisions. Sales promotion is a short-term incentive that aims to stimulate purchasing decisions. Apart from influencing purchasing decisions, sales promotion also affects personal selling because the effectiveness of sales promotion is strongly influenced by the interaction of personal selling. The success of the seller's interaction with potential consumers is strongly influenced by the ability and capability of personal selling in conveying the benefits of the product that will be received by consumers, so that the product is considered to have consumer value. Sales promotion and personal selling simultaneously influence purchasing decisions. The amount of sales promotion costs supported by the ability and proficiency of personal selling will have a very significant impact in changing consumer behavior which has an impact on purchasing decisions. The results of this study also prove that personal selling can play a role in mediating the effect of sales promotion on purchasing decisions.

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THE EFFECT OF WORKLOAD ON EMPLOYEES OF PT. WAHANA PUTRA YUDHA PEMATANGSIANTAR

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ABSTRACT

Human resources are the most important thing for PT. Wahana Putra Yudha Pematangsiantar. The issue of human resources is a challenge in itself for management, because the performance that a company seeks from a person depends on the individual's ability, motivation and support received, if someone in the company, namely human resources, can run effectively then the company will continue to run effectively. Based on the results of observations made at PT. Wahana Putra Yudha Pematangsiantar, the workload received by employees is the target of getting large sales of products at PT. Wahana Putra Yudha Pematangsiantar and employees are also often told to go home later if the daily target has not been met. And for the training provided by PT. Wahana Putra Yudha Pematangsiantar, the results of the training that has been carried out are that employees still have the same abilities as before the training was provided. The lack of ability to sell and meet existing targets makes the training that has been carried out less effective for employees at PT. Wahana Putra Yudha Pematangsiantar.

Keywords: Human Resources, Performance, workload

1. INTRODUCTION

he most important human resource for a company or organization is human resources, namely people who have given their energy, talent, creativity and effort to the organization, if you want the company to progress, the company must have human resources who are able to display good performance.

The problem of human resources is a challenge for management, because the success of management and others depends on the quality of human resources, the performance sought in a company from a person depends on the ability, motivation and individual support received, if someone in the company, namely human resources, can run effectively, the company will continue to run effectively.

Performance is a process of how direct work to achieve work results. Employee performance is what affects how much they contribute to the organization. Performance is also the result of work that is displayed in accordance with its role in the organization. Human resources are the main factor in the company, where

humans act as regulators in carrying out the running of a company in order to achieve certain goals, the best programs made by the company will be difficult without the active role of employees owned by the company.

Workload is something that arises from the interaction between the demands of the work environment tasks where used as a workplace, skills and perceptions of the work of physical workload and mental workload. Physical workload is a burden received by the physical alone will result in changes in the functions of the body's tools and assessment of physical workload can be done with two objective methods, namely assessment, direct and indirect direct measurement methods, namely measuring energy expended through oxygen intake during work, indirect measurement methods by calculating the pulse rate during work, mental workload is the workload received by workers as mental work demands with the mental abilities possessed by the workers concerned.

Another factor that affects employee performance is that training is needed in order to improve the quality of human resources. In promoting the company and is one of the important factors in competition both from within and from outside the development of science and technology which is very fast in handling and running the company, adjusting the ability to carry out tasks to carry out training for employees. Training is an effort to develop human resources, especially to develop intellectual and human personality, providing training is an effort to increase the knowledge of an employee's expertise to do a certain job.

Based on the results of observations made at PT Wahana Putra Yudha Pematangsiantar, the workload received by employees is the target to get large sales of products at PT Wahana Putra Yudha Pematangsiantar. And for the training provided by PT Wahana Putra Yudha Pematangsiantar, the result of the training that has been carried out is that employees still have the same abilities as before the training provided. The lack of ability to sell and meet existing targets makes the training that has been carried out less effective for employees at PT Wahana Putra Yudha Pematangsiantar. Based on this background, this research is entitled: " THE EFFECT OF WORKLOAD ON EMPLOYEES OF PT. WAHANA PUTRA YUDHA PEMATANGSIANTAR".

2. RESEARCH METODOLOGY

The method used in this research is descriptive method, which aims to describe the state of the data as it is which will then be analyzed in accordance with the objectives and research questions. The descriptive method according to Sugiyono (2019: 21) is a method used to describe or analyze a research result but is not used to make broad conclusions.

Quantitative data is data in the form of numbers. The data used in this study are quantitative, namely the results of answers from respondents or filling out questionnaires on a Likert scale.

The data collection techniques used this study are:

- Survey

The survey method is a primary data collection method that uses oral and written questions. The technique used in this survey method is to use interviews or questionnaires as a tool for collecting data.

Primary data is a source of research data obtained directly from original sources not through intermediary media. Data is collected specifically to answer research

questions in accordance with the wishes of the researcher. With primary data obtained through questionnaires personally given to respondents, namely PT.Wahana Putra Yudha Pematangsiantar employees.

- Population and Sample

Population is a generalization area consisting of: objects / subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions (Sugiyono 2019: 215). The existing population is 35 employees.

While the sample according to Sugiyono (2019: 215) is part of the population. Data taken based on data from all 35 employees of PT Wahana Putra Yudha Pematangsiantar using the Saturated Sampling Technique, which is a sampling technique that makes all members of the population into samples.

3. RELATED RESEARCH/LITERATUR REVIEW

Definitin Of Workload

According to (Nurwahyuni, 2019), Workload is the amount of responsibility carried by a person as measured by multiplying the existing work size by the length of service given to a person in a certain position or department in an entity.

Factors Affecting Workload

According to Suci (2017: 24) the factors that affect workload include:

- Internal Factors

Internal factors that affect workload factors that come from within the body as a result of external workload reactions such as gender, age, posture, health status and motivation, satisfaction, desire or perception.

Gender, age, posture, and health status are things that are considered by companies/institutions/institutions in giving job responsibilities.

- External Factors

External factors in the world of work will also affect employee workload. External factors are factors that come from outside the employee's body such as the work environment, physical tasks, work organization.

Definition of Training

according to Nawawi (2011), training is essentially an effort made by the company to help its workforce to understand the specific potentials that exist so as to provide improvements to the weaknesses that exist in the company. The main activity in training is to provide an increase in the effectiveness of meeting the latest consumer demand.

Benefits of Training

Quoted from (Sysindo Konsultan, 2019), it is explained that the benefits of employee training and development, as follows:

1. Increase job satisfaction and employee morale
2. Increase employee work motivation
3. Improve efficiency in processes, resulting in financial benefits
4. Increase capacity to adopt new technologies and method
5. Increase innovation in strategies and products
6. Reducing employee turnover

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- External Factors

External factors in the world of work will also affect employee workload. External factors are factors that come from outside the employee's body such as the work environment, physical tasks, work organization.

4. RESULTS AND DISCUSSION

Respondent Identity Research Results

The identity of the respondent is a description of the employees who are respondents in the study, which can be seen from gender, age and education level.

1) Respondet By Gender

Based on the data that has been processed, the resultd of the distribution of respondents based on gender in this study can be seen in the table now:

Table 4.1 Respondents By Gender

Gender	Amount	Percentage
Men	23	65,71%
Women	12	34,29%
Amount	35 people	100%

2) Respondents by Age

From the study 35 respondents with classification by age can be shown in the following table:

Table 4.2 Respondents By Age

Age	Amount	Percentage
20-30 year	23	65,71%
31-40 year	8	22,86%
41-50 year	4	11,43%
Amount	35 People	100%

3) Respondents According to Education Level

Based on the data that has been processed, the results of the distribution of respondents based on the level of education in this study can be seen in the table now:

Table 4.3 Respondents Menurut Tingkat Pendidikan

Education Level	Amount	Percentage
High School	21	60,0%
S1	14	40,0%
Amount	35 People	100%

4.2 Instrument Test

This instrument test was carried out to see whether the question was feasible or not to be used as an instrument in this journal.

1. Validity Test

The validity test is used to measure whether a questionnaire is valid or not. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire.

The validity test will test each variable used in this study, where all research variables contain 15 questions that must be answered by respondents. The criteria used in determining whether the questions used in this study are valid or not are as follows: confidence level = 95% ($\alpha = 5\%$), degree of freedom (df) = $n - k = 35 - 3 = 32$, obtained r table = 0.3338. If r count (for each item can be seen in the Corrected Item - Total Correlation column) is greater than r table and the r value is positive, then the statement item is said to be valid.

2. Reliability Test

The reliability test is intended to measure a questionnaire which is an indicator test of the variable. Reliability is measured by the Cronbach's Alpha statistical test. A variable is said to be reliable if it gives a Cronbach's Alpha value > 0.60 .

Table 4.4 Reability Test

Variabel	Cronbach's Alpha	N of Items	Status
Workload (X1)	0,903	5	Reliabel
Training (X2)	0,853	5	Reliabel
Performace (Y)	0,845	5	Reliabel

4.3 Hypotesis Testing

1. The t test

The t test is known as the partial test, which is to test how the influence of each independent variable individually on the dependent variable.

4.5. T Test Measurement Result

Model		Unstandardized Coefficients		Coefficients ^a		Sig.
		B	Std. Error	Standardized Coefficients Beta	t	
1	(Constant)	2,013	1,233		1,632	,112
	Employrr Expenses	,511	,096	,584	5,311	,000
	Training	,398	,111	,395	3,592	,001

a. Dependent Variable: performance

2. F test

The F test is used to test each independent variable has a significant effect on the dependent variable together $\alpha = 0.05$ and accept or reject the hypothesis. The results of the F test calculation can be seen in the following table:

Tabel 4.6 F Test Result

		ANOVA ^a				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	271,546	2	135,773	117,343	,000 ^b
	Residual	37,026	32	1,157		
		308,571	34			

a. Dependent Variable: Performance

b. Predictors: (Constant), Training, Workload

3. Multiple Linear Regression Analysis

In an effort to answer the problems in this study, multiple linear regression analysis is used. The program for analyzing this regression uses SPSS 25 For Windows software, to analyze the effect between the independent variables, namely workload and training on the dependent variable, namely performance. The results of data processing using the SPSS program are as follows:

Table 4.7 Hasil Pengukuran Regresi Linier Berganda

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,013	1,233		1,632	,112
	Workload	,511	,096	,584	5,311	,000
	Training	,398	,111	,395	3,592	,001

a. Dependent Variable: Performance

5. CONCLUSION

As for the conclusion for this study as follows:

From the results of the previous hypothesis testing, it can be concluded that some hypotheses are proven and some are not proven. For this reason, this discussion section will contain a more detailed discussion of each.

A. Conclusion of t Test Results (Partial)

1. Hypothesis Test Results of the Effect of Workload (X1) on Performance (Y)
The significance of the t-test results of Workload shows a significant level of 0.000 <5%. The resulting t value is 5.311 with the t table value is 2.036 because the t value is greater than the t table, then H0 is rejected and H1 is accepted, it can be concluded that Workload significantly affects Performance. The t distribution table is sought at $\alpha = 5\%$ (0.05) with degrees of freedom (df) = n-k-1 or 35-2-1 = 32.
2. Hypothesis Test Results of the Effect of Training (X2) on Performance (Y)
The significance of the t-test results of Training shows a significant level of 0.001 <5%. The resulting t value is 3.592 with a t table value of 2.036. Because the calculated t value is greater than the t table, H0 is rejected and H1 is accepted, it can be concluded that training affects performance significantly. The t distribution table is sought at $\alpha = 5\%$ (0.05) with degrees of freedom (df) = n-k-1 or 35-2-1 = 32.

B. Conclusion of F Test Results (Simultaneous)

Sig value. $0.000 < 0.05$, it can be concluded that the model is acceptable. ANOVA analysis shows that together the independent variables have a significant effect on the dependent variable.

This can be proven from the calculated F value of 117.343 which is greater than the F table value (3.29). The model can be used to predict performance or it can be said that workload and training together have an effect on performance. So that workload and training have an effect on the performance of employees of PT Wahana Putra Yudha Pematangsiantar.

C. Conclusion of Multiple Linear Regression Analysis

The regression equation above can be concluded as follows:

1. The constant of 2.013 means that if X1 and X2, the value is equal to 0, then Y (Performance) value is 2.013.
2. The regression coefficient of the workload variable (X1) is 0.511, meaning that the workload has increased by 1%, the performance (Y) will increase by 0.511.
3. The regression coefficient of the Training variable (X2) is 0.398, meaning that the Training has increased by 1%, the Performance (Y) will increase by 0.398.
4. The multiple regression results above show that the independent variables, namely workload and training, have a positive effect on the dependent variable, namely performance.

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THE ROLE OF WORLD BANK IN DEVELOPMENT OF JELOJOK MARKET IN SUPPORTING ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT GOALS IN CENTRAL LOMBOK, WEST NUSA TENGGARA

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ABSTRACT

This research aims to analyze the role and contribution of World Bank in development of Jelajok Market in Kopang, Central Lombok in achieving sustainable development goals in Central Lombok, West Nusa Tenggara. Using the analytical descriptive research methods combined with concept of multilateral development banks (MDBs) and sustainable development goals (SDGs) as well as data collection techniques based on literature studies and interviews, this research argues that World Bank has an important role in financing the sustainable infrastructure development of Jelajok Market as well as providing technical assistance and capacity building including providing consultations, training, and expert assistance in the process of developing Jelajok Market. The significant roles of World Bank contributes to inclusive and sustainable economic growth including improving economic welfare of local communities and availability of employment opportunities in supporting achievement of sustainable development goals in Central Lombok, West Nusa Tenggara.

Keywords: World Bank, Jelajok Market, Central Lombok, Sustainable Development Goals

1. INTRODUCTION

The concept of sustainable development goals (SDGs) is a set of global targets set by the United Nations (UN) in 2015. The SDGs aim to address the many challenges faced by the world today, including poverty, inequality, environmental degradation and climate change. The SDGs provide guidance for achieving socially, economically and environmentally sustainable development.

At the national level, governments have the primary responsibility to ensure that the SDGs are integrated into domestic policies and programs. This involves long-term development planning that takes into account social, economic and environmental impacts, and ensuring that all citizens have equitable access to basic services (Bexell & Jönsson, 2017; Fukuda-Parr, 2016; Pogge & Sengupta, 2015; Robert et al., 2005).

Indonesia is one of the countries that are members of the SDGs regime and has an interest in integrating national development policies in line with the goals of the SDGs. Therefore, Indonesia is committed to trying to alleviate various development problems through the SDGs framework, including increasing economic growth, alleviating poverty, providing decent work, minimizing development gaps, conserving the environment, and various other development goals that correspond to the SDGs priority agenda.

The World Bank is one of the parties mandated by the United Nations (UN) to succeed the priority goals of the SDGs. For this reason, the World Bank plays an important role in overcoming budget problems which are a major obstacle in realizing the SDGs goals. Since Indonesia's membership in the World Bank, Indonesia has been one of the recipient countries of the World Bank's development financial assistance which is used in various national development project financing along with the complexity of development issues faced by Indonesia as a developing country including poverty, infrastructure deficits, and especially the inadequate quality of human resources (HR).

The Jelojok Market revitalization development project located in Kopang, Central Lombok is one form of integration of the SDGs priority agenda in the regional development policy of the Central Lombok Regency government. Jelojok Market is the largest traditional market in Central Lombok and plays an important role in supporting regional economic growth. The centrality of this market as a driving force of the regional economy will have a multiplier effect on various sectors, especially tourism, which is a key sector of economic growth in Central Lombok Regency and West Nusa Tenggara Province. Therefore, the World Bank pays more attention to the Jelojok Market revitalization development project by collaborating with the Central Lombok Regency government in the development process (World Bank, 2018).

The revitalization of Jelojok Market is also in line with the regional development policy of the West Nusa Tenggara Provincial government based on the SDGs goals. This can be seen in the vision of regional development based on the achievement of SDGs as stated in the Regional Medium-Term Development Plan of the West Nusa Tenggara Provincial government for 2019-2023 which focuses on poverty alleviation, reducing inequality, increasing sustainable and inclusive economic growth, developing adequate infrastructure and improving the quality of competitive human resources (HR). Through the Jelojok Market development project, it is expected to contribute to improving the achievement of SDGs goals as proclaimed in the RPJMD of the West Nusa Tenggara Provincial government (Badan Perencanaan Pembangunan Penelitian dan Pengembangan Daerah (BAPPEDA) Provinsi Nusa Tenggara Barat, 2019).

The Central Lombok Regency Government is committed to accelerating regional development that is oriented towards improving the welfare of the community. The development of Jelojok Market is an entry point for improving the welfare of the people of Central Lombok considering that the majority of their income comes from the agricultural sector and requires adequate market infrastructure to support regional economic activities. However, the revitalization of the Jelojok traditional market faces problems related to limited financing. Therefore, the Central Lombok Regency government is trying to find alternative sources of financing by investigating through debt loans obtained from the World Bank through PT Sarana Multi Infrastruktur (PT SMI) worth IDR 79 billion funded through the Regional Infrastructure Development Fund (RIDF) program initiated by the World Bank (Pemerintah Kabupaten Lombok Tengah, 2022).

The World Bank development financing assistance is managed by the Central Lombok Regency government in a sustainable manner to avoid the accumulation of regional budget burdens and the risk of default. In addition, the proposed debt loan is aimed at increasing regional economic productivity so that it is expected to increase sustainable and inclusive economic growth in order to realize one of the SDGs goals, namely poverty alleviation by establishing sustainability-based regional development policies including infrastructure, tourism, food and energy. As a result, the government is able to manage debt in a sustainable manner and is able to repay the loans provided (Radar Lombok, 2022).

The realization of the Jelojok Market revitalization development requires synergy with a number of parties including the Central Lombok Regency government, the

World Bank, and community members so that the development process runs in accordance with the proclaimed SDGs targets, especially related to improving the quality of sustainable market infrastructure and aspects of community empowerment so that collaborative governance is built in the realization of regional development policies based on SDGs achievements.

Based on the background explanation above, this research proposes a main problem, namely **how the role of the World Bank in the development of Jelojok Market revitalization in achieving sustainable development goals in Central Lombok?**. Therefore, this study aims to analyze the role and contribution of the World Bank in the revitalization development of Jelojok Market in Kopang, Central Lombok in achieving sustainable development goals in Central Lombok, West Nusa Tenggara by elaborating on the role of the World Bank in the Jelojok Market revitalization development project, the effectiveness of the World Bank's role in the Jelojok Market revitalization development and the impact of the Jelojok Market revitalization development on local economic development and contribution to the sustainable development index in Central Lombok, West Nusa Tenggara.

2. RESEARCH METHODOLOGY

This research uses a case study-based qualitative research approach with descriptive analytical research methods aimed at analyzing the role and contribution of the World Bank in the development of Jelojok Market revitalization in Kopang, Central Lombok in achieving sustainable development goals in Central Lombok, West Nusa Tenggara (Bustami, 2024; Werdiningsih & Hamid B., 2022). The research process was carried out based on the Miles and Huberman interactive analysis model through a number of stages, namely data collection, data reduction, data presentation, and conclusion drawing (Bustami, 2023).

Data collection was obtained from primary and secondary sources. Primary data was obtained through official websites and interviews with stakeholders related to the revitalization development of Jelojok Market. Meanwhile, secondary data was obtained from journals, government reports, newspapers, and other internet sources. While data reduction is carried out by reviewing the data collected to be selected according to the topic of this research. Furthermore, the data presentation stage was carried out in the form of narratives. Finally, conclusions were drawn on the research questions raised based on the elaboration of the concept of multilateral development banks (MDBs) and the concept of sustainable development goals (SDGs).

3. RELATED RESEARCH/LITERATUR REVIEW

Various academic literature reviews the revitalization of Jelojok Market in Kopang, Central Lombok, West Nusa Tenggara. *First*, a report by the Central Lombok Regency Industry and Trade Office titled "Trader Transfer Plan Document from Temporary Market to New Jelojok Market" discusses the transparent process of placing and transferring Jelojok Market traders from Pengkores Temporary Market to New Jelojok Market. Furthermore, this report discusses the differences in the conditions of the Temporary Market and the New Jelojok Market; the differences in the characteristics of the traders of the Old Jelojok Market and the Temporary Market; the implementation of the New Jelojok Market; the plan to transfer traders from the Temporary Market to the New Jelojok Market; the socialization of trader transfers and complaint handling mechanisms; the organization of trader transfers; monitoring and evaluation of trader transfers; and financing of trader transfers (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020).

Second, the writing of Juliana Palit, Widia Febriana, and Darusalam entitled "Analysis of Determinants of Income Levels of Digital Destination Market Traders in Kopang Area, Central Lombok (Case Study: Pasar Jelojok Kopang, Central Lombok)" discusses the determinants of the income levels of digital destination market traders in Jelojok Market, Kopang, Central Lombok. Palit et al. explained that

location factors do not affect the income level of digital destination market traders in Jelojok Market. Although the location of the digital destination market is far from the center of the city crowd, it does not reduce the interest of visitors or buyers to visit digital destination markets in Jelojok Market considering its existence in a tourism location that tourists visit when traveling in Central Lombok (Palit et al., 2023).

Third, the writing of Lalu Kaspul Asror et al. entitled "Analysis of Motorcycle and Car Parking Capacity at Jelojok Market, Central Lombok Regency" discusses the parking capacity of motorcycle and car vehicles at the New Jelojok Market, Kopang, Central Lombok. Asror et al. explained that the parking space available at the New Jelojok Market has the capacity to accommodate the number of car vehicles. However, it is different from motorcycle vehicles which are not yet adequate in capacity so that many are found parking carelessly. Therefore, it is necessary to improve or add adequate parking space for motorbikes (Asror et al., 2023).

Based on the description of various academic literatures above, various research topics are discussed regarding the revitalization development of Jelojok Market. However, this research seeks to discuss the role and contribution of the World Bank as a multilateral development bank (MDBs) in the revitalization development of Jelojok Market in achieving sustainable development goals based on the SDGs framework in Central Lombok, West Nusa Tenggara.

4. RESULTS AND DISCUSSION

The World Bank plays a central role in the Jelojok Market revitalization development project. The centrality of the World Bank is manifested in its capacity as a source of financing for the Pasar Jelojok revitalization development project. In addition, the World Bank also plays an equally important role in providing technical assistance and capacity building for the successful development of sustainable infrastructure revitalization of Jelojok Market. The vital role of the World Bank in the revitalization development of Jelojok Market has a significant impact on the achievement of SDGs-based regional development goals launched by the Central Lombok Regency government. The existence of the World Bank in the revitalization development of Jelojok Market has contributed positively to increasing the achievement of SDGs-based regional development goals in Central Lombok, West Nusa Tenggara.

World Bank's Role in Jelojok Market Revitalization Development

The Jelojok Market revitalization development project, Kopang, Central Lombok is a manifestation of strategic collaboration between the Indonesian government, in this case the Central Lombok Regency government and the World Bank. The revitalization of Pasar Jelojok economic infrastructure is designed to accelerate local economic growth by boosting the growth of the trade sector. The project obtained a capital injection from the World Bank worth IDR 79 billion, which indirectly played a central role in the development and smooth construction of the project. The World Bank as an international financial institution (IFIs) provides financial resources through loans or other financial support to the Indonesian government through the Regional Infrastructure Development Fund (RIDF) project initiated by the World Bank. In the context of this project, the capital channeled by the World Bank is used to finance the infrastructure of Pasar Jelojok, including the construction of trade facilities, accessibility improvements, and modernization of the required infrastructure (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020; World Bank, 2023).

The Jelojok Market revitalization development project is one of the projects in Indonesia fully supported by the World Bank aimed at spurring economic growth and community welfare. Through the development of modern trade infrastructure, the project creates new jobs, stimulates local business growth, and improves the competitiveness of local traders. Better market facilities also enable regional integration and improve market access for local products. Thus, the project not only improves the efficiency of goods distribution but also significantly contributes to the

improvement of local incomes and living standards and creates an overall positive impact in local economic development.

In addition to providing funding, the World Bank also provides technical assistance and policy advice. Technical assistance may include the preparation of sustainable development plans and strategies, development of business models, or implementation of good governance practices. The World Bank can also provide guidance and support in terms of project management and performance monitoring to ensure project efficiency and sustainability. Indirectly, the World Bank's role in this project helps create an enabling environment for local economic growth. The financial support provided by the World Bank opens up opportunities for the Indonesian government to accelerate economic development in the region, create new jobs, and improve the welfare of surrounding communities. In addition, the project can also improve regional connectivity and strengthen market integration as well as unlock wider economic growth potential (Prakasa, 2018).

The funding disbursed from the World Bank to the Central Lombok government in the Jelojok Market revitalization development project represents a strong commitment from the World Bank in supporting fiscal reform in Indonesia. In the face of global and local economic dynamics, financial support from international financial institutions such as the World Bank is crucial to ensure the sustainability of economic development in a country. This financial support is not only an aid, but also an investment that shows the World Bank's confidence in Indonesia's economic growth potential (World Bank, 2022).

The Jelojok Market revitalization project, which is fully supported by the World Bank, is part of a strategic alliance to address infrastructure deficits and provide support to strategic economic sectors. This investment is expected to provide long-term benefits, not only for the Indonesian government but also for the local community. Through this project, the World Bank is participating in developing market infrastructure and providing economic support to the Central Lombok region, resulting in economic multiplier effects.

As an investor, the World Bank not only provides financial resources, but also provides various technical support and knowledge to ensure the success of this project. The collaboration between the Central Lombok Regency government and the World Bank in this development project has created a strong synergy to achieve sustainable development goals in Central Lombok. The financial assistance disbursed by the World Bank has created a solid foundation for Indonesia so that it is continuously able to carry out physical reforms, improve economic competitiveness and provide tangible benefits to the people of Indonesia, especially the citizens in Central Lombok. Furthermore, the World Bank as a loan facilitator is also involved in the transparency process of the Jelojok Market revitalization development, including the placement and relocation of Jelojok Market traders (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020).

Effectiveness of the World Bank's Role in the Development of Jelojok Market Revitalization

The success of the revitalization development of Jelojok Market in supporting the achievement of sustainable development goals in Central Lombok cannot be separated from the effective role of the World Bank. The effectiveness of this role can be seen at least based on a number of indicator achievements including program understanding, accuracy of the target, timeliness, goal achievement, and real change.

First, the understanding of the program. The Central Lombok Regency government pays special attention to Jelojok Market because it is the center of trade interaction between community members. The special attention given indicates the strong determination of the Central Lombok Regency government in transforming Jelojok Market as a modern market equipped with a variety of adequate facilities. The

surrounding community, both sellers and buyers, responded positively to the Jelojok Market revitalization development project. In fact, they are enthusiastically waiting for the completion of the construction of the New Jelojok Market and hope to bring potential economic prosperity.

During the construction of the Jelojok Baru Market, the traders were moved to the Temporary Market in Pengkores Hamlet, Wajageseng Village, Kopang District. The distance between the Temporary Market and Jelojok Market is around two kilometers. The Central Lombok Regency Government rented land for the Temporary Market for 20 months from 1 October 2019 to 31 May 2020. With public awareness regarding the program from the Central Lombok Regency government in the construction of the revitalization of the Jelojok Market, it certainly provides a smooth process for the market development. When the construction of the New Jelojok Market was completed, the traders were then relocated from the Temporary Market to the New Jelojok Market. Until now, the New Jelojok Market has become a trading center for various levels of society including the people of Central Lombok, East Lombok, West Lombok and other areas (Dinas PUPR Kabupaten Lombok Tengah, 2019).

Second, accuracy of the target. The Central Lombok Regency Government hopes that the revitalization of the New Jelojok Market will contribute to improving the economy of the surrounding community. Basically, the targets in the revitalization of the New Jelojok Market are traders and the surrounding community, especially market visitors. When the New Jelojok Market reaches the final stage of development, the Central Lombok Regency government always holds socialization to traders and the surrounding community. When the New Jelojok Market began operating, the traders were given kiosks to sell with the obligation to pay retribution. Many public and supporting facilities were established to create safety and comfort for traders and also the people who visit the New Jelojok Market (Dinas PUPR Kabupaten Lombok Tengah, 2019).

Third, timeliness. The construction process of the New Jelojok Market is planned to take place from January 2019 - February 2020 or for 14teen months. The development includes the construction of the market's main infrastructure, revitalizing existing buildings and providing various supporting facilities. During the construction, various activities were carried out by the Central Lombok Regency government team. In the initial phase of construction since January 2019, the Central Lombok Regency government formed a team to transfer traders from the Old Jelojok Market to the Temporary Market. Furthermore, in June - September 2019, social and economic data collection of the Old Jelojok Market traders was carried out as well as verifying trader data and public testing for the names of traders in the Temporary Market. When the construction process entered the final phase from December 2019 to February 2020, the Central Lombok Regency government provided consultation and socialization to the traders and then published a list of names of traders operating in the New Jelojok Market. Then in April 2020, the process of moving the traders from the Temporary Market to the New Jelojok Market took place. Thus, the construction process of the New Jelojok Market is running in accordance with the agreement in the contract, which is for 14 months (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020).

Fourth, goal achievement. Since the beginning, the goal of revitalizing Pasar Jelojok has been to improve the economic welfare of the local community and create new employment opportunities. In the process of verifying the names of the traders at the end of 2019, there were at least 667 permanent traders. In addition to permanent traders, there are also seasonal traders, estimated at 130 people. Permanent traders are those who sell in kiosks and sell every day and are obliged to pay retribution. Meanwhile, seasonal traders are those who sell one day a week, usually on Sundays (Dinas PUPR Kabupaten Lombok Tengah, 2019). From 2019 - 2023 the number of permanent and seasonal traders is increasing, which indicates the success of the

New Jelojok Market development in creating new jobs for the surrounding community.

The Central Lombok Regency Government has also placed 32 market managers with different jobs consisting of 2 technicians, 2 collectors, 12 security guards who take turns for 24 hours, and 16 cleaning services. In mid-2020 - December 2020, the contribution from the New Jelojok Market amounted to IDR 102 million and experienced an increase in revenue contribution in January - August 2021 of IDR 500 million. With a high total contribution, it is expected to be able to provide economic prosperity for the surrounding community in a sustainable manner (sulselkpk, 2022).

Fifth, real change. Real changes can be seen from the difference in the physical condition of the Old Jelojok Market and the New Jelojok Market. The condition of the Old Jelojok Market was so inadequate in accommodating traders that many traders sold on the road passed by buyers. With this condition, the road for buyers is very narrow, thus disrupting trading activities. Old Jelojok Market also has a very poor drainage system so that during the rainy season it will feel very muddy. In terms of cleanliness, the Old Jelojok Market is filled with garbage that is scattered everywhere, causing unpleasant odors and disrupting trade activities. In addition, the Old Jelojok Market parking lot is very disorganized and creates a poor spatial layout (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020).

Unlike the Old Jelojok Market, the physical condition of the New Jelojok Market is much safer and more orderly. The number of stalls and kiosks has been increased so that there are no more traders selling in buyers' places. In terms of cleanliness, the Central Lombok Regency government provides adequate garbage disposal so that it feels more comfortable. Significant changes are also felt in terms of the economy where the contribution of income from the New Jelojok Market is much more than the Old Jelojok Market. Moreover, the number of public and supporting facilities is also much more provided in the New Jelojok Market compared to the Old Jelojok Market (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020).

Based on the achievement of the indicators above, it can be concluded that the World Bank played an effective role in the development of the New Jelojok Market. This is certainly inseparable from the collaboration created between the Central Lombok Regency government and the World Bank. In this collaboration, the World Bank provides loans to the Central Lombok Regency government to alleviate poverty and create sustainable economic growth. The development process also takes place holistically, including the construction of the main market infrastructure, revitalization of existing buildings and the provision of various public and supporting facilities.

The existence of the New Jelojok Market also has a socioeconomic impact in the form of the availability of jobs for the community, seen from the increasing number of traders who sell after data collection of the number of traders by the Central Lombok Regency government. Various development achievements as described in the indicators above are considered in line with the World Bank's role in alleviating poverty and creating sustainable and inclusive economic growth, especially in developing countries.

Impact of Jelojok Market Development on Local Economic Development

The New Jelojok Market catalyzes local economic development by creating direct and indirect employment opportunities. The new market will create jobs in the trade, transportation, and service sectors. This increase in economic activity can provide additional income for local residents, which in turn can increase purchasing power and consumption. Pasar Jelojok is also a place for local businesses to market their products. This can encourage the growth of the small and medium-sized enterprises (SMEs) sector in the region. By empowering local businesses, this market is not only a place for economic transactions but also a center for sustainable economic growth.

The impact of the New Jelojok Market development initially aimed to improve local economic development. It was marked by the emergence of several street vendors around the front area of the New Jelojok Market development project such as packaged rice vendors, meatball vendors, coconut ice vendors, and other snacks. In addition, the New Jelojok Market also serves as a platform for local entrepreneurs to market their products and increase their business visibility. This initiative enables small and medium-sized enterprises (SMEs) to access a wider market, create new opportunities, and diversify the local economy. The construction of this market also triggers the development of surrounding infrastructure such as road improvements, transportation and other supporting facilities such as public toilets, places of worship, and others.

The existence of the New Jelojok Market also has a significant impact on the local community, especially for residents who live around the market area. The New Jelojok Market is expected to become a new economic center in Central Lombok. Physically and in appearance, it can be said that it is a traditional but modern market that is magnificent, spacious, and large and can accommodate many traders and buyers. In addition, there are also traders of food, household furniture, and basic necessities.

Moreover, in the New Jelojok Market there is a culinary market that operates up to 24 hours plus the presence of accessories and souvenir stalls. The physical form of this market is also designed to showcase the distinctiveness of local culture so as to attract tourists to visit there. In other words, this market encourages local economic development by creating new economic welfare opportunities for local residents, such as more job opportunities or productive economic activities that support the market. The local residents consider the presence of this market to strengthen the bargaining position of Kopang sub-district as a highly developed and dynamic area in Central Lombok (Kabupaten Lombok Tengah, 2020).

The presence of the New Jelojok Market has a significant impact on the growth of the local economy, with an expected increase in income for the local community. This increase in income has a positive impact on living standards, providing better access to health services, education, and other basic needs. Furthermore, the existence of this market can also open up opportunities for investment in the region. Investors are likely to be interested in participating in projects that support the development of the local economy there, which can serve as an additional stimulus for economic growth and new business opportunities in the place (Dinas PUPR Kabupaten Lombok Tengah, 2019).

Local economic development through the existence of the New Jelojok Market has prospective potential to create a dynamic and sustainable economic ecosystem. With a focus on empowering local traders, improving market infrastructure, increasing income, and investment opportunities, this project can be a key catalyst in achieving the goal of sustainable and inclusive local economic development in Central Lombok (Dinas Perindustrian dan Perdagangan Kabupaten Lombok Tengah, 2020; Dinas PUPR Kabupaten Lombok Tengah, 2019).

Contribution to Achieving Sustainable Development Goals in Central Lombok

The existence of the New Jelojok Market has considerable potential as a catalyst for achieving SDGs-based regional development goals in Central Lombok. This market has the opportunity to be used as a tourism destination by optimizing the potential of local culinary diversity as a means of attraction for tourists, which in turn can increase market productivity, develop the economy of the local community, and support various small and medium-sized enterprises (SMEs). In addition, the construction of this market contributes to an increase in market retribution revenue, which is a source of Central Lombok's own-source revenue. Therefore, the construction of the New Jelojok Market contributes significantly to the achievement of sustainable development goals, especially in tourist areas or areas such as Central Lombok (Lombok Post, 2023).

The New Jelojok Market is the largest market in Central Lombok. Although it is located far from the city center, the number of shoppers or visitors remains high. The profitability generated by this market is relatively high considering the increasing number of economic transactions. This aspect is one of the indicators of the Central Lombok Regency government's SDGs achievement because it has a significant impact on improving the welfare of the regional economy, business actors, local traders, and Small and Medium-Sized Enterprises (SMEs). The contribution of the profitability of the New Jelojok Market is inseparable from the support of Central Lombok Regency government policies, local communities, and business actors (Badan Perencanaan Pembangunan Penelitian dan Pengembangan Daerah (BAPPEDA) Provinsi Nusa Tenggara Barat, 2020, 2021).

High profitability is inseparable from the development of adequate New Jelojok Market infrastructure that creates comfort and the existence of public and supporting facilities capable of serving the needs of market visitors. Such conditions support the achievement of the sustainable development index in Central Lombok. Furthermore, the existence of this Market is expected to be able to attract more investment from international financial institutions (IFIs) so that it has a positive impact on the achievement of sustainable development goals in Central Lombok given the main problems faced by the Central Lombok Regency government related to infrastructure deficits and limited regional development financing so that the achievement of sustainable development goals is highly dependent on the support of development loan assistance from international financial institutions (Palit et al., 2023).

5. CONCLUSION

The construction of the New Jelojok Market in Kopang, Central Lombok is a manifestation of international development cooperation involving the Central Lombok Regency government and the World Bank. As a multilateral development bank, the World Bank plays an important role in providing funding in the success of the SDGs-based development policy agenda. In addition to having a role as a source of development financing, the World Bank also plays an equally important role in providing technical assistance and capacity building so that the sustainable infrastructure development of the New Jelojok Market contributes positively economically, socially, and environmentally.

The role of the World Bank in the development of New Jelojok Market contributes to the achievement of sustainable development goals in Central Lombok by examining a number of resulting development impacts. *First*, the local economic development that has been launched in the New Jelojok Market represents a strong cooperative relationship and commitment from the World Bank such as providing support for fiscal reform in Indonesia. This financial support not only has the nature of assistance, but can also be an investment that shows the potential for economic growth in Indonesia. *Second*, the sustainable infrastructure development of New Jelojok Market supported by the World Bank is one of the visions and missions of infrastructure development in developing countries with the aim to improve transportation, energy, water and sanitation systems that play an important role for economic growth and poverty alleviation. The World Bank's assistance is deployed in activities such as investment development and preparation of competitive tourism human resources, preparation of master plans, and construction of road networks and basic infrastructure activities that highlight the modern physical form of Jelojok Market.

Third, the development of New Jelojok Market contributes to local economic empowerment and income generation for the local community. The existence of this market increases local income as well as market actors which has a positive impact on improving living standards, providing better access to health services, education, and other basic needs. *Fourth*, community participation is an important factor as the goal and objective of sustainable infrastructure development and sustainable local economic development. The existence of New Jelojok Market increases the

sensitivity of local communities, increases economic growth and increases the competitiveness of local economic actors by maximizing adequate market infrastructure.

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DISCOURSE ON RECONSTRUCTION OF THE CHILDREN'S GAME "MEONG-MEONGAN" IN BALI THROUGH TIKTOK TO PRESERVE INDONESIAN CULTURE IN THE 5.0 ERA

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ABSTRACT

In today's digital era, young children are already familiar with gadgets. Parents often allow their children to focus on playing with gadgets every day. This can certainly impact the children, one of which is difficulties in socializing. Therefore, there is a need for the discourse on reconstructing traditional children's games, one of which is the "meong-meongan" game, through the social media platform TikTok, to preserve Indonesian culture in the era 5.0. The purpose of this study is to describe the traditional game of "meong-meongan" to reintroduce it to children. The research methodology used is a literature review on children's games. The results of this study are, firstly, the discourse on reconstructing the traditional form of the "meong-meongan" game using social media TikTok. This game is quite simple, involving chasing and catching friends with eyes closed, accompanied by the Meong-Meongan song or other Balinese regional songs. The game is reconstructed by recording it anew and uploading it to social media TikTok so it can be viewed by everyone. Secondly, the function of the "meong-meongan" game plays a role in honing abilities in strategies to chase and catch opponents and also trains the eyes as well as the strength of legs and hands. Moreover, it can enhance focus in children by observing their peers who play the role of mice to be caught. This game also fosters unity among children and a sense of community through cooperation. Another function that can be learned from the "meong-meongan" game is training patience to wait and catch the opponent, as well as preserving Balinese regional songs as the accompaniment to this game. Thirdly, in Bali, children's games and regional children's songs are cultural aspects that need to be preserved to this day. The meaning of this game is to train organization, cooperation, and individual social skills in children. This research is essential in the era 5.0, which is increasingly advanced with the rapid development of technology impacting children's intelligence and the fading of social and cultural developments. Therefore, there is a need to reconstruct traditional children's games, including the "meong-meongan" game in Bali.

Keywords: Reconstruction, Children's games, Meong-meongan, Tiktok, and Indonesia era 5.0.

1. INTRODUCTION

Language and culture are two pivotal elements that share a closely intertwined and mutually influential relationship (Koentjaraningrat, 1964; Maran 2000). Language plays a significant role in shaping culture, functioning as a creator, expressor, and marker of the cultural realities of its speakers (Jakobson, 1960; Kramsch, 1998). When spoken, language manifests the underlying cultural constructs. According to Brown (2000), "A language is a part of culture and culture is a part of language; the two are intricately interwoven so that one cannot separate the two without losing the significance of either, the culture and language are inseparable," emphasizing that language and culture are indivisible and tightly linked. This is in line with the implementation of the Indonesian motto "Bhinneka Tunggal Ika," which signifies unity in diversity and promotes harmonious living among diverse cultural groups in Indonesia.

Each regional culture has distinct characteristics reflecting the life of its community. For example, the Balinese ethnic group, referred to as 'krama Bali,' 'anak Bali,' or 'wong Bali,' is the predominant ethnic group in Bali. The Balinese are renowned for their rich cultural practices including traditional games, regional songs, dance, performance arts, and carving. One traditional Balinese game is "meong-meongan," accompanied by local songs. Historically, this game was widely popular among children and involved elements of joy, strategy, agility, organization, and social interaction (Parta, 2021a).

In the current digital era, even young children are familiar with gadgets, a development stemming from the concept introduced in the 5.0 era that all technology is an integral part of human existence. The internet is used not only for sharing information and data analysis but also for living daily life. This has led to a gadget addiction among children, who often neglect to socialize with their surroundings and forget their cultural games like "meong-meongan." Consequently, many modern children are unaware of such traditional games. Thus, there is a pressing need to reconstruct the "meong-meongan" game via social media platforms like TikTok to preserve and promote Balinese culture. The goal of this reconstruction is to introduce and share this cultural heritage with the world by recording and posting these cultural activities online.

Based on the background provided, the research questions are: How can the reconstruction of the traditional children's game "meong-meongan" in Bali through social media TikTok contribute to preserving Indonesian culture in the 5.0 era? What are the benefits of the traditional children's game "meong-meongan" in Bali? The purpose of this study is to describe the form and benefits of the traditional "meong-meongan" game along with the accompanying song. Level.

2. RESEARCH METHODOLOGY

This study employs a qualitative descriptive method supported by structural theory and functionalism. Data collection for the traditional "meong-meongan" game involves literature review and note-taking techniques. Literature reviews form a part of academic writing that discusses prior research and serves as a reference for scientific literature related to the study. This method aids in gathering data on various references concerning children's games in Bali.

The data for this research is gathered from interviews and relevant literature that supports the primary data. The concept of the study includes reconstruction, children's games, "meong-meongan," and TikTok. Reconstruction involves rebuilding, exemplified here by the traditional game from Bali. In postmodern cultural theory, reconstruction is seen as a continual process of rearrangement, accompanied by ongoing deconstruction. Before reconstruction can occur, a deconstruction process involving dissolution, fusion, and dismantling takes place. Playing is a fundamental expression and self-exploration for young children, providing multiple developmental benefits.

The structure of the traditional "meong-meongan" game is analyzed using structural theory, which examines social reproduction and creation through the analysis of structures (Ratna, 2009). This theory is applied to analyze the roles within the game, such as the cat (meong), the mouse (bikul), and other participants, accompanied by the game's song.

The function of the "meong-meongan" game is explored using functionalism, which focuses on the social structures within a larger societal context. The fundamental assumption of structural functionalism is that each structure in a social system has a function, and if it is not functional, it would not exist on its own (Ritzer, 2013). Structural functionalism interprets society as a structure with interconnected parts that maintain balance within the system (Parta, 2021b).

3. LITERATUR REVIEW

Previous research analyzing the children's games "meong-meong" and "megoak-goakan" include studies published in the e-Journal of the Postgraduate Program at Ganesha University, Department of Basic Education (Volume 3, 2013) and the e-Journal of Early Childhood Education at Ganesha University, Department of Early Childhood Teacher Education (Volume 5, No. 1 - 2017). The game "megoak-goakan" is a traditional game inspired by the goak bird that stalks its prey until capture, and has been played by children traditionally (Ki Barak Panji Sakti, 1960s).

Research on the "megoak-goakan" game primarily focused on the game's structure rather than producing videos for social media dissemination. The current study provides a more detailed reconstruction on social media platforms like TikTok. The article on "meong-meongan" that I am currently developing explores the game as an educational tool through play for children. This game teaches children how to understand, comprehend, and take responsibility for their actions during play.

4. RESULTS AND DISCUSSION

4.1 Reconstruction Discourse of the Traditional Children's Game "Meong-Meongan" in Bali via social media TikTok to Preserve Indonesian Culture in the Era 5.0

Traditional Balinese games, including "meong-meongan," are rarely played by children today, largely due to the influence of globalization which has shifted their interest towards electronic devices. This research aims to preserve traditional Balinese games and songs by reconstructing them through the social media platform TikTok. This approach helps introduce children to engaging traditional games. Here's how the game "meong-meongan" is played:

The first step involves determining the number of participants for the "meong-meongan" game, typically more than 5 players who will play together. This is illustrated in the image below.

The second step is to decide who will play the roles of meong (cat) and bikul (mouse).



Figure 1 Source Tiktok Student Dwijendra University

The image above depicts the meow player choosing a group. This group consists of two, namely cats as hunters and mice as bait. The one who becomes a cat is alone, but the one who becomes a mouse is one person but is helped by his group to protect the mice. The way to protect it is by making a circle, the mice's friends keep them from entering the circle so the cat can't catch the mice.



Figure 2 Source Tiktok Student Dwijendra University

Based on Figure 1 and Figure 2 above, two players create a tunnel with their arms resembling a mountain. Other players will walk through this tunnel while holding onto each other's shoulders and singing the Balinese regional song "curik-curik." When the music stops, the tunnel players will catch one participant, who then must choose whether to be a bikul (mouse) or a meong (cat).

The second image captures the participant who will be turned into a mouse or cat. In determining the players, Balinese folk songs are sung. After the song ends, a mountain made of hands will catch the participants below it. Participants continue to sing the song continuously until all participants are caught and choose their group. This shows sportsmanship in the game and there is no engineering in choosing group.

The third way to play:



Figure 3 Source Tiktok Student Dwijendra University

Figure 3 shows all players singing and holding hands in a circle, within which the "bikul" must be protected. This stage demonstrates the unity of the players as they work together to protect the "bikul" from the "meong" trying to catch it.



Figure 4 Source Tiktok Student Dwijendra University

Figure 4 illustrates that as the players energetically protect the "bikul," they sing the regional song more loudly, especially when the "meong" eagerly tries to catch the "bikul." If the "bikul" is caught, the game ends. Traditional games contain many educational values important for children's character development. Additionally, playing these games helps children socialize more easily and stay healthy through active play

4.2 Benefits of the Traditional Children's Game "Meong-meongan" in Bali

The benefits of the traditional children's game "Meong-meongan" in Bali extend not only to the children themselves but also to others, including:

1. Benefits of the traditional game "Meong-meongan" for children: The game helps foster values such as cooperation, creativity, and honesty among children.

Most importantly, this traditional children's game cultivates character education through the sportsmanship exhibited during play.

2. Benefits of the traditional game "Meong-meongan" for parents: It highlights the importance of teaching traditional games to children to help develop their identities from an early age. Additionally, it encourages children not to focus solely on playing with gadgets. Traditional games make it easier for children to socialize with their peers.

3. Benefits of the traditional game "Meong-meongan" for the community: It provides knowledge about the educational values inherent in the traditional game "Meong-meongan" to the broader community. This awareness emphasizes the importance of preserving traditional games, as well as the local children's songs of Bali.

4. Benefits for researchers: The game serves as a reference for traditional Balinese games, particularly "Meong-meongan." It also encourages researchers to adopt a critical approach regarding the various forms and functions that can be derived from traditional games, thereby enhancing their knowledge. The findings of this study can serve as a comparison, reference, and study material for future research, thus enriching and complementing existing research outcomes in similar studies.

5. CONCLUSION

Traditional games carry numerous educational values that can help cultivate character in children. Traditional children's games also support the development of intellectual capacities, encouraging children to think creatively and innovatively. Preserving traditional games is crucial, especially in the digital era 5.0, as children begin to forget these cultural pastimes. Reconstructing these games through platforms like TikTok can significantly help children learn about games such as "Meong-meongan." This game, similar to a cat chasing a mouse, not only aids in character development but also enhances vocal skills through singing regional songs, promotes physical activity, and fosters a sense of community among players.

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ENHANCING JOB SATISFACTION AMONG EMPLOYEES VIA ORGANIZATIONAL CULTURE, WORKING ENVIRONMENT, AND LOCUS OF CONTROL

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ABSTRACT

Job satisfaction refers to how employees feel about their work, whether it's enjoyable or not. The purpose of this study was to investigate how organizational culture, non-physical work environment, and locus of control influence employee job satisfaction. After conducting interviews with several employees, it was found that there were several issues, such as the tasks given had to be completed by a predetermined deadline, and there were incompatibilities with co-workers because of seniority. The study was conducted at Yamaha Waja Motor Sentral Gianyar, with 42 employees participating, using the saturated sampling method. Data was collected through observation, interviews, documentation, literature, and questionnaires. The research instrument tests, multiple linear regression analysis, t-tests, and F-tests were used to analyze the data. The study found that organizational culture, non-physical work environment, and locus of control all have a positive and significant effect partially on employee job satisfaction. Additionally, all three factors combined have a significant impact on job satisfaction. To help improve job satisfaction, the institution can encourage employees to control their attitude while working by giving a warning letter if necessary. Employees can also seek help from colleagues who understand the work or their leaders to complete tasks they don't fully understand on time.

Keywords: organizational_culture, work_environment, locus_of_control, job_satisfaction

1. INTRODUCTION

Human resources are the main requirement to be able to run all activities in various organizational fields within the company. According to Sulistyawati et al., (2022) human resources are an important element for running a company in achieving its goals, all company operational activities. Of course, it also depends on employee performance, not just relying on machines. Without the role of employees even though the various factors needed are available, the organization will not work. Because humans are movers and writers the running of an organization.

According to Wuwungan et al., (2017) job satisfaction is a general attitude towards a person's work that shows the difference between the number of rewards that accepted the job and the amount they believe they should receive. Satisfaction Work reflects a person's feelings towards his work. Indicators of job

satisfaction according to Vebrianis et al., (2021) are supportive working conditions, salary or wages appropriateness, suitability of personality to the job and co-workers support. Based on several studies stated by Hamzah et al., (2021) that organizational culture and locus of control have a positive and significant effect on Job satisfaction of MTSN teachers in Pekanbaru. The results of research conducted by Sulistyawati et al., (2022) the work environment has a positive and significant effect on employee job satisfaction.

According to Kamaroellah (2014:2) organizational culture can be defined as a set of values, beliefs, assumptions, or standards that has prevailed since long, agreed and adhered to by the members of an organization as a guideline behavior and problem solving organizational problems. According to Pawestri et al., (2022) culture as various interactions that influence the characteristics of habits community in the environment. Indicators of organizational culture according to Vebrianis et al., (2021) are discipline, determination, friendliness. Based on research conducted by Alasyari et al., (2023) that organizational culture has a positive and significant influence on satisfaction employee work. Based on research from Yakup (2017) states that culture organization has a positive and significant effect on employee satisfaction.

The work environment plays an important role in creating and improving employee job satisfaction. According to Sulistyawati et al., (2022) work environment is the atmosphere that employees feel in relation to everything around them. Employees can influence satisfaction while carrying out work so that maximum work results will be obtained. According to Hendri (2012) non-physical work environment is a work environment that cannot be captured with five human senses. Work environment indicators are divided into two, namely physical and non-physical aspects related to work relationships, workplace atmosphere, etc. Based on research conducted by Irma et al., (2022) found a significant influence between the work environment and employee job satisfaction. The results of research from Erfin et al., (2018) stated that the work environment has a positive and significant effect.

According to Lisnawati et al., (2019) locus of control is an individual's belief towards the main causes of behavior and events and events in his life, whether caused by factors within him, namely his own decisions and desires or caused by factors other than themselves. Indicators of locus of control according to Lisnawati et al., (2019) internality, chance (opportunity), powerful others (support from the outside). Based on research conducted by Lisnawati et al., (2019) locus of control has a positive and significant effect on employee job satisfaction PT. Indomarco Adiprima Sukabumi City. Research results from Amalia et al., (2018) states that locus of control has a positive and significant effect on satisfaction employee work.

Employees are key players in providing the best service to society. The presence of employees here really helps the running of activities Yamaha Waja Motor Sentral Gianyar. Good employees never hesitate to take responsibility or position that has more responsibility. Passionate about work will encourage employees to complete the assigned tasks. However, in every job there are bound to be problems faced. The problem is faced by employees can arise from a work environment that is less conducive and also the many demands at work cause employees to feel uncomfortable to do work that can affect the employee's own job satisfaction. From the results of interviews conducted by researchers with several Yamaha employees Waja Motor Sentral Gianyar has several problems that cause them not feeling satisfied in carrying out work, among other tasks given, must be done finishing with tight deadlines causes employees to often feel difficult and too hasty in completing the work which results in bad results less satisfactory. The amount of work that has not been completed, employees must prepare time from office operating hours as usual to complete his job. Employees also often complain that it is difficult to find time off work. Lack of employee friendliness in serving customers results in dissatisfied customers regarding the services at Waja Motor Sentral Gianyar. There are incompatibilities with co-workers because of each other's seniority. Colleagues make employees feel jealous and less happy in carrying out their work, resulting

in a feeling of lack of employee initiative in working. It's difficult to work together between employees because of different views. Not enough responsible for doing work together because one employees do not complete their work then conflicts occur between employees. A part from that, work conflicts also occur due to misunderstandings between employees regarding processes work or work style in carrying out work together. Difficulty in communicating this becomes a poor relationship with colleagues and lack of motivation at work. Employees who are not focused on working in the field of goods delivery too Accidents often occur causing many losses. Apart from that, employees Lack of focus in the marketing sector also causes the targets not to be achieved determined. Workers in the admin section also often experience errors in data input. Employees are often negligent at work because they lack concentration and focus carrying out work that causes employees to be hampered in their work doing work. Apart from that, employees also cannot condition themselves certain situations so that all parties feel comfortable in working. Apart from that, employees also feel that they have no experience in this field. This causes The work given is slow to be done because employees do not understand the problem his job. This is what causes employees to feel inadequate job satisfaction in carrying out work at the company.

2. RESEARCH METODOLOGY

Research location Jl. Udayana No.99, Antugan Hamlet, Blahbatuh, Blahbatuh District, Gianyar Regency. The reason the author conducted research in This place is because there are still several problems related to job satisfaction employees of Yamaha Waja Motor Sentral Gianyar relate to variables that researched in this research and ease of access by researchers in conducting it study. The research object in this research proposal is culture organization (X1), non-physical work environment (X2), locus of control (X3), job satisfaction (Y) at Yamaha Waja Motor Sentral Gianyar. The population in this study is all Yamaha Waja Motor Sentral Gianyar employees total 42 people, Method The sampling method used was the saturated sampling method, where all The population was used as the research sample. The data collection method uses questionnaire distributed to respondents. The test technique used is a test research instruments, classical assumption test, multiple linear regression analysis, t_test and F_test. The framework for thinking in this research can be structured as follows:

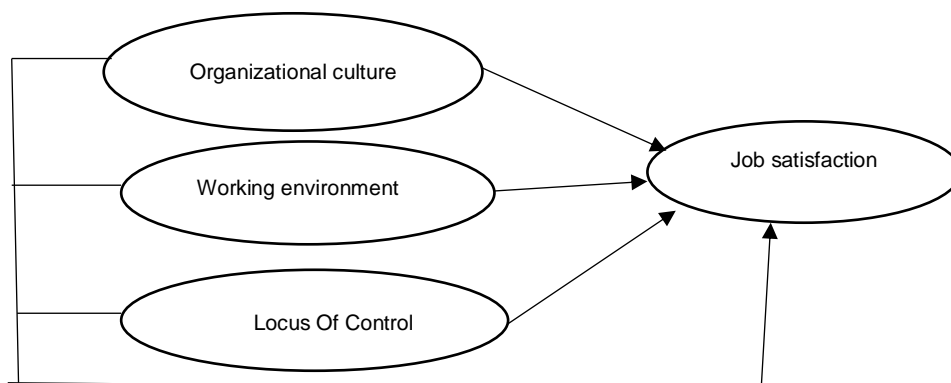


Figure 1. Framework of Thinking
Source: Damayanti, Ismiyati, Hartha and Badera

3. RELATED RESEARCH/LITERATURE REVIEW

According to Yakup et al., (2017) job satisfaction is a descriptive response employee feelings towards their work combined from all assessments positive emotions and their mood while working. According to Pawestri et al., (2022) job satisfaction is an

emotional attitude that is shown through feelings joy and love for a job. This behavior is usually reflected by a disciplined attitude, morale at work and achievement in achieving work results. According to Fitrianiingsih et al., (2022) job satisfaction is a positive emotional condition and enjoyable as a result of job assessment or job experience somebody.

According to Alasyari et al., (2023) organizational culture is a social force invisible, which can move people in an organization to carry out work activities. According to Harahap et al., (2011:1) organizational culture is a form of mind and reason that can distinguish members of one group from another other groups and interact with each other which influences the response of a group of people to the environment. According to Pranitasari et al., (2020) organizational culture is a framework that guides daily behavior and creates decisions for employees and directs their actions to achieve goals organization.

Results of research conducted by Damayanti et al., (2020) organizational culture has a positive and significant effect on the job satisfaction of Business and Vocational School teachers Private Management in Semarang. Research conducted by Yakup (2017) states that organizational culture has a positive and significant effect on employee job satisfaction. Based on research conducted by Alasyari et al., (2023) that organizational culture has a positive and significant influence on employee job satisfaction.

The results of research conducted by Irma et al., (2020) show that there is a significant relationship between the work environment and the job satisfaction of employees at the Department Bima Regency Cooperatives and MSMEs. Research conducted by Erfin et al., (2018) the work environment has a positive and significant effect on job satisfaction. The results of research conducted by Sulistyawati et al., (2022) stated that the work environment has a positive and significant effect on job satisfaction. This too shows that if the work environment gets better, job satisfaction will experience significant improvement.

According to Amalia et al., (2018) locus of control is a person's inner belief view events and their consequences that affect their lives. According to Hartha et al., (2015) locus of control is an individual's perspective on their abilities Controlling an event certainly plays a role in creating job satisfaction in every employee. The results of research conducted by Lisnawati et al., (2019) show that the locus of control and has a positive and significant effect on employee job satisfaction at PT. Indomarco Adiprima Sukabumi City. Research conducted by Safitri et al., (2020) there is a positive and significant direct influence of locus of control on Job satisfaction among nurses at Fatimah Islamic Hospital in Banyuwangi. Research result conducted by Hartha et al., (2015) that locus of control has a positive effect on auditor job satisfaction is significant with a positive influence.

4. RESULTS AND DISCUSSION

Table 1. Multiple Linear Regression Analysis

Model	Coefficients ^a		Standardized Coefficients Beta	t	Sig.
	Unstandardized Coefficients B	Std. Error			
(Constant)	.822	4.165		.197	.845
Organizational Culture	.260	.115	.245	2.262	.029
Non-Physical Work Environment	.642	.304	.326	2.113	.041
Locus Of Control	.715	.287	.383	2.487	.017

a. Dependent Variable Job Satisfaction

Source: Data processed (2023)

Table 1 shows that the regression coefficient of organizational culture (X1) on employee job satisfaction (Y) is 0.260 which is positive. This means there is a positive influence between organizational culture (X1) and employee job satisfaction

(Y). The regression coefficient of the non-physical work environment (X2) on employee job satisfaction (Y) is 0.642 which is positive. It means there is a positive influence between the non-physical work environment (X2) and job satisfaction employees (Y). The locus of control (X3) has a regression coefficient on employee job satisfaction (Y) is 0.715 which is valuable positive. This means that there is a positive influence between locus of control (X3) and job satisfaction employees (Y).

Table 2. Determination Test Results

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.848 ^a	.719	.697	3.368	
a. Predictors: (Constant), Locus of Control, Organizational Culture, Non- physical work environment					

Source: Data processed (2023)

Based on Table 2, the results of calculations using SPSS obtained coefficient values determination (R Square) is 0.719. This means the magnitude of the contribution between organizational culture (X1), non-physical work environment (X2) and locus of control (X3) on employee job satisfaction are 71.9% while the remaining 28.1% is influenced by other variables not discussed in this study.

Table 3 Simultaneous Significance Test

Model	Sum of Squares	ANOVA ^a df	Mean Square	F	Sig.
Regression	1101.176	3	367.059	32.367	.000 ^b
Residual	430.943	38	11.341		
Total	1532.119	41			
a. Dependent Variable: Kepuasan Kerja					
b. Predictors: (Constant), Locus of Control, Organizational Culture, Non- physical work environment					

Source: Data processed (2023)

Based on the results of Table 3, it shows that the F value count is 32,367 with sig. value 0.000, so there is a simultaneous influence organizational culture (X1), non-physical work environment (X2) and locus of control(X3) on employee satisfaction (Y).

From the research results, it is known that there is a positive and significant influence of culture organization on employee job satisfaction. The regression coefficient value shows the results 0.260 with t value calculated = 2.262 and the sig value is smaller than the alpha value $\alpha = 0.05$. This means that partially organizational culture (X1) has a positive and significant effect on employee job satisfaction (Y). This shows that if there is an increase in organizational culture (X1), then will increase employee job satisfaction (Y), for example employees feel like they are leaders at Waja Motor Sentral Gianyar always implements and improves regulationsat Waja Motor Sentral Gianyar and employees feel they are able to actgood at carrying out work. So indirectly employees are capable increase employee job satisfaction. The results of this research are in line with research conducted by Damayanti etal., (2020), Yakup (2017) and Alasyari et al., (2023) who state that organizational culture has a positive and significant effect on employee job satisfaction.

The research show that there is a positive and significant influence of the non-physical work environment on employee job satisfaction. The regression coefficient value shows a result of 0.642 with the t value calculated = 2.113 is greater than the t value and sig. value 0.041 is smaller than the alpha value. This means that partially non-physical work environment (X2) has a positive and significant effect on satisfaction employee work (Y). The results indicates that if there is an improvement in the non-physical work environment (X1) will increase employee job satisfaction (Y), for example an employee feesl that colleagues can always provide assistance when there is work to donot understood and employees feel they understand what their job responsibilities arewhich is done. So indirectly employees can increase

satisfaction employee work. The results supported research conducted by Irma et al., (2020), Erfin et al., (2018), and Sulistyawati et al., (2022) which stated that The non-physical work environment has a positive and significant effect on job satisfaction employee.

The research also shown that there is a positive and significant influence of locus of control (X3) on employee job satisfaction. With the regression coefficient value is 0.715 and sig value is 0.017. This study indicate that there is an increase in locus of control (X1) will increase employee job satisfaction (Y). The results support the finding by Lisnawati et al., (2019), Safitri et al., (2020), and Hartha et al., (2015).

From the research, it is known that there is an influence of organizational culture (X1), non-physical work environment (X2) and locus of control (X3) simultaneously on job satisfaction employee (Y). If there is an increase in organizational culture (X1), non-physical work environment (X2) and locus of control (X3) then it will be increase employee job satisfaction. The results of this research are in line with research conducted by Amalia et al., (2018), Hamzah et al., (2021), Hendri, (2012) who stated that organizational culture, non-physical work environment and locus of control have a positive effect and significant to employee job satisfaction.

5. CONCLUSION

Based on the data obtained from the analysis results, conclusions can be drawn that partially, organizational culture, non-physical work environment and locus of control has a positive and significant effect on employee job satisfaction. Organizational culture, non-physical work environment and locus of control simultaneously effect the employee job satisfaction. For the suggestions, leaders can emphasize their employees to control their attitudes at the moment carrying out work, all employees can complete their tasks on time and Employees can ask colleagues who understand the jobwork that is not understood can be completed on time.

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STRATEGY FOR DEVELOPING PROCESSED FISH PRODUCTS IN AN EFFORT TO INCREASE THE INCOME OF WOMEN FARMERS' GROUP IN ULAKAN VILLAGE, MANGGIS DISTRICT, KARANGASEM REGENCY

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ABSTRACT

Ulakan Village has abundant potential in the fisheries sector. However, efforts are needed to develop processed fish products. Female workers have productivity and play a role in supporting the increase in income of women farming groups in Ulakan Village. The aim of this research is to determine internal and external conditions and determine the development strategies used to develop processed fish products in an effort to increase the income of women farming groups. This research was conducted in Ulakan Village, Manggis District, Karangasem Regency. The sample consisted of 67 female farmers and 6 Kelian Banjar Dinas in Ulakan Village. This research is a qualitative and quantitative descriptive research that uses SWOT analysis.

The research results show that the internal conditions that are the main strength factor are the solid management of the women farmer group organization. The main weakness factor is the limited fish production facilities. The external condition of the main opportunity factor is that the HR of the Women Farmers Group is active in entrepreneurial activities. The main threat factor is limited production time and traditional ceremony activities. So the best strategy that can be implemented is to increase capital, develop product quality, schedule work and increase workforce.

Keywords: *development strategy, processed fish products, income*

1. INTRODUCTION

Indonesia as an agricultural country has abundant natural resources, this natural wealth can provide benefits both financially and in preserving nature. One of the leading sectors is in the fisheries sector. The fisheries sector is a sector that plays a very big role considering that Indonesia's waters are wider than the land area, so this sector has great potential in increasing the income of fishing communities. In implementation in the fisheries sector in Indonesia, there are obstacles that must be overcome, especially in the field of income. One form of handling that must be done is to form a group forum to develop the results of activities and training in the fisheries sector.

Ulakan Village, Manggis District, Karangasem Regency is a strategic area as a producer in the fisheries sector. The potential of the fisheries sector in this area is supported by agricultural areas and very abundant natural resources. To support this sector, a forum was created in the form of groups of farmers and women farmers. Farmer groups are groups of farmers with informal ties that are formed from similarities in interests, environmental situations and have the goal of improving joint efforts within their association (Setiyanti, 2012). The aim of forming farmer groups is to increase the number of farmer groups, increase the ability of farmer groups to

carry out their functions and encourage farmer groups to increase their capacity to become farmer economic institutions. The goals of farmer groups can be realized through the implementation of their functions. In Ulakan Village there is a group of women farmers who are active in the agricultural sector. Apart from that, women farming groups are also active in making processed fish products.

These processed fish products are produced by groups of women farmers in the form of fish floss, fish sausages, fish nuggets and others. This women's farmer group organization plays a very important role in creating processed fish products derived from tuna. Usually the surplus from fishermen's stock is made into processed fish products, so that the product can have added value, and the selling price is higher. With the various problems and obstacles faced in developing their business, it is necessary to carry out research to examine the business strategies that need to be carried out by groups of women farmers in developing businesses for processed tuna and other fish products.

Ulakan Village has abundant potential in the fisheries sector. However, efforts are needed to develop processed fish products. Female workers have productivity and play a role in supporting the increase in income of women farming groups in Ulakan Village. The aim of this research is to determine internal and external conditions and determine the development strategies used to develop processed fish products in an effort to increase the income of women farming groups.

2. RESEARCH METHODOLOGY

This research was conducted in Ulakan Village, Manggis District, Karangasem Regency. The choice of research location is determined by the method *purposive*, which is a method of deliberately determining research locations based on various considerations. The sample selection in this study used a purposive sampling method, which was chosen deliberately through consideration of groups of women farmers who produce processed fish in Ulakan Village. So the sample chosen consisted of 67 members of the women's farmer group and 6 members of the Kelian Banjar Dinas in Ulakan Village.

The type of data in this research, namely quantitative data, is data that contains information about numbers, while qualitative data is data that contains information in the form of words, sentences and images. The data sources used in this research are primary data and secondary data. Primary data collection was carried out by interviewing members of women farming groups with an instrument in the form of a questionnaire/list of questions. Secondary data was obtained from documents, libraries and data from Agriculture and Food Security of Bali Province. This research is a qualitative and quantitative descriptive research with a strategic management approach. The process of formulating alternative strategies goes through two stages, namely: 1) Data collection stage (*Input Stage*) using the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices; 2) Strength, Weakness, Opportunities and Threats (SWOT) matrix;

3. RELATED RESEARCH/LITERATUR REVIEW

The results of previous research are certainly very relevant as references or comparisons, because there are several similarities in principles, although in several respects there are differences. Some previous research that became a reference in this research is:

Suparyana et al (2020) Strategy for developing cake production in the Ayu Tangkas women farming group in East Selamadeg District, Bali. This research aims to identify the internal conditions and external environment of the cake business at KWT Ayu Tangkas, as well as determining strategies for developing the cake business at KWT Ayu Tangkas. The results of the research show that the internal conditions are: Quality of the product, Affordable price, Relationship between management and members, The product is well known to the public, Availability of raw materials, Low quality of human resources, Limited access to capital, Limited access to market

information, One type of product, and Lack of promotion. Meanwhile, the external environment is: Bendu, typical local snacks, demand for Bendu, institutional attention to KWT, development of information systems, production technology, ease of product duplication by competitors,

Dananjaya, et al (2020) strategy for developing PKK creative economic activities in Tabanan City to increase members' income. This research aims to identify the internal and external conditions of the PKK in Tabanan City, as well as choosing the best strategy that the PKK in Tabanan City can use in developing creative economic activities to increase members' income. The research results show that the internal conditions in developing PKK creative economic activities in Tabanan City, where the factor that is the main strength, is solid group institutions. The main weakness factors are the lack of information about obtaining training activities and limitations in obtaining capital. Furthermore, the external conditions in developing PKK creative economic activities in Tabanan City, where the good opportunity factor is that the PKK group has a good image in the village government. The big threat factor is the ease of product duplication by competitors. So that the best strategy that can be applied in developing PKK creative economic activities in Tabanan City is obtained, namely adding distributor workforce to increase sales, where product marketing requires product affordability so that it can be well received by consumers.

4. RESULTS AND DISCUSSION

General description of the research area

Ulakan village is one of the villages in Manggis District, Karangasem Regency in Bali Province with an area of 660,000 ha, with land topography. 65% of this area is used as agricultural land and 35% as vacant land for housing and public facilities. The climate of Ulakan Village, like other villages in Indonesia, has a dry and rainy climate. This has a direct influence on planting patterns on agricultural land in Ulakan Village, Manggis District, Karangasem Regency. (Ulakan Village Profile, 2020).

Sample Characteristics

This research involved 67 samples who were members of the women's farmer group in Ulakan Village, Manggis District, Karangasem Regency. The identity of the sample that will be taken from this part of the research includes age, education level and sample occupation which will be described as follows.

Age

The characteristics of the sample in this study, when viewed from age, can be seen in Table 1 below:

Table 1. Frequency Distribution of Sample Age

No.	Age (TH)	Frequency	Percentage (%)
1	< 17	0	0,00
2	17-64	64	95,52
3	> 64	3	4,48
Amount		67	100

Source: Data processed from survey results

Based on the research results, it shows that most of the samples were aged 17-64 years with a percentage of 95.52%, while samples aged > 64 years were with a percentage of 4.48%. This shows that most members of the women farmer group are still in the productive age category, that is, they still have labor potential in developing processed fish products and are more innovative in developing the newest products.

Education

Based on the results of data tabulation carried out according to the educational background of the sample, the following picture is obtained:

Table 2. Frequency Distribution of Sample Education Levels

No.	Education	Frequency	Percentage (%)
1	No School	0	0.00
2	SD	8	11.94
3	Junior High School	11	16.42
4	SMA/SMK	43	64.18
5	Masters	5	7.46
Amount		67	100

Source: Data processed from survey results

Based on the results of data tabulation carried out according to the educational background of the sample, it can be seen that the educational level of the sample in the elementary school category is 8 people with a percentage of 11.94%, in the junior high school category there are 11 people with a percentage of 16.42% and in the Bachelor category there are 5 people with a percentage 7.46% while the highest was SMA/SMK, namely 43 people or a percentage of 64.18%. This shows that the sample's education level is able to develop an entrepreneurial spirit in creating processed fish products and is able to market them to the target market.

Work

If we look at the characteristics of the sample in this study from work, the distribution can be seen as in Table 3 below.

Table 3. Distribution of Sample Jobs

No.	Work	Frequency	Percentage (%)
1	Doesn't work	8	11.94
2	Farmers/Fishermen	36	53.73
3	Laborer	14	20.90
4	Private sector employee	9	13.43
Amount		67	100

Source: Data processed from survey results

Based on the research results, it was stated that the sample jobs were 14 people as laborers with a percentage of 20.90%, 9 people as private employees with a percentage of 13.43%, 8 people as unemployed with a percentage of 11.94%, while the highest sample job was as 36 farmers and breeders with a percentage of 53.73%. This condition shows that the majority of the sample is in the agricultural/fishing sector, so that members of the women farmer group are able to develop processed fish products in their respective households, so that they can increase added value and create new jobs.

Matrices IFE and EFE

The results of the calculation of internal factors for the development strategy for processed fish products are shown in Table 4. Based on the IFE Table, the strength factors that are expected to minimize weakness factors in development are the management of a solid organization of women farmer groups. Having a solid organization will give the group the strength to continue to develop the group so as

to create product innovations that are in demand by the public. With these strength factors, it is hoped that it can minimize the biggest weakness faced, namely the limited facilities for processing fish production. To overcome these weaknesses, it is necessary to coordinate so that this information can be provided by the government in providing assistance in the form of fish processing facilities and training.

Table 4. IFE Matrix

No	Internal Strategy Factors	Weight	Rating	B x R
A Strength:				
1	Management of a solid women's farmer group organization	0,12	2,80	0,29
2	Availability of fish as raw material	0,11	2,73	0,26
3	Quality of processed fish products	0,11	2,42	0,25
4	The product is already known to the public	0,10	2,65	0,27
5	Processed fish products are in demand by the public	0,11	2,86	0,23
B Weakness:				
1	Lack of training in fish processing	0,09	2,67	0,25
2	Limited facilities for processed fish production	0,11	2,89	0,27
3	Lack of quality human resources	0,08	2,45	0,26
4	Limited capital in the group	0,09	2,76	0,23
5	Lack of product promotion	0,08	2,34	0,25
Total		1,00		2,56

Source: Primary data processed, 2024

The results of the research show that the calculation of external factors for the strategy for developing processed fish products can be seen in Table 5. Based on the EFE Table, the best opportunity factor in developing processed fish products is the human resources of a group of women farmers who are active in entrepreneurial activities. This entrepreneurial activity will provide opportunities to manage activities and be able to market the products produced by providing training activities by the relevant agencies. The big threat factors in the development of processed fish products are limited production time and traditional activities.

Tabel 5. Matrix EFE

No	External Strategy Factors	Weight	Rating	B x R
A Chances:				
1	There is a lot of demand for processed fish products	0,09	2,98	0,26
2	Production technology	0,10	2,87	0,28
3	The training activities provided have a creative element	0,10	2,76	0,24
4	Development of innovation in processed fish products	0,10	2,83	0,28
5	The human resources of the women farming group are active in entrepreneurial activities	0,11	3,21	0,29
B Threat:				

1	Ease of product duplication by competitors	0,10	2,45	0,25
2	The emergence of new business competitors	0,10	2,27	0,23
3	Unstable raw material prices	0,09	2,21	0,21
4	Limited production time and custom activities	0,11	2,56	0,27
5	Changes in consumer tastes	0,10	2,09	0,20
Total		1,00		2,51

Source: Primary data processed, 2024

SWOT Matrix

The SWOT matrix can provide an overview of management in matching internal strengths and weaknesses with the external opportunities and threats faced. Priority strategies that can be suggested are as follows: SO (Strengths-Opportunities), WO (Weakness-Opportunities), ST (Strengths-Threats) and WT (Weakness-Threats) strategies. The data used in this analysis were obtained from the IFE and EFE matrices.

S-O strategy is a strategy that uses internal strengths to take advantage of external opportunities so that it can gain profits. The strategy that can be implemented is to provide counseling. To support production, training is required. Training can be carried out by providing counseling regarding how to process and market products. The W-O strategy is a strategy that aims to overcome existing internal weaknesses by exploiting external opportunities. There are two alternative strategies that can be implemented in the W-O strategy, namely: increasing capital and carrying out promotions. This S-T strategy uses internal strengths to reduce and avoid the influence of external threats. There are two alternative strategies that can be implemented in the S-T strategy, namely: improving the quality of processed fish products and scheduling the work of women farmer group members so that it does not conflict with traditional activities in the village. The W-T strategy is a strategy directed at reducing internal weaknesses and avoiding external threats. There are two alternative strategies that can be implemented in the W-T strategy, namely developing processed fish products and expanding the product distribution network.

5. CONCLUSION

Based on the results and discussion, it can be concluded that the internal conditions that are the main strength factor are the solid organizational management of women farmer groups. The main weakness factor is limited fish production facilities. The external condition of the main opportunity factor is the human resources of the group of women farmers active in entrepreneurial activities. The main threat factor is limited production time and traditional ceremony activities. So the best strategy that can be implemented is to increase capital, develop product quality, schedule work and increase workforce.

Suggestion

The advice that can be given is that it is best to carry out a strategy of providing training and counseling regarding processing and marketing processed fish products to target markets. This strategy can be used to improve the quality of human resources of women farmer groups in carrying out production and organizational activities. On the part of the Karangasem Regency government, it must also be able to facilitate it by providing assistance with facilities and infrastructure so that it can stimulate groups of women farmers to become entrepreneurs.

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REVITALIZING TRADITIONAL ARCHITECTURE FOR CONTEMPORARY HOUSING IN BALI

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ABSTRACT

The research aims to propose a conceptual framework for implementing Balinese architectural elements in contemporary living environments. Utilizing a qualitative methodology, the study conducts a comprehensive literature review to explore the integration of traditional Balinese architecture into modern architectural practices. The research identifies key Balinese architectural elements that can be adapted for contemporary use, including spatial layout, pamesuan (entrance), facade, ornamentation, and materials. These elements are recognized for their potential to enhance modern living spaces with cultural depth, aesthetic value, and environmental sustainability. The study concludes that the thoughtful incorporation of Balinese architectural principles into modern designs can create living spaces that are not only functional and aesthetically pleasing but also deeply rooted in cultural heritage. This integration offers a pathway towards preserving Balinese architectural identity while meeting the demands of contemporary living, suggesting a harmonious balance between tradition and modernity.

Keywords: *Balinese Architecture, Cultural Preservation, Sustainable Design, Contemporary Housing, Architectural Integration*

1. INTRODUCTION

In Bali, like many other places around the world, traditional architecture is facing challenges in an increasingly modernized and urbanized society. However, there is a growing recognition of the value and importance of preserving and revitalizing traditional architecture to maintain cultural identity and promote sustainable living practices. One approach to address this challenge is to incorporate modern elements and technologies into traditional architectural designs, creating a harmonious blend of the old and the new (Philokyrou, 2015). This approach allows for the preservation of traditional building techniques and materials, while also adapting them to meet the needs and comforts of contemporary living. By revitalizing traditional architecture in Bali, not only can the unique cultural heritage be preserved, but it can also contribute to sustainable development and a thriving tourism industry. Furthermore, revitalizing traditional architecture can serve as a source of inspiration and education for future generations, providing them with a deeper understanding of their cultural roots and encouraging appreciation for sustainable and contextually sensitive design (Silvestrelli, 2013). Utilizing the lessons and wisdom from traditional buildings, contemporary architects can create innovative designs that pay homage to the past while embracing the needs of the present. This approach can also have positive social and economic impacts by creating opportunities for local artisans, craftsmen, and builders to contribute their skills and knowledge to the revitalization process (Hui Tian et al., 2023).

Revitalizing traditional Balinese architecture for contemporary living holds significant importance in maintaining Bali's cultural identity amidst rapid modernization and urbanization. It embodies a commitment to preserving the region's rich heritage and provides a sustainable approach to modern building practices, drawing from principles like natural ventilation and the use of locally-sourced materials (Siahaan, 2020). Such efforts support the tourism industry, which thrives on the uniqueness of Bali's traditional aesthetic and cultural experience. Revitalization also has economic benefits, facilitating job creation and sustaining the livelihoods of local artisans whose crafts are integral to traditional methods of construction (Talib and Sulieman, 2012). Furthermore, these projects serve as an educational resource, offering lessons in the value of heritage and the potential for sustainable design. A continuity of regional style is maintained, supporting a seamless visual and cultural landscape integration. In adapting traditional Balinese architectural designs to the present day, there's a reinforced connection with the natural environment, yielding structures that are inherently suited to the local climate and reducing dependence on non-renewable energy sources (Siahaan, 2020). Collectively, this approach to revitalization is more than an architectural practice—it's a bridge between the wisdom of the past and the innovations of the present, prompting a sustainable and culturally-rich future for Bali's architecture. Revitalizing traditional architecture for contemporary living in Bali is important because it allows for the preservation of cultural heritage and sustainable design practices. Additionally, it fosters a sense of identity and pride among the local community, as they see their traditional architecture being valued and celebrated.

2. RESEARCH METODOLOGY

The research methodology for revitalizing traditional architecture for contemporary living in Bali may include the following: (1) Literature Review: Conduct an extensive review of existing literature on traditional Balinese architecture, its principles, environmental sustainability practices, and previous revitalization efforts. (2) Case Studies: Analyze various case studies where traditional Balinese architectural elements have been incorporated into contemporary structures to understand the challenges and successful strategies used. (3) Design Proposal: Based on the data collected, propose a design framework that integrates traditional Balinese architectural elements into contemporary buildings in a practical and aesthetically pleasing manner.

3. LITERATUR REVIEW

To gather a comprehensive understanding of traditional Balinese architecture and its principles, an extensive literature review would be conducted. This would involve studying books, scholarly articles, and research papers that discuss the history, characteristics, and significance of traditional Balinese architecture. This would also include exploring the cultural and environmental sustainability aspects associated with traditional Balinese architecture in order to identify key elements that can be incorporated into contemporary designs.

The critical review of "Preserving traditional Balinese architecture: exploring the relevance of undagi's indigenous knowledge in post-pandemic interior design" by I Kadek Dwi Noorwatha and Imam Santosa underscores the significance of undagi—traditional Balinese master builders—in shaping contemporary interior design amidst the recent global shift due to the COVID-19 pandemic. The article stresses that despite the modern era's demands for health-focused and nature-connected living spaces, there lies an opportunity to harmonize these new design priorities with the invaluable, age-old undagi wisdom that embodies Balinese cultural heritage. The research within the article suggests that while there has been a departure from stringent adherence to historical practices, the essence of undagi knowledge continues to remain pertinent, creating a foundation for a blended approach where traditional values enrich modern design considerations, resonating with the

emerging global emphasis on well-being and sustainability in built environments (Dwi Noorwatha and Santosa, 2023).

The article "Optimizing the Authenticity of Bali Aga Sidatapa Traditional House Architecture in Sustainable Tourism in Sidatapa Village" by Nyoman Ratih Prabandari and Wiwik Pratiwi serves as a pivotal resource in understanding how the preservation of traditional architectural forms can be leveraged to promote sustainable tourism. This literature review recognizes the article's substantive contribution to the field, particularly its focus on the authenticity of Bali Aga Sidatapa traditional houses as a draw for tourism that benefits local communities. The article's strength lies in its qualitative methodology, integrating architectural analysis with cultural insights to propose a tourism model that respects and preserves local heritage. However, the study could be further enriched by including quantitative data on the impacts of such tourism models on economic sustainability and community well-being. Comparatively, this work is distinctive within the existing literature for its holistic approach to sustainable tourism, particularly in light of the challenges posed by the COVID-19 pandemic as highlighted by the authors (Prabandari and Pratiwi, 2022).

In "Cultural Sustainability and Evoking Architectural Identity in Buleleng-Bali, Indonesia," I Dewa Gede Agung Diasana Putra and Ida Bagus Gde Wirawibawa offer an insightful examination of the interplay between architectural ornamentation and cultural sustainability in the context of Balinese temple architecture. Their study underscores the significance of traditional building practices and the expressive power of architectural ornaments as repositories of cultural identity, while also pointing out the lack of systematic research on the role of culture in sustainable development. The paper operates within a complex framework of qualitative and quantitative research methods, arguing for the incorporation of cultural values into the sustainability discourse and vividly advocating for more empirical investigations in this underexplored domain (Putra and Wirawibawa, 2023).

In "The Other Side of Tropical Paradise: Traces of Modernism within the Vernacular Landscapes of Early Twentieth-Century Bali," Amanda Achmadi offers a critical revision of the island's architectural identity by examining the impact of colonial and modern influences on what is traditionally perceived as a static cultural paradise. Achmadi delves into the historical context of Bali under Dutch colonial rule, employing Edward Said's concept of orientalism to explore how the island's built environment reflects a complex interplay between vernacular tradition, cosmopolitanism, and modernity. The insightful analysis challenges the prevailing notion of Balinese architectural authenticity and underscores the island's dynamic evolution, shaped by the interactions of global forces and local cultural politics (Achmadi, 2016).

4. RESULTS AND DISCUSSION

The results and discussions of the research on revitalizing traditional architecture for contemporary living in Bali indicate the importance of preserving cultural identity and architectural heritage in the face of urbanization and globalization. Some element that can be preserved into contemporary housing: zoning, layout, facade, and ornament.

a. Incorporating Traditional Balinese Zoning Pattern into Contemporary Housing

The Sanga Mandala principle is closely observed within the traditional Balinese homestead, where the residential compound is intricately segmented into nine primary sections. The sacred area, known as parhyangan, is situated in the kaja-kangin zone, while human activities, or pawongan, take place in the central zone. The service area, or palemahan, which includes functional spaces like the kitchen and storage, is located in the kauh-kelod zone. A focal point of the Balinese compound is the natah, a central courtyard that is flanked by various important structures. The Bale Meten, set towards the kaja, acts as a sleeping area, with the

Bale Sumanggen in the kangin direction serving both ceremonial functions and as a communal hall. The kitchen, known as Paon, and the Bale Dauh, a supplementary sleeping space, are found in the kelod and kelod kauh zones respectively. The granary, or Jineng, is positioned in the kauh area, unless displaced by the Bale Dauh, in which case it takes up the kelod-kauh or kelod-kangin zone. Water-related structures, including wells and baths, are typically placed in the kaja-kauh area. Finally, the rear part of the compound, the teba, holds a practical role for rearing livestock and growing plants. This spatial division not only dictates physical structures but also embodies the harmonious relationship between the spiritual, communal, and functional facets of Balinese life (Gelebet et al., 1986).

Contemporary Housing with Traditional Shapes and Patterns (Natah)

In modern Balinese housing, there is a clear effort to maintain traditional Balinese architectural concepts within the contemporary design, as evidenced by the adherence to the Sanga Mandala and Tri Angga principles. These principles influence the spatial organization and structural layout of homes to align with traditional criteria, often resulting in the inclusion of a Natah, or open space. While this adherence is noticeable, there are several adaptations to the traditional functions of spaces within the residence. For instance, activities such as dining and socializing, previously held in separate locations like the paon (kitchen) and the terrace, are now often accommodated in combined living and dining rooms within the main building.

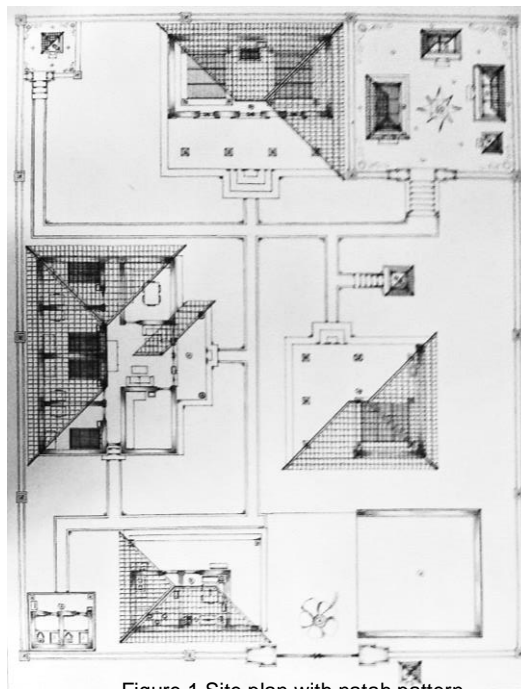


Figure 1 Site plan with natah pattern
Source: <http://ikadekdiantara.blogspot.com>

Material changes are also prevalent. While wood was a common material for main support columns, there is a shift towards concrete for both structural and economic reasons. Similarly, construction methods have moved away from traditional techniques like using wooden pegs to modern methods such as reinforced concrete constructions.

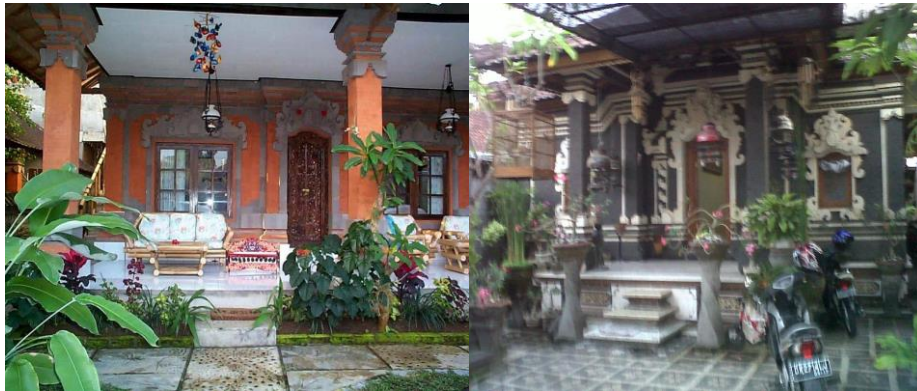


Figure 2 Front view of the building with some modified ornaments Source: <http://indonesiawow.com>

Furthermore, the requirements of contemporary living, such as transportation by cars, necessitate modifications to the entrances of homes (pamesuan or angkul-angkul), resulting in wider gateways to accommodate vehicles. Changes are also seen in the materials used for these entrances; where once red bricks or mud soil were prevalent, there is now a switch to readily available materials like black stone, which may be crafted on-site or manufactured as precast elements.



Figure 3 Widened angkul-angkul
Source: <https://1219251059ninyomanlitanugrahenidewi.wordpress.com>

Contemporary Housing with Single Mass Housing Complex

The essence of the traditional Balinese natah pattern is not commonly found in present-day homes. However, traces of Balinese architectural identity remain, especially observable in the sculptural form and arrangement of contemporary housing, which often adheres to the concept of Tri Angga. This traditional principle involves vertically dividing the building mass into three symbolic sections: the head, body, and legs. While modern houses may lack traditional Balinese decorations, elements such as modified boundaries or fences and angkul-angkul (gateways) are still incorporated, showcasing a blend of authenticity and change.

In recent years, residential development in Denpasar City has predominantly been driven by private companies offering various house types suited for the lower-middle-income market. These range from small 15 to larger 70 square meter homes, situated on plots from 60 to 200 square meters, termed Kapling Siap Bangun. Popular choices among Denpasar residents include house types 21, 36, 45, and 70.

Notably, since 1998, the construction of the smallest model, type 21, has ceased. This halt is attributed to concerns over potential slums and the unprofitability due to escalating land prices (Dewi and Swanendri, 2007).



Figure 4 Kontemporer dwelling without traditional Balinese ornaments but adopting *penyengker / fence and angkul-angkul*
Source: rumahin.wordpress.com

In modern residences, the Balinese architectural signature is barely discernible, mainly visible in the roofing referred to as the "head", which may still exhibit traditional Balinese roof characteristics, marked by features such as the *mudra* and *ikut cledu*. Beyond this, contemporary homes are generally stripped of customary ornaments and seldom feature the *penyengker* (fences) and *angkul-angkul* that signify traditional Balinese residences.



Figure 5 Contemporer house in a residential complex
Source: rumahin.wordpress.com

b. Incorporating Traditional Balinese Structure and Facade Pattern into Contemporary Housing

Tri Angga is a Balinese spatial concept that divides structures into three vertical zones analogous to the human body, with each portion having its own function and symbolic meaning. 1. *Utama* - This is the topmost zone, which corresponds to the head and symbolizes the sacred or spiritual realm. In traditional Balinese architecture, this might be where the most sacred elements are placed, such as shrines or other items of religious significance.

Madya - Corresponding to the torso, this central zone represents the realm of human activity. It is where everyday interactions take place and serves as the communal area within a building or compound.

Nista - Representing the feet or the lower part of the body, the nista zone encompasses the functional and service-oriented aspects of a building, such as storage, utility areas, or any space designated for mundane activities.

In a vertical application within contemporary housing, these zones could be represented through the following:

Utama: The top floors of a multi-story dwelling might be dedicated to private rooms that require quiet and peace, such as bedrooms or home offices, or could include a rooftop garden that provides a sanctuary-like space with the potential for meditation or spiritual practice.

Madya: The middle floors or the central part of a home should be areas designed for living, dining, and entertaining, serving as the heart of social interaction and daily activities.

Nista: The ground floor or basement could be designed for services and utilities, such as parking, pantry, laundry, and other mechanical services or installations that support the functionality of the home.

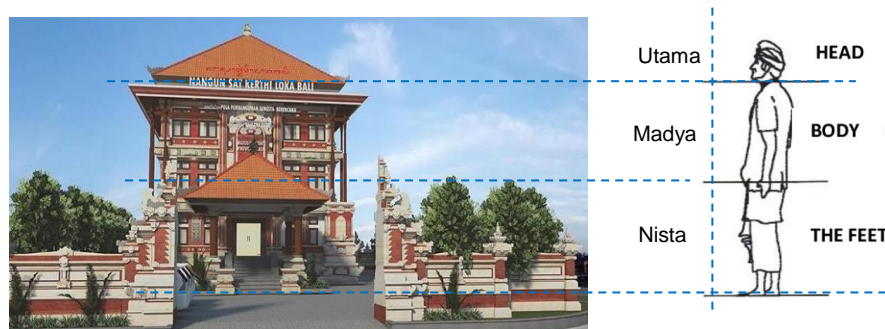


Figure 6 Incorporating Traditional Balinese Structure and Facade Pattern into Contemporary Housing
Source: tatkala.co

In contemporary architecture, while the strict spatial delineation of traditional Balinese compounds may not always be practical, the essence of Tri Angga can guide the functional zoning and hierarchical planning of domestic spaces in a multi-level structure.

c. Incorporating Traditional Balinese Ornament into Contemporary Housing

Ornamental features in Balinese construction serve a dual purpose, acting not just as decorative elements but also carrying symbolic significance that reflects the structure's intrinsic message. Typically, these decorative elements are etched into brick or solid stone. Collectively known as *pepatran*, which relate to flora, and *kekarangan*, associated with fauna, the diversity of Balinese ornamentation is extensive. Influences on these designs are multicultural, with patterns such as *Patra Mesir*, *Patra Cina*, and *Patra Welanda* highlighting external artistic impacts.

The *kekarangan* motif is characterized by a standardized pattern, with reliefs displaying a broad array of animal figures, both real and mythical, that take on the shapes and forms of the creatures they represent, including elephants and mythological beasts. These stylized faunal motifs are significant in understanding the cultural narratives imbued within Balinese architecture.

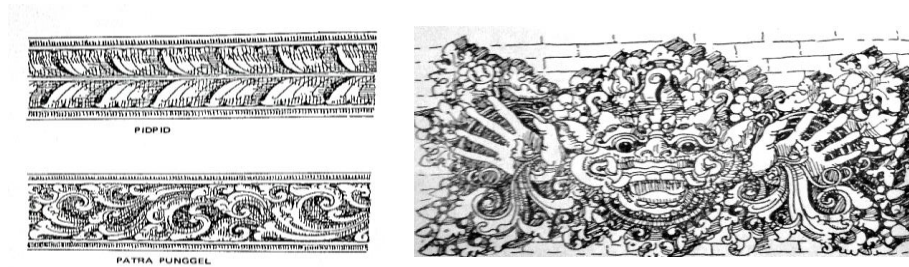


Figure 7 Some Balinese Ornaments
Source: Gelebet, 1986.

Implementing Balinese ornaments into modern housing involves incorporating traditional decorative elements into contemporary design in a way that respects their cultural significance while also fitting the aesthetics and functionality of modern living. Here are a few ways in which Balinese ornaments can be integrated:

Façade Accents:

Use Balinese stone carvings or wood carvings as accent features on the exterior of the building. This can be in the form of relief panels or sculpted elements around the entrance or windows. Balinese ornamentation can also be used in gate designs, wall fences, and other boundary markers to hint at the traditional influence while still maintaining modern lines and forms.

Interior Design Elements:

Integrate traditional Balinese motifs into flooring, such as tiles or carved wood panels, creating focal points within living spaces. Employ Balinese patterns on textiles, such as curtains, throw pillows, or upholstery fabrics for furniture, combining tradition with modern comfort.

Architectural Details:

Incorporate Balinese ornate carvings into structural components like doorframes, window frames, and support columns, offering an elegant touch that respects traditional craftsmanship. Design uniquely shaped ceilings or overhangs with Balinese motifs, keeping in mind the local styles of woodwork.

Gardens and Outdoor Spaces:

Embed Balinese ornaments in garden landscapes, such as stone statues and water features like fountains, ponds, or a lily pond both as a design element and to create a tranquil atmosphere. Use patterned pathways or accent tiles with Balinese designs in outdoor areas to create a visual connection with the island's traditions.

Furniture and Decor:

Incorporate ornaments in the design of furniture pieces such as headboards, tables, or cabinetry. Use decor items like lamps, vases, or artwork that feature Balinese motifs to subtly bring traditional elements into space. When incorporating Balinese ornaments into modern housing, it is important to do so thoughtfully and respectfully, ensuring the elements are context-appropriate, harmonizing with the surrounding architecture and interior design, and not trivializing cultural symbols. The goal is to create a contemporary living space that nods to Balinese heritage and craftsmanship while remaining functional and stylistically cohesive.

5. CONCLUSION

In conclusion, this study underscores the vital importance of revitalizing traditional Balinese architecture within contemporary housing as a means of preserving the island's rich cultural identity and advancing sustainable living practices. By melding the aesthetic beauty and wisdom of traditional design with modern technologies and materials, Bali is poised to maintain its unique architectural heritage while catering to the needs of its inhabitants. Furthermore, such an integration initiative supports not only the conservation of cultural values but also serves to bolster the local economy through tourism and provides educational insights into sustainable architectural practices. For practical advice, it is recommended that contemporary architects keenly study and understand the intricacies of Balinese architectural principles to ensure authenticity in their modern interpretations. Collaboration with local artisans and craftsmen can preserve traditional craftsmanship while also injecting modern proficiency into the design process. Prioritizing the use of sustainable and locally-sourced materials, coupled with energy-efficient strategies, will contribute to the environmental aspect of sustainable architecture. Finally, fostering a dialogue with the community at large will enhance the recognition and valuation of Balinese architectural heritage, ensuring that these timeless designs continue to inspire and serve the community well into the future. Through these concerted efforts, Bali can showcase how tradition and modernity can coexist in harmony, paving the way for a resilient and culturally-enriched built environment..

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THE PROFILE OF PANCASILA STUDENTS AS A SUPPORT FORCE IN DEMOCRATIC EDUCATION IMPLEMENTATION

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ABSTRACT

The implementation of the Merdeka Curriculum in Indonesia is always associated with the goal of shaping the Profile of Pancasila Students in producing intelligent and characterful Indonesian generations. The Profile of Pancasila Students is the embodiment of students who have global competencies and behave in accordance with the values of Pancasila. The dimensions within it are: faith, piety towards the One Almighty God and noble character, independence, mutual cooperation, global diversity, critical thinking, and creativity. Democratic Education is part of the effort to foster and develop knowledge about democratic attitudes and skills in the midst of multicultural life. Democratic Education instills awareness and guarantees the rights of citizens. The Profile of Pancasila Students is closely related to Democratic Education with its supporting force in the six dimensions within it.

Keywords: *Profile of Pancasila Students, Democratic Education, Support Force.*

1. INTRODUCTION

Education is the right of all Indonesian citizens, and no one can prohibit the desire to pursue education, whether it is the mandatory nine years of compulsory education or the subsequent stage of higher education. Because education is a fundamental right possessed by every citizen, there is no differentiation based on ethnicity, religion, race, customs, and background in pursuing education. With the legality in the implementation of education, every educational institution, be it elementary school, junior high school, or high school, can accept students from any background, thus creating diversity from various aspects within schools. This diversity can be seen in the differences in ethnicity, religion, race, customs, and background of students. This can be understood because Indonesia is a unitary state in the form of a Republic. As a unitary state, Indonesia naturally possesses various diversities found within society, which are framed within a cohesive unity that is the identity and entity of the Indonesian nation.

In life, learning is essential because it offers numerous benefits. This aligns with the purpose of national education as regulated by Law Number 20 of 2003, Article 3 regarding the National Education System (Sisdiknas), which states: "National education aims to enhance the abilities of learners to become individuals who are faithful and obedient to the One and Only God, possess noble character, are healthy, knowledgeable, skilled, creative, independent, and contribute to the development of a democratic and responsible society." National education aims to enhance abilities and competencies, build the character of the nation with dignity and manners, and aims to enlighten the life of the nation. Therefore, education is not only about learning capacity but also about shaping the character of learners.

Educating or accompanying children until they reach adulthood does not inherently make them subjects or objects of every pedagogical activity by educators, including parents. Children are not robots waiting for buttons to be pressed. They are not tools waiting for their time to work. Children should not be used as a means to fulfill all the desires of those who raise them or their parents. The goal of education is liberation. Children do not need to be with you all the time as they grow. In other words, it may be necessary to give them the freedom and ability to stand on their own. As children grow, they become capable of standing on their own two feet and taking responsibility for themselves.

The success of an individual not only depends on knowledge and technical competence (hard skills) but also on self-management and interpersonal skills (soft skills). This underscores the importance of improving students' personality development significantly (Sewartini, 2017). There are several fundamental reasons underlying the importance of building the nation's character, whether philosophically, ideologically, normatively, or socio-culturally. Philosophically, nation-building is a fundamental necessity in the nation-building process because only a nation with a strong personality and identity can survive as a nation. Ideologically, character building is an effort to realize the Pancasila worldview in national and state life. Normatively, nation-building is a tangible form of steps to achieve the nation's goals of protecting all Indonesians and Indonesian bloodlines, promoting universal welfare, enlightening the nation's life, contributing to world discipline based on freedom, eternal peace, and social justice. Historically, nation-building is a core dynamic process of nationhood that continues relentlessly throughout history, both in the colonial era and in the era of independence. Conversely, culturally, nation-building is a necessity for a multicultural nation (Ariandy, 2019).

The Pancasila Student Profile is the embodiment of Indonesian students as lifelong learners who possess global competencies and behave in accordance with the values of Pancasila, with six main characteristics: faithful and devoted to the Almighty God, possessing noble character, embracing global diversity, practicing mutual cooperation, being independent, having critical thinking skills, and being creative. The existence of the Pancasila Student Profile is expected to proceed smoothly and be realized effectively, thus producing Indonesian students with noble character, quality that can compete nationally and globally, capable of collaborating with anyone and anywhere, independent in carrying out their tasks, possessing critical thinking, and having creative ideas to develop. Certainly, to achieve these aspirations, cooperation is needed from all students throughout Indonesia. Indonesian students must have high motivation to progress and develop into internationally quality students with local cultural values.

After reviewing the statement above, it indicates that the curriculum on Pancasila and character education requires revision. Therefore, the role of educators as the frontline is crucially needed. One of the issues why revision is necessary is because character traits are starting to fade and the practice of Pancasila values is becoming rare. These two issues are also accompanied by the inadequate role of educators in implementing character education and Pancasila in the teaching-learning process. The form of this curriculum revision is the implementation of values found in the principles of Pancasila into school learning or self-habitation. Thus, students can apply and implement them in their home environment. This implementation is articulated through the Profile of Pancasila Students. A profile is a universal thought initially seen to be identified and evaluated. The profile to be presented here is the

profile of Pancasila students, which is a concept of students who practice Pancasila values in their daily lives. The intention of the Pancasila student profile itself is a reflection or form/action of students who practice or implement Pancasila values in their daily lives, whether at school or in their home environment (Leuwol: 2020). One form of implementation of the Pancasila student profile is students who consistently practice Pancasila values such as piety towards the One Almighty God by performing religious duties according to their faith.

Democracy education must be based on this understanding. Indonesia is a modern democracy based on Pancasila, not a religious state, kingdom, or oligarchy. Democratic education is a perspective that emphasizes equal rights and responsibilities, as well as fair and equal treatment of all students by educators, without discrimination in all aspects of learning, both inside and outside the classroom. Democratic education provides equal opportunities for all in education without distinguishing religion, ethnicity, race, and social status, giving every individual the opportunity to express opinions and realize their potential through education. Furthermore, democratic education demands that students be active in learning and free to express their opinions, not just as passive recipients of information from teachers without any exchange of opinions or discussions during the learning process. The Pancasila student profile as a guide for learning democratic education is therefore not static as a distant vision but is present in everyday learning within educational units.

2. RESEARCH METODOLOGY

The research conducted by the researcher is a literature study. According to Nazir (1998: 112), a literature study is the way a researcher determines the theme or topic of their research, in which the researcher conducts a theoretical study related to the research topic. The researcher will search for and collect information obtainable from books, magazines, journals, research results (theses and dissertations), and other sources. Meanwhile, according to J. Supranto as quoted by Ruslan in his book "Research Methods in Public Relations and Communication," a literature study is data or research through print media derived from reference books, scientific journals, as well as publication materials (Ruslan, 2008:31). The explanation quote of literature study is research conducted by gathering a number of books, magazines related to a problem, and the research objective. According to Ruslan (2008:34), the process of collecting data in a literature study requires three important processes, namely: 1) Editing, which involves reviewing the data obtained by the researcher. 2) Organizing, which involves organizing the data obtained into the necessary framework. 3) Finding, which involves further analysis of the editing and organizing processes.

3. RELATED RESEARCH/LITERATUR REVIEW

In this research, data collection was obtained from news and articles in online journals. The researcher conducted a search for articles using the keywords "Implementation of Pancasila Student Profile" and "Implications for Character." Based on the search for the keywords "Implementation of Pancasila Student Profile" and "Implications for Character," the researcher obtained various news and articles. The criteria for selecting news and articles were the presence of discussions on the Implementation of Pancasila Student Profile and its Implications for Student Character in Schools. Out of the 10 sources obtained, the most relevant ones were

selected, resulting in 4 articles and 6 news pieces being chosen. The research technique used was documentation, which involved gathering data on things or variables in the form of notes, books, papers or articles, journals, and news. To test the validity, the researcher employed data source triangulation. Analysis was conducted using a four-stage process, including: 1) data collection; 2) data reduction; 3) data display; and 4) conclusion, as outlined by Arikunto (2010).

4. RESULTS AND DISCUSSION

The Pancasila Student Profile

In this regard, Indonesian students are expected to contribute to sustainable global development and face various challenges. The Pancasila student profile encompasses six competencies formulated as essential dimensions. These six aspects are interrelated and mutually reinforcing. Therefore, these dimensions must be developed simultaneously, not separately, to create a holistic Pancasila student profile. The six dimensions are: faith, piety towards the One Almighty God, noble character, global diversity, mutual cooperation, independence, critical thinking, and creativity. These dimensions prove that the Pancasila student profile focuses not only on cognitive skills but also on attitudes and behaviors that align with their identity as Indonesian nationals and global citizens. They must grow together so that teachers are not solely focused on one or two dimensions. Neglecting one of these prevents the development of other dimensions. For example, critical thinking and creativity skills are needed to enhance independence. Independence as a dimension of the Pancasila student profile not only means individual freedom but also collective freedom. The collective independence of the Indonesian nation can be realized if every Indonesian citizen fulfills their state duties with trustworthiness, honesty, and integrity (Latif, 2015). In other words, collective independence requires the noble character of every Indonesian citizen, which is one dimension of the Pancasila student profile. In essence, teachers and everyone involved in the education ecosystem must synergize to implement a Pancasila-based student profile. The Pancasila Student program aims to educate lifelong learners with global competencies who behave according to Pancasila values, namely Faith, Piety towards the One Almighty God and Noble Character, Global Diversity, Mutual Cooperation, Independence, Critical Thinking, and Creativity. The emergence of awareness regarding the importance of providing education for Pancasila students is driven by Indonesia's educational vision of "realizing an advanced, sovereign, independent, and sympathetic Indonesia through the creation of Pancasila students." The six dimensions of the Pancasila student profile need to be viewed holistically as a unity so that every individual can become a lifelong learner who is competent, characterful, and behaves according to Pancasila values. Educators need to develop these six dimensions comprehensively from early childhood education onwards. Furthermore, to aid a more comprehensive understanding of the dimensions of the Pancasila student profile, each dimension is explained in meaning and sequenced according to the stages of psychological and cognitive development of school-age children and adolescents. Additionally, each dimension of the Pancasila student profile consists of several elements, with some elements further explained concretely as sub-elements. Here is an explanation related to the Pancasila student profile.

From the statement, we understand that the role of national education is not only in learning abilities and knowledge but also in shaping the character of learners. Another perspective put forward by Ki Hajar Dewantara is "Ing Ngarso Sung-Tulodo, Ing Madyo Mangun Karso, Tut Wuri Handayani." This means that teachers play a crucial role in shaping the character of learners in education. Education becomes a good example when it is in the front, a motivator when it is in the middle, and teachers become the driving force behind students (Rahayuningsih, 2019). According to the Merdeka curriculum, it provides freedom to educational institutions, teachers, and students to learn in a flexible and enjoyable manner. This means taking a self-directed learning approach based on your interests and abilities while investing in character development through the Pancasila Student Profile program."

The Ministry of Education and Culture's hope for the implementation of the Pancasila Student Profile is to make it a culture and habit throughout daily life. The realization of this hope can be achieved with students who can understand, comprehend, and apply the Pancasila student profile both in the school environment, workplace, and in their daily lives. The realization that can be achieved for the future of Indonesia is a productive culture, a more open culture that embraces each other, and self-improvement. The application of the Pancasila student profile should also be applied to educators because educators are the primary role models for students. To realize an effective Pancasila student profile, students must apply a lot of questioning, trying, and creating.

Based on the results of the literature study analysis above, it was found that the implementation of the Pancasila Student Profile in practice is not optimal due to various obstacles that lead to a lack of understanding conveyed by educators. These obstacles include limited time for teaching and learning activities, minimal subject substance, limited technological knowledge by educators, low student interest in subjects, students being passive in the learning process, limitations of teachers in designing good lesson plans (RPP), less varied learning strategies by educators, parents paying little attention to their child's learning patterns, and a lack of teachers and speculation about the provision of teaching materials. Meanwhile, the understanding and knowledge of respondents in the residential environment regarding the cultivation of Pancasila values are still very limited. For example, the values of divinity are only understood to a limited extent in terms of prayer and ceremonies. Obstacles often arise from the general public's disregard for Pancasila values, which can lead to a decline in moral values in society (Slameto, 2010: 133).

Democracy Education

Education is not just a means of imparting knowledge but is a broader tool for cultivating and disseminating cultural values and socializing them. The National Education Law No. 20 Article 3 of 2003 states: "National education aims to develop skills, shape character and civilization, and uphold the dignity and honor of humans to support national life. Its goal is for students to become people of faith, piety towards the One Almighty God, noble character, knowledgeable, skilled, creative, independent, and become democratic citizens who are responsible. In addition to the development of democratic values, shaping the democratic values mindset of students also includes the learning process in schools to enhance the quality of learning outcomes. This also involves dealing with topics that are naturally related to scientific-democratic values. Democracy is an educational process and not

something that can be created in an instant. Therefore, the importance of the education process and democracy education in social, economic, cultural institutions, especially political institutions, is paramount, as democracy only grows when there is a consciousness of democracy and a responsible attitude towards democracy. Democracy is essentially not just a means to acquire power but also a means to create a society that is increasingly educated and participates in democracy.

In the process of implementing democratic values, it is not only at the national level but also being democratic in the family, school, and community environments. Schools are the second place after home where the democratic system needs to be instilled. Educating the nation's children will produce future leaders of the nation, which is why it is necessary to realize a democratic life and the importance of efforts so that the education system can sow the seeds of democracy to students and produce intelligent and reliable democracy fighters. Schools, as small societies (mini-societies) that are platforms for developing students, are required to create a democratic learning climate so that a joyful learning process occurs. With such an educational climate, it is hoped that it will produce future development successors who are patient, competent, independent, critical, rational, intelligent, creative, and ready to face various challenges. Good education in democracy embraces and respects all groups for a more holistic, wise, and inclusive approach. One of our tasks domestically is to raise awareness of community involvement, particularly how we can empower citizens so that Indonesian democracy creates social justice and welfare. This means that equal, educated, and intelligent citizens enhance our democracy.

Application of the Pancasila Student Profile in Democracy Education

Indonesia is known as one of the countries that adopts a democratic system, realizing the importance of democracy education from an early age in a planned, systematic, and continuous manner in the development and formation of society, nation, and state in Indonesia. Democracy education also plays a role in shaping the nation's character to be honest, fair, and transparent. Education plays a crucial role in developing the values and aspirations of democracy for our younger generation. Schools, as educational institutions, must be able to provide democracy education. Attitudes and democratic mentality must be instilled and accustomed through language, studies, and the power of exemplary behavior (Amas Mahmud, 2011: 12). Democracy education from an early age is excellent because it can stimulate society to think critically. And with democratic thinking, we can build a better Indonesia as long as the government works with a pure democratic system. Therefore, education from an early age is needed. Not only in official schools but also in social environments, neighborhoods, and families. Democracy education is a prerequisite for creating a society that can think freely and creatively. Therefore, democratic principles such as political freedom, freedom of thought, and freedom of expression are principles that must be implemented in social and state life.

Citizenship education aims to increase understanding and awareness of democratic values so that citizens are no longer indifferent. Education should lead them to be independent individuals and to their negotiating positions of power. Therefore, teaching children democracy means instilling a set of democratic values as the basis of life philosophy, that human beings are free and equal creatures. This is important

for shaping the character and personality of children to grow into quality individuals who are tolerant in communal life. The Pancasila student profile that can be used by students in democracy education. The key elements of faith, piety, and noble character include religious morality, personal morality, morality towards humans, morality towards nature, and national morality. Examples of attitudes applied in daily life are following religious commands according to each person's beliefs, speaking and acting kindly according to religious teachings, being friendly, courteous, and respecting neighbors, loving and caring for the environment, and being law-abiding citizens. As part of Global Citizens, students must also be aware of and respect other cultures, capable of cross-cultural communication when interacting with others, reflecting on diversity practices, and being responsible for them. Examples of attitudes applied in daily life are getting to know and respecting friends from different ethnic groups; Explore effective ways to communicate with friends from various ethnicities and gather information about different cultures to build good relationships with others.

Gotong-royong (mutual cooperation) is one of the noble values firmly held by the Indonesian nation. The key elements in gotong-royong are collaboration, concern, and sharing. Because students can try to collaborate with others, instill concern for matters related to common interests, and be open to sharing knowledge, experiences, or other resources that enable it. These attitudes can encourage excellent collaboration to achieve maximum results. Independence is also one of the values that must be possessed as Pancasila Students in terms of being responsible for the learning process and outcomes pursued. Independence can be realized by having awareness of oneself and the situations faced and having self-regulation. For example, when faced with difficult situations, students can calmly seek their own solutions and deal with situations wisely.

Critical thinking skills are also essential for facing challenges in the 21st century. Then, what kind of attitudes indicate the formation of critical thinking? For example, how students obtain and process information and ideas, analyze and evaluate reasoning processes that occur in the mind, reflect on thinking and thinking processes themselves, and make decisions as a result of thinking processes. By continually evaluating reasoning and thinking processes, students can sharpen their critical thinking skills.

Pancasila students are also characterized by good creativity, where students can produce something original, useful, and beneficial, whether in the form of ideas, works, or actions. What are examples of creative attitudes? For example, providing different ideas from other friends in a project, being able to process information or seek inspiration and generate new ideas, and solving problems in different ways or approaches. Realizing the Pancasila Student Profile can be done across disciplines. This means that realizing the Pancasila Student Profile is not only through Pancasila and Citizenship Education but can also be realized in other subjects, especially in Democracy Education where every individual in the field of education without discriminating religion, ethnicity, race, and also social status so that individuals have the opportunity to express their opinions, develop their potential through education.

5. CONCLUSION

Pancasila students are the embodiment of Indonesian students as lifelong learners who have global competence and behave in accordance with the values of Pancasila, with six main characteristics: faith, devotion to the Almighty, noble

character, global diversity, mutual cooperation, independence, critical thinking, and creativity." These six indicators are formulated to develop superior human resources, lifelong learners with global competence and behavior in accordance with the values of Pancasila. The implementation of the Pancasila Student Profile is less than optimal due to various obstacles resulting in minimal information provided by educators. These obstacles include limited time allocated by educators, restricted teaching and learning activities, limited subject substance, educators' limited use of technology, students' lack of attention to subjects, and so forth. Alternative solutions to the obstacles encountered in creating Pancasila Students are as follows:

1. Involving subject teachers as driving forces;
2. Implementing programs for habituation, exemplary behavior, tutorials, and mentoring by guidance counselors or subject teachers;
3. Trying collaborative programs and coordination with other subject teachers;
4. Not leaving too much idle time for youth socialization, but rather encouraging more disciplined and efficient activities.

The Pancasila Student Profile has implications for building the resilience of individual participants in education, whether students or learners. The primary goal of the Pancasila Student Profile is to uphold the noble values and morals of the nation, readiness to become global citizens, realization of social justice, and achievement of 21st-century competencies. In our daily lives and attitudes within communities or professions, we must embody the Pancasila student profile.

The term "students" here refers to superior human resources who are lifelong learners with global competence and behavior in accordance with the values of Pancasila. Pancasila values are not only to be understood but also importantly, how to practice them in everyday life, whether in the family, community, learning units, or workplaces. This begins with the realization of individual resilience, which will then form family resilience, community resilience, regional resilience, and national resilience.

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THE IMPACT OF USING ARTIFICIAL INTELLIGENCE IN ENGLISH LEARNING AMONG ENGLISH LANGUAGE EDUCATION AND LITERATURE STUDENTS

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ABSTRACT

Lately education industry has been challenged by lots of digitalization and technology innovation. Artificial Intelligence is also become a prominent technology in education field that is being huge among the university students' in Bali. Artificial Intelligence are including application or website which serve many experienced in learning. This study aims to determine the impact of using artificial intelligence in English language learning among English language and literature education students in Bali. This research is a type of qualitative research that uses qualitative methods, namely structured interviews, literature studies, and documentation. Structured-interviews were conducted using a google meet, which was shared by Whatsapp group and private with 20 English education and/or literature students who were active in several universities in Bali. The results of this study are 1) there are six AI that students use for learning English and they have difference benefits, 2) there are positive impact of AI, 3) Besides of all the positive impact, students also feel there are negativity impact from using AI. AI has been a technological tools in English learning. AI is useful, but students as the one who operates takes a role for using AI. Students should be wiser to operates and even using AI as their learning media, so they will get the positive impact more than the negative impact.

Keywords: Artificial Intelligence, English Learning, English Education and Literature Department Students

1. INTRODUCTION

In this revolution era 4.0, the technology development has been significantly influenced all the humans' aspect, specifically to the education industry in Bali. Industry 4.0 existed and has been massively brought the revolution of education industry that integrate with technology. One of the technology products' that recently become a lot of discussion among the university students' and lecturer is Artificial Intelligence. Artificial Intelligence (AI) is currently considered to be one of the solutions in English learning and teaching activities. Artificial Intelligence (AI) is an innovation which is able to "think" like humans but is not naturally run by humans but by robots. By using AI, students can learn languages and practice their speaking skills every day (Huang et al., 2022). Not only for enhancing speaking skill, AI can be an option for enhancing the other skills such as writing, listening and reading.

Unlike the primary and secondary students, undergraduate students education are more complex and detail. They are deeply learned their specialty in one focus, which match with their passion. This situation are also matching to English education and literature students. Based on Johnson (2023) English language and literature are the study of Anglophone writing from the Middle Ages to the present day is

included in English language and literature. It encompasses not only the literature of the British Isles but also that of America and other English-speaking countries. English education and literature students are deals with the study of English Language which has a complexity of learning material. They must familiar with linguistics features and also the English teaching methods.

In order to learn English deeper in instant way, currently the English Education and Literature in Bali, especially in Denpasar, are using AI as their assistant. Assistant who helped them to finish the lecture assignments. AI is useful and helpful for solving some language problem. On the other hand, AI are also make students' lost their natural critical think.

A previous qualitative study that focused on the impact of of AI on English langague learning by Aljohani (2021) stated that both the teacher and student are grasped the positive impact of using AI in English Language learning in Saudi Arabia. Another research from Akbarani (2023) found that students' perceptions, utilizing artificial intelligence in English language instruction is entertaining, and they all concur that it is necessary. Artificial intelligence can have both beneficial and harmful effects on teaching English, depending on how and when it is applied.

This research will investigate and discuss about the impact of using artificial intelligence in English language learning among English language and literature education students.

2. RESEARCH METODOLOGY

This research is a type of qualitative research that uses qualitative methods. Qualitative research is a type of research that produces descriptive data in the form of speech, written words, and behavior observable from people as well as emphasis on reasoning, meaning, description of a specific situation and a specific content, up to more examine everything pertaining to daily life (Moleong, 2017). The subject of this study is the English education and/or literature students. To collect the data, the researcher use observation, structured interviews, and literature studies.

3. RELATED RESEARCH/LITERATUR REVIEW

Literature Review

Artificial Intelligence (AI) has garnered significant interest in English language instruction in recent times, providing novel methods to augment the educational process. AI applications are now widely used in language education, opening up new possibilities for individualized and flexible instruction. Based on Wang and Hu (2020), "AI technology is currently used in English language teaching to support language learning, facilitate communication, and provide feedback to learners."

AI has supported English learning for students and provide a real time response towards students activity. Based on Li dan Liang (2019), "The AI-based platform increases the efficacy and efficiency of language learning by using machine learning algorithms to curate unique exercises and content for each learner."

The word "artificial intelligence" (AI) is derived from the English and refers to intelligence while artificial means artificial, this word emphasizes intelligence. When we define artificial intelligence, it refers to robots which can think, evaluate options, and make decisions much like people do (Sutojo, 2011).

The primary application areas of AI are:

- a. The expert system. The expertise of specialists is stored on computers.
- b. The processing of natural language. It is predicted that consumers will be able to converse with their computers in common English with this natural language processing.
- c. Recognition of Speech. It is anticipated that voice communication between humans and computers would be possible thanks to speech recognition.
- d. Sensor Systems and Robotics.
- e. Attempting to interpret pictures using computer vision
- f. Intelligent Computer-aided Instruction. Computers can be used as tutors who can train and teach.
- g. Game Playing.

Related Research

The preparation of this research involves authors who search in various previous works and research that are considered the same as the theme of the research conducted. There are keywords in this study, namely the impact of Artificial Intelligence (AI) in English learning.

The first research is Artificial Intelligence-Based Application Cake as the Alternative for Learning Speaking: Opportunities and Challenges which conducted by Suciati, et al. (2022) This research explains students' perspectives regarding the application of AI to their speaking skills. Most of 30.8% of students strongly agree, 38.5% agree and 30.8% think neutrally regarding the importance of AI in helping Learning Speaking. Not only the positive impact from AI but students also got some problems or challenges such as, lack of social interaction, dependence on technology, difficulty in adjusting to various situations, lack of appropriate feedback, lack of emotion in learning, and availability of material. To solve those challenges and problems, the researcher also got the alternatives that students expect in learning to speak by utilizing AI are the existence of material in AI with material in the Semester Learning Plan (RPS) or the existence of speaking books that contain material with the use of AI.

Another research from Haryanto et al. (2023) entitled "*Dampak Kecerdasan Buatan (AI) terhadap Pengajaran Bahasa Inggris di Perguruan tinggi: Tantangan dan Peluang*". Artificial intelligence (AI) has changed the pattern of English language teaching and learning in higher education. In addition, artificial intelligence (AI) creates opportunities and challenges for future English teachers and lecturers. Currently, the millennial generation is accustomed to using various types of artificial intelligence (AI) applications on a self-taught basis in various daily life activities, including studying English at college level. Therefore, English teachers and lecturers always increase their technological literacy (Digital literacy), especially artificial intelligence (AI), in order to meet students' needs and desires in learning English in the future.

Both of the research have similarities with this research such as, the topic of the research; Artificial Intelligence towards English learning. The difference is the methods of collecting data and the scope of the research. The researcher use these two research is for supporting issue which discussed on this research.

4. RESULTS AND DISCUSSION

The result of this study collected by a structured-interviews to English Education and Literature students in three difference universities. This results shows a various results of each interviews. The results is explained as follows:

1. Students' Valuable AI in supporting their English learning activities

Based on the results of structured-interviews that researcher has done to the students, there are six Artificial Intelligences that student often use as their media for learning; they are ChatGPT, Turnitin, Quillbot, Perplexity, DeepL and Yoodli.ai. This

- 1) ChatGPT
They use this AI as their instant assistant and being their sources of doing assignment. They utilize this chatbot for giving some references to finish their assignment, especially in writing a paragraph. Based on Smith (2023), ChatGPT is a substantial language model created by OpenAI. It can comprehend and produce text that is of human quality since it has been trained on a sizable collection of text and code. There are several uses for ChatGPT, such as:
 - Creating text, including emails, letters, code, poetry, scripts, and music,
 - Language translation
 - Providing thorough and educational answers to queries.
- 2) Turnitin
Students use Turnitin as simple as to check the value of plagiarism that they have reached. This AI is success to make them aware of the originality of a writing product. Turnitin reduced occurrences of plagiarism and increased their awareness of the significance of ethical considerations when using a source, which is consistent with some previous research (Graham-Matheson & Starr, 2013; Halgamuge, 2017; Balbay and Kilis, 2019).
- 3) Quillbot
Not only paraphrasing but quillbot can also become a grammarchecker. The students stated that using this bot can help them to rebuild a sentences into a new sentence with many word choices. Based on Asmara and Kastuhandanu (2024), Quillbot's ability make the user believed that to paraphrase sentences by changing the wording or giving the user synonyms would enhance the quality of their writing because it would allow them to use a more sophisticated vocabulary, avoid monotony, and produce writing that looks more academic.
- 4) Perplexity
This AI has similar features and benefit with ChatGPT. It help students to find the answer of particular questions. The main feature of Perplexity is their natural language processing-based search engine(Wiggers,2024).
- 5) DeepL
DeepL is an AI that is concerned on translating words into the target language. Students believe using this AI help them to easily translate the word/documents and make it more understandable. Based on DeepL, this AI is allowed you to pre-translate files automatically, enrich translation memories, and keep the user text's original formatting.
- 6) Yoodli.ai
Students use this AI to improve their speaking skill. This Ai also provides user a private coaching, private feedback, and tracking the user progress. This AI often used by the job interviews, sales calls and public engagement who want to improve their communication skill.

2. Positive Impact of Using AI in English Learning

From 30% of the students perception about Artificial Intelligence (AI) is strongly agree that use AI give good impact for increasing speaking skill (Suciati,2023). Most of pupils view AI positively. Each AI has distinctive features and purposes. Students who are learning English stated that AI helps them doing assignments and enhancing their English language skills. As seen in the data extraction results below:

Researcher : *What's the positive impact from AI that helps you for learning English?*

Student 1 : *Using AI has been changed my life in learning English. Especially for AI that I use; DeepL, it helps me to perceive grammar use and it will help me to decrease redundancy. Other AI also help me to increase my speaking skills; Yoodli.ai, for me who are introverts, it is very hard to talk English confidently in front of my friend, so I prefer to use this AI for becoming my personal trainer in English speaking. And it yes, I got a satisfying score on my speaking lecture.*

Student 2 : *That's really help me in writing essay. Using quiltbolt AI, make me instantly find out the synonym of the word that I want. It decreases my plagiarism, thus it make my essay isn't monotone.*

Student 8 : *AI? I did use several of them. I think it helps me a lot. I use ChatGPT for brainstorming and finding some of assignment issue, then I compare it with my opinion. So, ya it's literally helps me a lot, especially for my writing skills.*

Based on the results of the interview above, it can be seen that AI makes students more aware of their English skills. Every AI has different features so, students must have several AI to support them in learning English. AI is proven to be able to help students develop their productive skills for the better.

3. Negative Impact of Using AI in English Learning

Based on the interviews, there are several negative impact of using AI in learning.

First, there is a sense of dependency. AI make everything is instant and easier. This dependency arise because they feel more comfortable to use AI than use their naturally thoughts. AI put them in a society-gap. This can be seen on the results of interviews below:

Student 3 : *When I use my own thoughts, I feel it doesn't perfectly correct, so I use AI for giving me a validation. Sometimes, when I apply my knowledge or even my skill in real life, I think I still have a sufficient confidence and need a validation.*

Second, laziness. Using AI may give all the user instant answer in one click. With all these conveniences, it makes students lazy to read and look for more appropriate options. When using AI, they tend to directly copy-paste the answers

that are considered correct into a file. This lowers the critical thinking level of some students.

Student 5 : *it made me lazier, cause I can easily find all the answer that I want.*

Third, AI as the media for cheat. A lot of college students cheat with AI. Students are more likely to accept AI when its results are nearly identical to their own thinking. The following interview extraction findings demonstrate this:

Student 10 : *sometimes I use AI as the main of my answer, cheating.*

Based on those three point, it can be concluded that AI also have negative impact for learning.

5. CONCLUSION

Students often use six Artificial Intelligences to support their English learning activities, according to structured interviews conducted by a researcher. These AI tools include ChatGPT, Turnitin, Quillbot, Perplexity, DeepL, and Yoodli.ai. Artificial Intelligence (AI) has a positive impact on English learning, according to most students who view AI positively. AI has unique features and purposes that help students with assignments and enhance their language skills. Students require various AI to support their English learning. AI makes students more aware of their English skills and helps them develop productive skills. AI may useful, but students as the one who operates takes a role for using AI. Students should be wiser to operates and even using AI as their learning media, so they will get the positive impact more than the negative impact.

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OPTIMISATION OF CAMPUS ENVIRONMENT BASED ON INTERNET OF THINGS FOR POWER ENHANCEMENT OF MONOCRYSTALLINE SOLAR PANELS

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ABSTRACT

The energy source of power generation still depends on fossil energy sources or in other words non-renewable energy sources. The amount of fossil use as energy material touched 22.58%, coal 37.15% and natural gas 20.13%. Meanwhile, the use of renewable energy is still very small, around 9.15%. One of the renewable energy that will not run out is solar energy. In Indonesia, the potential of solar energy is around 4.8 kWh/m² or equivalent to 112.00 GWp, but its current utilisation is only around 10MWp. Solar panel is a tool that is able to utilise solar energy into electrical energy, this tool is able to work according to the state of the environment. This tool works optimally at normal temperatures around 25 °C, the temperature of the solar panel if it is too hot then its performance will decrease. This research will be conducted at Pakuan University by designing a cooling system to optimise the temperature of monocrystalline solar panels to increase the power income generated. This system will be supported by the internet of things to make it easier to control the system, and research will also be carried out on the power income of solar panels before using the system made.

Keywords: *Renewable energy; Cooling system; Temperature; Monocrystalline; Internet of things.*

1. INTRODUCTION

The National Energy Council argues that currently the use of energy sources as fuel for power plants still relies heavily on fossil energy sources or in other words non-renewable energy sources, which will gradually run out and will certainly have an impact on natural damage. fossil energy is still very dominant in the form of petroleum which touches 33.58%, coal 37.15% and natural gas 20.13% while for new renewable energy it is still very small at 9.15% (Alamsyah et al., 2019).

One of the energy on Earth that can be renewed and never runs out is solar energy. Sunlight will always be there every day for a long time, which is approximately 12 hours. The utilisation of sunlight is also very profitable because it does not require costs to get it, besides that it is also environmentally friendly, what consumers must do is to design a tool to convert solar energy into energy that we can use every day, namely electrical energy (Amalia et al., 2022). The Ministry of Energy and Mineral Resources stated that the potential for solar energy in

Indonesia is very large, which is around 4.8 kWh/m² or equivalent to 112,000 GWp, but only about 10 MWp has been utilised. (Alamsyah et al., 2019).

Tools that can convert sunlight energy into electrical energy are solar panels. Solar panels are a device used to convert solar light into electrical energy (Sukmawaty et al., 2019). Afriandi argues that solar panels will produce electrical energy according to the amount of light intensity it receives from sunlight, the temperature of solar panels that work at normal temperature standards (25°C) will work optimally. Rifaldo also suggested that if the temperature of the solar panel is too hot, it will reduce the performance of the solar cell. The voltage and current produced by solar panels always change depending on the amount of sunlight intensity that falls on the surface of the solar panel (Rahajoeningroem & Jatnika, 2022). Based on the description above, it is necessary to conduct research on the optimisation of the campus environment based on the Internet of Things to increase the monocrystalline temperature power of solar panels. As a form of effort to increase and optimise the use of renewable energy. Therefore, it is necessary to conduct research to ensure that the conditions allow for installing solar panels. With the Internet Of Things-based campus environment optimisation technology for monocrystalline solar panel power enhancement, it can provide the potential to use solar panel installations as a learning and research tool for students. They can study the efficiency of solar panels, develop better energy storage systems, or conduct optimisation research related to solar energy and internet of things systems. This will provide an opportunity for the University to contribute to renewable energy research and technological innovation.

2. RESEARCH METODOLOGY

The research method used for the design and development of the Optimisation of the campus environment based on the Internet of Things to increase the monocrystalline temperature power of solar panels at Pakuan University is to use the Hardware Programming field research method shown in the following figure.

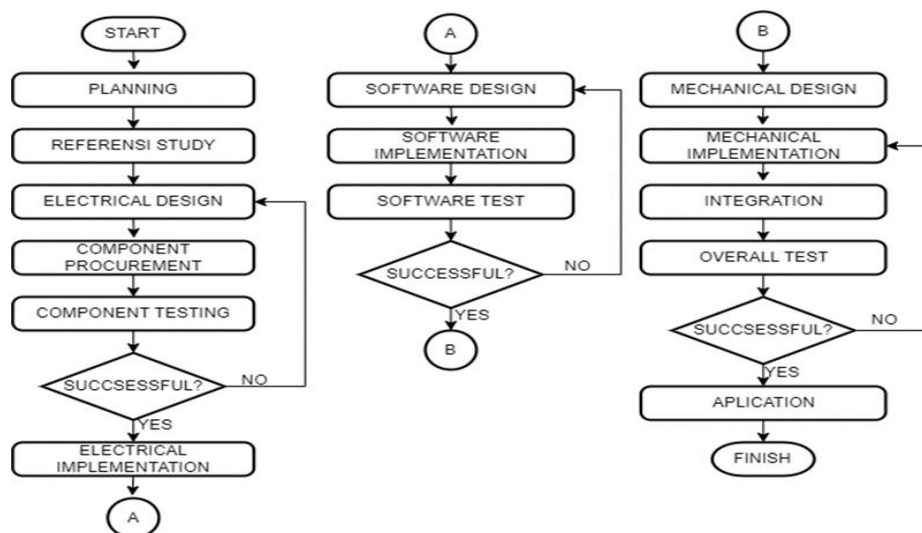


Figure 1. Hardware Programming Research Method

3. RELATED RESEARCH/LITERATUR REVIEW

According to Djamila Rekioua in her journal, solar power plants are power plants that convert sunlight radiation into electrical energy. Solar panels play a role in converting sunlight radiation into electrical energy. Therefore, the selection of solar panels is very important in producing the output power produced by solar panels. The output of solar panels is still direct electrical energy (DC) which must still be converted into alternating electrical energy using an inverter (Adipradana et al., 2019). Sinaga emphasised that solar cells work using the p-n junction principle, which is a junction between p-type and n-type semiconductors. These semiconductors consist of atomic bonds in which there are electrons as basic constituents. N-type semiconductors have excess electrons (negative charge) while p-type semiconductors have excess holes (positive charge) in their atomic structure. The condition of excess electrons and holes can occur by doping the material with dopant atoms. For example, to obtain p-type silicon material, silicon is doped by boron atoms, while to obtain n-type silicon material, silicon is doped by phosphorus atoms. The illustration below depicts p-type and n-type semiconductor junctions (Alamsyah et al., 2019). The temperature of solar panels that work at normal temperature standards (25°C) will work optimally (Rahajoeningroem & Jatnika, 2022).



Figure 2. Solar Power Generation

Monocrystalline solar panels are the most efficient panels produced with the latest technology & produce the highest power per unit area. Monocrystalline is designed for applications that require large electricity consumption in places with extreme climates and with very harsh natural conditions. The disadvantage of this type of panel is that it will not function well in a place with less sunlight (shade), its efficiency will drop dramatically in cloudy weather (Adi S, 2023). According to Setiawan, one type of panel from silicon material that is widely used is Monocrystalline with a high efficiency level of 17% - 18% (Agustina et al., 2019). Solar cells or can also be called *Photovoltaic* (PV) is a device used to convert sunlight into electrical energy (Sukmawaty et al., 2019). This conversion is called the *Photovoltaic* effect, in other words, this effect is a phenomenon where a PV cell can absorb light energy and convert it into electrical energy. In simple terms, solar cells consist of a junction of p and n type semiconductor materials (p-n junction semiconductor) which if exposed to sunlight, there will be a flow of electrons, this flow of electrons is referred to as the flow of electric current (Kaban et al., 2020). Luque suggested that solar panels are an important component in solar power plants. Solar panels work to convert sunlight into DC electrical energy (Adipradana et al., 2019). Safitri also stated that solar panels are devices consisting of cells that are able to convert sunlight into electricity. The sun is a light source whose energy can be utilised, then it can be converted into direct current (DC) electricity (Ricardo, 2022). Temperature is the main discussion in testing and applying electronic devices. Solar panels have a *Standard Test Condition* (STC) which is at a light intensity of 1000Watt per square metre, AM 1.5 Spectrum or with the Earth's atmospheric conditions with a sun angle of 48.5° and with the panel

temperature required to be 25°C. In other words, the solar panel will work optimally at normal temperature or 25°C. Gumilang said the cooling system is a system that works to maintain or reduce the temperature in ideal conditions by transferring heat from a field to water or air. Heat transfer is basically the transfer of energy from one place to another and there is a temperature difference between two parts of the object. Heat will move from high temperatures to low temperatures (Loegimin et al., 2020). Yandri said that solar energy or solar energy is one type of renewable energy emitted by the sun through certain equipment to become a resource in different forms and can be used as an alternative energy (Lubna et al., 2021). Solar energy emits light and heat as solar energy, so from there solar energy can be utilised as a solar power plant. This energy is one of the sources of alternative energy that can be used massively. Electric current is energy that can be transmitted through a conductor in the form of a cable. This electric current arises due to a change in charge that moves past a point per charge of time in an electrical conductor (Prima Satya et al., 2020). Voltage or potential difference (*voltage*) is the work done to move one charge (equal to one coulomb) on an element or component from one terminal / pole to another terminal / pole, or the two terminals / poles will have a potential difference (Rosman N et al., 2019). An inverter is a circuit that converts DC voltage into AC. Or more precisely the inverter moves the voltage from the DC source to the AC load. The inverter voltage source can be a battery, solar panel or other DC voltage source. Batteries for the use of PLTS are commonly known and use deep cycle lead acid, meaning that the charge of this type of battery can be discharged continuously to a maximum of nominal capacity. Batteries are the main component of PLTS that requires the largest initial investment costs after solar panels and inverters (Alamsyah et al., 2019).

NodeMCU ESP8266 is an IoT-based platform that is opensource. Consists of hardware in the form of System OnChip ESP8266. Currently, NodeMCU has undergone 3 upgrades. The device we use is NodeMCU version 3 (V1.0) which has better capabilities than previous versions (Boy Panroy Manullang et al., 2021). Arduino Uno R3 is a microcontroller development board based on the ATmega328P chip. Arduino Uno has 14 digital input / output pins (or commonly written I / O, where 14 of them can be used as PWM outputs including pins 0 to 13), 6 analogue input pins, using 16 MHz crystals including pins A0 to A5, USB connection, power jack, ICSP header and reset button (Auliya Saputra, 2020). Abdullrazzak discloses a DHT22 sensor digital relative humidity and temperature sensor. The DHT22 sensor uses a capacitor and thermistor to measure the surrounding air and outputs a signal on the data pin. DHT22 is claimed to have good reading quality, judging from the fast response of the data acquisition process and its minimalist size, and at a relatively low price when compared to thermohygrometer devices (Puspasari et al., 2020). Imron revealed that the DC voltage sensor is a voltage divider circuit made into a module. The DC voltage sensor module can measure voltages up to 25V (Adi S, 2023). This ACS 712 sensor is one of the sensors that can detect AC or DC current. The ACS712 sensor has a higher accuracy value, better linearity, is supplied by 5V DC; the output voltage is 4.5V, and needs less circuitry for data processing. The ACS 712 current sensor is made compactly by the factory in the form of an IC which works with the principle of responding to and measuring the magnetic field arising around a

current wire by combining the functions of a shunt resistor and current transformer as an AC and DC current sensor which has a high level of reading accuracy (Prima Satya et al., 2020). The Internet of Things, often known as IoT, is an embedded system that aims to expand the utilisation of continuous internet connectivity. Capabilities such as data sharing, remote control, and so on, are also included in real-world objects such as food, electronics, equipment connected with sensors

and connected to the network (Susanto et al., 2022). Previous research conducted (Prima Dewi et al., 2022) entitled Implementation of Solar Panel Cooling System to Maintain Panel Surface Temperature. In this study, the surface temperature of solar panels will be maintained no more than 40 ° C to reduce power losses due to the hot temperature of the panel surface. The surface temperature of the panel is measured by the DS18B20 temperature sensor and then sent to the NodeMCU ESP8622 so that it can be displayed through the bylink application on the smartphone. When the temperature of the solar panel is above 40°C, the cooling system will turn on automatically, so the average time required for the cooling system to reach temperatures below 40°C is 1.5 minutes. From 3 days of experiments, it is known that the cooling and temperature monitoring system made successfully runs well. The temperature sensor can read the surface temperature of the panel, the cooling system can work automatically, and the application can display the sensor reading results. Research (Sariman et al., 2022) entitled Cooling System Using Water to Optimise the Performance of Arduino-Based Solar Panels. The results showed that the cooling system using water on solar panels succeeded in reducing the average surface temperature on solar panels by 27.56 ° C, and that the difference in voltage, current and power produced was 1.18V, 103.55mA and 2210mW. The most influential parameter with the addition of a cooling system is current. So that charging a 5.5Ah battery is 1.48 hours faster than without using a cooling system. This shows that the solar panel cooling system with water is able to improve the performance of solar cells by accelerating the battery charging time. Research (Rahajoeningroem & Jatnika, 2022) entitled Solar Panel Automatic Cooling System for Increased Output Power Based on Microcontroller. In this test using 50 Wp solar panels that use cooling and without cooling. The average power of the solar panel without cooling is 22.32Watt and the efficiency is 12.62%, while the average power of the solar panel using the cooler is 27.8Watt and the efficiency is 15.09%. when compared to solar panels without cooling, solar panels that use cooling have a greater efficiency increase of 2.47%.

4. RESULTS AND DISCUSSION

The research results obtained based from stages existing research . Stages study use method development device hard to use ie method Hardware Programming. Design and manufacture manufacturing tools prototype system optimization solar panel temperature Monocrystalline For enhancement Power based internet of things at Pakuan University as following :

1) Analysis Results Need

Analysis results need This produce specification need from design and development systems and mechanisms tool that will designed.

1. Tools and materials used in study This is NodeMCU ESP8266, Arduino Uno, ACS712 current sensor, voltage sensor, DHT22 temperature and humidity

sensor , relay, fan , LCD, solar panel Monocrystalline 120WP, 12V 33AH battery

2. ,inverter, laptop, device electronics supports , XAMPP Server, Arduino IDE, Visual Studio Code, Fritzing, Tinkercad and Google Colab.
3. Planning prototype on the system optimization solar panel temperature Monocrystalline For enhancement Power based internet of things in research This consists from planning device hardware and devices soft as well as planning design mutual prototypes relate in making tool This.
4. Test method done No just at the moment tools and systems Already made , but components that have not put together will tested For know function and performance component the . Testing system whole will done from function device hard Already walk with OK , then next testing system cooler until testing connection device hard with device soft through network mobile .
5. Analysis design related with How flow Work from tools and systems the . On research This create a block diagram For makes it easier reading How tools and systems This Work .

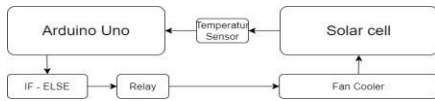


Figure 31. System Block Diagram Cooling

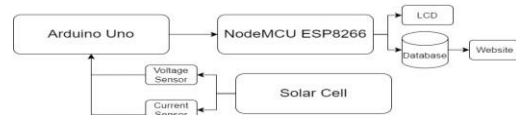


Figure 2. Solar Panel Monitoring Block Diagram

2) Design Results

Design/design results from study This refers to the prototype system optimization solar panel temperature Monocrystalline For enhancement Power based internet of things at Pakuan University according to with system block diagram. In research This shared become two design planning ie design planning system cooling and solar panel monitoring system . besides That results design planning system device soft required To use maximizing desired result. 1.Planning device hard shared become two part planning design , that is design planning system cooling and solar panel monitoring system like Figure 4 and Figure 5.



Figure 4. System Design Cooling



Figure 5. Solar Panel Monitoring System Design

3) Development / Implementation Results

Implementation done in space room with intensity light enough sun without obstruction , This done so that the solar panels get energy optimal solar like figure 6. For tool or connected systems with solar panels can stored inside room or room closed so that the tool No easy damaged consequence exposure ray sun or rain water splashes can seen from Figure 7. As well as the system cooler mounted under the solar panel like figure 8.

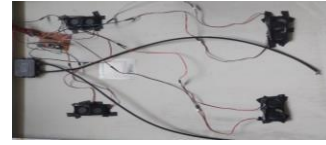


Figure 6. Solar Panel Placement

Figure 7. System Control and Monitoring

Figure 8. System Cooling

5. CONCLUSION

The research "optimisation of the campus environment based on the internet of thinks for increasing the monocrystalline temperature power of solar panels at pakuan university" was carried out to create an optimisation tool for energy absorption in solar panels and can be monitored in real time either through the website or can be seen directly on the available lcd. The dht22 sensor is an indication of whether or not the cooling system turns on when the temperature reaches more than 25 ° c. Acs712 voltage sensor and current sensor are also important in this research, voltage, current and energy data can be read by these sensors to monitor the data generated by solar panels. In this study, an optimisation level of 6.49% was obtained for a decrease in panel temperature, 4.74% for an increase in voltage, 20.6% for an increase in current and 25.4% for an increase in energy.

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POTENTIAL OF CARRAGEENAN PGP AND SYNTHETIC FERTILIZER IN IMPROVING GROWTH AND YIELD OF AEROBIC RICE

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ABSTRACT

This study assessed the impact of carrageenan and synthetic fertilizer on rice production by examining various parameters including plant height, number of tillers, panicle length, moisture content, and rice yield. Field experiments were conducted, and data were collected from five different treatment groups. Statistical analysis revealed non-significant effects across all parameters, with p-values ranging from 0.81 to 0.99, indicating that neither carrageenan nor synthetic fertilizer led to statistically significant differences in rice growth and productivity. Despite the absence of significant effects, the study contributes valuable insights to agricultural research by challenging existing assumptions about the efficacy of these treatments. It underscores the necessity for empirical validation of agricultural practices and emphasizes the ongoing need for exploration and refinement of agricultural technologies. Future research directions include exploring alternative application rates, timings, or formulations of carrageenan and synthetic fertilizer to uncover optimal conditions for enhancing rice production. Additionally, conducting field trials across diverse environments and adopting integrated approaches that combine various agricultural practices may offer new insights into improving crop performance. Comprehensive economic analyses will also aid in assessing the cost-effectiveness of these treatments and informing farmers' decisions regarding their adoption. This study sets the stage for further investigations aimed at optimizing rice production practices and addressing the challenges faced by farmers in the agricultural sector.

Keywords: Aerobic Rice, Carrageenan, Plant growth, Rice production, Synthetic fertilizer

1. INTRODUCTION

Although rice is a staple meal throughout Asia, its high-water requirement presents a problem in light of the region's diminishing water supplies. The decreasing availability of water poses a danger to the traditional practice of irrigated rice farming. An inventive method that offers a water-saving substitute is called aerobic rice technology. Aerobic rice is produced with additional irrigation, just like other upland cereal crops, as opposed to conventional flooded rice fields. With this technique, high-yielding rice may be grown in aerobic soil that is neither flooded nor puddled (Sudhakara et al., 2020).

Farmers and researchers highlight numerous advantages of aerobic rice technology compared to traditional methods. These include reduced input requirements, ease of crop management, competitive yields, improved profitability, early establishment enhancing water and land productivity, resistance to pests and diseases, and weed competitiveness. Recognizing these potentials, there is a call to further develop, promote, and disseminate aerobic rice technology in rainfed areas. Moreover, there is a need for comprehensive research to refine specific management practices, particularly during the dry season (Dayag et al., 2014).

However, despite varietal improvements, aerobic rice yields remain low, largely attributed to faulty fertilizer practices. Nitrogen, in particular, plays a crucial role in rice yield enhancement, influencing tiller production, leaf area development, and canopy photosynthesis. A significant increase in Asian rice production from 1965 to 1980 was linked to fertilizer use, notably nitrogen. Poor nitrogen management leads to inadequate soil nutrient supply and low fertilizer use efficiency. Hence, appropriate nitrogen management is imperative for aerobic rice cultivation (Amrutha et al., 2016).

Several studies have demonstrated the positive impact of bio and organic fertilizers on rice growth and yield, often resulting in reduced mineral fertilizer usage. Integrating organic fertilizers with chemical fertilizers presents a promising agronomic option to minimize chemical fertilizer dependency. Thus, this study aims to evaluate the effects of integrated fertilizer using carrageenan and synthetic fertilizer on the growth and yield of aerobic rice.

The main objective of the study aimed to assess the growth and yield of aerobic rice under integrated fertilizer management using carrageenan PGP and synthetic fertilizer.

Specifically, the study aimed to: determine the effect of carrageenan and synthetic fertilizer on the growth of rice in terms of plant height; assess the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice in terms of: number of productive and unproductive tillers; length of panicle; weight of 1000 grains; moisture content; and total yield.

2. RESEARCH METHODOLOGY

Research Design

The experiment employed the Randomized Complete Block Design (RCBD) with five (5) treatments and replicated three (3) times with the following treatments: Treatment 1 - Control (Farmer's Practice using 100% Synthetic Fertilizer); Treatment 2 - 25% Carrageenan - 75% Synthetic Fertilizer Treatment 3-50% Synthetic Fertilizer - 50% Carrageenan Treatment 4 -75% Carrageenan -25% Synthetic Fertilizer and Treatment 5-100% Carrageenan

Land Preparation

The soil was dug up over time, and then the field was leveled. After the land preparation, construction of bunds in all experimental plots was undertaken to ensure that no leakage of treatments took place. The bunds that were constructed were made sure to be compacted and properly sealed to eliminate leakage through seepage. A total of 15 experimental plots were established with a size of 3m x 4m.

Seed Sowing

Seeds were directly sown in the field using drilling method following the distance of 20cm x 20cm. Three (3) seeds of rice were placed in a hole using bamboo stick.

Fertilizer Management

Application of fertilizer was done through foliar application following the recommended rate.

Table1. Application of fertilizer following farmer's practice

Fertilizer	Dosage	Time Application	Stage of Crop
Complete Fertilizer	120g	1st application 15 DAT	After transplanting
Urea + Ammonium Sulphate	240g + 120G	2nd application 30 DAT	Vegetative stage

Table 2. Application of fertilizer 75% of synthetic and 25% of carrageenan

Fertilizer	Dosage	Time Application	Stage of Crop
Complete Fertilizer + Carrageenan	90g + 80ml/L	1st application 15 DAT	After transplanting
Urea + Ammonium Sulphate + Carrageenan	180g + 90g + 80ml/L	2nd application 30 DAT	Vegetative stage

Table 3. Application of fertilizer 50% of synthetic and 50% of carrageenan

Fertilizer	Dosage	Time Application	Stage of Crop
Complete Fertilizer + Carrageenan	60 + 160ml/L	1st application 15 DAT	After transplanting
Urea + Ammonium Sulphate + Carrageenan	120g + 60g + 160ml/L	2nd application 30 DAT	Vegetative stage

Table 4. Application of fertilizer 25% of synthetic and 75% of carrageenan

Fertilizer	Dosage	Time Application	Stage of Crop
Complete Fertilizer + Carrageenan	30 + 240ml/L	1st application 15 DAT	After transplanting
Urea + Ammonium Sulphate + Carrageenan	60g + 30g + 240ml/L	2nd application 30 DAT	Vegetative stage

Table 5. Application of carrageenan

Fertilizer	Dosage	Time Application	Stage of Crop
Carrageenan	320ml/L	1st application 14 DAT	After transplanting
		2nd application 30 DAT	Vegetative Stage
		3rd application 45 DAT	Panicle initiation

Water Management

Flash irrigation was employed as the irrigation scheme wherein the experimental plots were done weekly at 2 – 5 cm water depth. However, during the flowering stage of the plants, flood irrigation was employed wherein 5-7 cm water depth.

3. RELATED RESEARCH/LITERATURE REVIEW

In a study by Naeem et al. (2020), the effects of foliar application of radiation-modified carrageenan on rice yield were examined. Results showed that test plants treated with 200ppm carrageenan exhibited a 34.8% increase in grain yield compared to untreated controls. Additionally, the addition of inorganic fertilizer at varying rates resulted in yield increases of 15% to 25.6% compared to treatments with fertilizer alone. Moreover, plant height increments were observed at different carrageenan concentrations, with the highest increments seen at 100 ppm and 200 ppm. Further application of carrageenan at the milking stage also showed positive effects on grain filling and yield. The study concluded that radiated carrageenan effectively enhanced grain yield, yield components, and plant growth.

Another study by Kirchmann (2019) focused on organic farming, aiming to address the rising costs of inorganic fertilizers by evaluating seaweed emulsion (carrageenan) as a nutrient supplement for glutinous corn production. The experiment, conducted at Cagayan State University, revealed that seaweed emulsion application did not significantly affect plant height but positively influenced grain development, resulting in longer and heavier corn ears. Higher seaweed emulsion rates (3-6 liters/ha) were found to be more efficient, leading to larger ears, higher yields, and a remarkable return on investment of 909.62%. The study concluded that the combination of organic fertilizer with seaweed emulsion improved glutinous corn production, offering a promising alternative for farmers.

These studies highlight the potential of carrageenan as a beneficial supplement in agricultural practices, contributing to increased yield and productivity in rice and corn cultivation. They emphasize the importance of exploring natural organic inputs to enhance crop production and sustainability, particularly in the face of challenges such as rising fertilizer costs and water scarcity. Through continued research and adoption of innovative techniques, farmers can optimize their farming practices and mitigate challenges while promoting environmental stewardship and economic viability.

4. RESULTS AND DISCUSSION

Effect of Carrageenan and Synthetic Fertilizer on the Growth of Rice in terms of Plant Height

The effect of carrageenan and synthetic fertilizer on the growth of rice in terms of plant height was assessed. The analysis of variance (ANOVA) results indicated a p-value of 0.94, suggesting that there is no significant difference in plant height among

the different treatment groups (Table 6). In the research conducted by Shrestha et al. (2020), it was found that the concurrent application of organic manure and inorganic fertilizers has an impact on both the growth and yield traits of rice.

Table 6. Analysis of Variance on the effect of carrageenan and synthetic fertilizer on the growth of rice in terms of Plant Height.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	60.12933	4	15.0323333	0.185099903	0.940842	3.47805
Within Groups	812.12	10	81.212			
Total	872.2493	14				

The average plant height across all treatments ranged from 122.1 cm to 127.3667 cm. The variance in plant height within treatments varied, with Treatment 4 showing the highest variance (216.493333) and Treatment 3 showing the lowest variance (2.11) as shown in Figure 1.

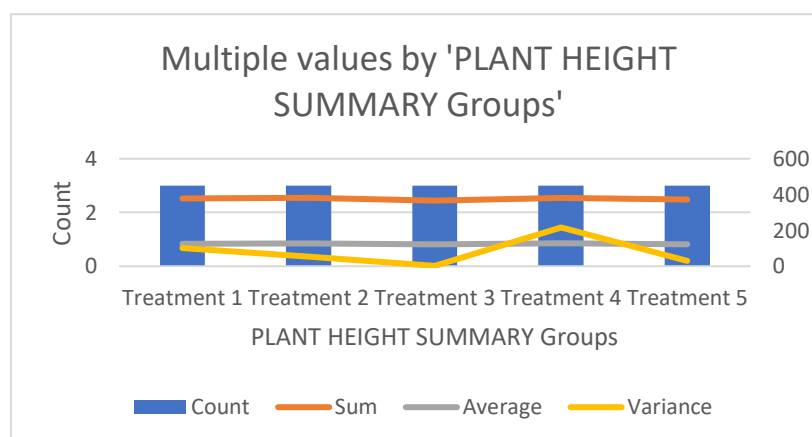


Figure 1. Plant Height Summary

Figure 1. Plant Height Summary Groups

In summary, based on the ANOVA results and the descriptive statistics provided, it can be concluded that there is no significant effect of carrageenan and synthetic fertilizer on rice plant height in this study.

Effect of Carrageenan and Synthetic Fertilizer on the Yield and Yield Components of Rice

Number of productive and unproductive tillers

Table 7 shows the analysis of the number of tillers in each treatment group indicates that there were no significant differences observed in terms of productive tillers across all treatments. This aligns with the non-significant p-value of 0.96, suggesting that neither carrageenan nor synthetic fertilizer had a substantial impact on the development of productive tillers in rice.

Table 7. Analysis of Variance on the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice in terms of number of tillers.

Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	12.48451	4	3.12112667	0.12637167	0.969493	3.47805
Within Groups	246.9799	10	24.6979933			
Total	259.4644	14				

However, it's noteworthy that in Treatment 3 (Application of fertilizer 50% of synthetic and 50% of carrageenan) and Treatment 5 (Application of carrageenan), all tillers were classified as unproductive, as they fell below the average number of tillers (Table 8). This could suggest that these treatments may have experienced conditions or received treatments that inhibited the development of productive tillers.

Table 8. Number of Productive and Unproductive Tillers.

Treatment	Productive Tillers	Unproductive Tillers
Treatment 1	52.63	None (all above average)
Treatment 2	53.6	None (all above average)
Treatment 3	None (all below average)	48.6
Treatment 4	51.6	None (all above average)
Treatment 5	None (all below average)	46.2

Length of panicle

The study investigated the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice, specifically focusing on panicle length. The obtained p-value of 0.81 indicates that there is no significant effect of the treatments on panicle length. Hasanuzzaman et al. (2010) found that higher nitrogen (N) levels led to a significant increase in the length of the panicle compared to the use of organic fertilizers alone or a combination of organic and inorganic fertilizers with equal nutrient content. They observed a noticeable enhancement in panicle length with the application of NPKS fertilizer.

Table 9. Analysis of Variance on the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice in terms of number of tillers.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.458028	4	1.36450693	0.390471785	0.810937	3.47805
Within Groups	34.94508	10	3.4945084			
Total	40.40311	14				

Panicle length is an important yield component in rice cultivation, as it directly influences the number of grains produced per panicle and, consequently, the overall yield. In this study, the data provided includes the count, sum, average, and variance of panicle lengths observed across different treatment groups (Figure 2).

The count indicates the number of samples taken from each treatment group, while the sum represents the total length of panicles observed in those samples. The average panicle length per sample and the variance in panicle lengths within each treatment group are also provided.

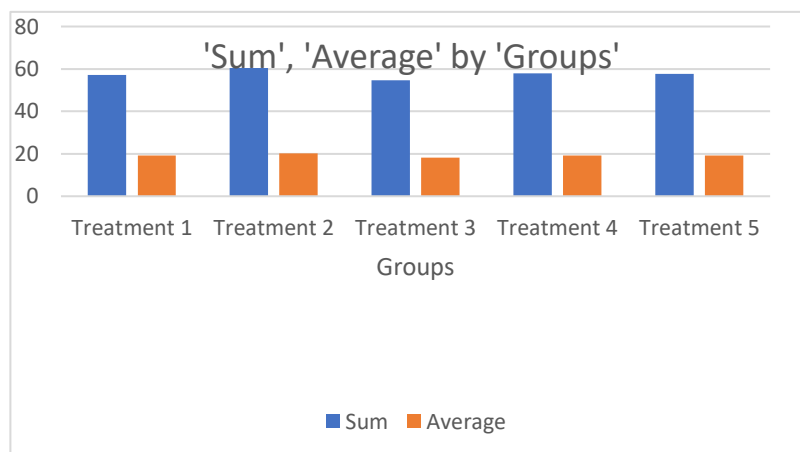


Figure 2. Sum and Average by Groups in terms of Panicle Length

The non-significant p-value suggests that the variations in panicle length observed among the treatment groups are likely due to random chance rather than the effects of carrageenan and synthetic fertilizer. Therefore, the treatments did not lead to statistically significant differences in panicle length.

Weight of 1000 grains

The weight of 1000 grains are an important indicator of grain size and yield potential in crops like rice. In this study, different treatments were applied, and the weight of 1000 grains was measured for each treatment group.

Table 10. Weight of 1000 grains.

Treatment	Weight of 1000 grains (grams)
Treatment 1	24.17
Treatment 2	76.10
Treatment 3	48.93
Treatment 4	69.30
Treatment 5	32.20

These results demonstrate considerable variation in grain weight among the different treatments. Grain weight is an essential determinant of yield and grain quality. Generally, larger grains contribute to higher yields and better market value. Therefore, treatments that result in larger grain weight are typically preferred by farmers and agricultural researchers.

In this dataset, Treatment 2, which involved applying 75% synthetic fertilizer and 25% carrageenan, exhibited the highest weight of 1000 grains, measuring 76.10 grams. This suggests that this particular treatment resulted in significantly larger grain size compared to the other treatments. Conversely, Treatment 1, which followed the farmer's practice of fertilizer application, yielded the smallest grain size, with a weight of 1000 grains at 24.17 grams. This finding contrasts with the results reported by Ram et al. (2000), where an increase in grain yield was observed with the use of organic matter.

Understanding the factors contributing to variations in grain weight among treatments is essential for optimizing agricultural practices and maximizing yield. Factors such as soil fertility, water availability, nutrient management, and the application of growth regulators or fertilizers (like carrageenan and synthetic

fertilizers mentioned in previous discussions) can influence grain development and ultimately affect grain weight.

Moisture Content

The study examined the moisture content of rice under different treatments, with a focus on evaluating the effect of carrageenan and synthetic fertilizer. The obtained p-value of 0.99 suggests that there is no significant difference in moisture content among the treatment groups (Table 11).

Table 11. Analysis of Variance on the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice in terms of moisture content.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.51E-06	4	3.7767E-07	0.007275039	0.999875	3.47805
Within Groups	0.000519	10	5.1913E-05			
Total	0.000521	14				

Moisture content is a critical parameter in rice cultivation, as it affects various aspects such as grain quality, storability, and processing. In this study, the data provided includes the count, sum, average, and variance of moisture content observed across different treatment groups.

The count indicates the number of samples taken from each treatment group, while the sum represents the total moisture content observed in those samples. The average moisture content per sample and the variance in moisture content within each treatment group are also provided.

The high p-value indicates that the observed variations in moisture content among the treatment groups are likely due to random chance rather than the effects of the treatments. Therefore, the treatments did not lead to statistically significant differences in moisture content.

It is important to note that while moisture content did not show a significant difference among treatments in this study, other factors such as soil type, environmental conditions, or application rates of carrageenan and synthetic fertilizer may influence moisture retention in the soil and subsequently affect moisture content.

Total Yield

The study investigated the total yield of rice under different treatments involving the use of carrageenan and synthetic fertilizers. The resulting p-value of 0.89 suggests that there is no significant difference in rice yield among the treatment groups. Xu (2010) and Kumar et al. (2014) noted considerable enhancements in rice yield attributes when organic amendments were combined with chemical fertilizers, compared to using chemical fertilizers alone.

Table 12. Analysis of Variance on the effect of carrageenan and synthetic fertilizer on the yield and yield components of rice in terms of total yield.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.077294	4	0.51932343	0.259867038	0.89704	3.47805
Within Groups	19.9842	10	1.9984198			
Total	22.06149	14				

With a p-value of 0.89, the observed variations in rice yield among the treatment groups are likely due to random chance rather than the effects of the treatments. Therefore, the treatments did not lead to statistically significant differences in rice yield.

In summary, based on the obtained p-value and the descriptive statistics provided, it can be concluded that carrageenan and synthetic fertilizers did not significantly affect the yield of rice in this study.

5. CONCLUSION

The study assessing the impact of carrageenan and synthetic fertilizer on rice production yielded non-significant results across various parameters such as plant height, number of tillers, panicle length, moisture content, and rice yield, with p-values ranging from 0.81 to 0.99. These findings imply that neither carrageenan nor synthetic fertilizer led to statistically significant differences in rice growth and productivity.

Despite the absence of significant effects, this study contributes valuable insights to agricultural research by challenging existing assumptions about the efficacy of these treatments. It underscores the necessity for empirical validation of agricultural practices and emphasizes the ongoing need for exploration and refinement of agricultural technologies. By fostering innovation and evidence-based decision-making, researchers and practitioners can collaboratively develop sustainable solutions to address challenges like climate change, soil degradation, and resource limitations.

In conclusion, while this study did not identify significant effects of carrageenan and synthetic fertilizer on rice production, it sets the stage for future investigations. Further research could explore alternative application rates, timings, or formulations of these treatments to uncover optimal conditions for enhancing rice production. Additionally, conducting field trials across diverse environments and adopting integrated approaches that combine various agricultural practices may offer new insights into improving crop performance. Lastly, conducting comprehensive economic analyses will aid in assessing the cost-effectiveness of these treatments and informing farmers' decisions regarding their adoption.

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UNVEILING EFFICIENCY CHALLENGES IN WEST JAVA'S CHILI PRODUCTION: A PATHWAY TO ENHANCING INDONESIA'S FOOD SECURITY

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ABSTRACT

Chili is a cornerstone of Indonesian cuisine, playing a pivotal role in the nation's food security. However, the chili production sector in West Java, a key hub for chili cultivation, faces significant challenges due to price volatility stemming from production inefficiencies. This study examines the technical inefficiencies prevalent in chili production in West Java and how they are influenced by farmers' socio-economic characteristics and access to financial resources. A random sample of 398 farmers from four major chili-producing districts underwent analysis using multinomial logistic regression and one-way ANOVA. The findings indicate that 83% of chili farmers are efficient in running their farms. With an average technical inefficiency of 25%, there is potential to double chili production using existing resources and technologies. It is important to note that several factors were identified as influencing inefficiency, such as age, education level, household size, participation in training, farm record keeping, land tenure, land size, and crop productivity. It is interesting to note that farmers who have access to one financial provider have lower levels of inefficiency, with MFIs being the provider with the lowest average inefficiency among other providers. This study provides valuable insights for overcoming production bottlenecks and stabilizing chili prices, thereby improving Indonesia's food security. By understanding and addressing these inefficiencies, stakeholders can work to increase productivity, improve farmers' livelihoods, and ensure a stable supply of this essential ingredient for Indonesian cuisine.

Keywords: chili production, inefficiency analysis, food security, socioeconomic, agricultural finance

1. INTRODUCTION

Efficiency in agricultural production plays a critical role in ensuring food security, fostering economic development, and responsibly managing natural resources. At the heart of this efficiency lies the concept of technical efficiency (TE), which emphasizes the optimal utilization of available inputs. West Java, a significant agricultural hub in Indonesia, serves as an essential case study. However, it remains

uncertain whether the region's farmers consistently reach peak efficiency, particularly when confronted with environmental and resource limitations.

In Indonesia, vegetables are a pivotal element of the agricultural sector, fulfilling essential roles as both a primary food source and a horticultural product extensively cultivated by local communities. They significantly contribute to dietary requirements and have substantial commercial value. By transforming vegetables into value-added products, such as chili powder, the economic value is increased, which in turn enhances the welfare of the community (Destryana et al. 2021). Additionally, vegetables are packed with essential nutrients that maintain a high demand. For instance, chilies are a rich source of minerals, provitamins A, vitamins C and E, carotenoids, and phenolic compounds, which are beneficial for health (Materska and Perucka 2005; Sun et al. 2007).

Despite West Java's impressive chili production, which surpasses the national average by 1.6 times, yielding 13,944.4 kg per hectare as opposed to the national average of 8,746.8 kg per hectare (BPS 2022; BPS 2023), inefficiencies in chili production across Indonesia present significant challenges that must be addressed to ensure food security. These inefficiencies stem from a variety of factors, including uneven production across different times and regions, which leads to price fluctuations impacting inflation by 0.01–0.07% (Lukas et al. 2023). Additionally, the imbalance of supply and demand between regions affects farmers' welfare.

Access to financial resources emerges as another critical determinant of agricultural productivity on a global scale. However, the limitations faced by farmers in developing nations, including Indonesia, are particularly pronounced and can significantly hinder production efficiency. The inability to secure adequate investments for essential inputs, infrastructure, and technology remains a persistent challenge. In the context of West Java, a vital agricultural hub, this issue gains prominence. Understanding how limited access to finance impacts efficiency becomes increasingly relevant. Consequently, this study posits that enhancing financial accessibility will yield positive effects on the technical efficiency of agricultural production in Indonesia.

This research examines the various factors that influence production inefficiency. It meticulously evaluates the level of technical inefficiency in agricultural production, with a strong focus on the socio-economic characteristics of farmers, in addition to the accessibility of financial resources. The aim is to provide key insights to policymakers and financial institutions working to strengthen agricultural competitiveness in the region. By examining the dynamics of inefficiency in West Java, identifying key contributing elements, and understanding the influence of access to finance, this study aims to develop actionable strategies. These strategies are designed to overcome financial barriers and cultivate sustainable agricultural development.

2. RESEARCH METHODOLOGY

This investigation examines the intricate mechanisms of agricultural production from July to December 2023. It employs a robust quantitative methodology and comprehensive random sampling techniques to engage with 398 chili farmers in West Java, Indonesia. The research focused on the districts of Bandung, Garut, Cianjur, and Ciamis, which are recognized hubs of vegetable cultivation. To gain a comprehensive understanding of the subject matter, the research team compiled a range of data, including farmers' age, farming experience, education, household size, training, farm record-keeping, land tenure, land size, seed type, germination rate, crop productivity, and financing sources. Prior to initiating the research process, the team secured official authorization for data collection from the agricultural departments of the respective districts.

This study employs the stochastic frontier production function method to estimate technical inefficiency (TI). This method is a cornerstone of production analysis,

having been pioneered by Aigner et al. (1977) and Meeusen and Van Den Broeck (1977). As noted by Coelli et al. (2005) and Rahman (2003), the stochastic frontier production model is widely recognized for its ability to measure TE. The TI is calculated by subtracting the technical efficiency (TE) result from 100%. Table 1 shows the classification of inefficiency level in chili production.

Table 1. The classification of inefficiency level

Inefficiency Level	Category
<15%	Efficient
15% - 30%	Moderately efficient
>30%	Inefficient

In this study, factors related to the technical inefficiency of chili production were investigated using multinomial logistic regression analysis. The logistics equations are as follows:

$$\text{Logit}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{11} X_{11} \quad (1)$$

where:

Y = Technical inefficiency (%)

β_0 = Constanta

β_1 = Coefficient

X_1 = Age (years)

X_2 = Farming experience (years)

X_3 = Education (1 = Illiterate; 2 = Elementary School; 3 = Junior High School; 4 = Senior High School; 5 = University)

X_4 = Household size (person)

X_5 = Training (0 = Otherwise; 1 = have attended)

X_6 = Farm record-keeping (0 = Otherwise; 1 = have recorded)

X_7 = Land tenure (0 = No; 1 = Yes)

X_8 = Land size (Ha)

X_9 = Seed type (0 = Open Pollinated Variety; 1 = Hybrid)

X_{10} = Germination rate (%)

X_{11} = Crop productivity (Kg/Ha)

Once the levels of inefficiency have been established, our study employs a differential testing approach to investigate the differences in inefficiency based on financial accessibility. This is achieved through the use of the one-way analysis of variance (ANOVA), a powerful statistical tool for comparing multiple groups. This technique is instrumental in identifying any statistically significant disparities, typically at thresholds of $p \leq 0.1$, 0.05, or 0.01, among the average values of these groups. As a parametric test, ANOVA necessitates a predefined population distribution. The data set must adhere to criteria such as normality, independence, and variance homogeneity to ensure the validity of the ANOVA results (Kim 2017). The alignment with the Central Limit Theorem further substantiates the suitability of employing one-way ANOVA in our analysis.

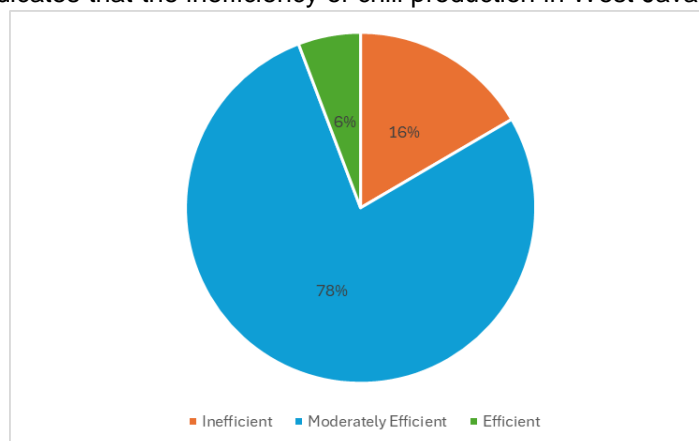
The one-way ANOVA is an optimal statistical approach for our study's objectives. Our aim was to assess the mean differences across three distinct groups categorized by their level of financial access (no access, access to one source, and access to multiple sources) in relation to a continuous dependent variable, which in this case is the degree of technical inefficiency. Although adherence to the normality assumption is typically crucial for the application of one-way ANOVA, the substantial size of our sample lends us the confidence to depend on the Central Limit Theorem's effect in normalizing the distribution of our sample means.

3. RESULTS AND DISCUSSION

Chili cultivation plays a pivotal role in the agricultural framework of West Java, Indonesia, with significant implications for both food security and the region's economic health. As demand for this crop intensifies, optimizing the efficiency of chili production becomes increasingly crucial. Efficiencies manifest in several dimensions, including the utilization of resources, cost management, and the quality of the yield. The technical efficiency of chili production is influenced by a number of key factors, including the quality of seeds, the application of organic and inorganic fertilizers, the use of organic and inorganic pesticides, the availability and skill of labor, and the adequacy of equipment (Jain and Jha 2015; Abate et al. 2019; Dessale 2019). Figure 1 illustrates the extent of technical inefficiency.

Figure 1. The extent of technical inefficiency

Figure 1 indicates that the inefficiency of chili production in West Java is 16%. The



majority of chili farms can be considered to be relatively efficient, with only 6% of farms exhibiting high levels of efficiency. Consequently, the average level of inefficiency of chili farming in West Java is estimated to be 25%. This discrepancy between the most and least efficient farms highlights the potential for enhancing productivity through targeted interventions. Misallocation and selection in agriculture reduces aggregate agricultural productivity by affecting resource allocation (Adamopoulos et al. 2022). Misallocation in farm production is a key determinant of potential growth, and removing institutional obstacles, such as trade regulations, functioning courts, and access to finance, can affect potential growth (León-Ledesma 2016). Furthermore, to address this it's essential to analyze the underlying causes of inefficiency. Table 2 shows the results of regression.

Table 2. The results of regression

Variables	Coefficient	DF	P value	Note
Age	1497.956	2	0.000	Significant at 99%
Farming experience	322.890	2	0.116	Not Significant
Education	338.057	8	0.013	Significant at 95%

Household size	340.560	12	0.038	Significant at 95%
Training	324.711	2	0.047	Significant at 95%
Farm record-keeping	329.211	2	0.005	Significant at 99%
Land tenure	325.203	2	0.036	Significant at 95%
Land size	348.877	2	0.000	Significant at 99%
Seed type	320.755	2	0.337	Not Significant
Germination rate	320.365	2	0.410	Not Significant
Crop productivity	446.600	2	0.000	Significant at 99%
Constant	318.580	0		
Intercept only	524.744			
Final	318.580	38	0.000	Significant at 99%

Pseudo R² = 55.2%

Table 2 reveals that out of eleven socioeconomic factors, eight significantly impact the technical inefficiency in chili production. At a 99% confidence level, age, farm record-keeping, land size, and crop productivity are key influencers. Education, household size, training, and land tenure also play a role at the 95% confidence level. The model's robustness is evidenced by a notable decrease to a final value of 206.164, with $p \leq 0.01$, indicating superior predictive power over other regression models. This model aligns with the findings of Ismail and Mahmud (2023) and Asravor et al. (2016), and further supports Bahtera et al. (2020), who noted the significant influence of participation in farmer group meetings and part-time work on inefficiency.

The study indicates that age has a substantial impact on technical inefficiency in chili production. Older farmers tend to exhibit greater inefficiency levels. This observation aligns with the idea that older farmers might be more resistant to change and less likely to adopt novel technologies or farming methods. Additionally, physical limitations faced by older farmers could affect their efficiency in managing farm operations. To mitigate this issue, targeted extension programs and training initiatives could be designed to assist older farmers in adapting to new technologies and practices, ultimately enhancing their efficiency and productivity.

The study findings reveal that increased levels of education correlate with reduced technical inefficiency among chili farmers. This underscores the crucial role of education in enhancing farmers' knowledge and skills, empowering them to make informed decisions and adopt more efficient farming practices. Policymakers and agricultural extension services should prioritize creating educational opportunities for farmers to enhance their efficiency and promote sustainability.

Household size has a significant impact on technical inefficiency in chili production. Larger households tend to experience challenges in coordinating labor and resources, leading to inefficiencies in farm management. To tackle this issue, strategies could involve promoting mechanization and offering training on farm management practices specifically tailored for larger households.

The trained farmers have shown a tendency to achieve greater efficiency in chili production. This underscores the importance of providing training and extension services that enhance their knowledge and skills. Focusing training efforts on modern farming techniques, pest and disease management, and sustainable agricultural practices could significantly improve the productivity and yield of these farmers.

Farmers who recorded their farming activities have been identified as more efficient in their operations. The analysis highlights the vital importance of meticulous record-keeping in boosting farming efficiency. Effective record-keeping enables farmers to monitor inputs and outputs, pinpoint areas of inefficiency, and make well-informed

choices, all of which are crucial for optimizing chili production. Initiatives that encourage precise record-keeping and equip farmers with essential tools and education can substantially enhance the efficiency of chili farming. Wulandari et al. (2023) showed that recording their farm finances farmers can properly manage every resource they have, leading to a large increase in income.

Farmers with secure land tenure rights tend to exhibit higher efficiency in chili production. The assurance of land tenure gives farmers the confidence needed to make investments and implement sustainable practices for the long term. Implementing policies that reinforce land tenure security and facilitate access to land can be instrumental in enhancing both the efficiency and the productivity of chili farming.

Land size has been found to be associated with higher levels of technical inefficiency in chili cultivation. This implies that managing larger plots may require additional resources and expertise, potentially leading to inefficiencies in farm management. To address this, strategies could focus on promoting cooperative farming models or providing support for farm mechanization, both of which have the potential to improve overall efficiency.

Farmers with higher crop yields tend to demonstrate greater efficiency in chili farming. This underscores the importance of effective farming techniques for boosting productivity. These skilled farmers adeptly manage their resources. To further enhance both efficiency and yield in chili cultivation, promoting sustainable agricultural methods such as integrated pest management and optimized irrigation systems is crucial.

Access to financial providers plays a pivotal role in the technical efficiency of agricultural production. When farmers have reliable access to credit and financial services, they are better equipped to invest in quality inputs, adopt advanced technologies, and implement efficient farming practices. This financial support can lead to significant improvements in technical efficiency, as it allows for timely and adequate responses to farming needs. Conversely, limited access to financial resources can hinder a farmer's ability to operate efficiently, as it may restrict their capacity to invest in necessary improvements or innovations. Therefore, policies and programs that improve farmers' access to financial services are crucial for enhancing technical efficiency in agriculture. Figure 2 demonstrates the role of financial providers on technical inefficiency.

According to Figure 2, it is interesting to note that farmers who have access to a single financial provider tend to exhibit lower levels of inefficiency compared to those who do not have such access. This finding underscores the importance of financial inclusion in improving agricultural efficiency. When farmers can access credit, savings, or other financial services, they are better positioned to invest in quality inputs, adopt modern technologies, and optimize their farming practices.

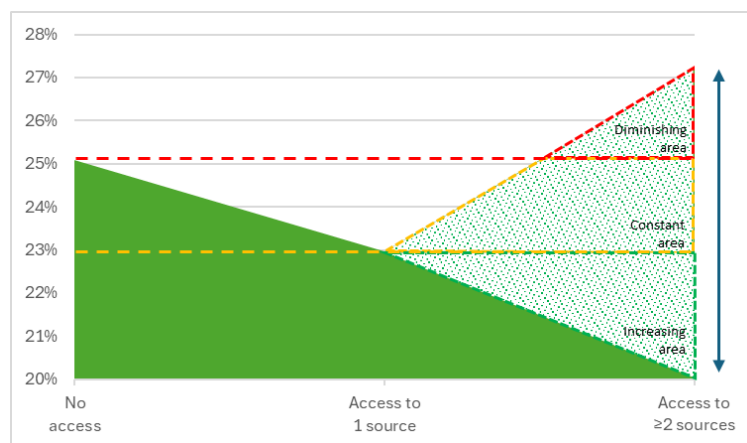


Figure 2. The role of access to financial providers on technical inefficiency

Farmers who access two or more financial providers surprisingly exhibit higher technical inefficiency. This unexpected result suggests that managing multiple financial relationships introduces complexities that hinder overall efficiency. Accessing multiple sources of finance can lead to an increased debt burden, affecting the farmer's ability to invest in efficiency-enhancing technologies. Additionally, with greater credit access, farmers may become risk-averse, avoiding innovative yet riskier practices. Limited financial literacy and resource diversion to non-agricultural uses contribute to inefficiencies. It is possible that farmers with more than one financial providers may have a lower inefficiency than having none, although still higher than accessing only one source (constant area). Indeed, Overcoming complexity could significantly lower technical inefficiency for those with multiple sources. This is in line with the projections in the increasing area.

Note: orange = not accessed, blue = accessed

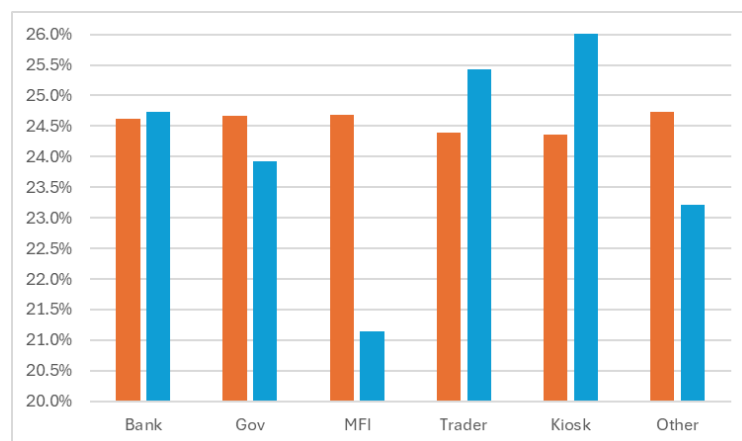


Figure 3. The disparities in technical inefficiency based on financial providers

Figure 3 illustrates the disparities in technical inefficiency based on the financial providers. Financing that can be accessed by farmers comes not only from formal financing, such as from banks, government, or MFI, but also from non-formal financing, such as from traders, agricultural kiosks, landowners, or neighbors/relatives/family (Wulandari et al. 2021). Out of the six financial providers analyzed, access to government support through farmer groups, microfinance institutions (MFIs), and other correlates with reduced inefficiency levels. Notably, farmers utilizing banks, traders, or agricultural kiosks as their financial sources do not exhibit a decrease in technical inefficiency. Other alternatives, such as contract financing and corporate farming, have been found to be more viable for producers than traditional financing because of limitations in using agricultural land as collateral

(Middelberg 2013). Therefore, the form of financing obtained is not only cash, but also in kind.

MFIs significantly reduce inefficiency by offering financial services to those typically underserved by traditional banks, such as the unemployed or low-income individuals and businesses. Specializing in microloans, MFIs cater to farmers without collateral or a credit history. Beyond providing capital, MFIs emphasize capacity building through education in financial literacy, entrepreneurship, and management. Smallholder farmers' loan repayment practices are influenced by loan purpose, experience, dependency ratio, and wealth, highlighting the need for improved credit and savings services in rural areas (Feye 2020). Their flexible repayment terms accommodate the variable incomes of small-scale entrepreneurs and farmers, mitigating the unpredictability of seasonal earnings. As an alternative to informal lenders, MFIs extend a range of services, including savings, insurance, healthcare, and education, fostering a comprehensive support system for their clients' financial and overall well-being. However, there is also evidence that having access to in-kind financing from the government can increase farmers' production compared to farmers who do not have access to similar in-kind financing (Wulandari et al. 2018).

To enhance the technical efficiency of chili production, consider mentoring and training farmers in financial literacy. Practical exercises, such as role-play or simulations, can simplify complex financial concepts for farmers with limited education. Trained farmers should be encouraged to effectively utilize multiple financing sources. Additionally, government incentives for financial institutions, like MFIs, can further reduce production inefficiencies, contributing to improved food security. For example, US beginning farmers and ranchers in the US use nontraditional financing sources, such as human capital, government support programs, and alternative marketing strategies, in contrast to established operations (Thilmany et al. 2022).

4. CONCLUSION

The study reveals that chili production in West Java is crucial for Indonesia's food security. Despite high yields, inefficiencies persist due to socio-economic factors and limited financial access. Addressing these inefficiencies is vital for stabilizing chili prices and improving farmers' livelihoods. The average technical inefficiency is 25%. Key factors such as age, education, household size, and land tenure significantly affect production efficiency. Enhanced training and financial literacy can empower farmers to utilize resources more effectively and adopt efficient farming practices.

Access to financial providers, particularly MFIs, plays a significant role in reducing inefficiency. Single-source financial access appears to be more beneficial than multiple sources, highlighting the need for streamlined financial support systems for farmers. The findings suggest that targeted interventions, such as mentoring, training, and government incentives for financial institutions, can improve technical efficiency. This, in turn, contributes to sustainable agricultural development and food security in Indonesia.

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CORPORATE SOCIAL RESPONSIBILITY AND INFORMATION ASYMMETRY IN 2SLS ESTIMATION OF DYNAMIC SIMULTANEOUS EQUATION MODELS

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ABSTRACT

Several studies have shown that information imbalance is affected by the availability of relevant information in the market. Such information can be either financial information or non-financial information. It has been studied in previous literature that both financial information and non-financial information should be considered by firms. These studies generally assume that non-financial information has value relevance and serves as additional information for stakeholders and market participants. This study aims to examine the impact of CSR on information imbalance in the Financial Industry. The focus is to prove that CSR can reduce information imbalance in Indonesia. The analytical method used is Two-Stage Least Squares (2SLS) Regression Analysis to evaluate the relationship between the variables. Therefore, this study has the potential to provide important insights for the financial industry in understanding the impact of CSR practices on information dynamics in the market.

Keywords: corporate social responsibility, information asymmetry, dynamic model

1. INTRODUCTION

Studies on non-financial information, particularly CSR studies have reported that firms in environmentally and socially sensitive industries pay more attention to sustainability issues (Wu & Shen, 2013). While firms operating in non-sensitive industries do not take CSR. Little is known about how firms operating in non-sensitive industries deal with CSR practices. The lack of empirical research in this area is due to the nature of voluntary characteristics and or due to data limitations, as in many countries, CSR practices are still considered as voluntary disclosures. However, nowadays, such requirements are recently in practice, especially in European countries. In 2018, the European Directive required companies operating in Europe to publicly disclose non-financial information (i.e., CSR reports). Even regulations in Indonesia also require companies to carry out social and environmental responsibilities, especially for businesses related to natural resources (Law No. 40/2007 on Limited Liability Companies).

This study will use a dataset of companies listed in Indonesia. The decision to focus on Indonesian companies is based on the very high level of information asymmetry in the Indonesian capital market compared to the rest of Asia. CSR information is considered to be a relevant additional value for stakeholders, but an open question is whether this relationship also holds in the Indonesian context, where the operating conditions of companies differ from those of companies in industries that are sensitive to such issues.

Furthermore, this study uses 2SLS (Two-Stage Least Squares) and GMM (Generalized Method of Moments) regression. Since most research designs may contain endogeneity issues, the usual OLS model is considered inappropriate because it has not been able to provide consistent and efficient results. To handle

this problem, 2SLS regression is one of the commonly used options. In addition, to anticipate data that may suffer from heteroscedasticity and autocorrelation problems that may result in inefficient or inconsistent parameter estimates, the GMM method is recommended by the literature.

2. RESEARCH METODOLOGY

Data and Sampel

This research was conducted on all companies listed on the Indonesia Stock Exchange (IDX) at the end of the 2022 period. By considering the number of listed companies, purposive sampling was determined as a sampling technique in this study. The sample criteria used are 1) Active companies listed at the end of the 2022 period; 2) Companies that are listed consecutively during the 2018-2022 period; and 3) Listed companies with complete observations and financial fundamental data (control variables). By using these criteria, the final sample was obtained as many as 108 companies.

Research Design

Tests in overcoming endogeneity problems due to simultaneity, and omitted variables, apply the two-stage least squares (2SLS) method and the generalized method of moments (GMM) dynamic panel system method. This method is used to minimize the problem of a negative relationship between CSR and information asymmetry determined simultaneously by some omitted variables. The econometric equations that will be estimated by applying the two-stage least squares (2SLS) method are as follows:

First-stage

$$CSR_{i,t-1} = \beta_0 + \beta_1 \Delta CSR_{i,t-2} + \beta_2 \Delta CSR_{i,t-3} + \beta_3 INDUSTRY_MEDIAN_CSR_{i,t-1} + \sum_{j=4}^n \beta_j CONTROL_{i,t-1} + \varepsilon_{i,t-1} \quad (1)$$

Second-stage

$$AI_{i,t} = \gamma_0 + \gamma_1 \widehat{CSR}_{i,t-1} + \sum_{j=2}^n \gamma_j CONTROL_{i,t-1} + v_{i,t} \quad (2)$$

Where AI is information asymmetry (measured by AMIHU as the main proxy for information asymmetry); CSR is Corporate Social Responsibility; is lagged industry-median CSR; and control variables (CONTROL) are company size (SIZE), leverage (LEV), and return on equity (ROE).

3. RELATED RESEARCH/LITERATUR REVIEW

Disclosure of environmental information as part of a firm's non-financial disclosures reduces information asymmetry, thereby reducing information acquisition costs and increasing firm value (Lang & Lundholm, 1993). Managers' performance of good CSR practices will reduce information asymmetry, which may affect adverse relationships between customers and suppliers (Michelon et al., 2015). Empirically, an inverse (negative) relationship between CSR engagement and information asymmetry has been found after controlling for various firm characteristics (Kim & Lee, 2019). In addition, it has also been shown that the negative relationship between CSR activities and information asymmetry is strengthened by firm risk (Cui et al., 2018a). Furthermore, it is also emphasized that positive corporate CSR signals are attractive to prospective and current employees (Greening & Turban, 2000). Therefore, retaining qualified personnel is essential for companies to keep their CSR programs competitive, develop good information in their environment, and will reduce information asymmetry among employees.

The accuracy with which companies disclose their CSR performance is of utmost importance (Clarke, 2013), especially in order to discern appropriate actions and consequences, intentions and goals for stakeholders (Kalbouneh et al., 2023). In

addition, the decision to use CSR information shows a useful way of comparability. On the one hand, sustainable activities (voluntarily participating in environmental programs and innovations) aim to influence society's perception of the company's actions more clearly and tangibly to gain and increase legitimacy (Berrone et al., 2011; Islam et al., 2021; L'Abate et al., 2023) However, on the other hand, the quality of sustainable information (reports) can be used to address corporate issues (Boiral, 2013). It reflects the ethical values of the company and companies that fulfill their social obligations by using CSR are associated with corporate accountability (Michelon et al., 2015). CSR plays a role in improving the quality of corporate information (Chulkov & Wang, 2023; Yoon et al., 2019) Managers are responsible for producing high-quality financial reports even though it will reduce the company's profits. They argue that CSR is more reflective of management ethics and thus encourages transparent and reliable financial reporting. Furthermore, transparent companies tend to reduce information asymmetry between companies and shareholders (Lambert et al., 2007)..

The negative relationship between CSR performance and bid-ask spread as a proxy for information asymmetry is reduced for firms with high levels of institutional investors (Cho et al., 2013). Their findings suggest that informed investors can exploit CSR information from related companies to benefit. In general, their study noted that CSR performance plays a positive role for investors, especially in reducing the level of information asymmetry as experienced by uninformed investors and stakeholders. Different from previous studies, this study does not only focus on CSR performance and its relationship with bid-ask spread. But rather investigates the effects of CSR practices in several forms on different proxies of information asymmetry indicators.

Taking into account the empirical literature found inconsistent results, the hypothesis built in this study is that Corporate Social Responsibility significantly reduces information asymmetry.

4. RESULTS AND DISCUSSION

Results

Table 1. Pearson correlation among the variables

Variable	1	2	3	4	5
1 AI	1				
2 CSR_	0.203**	1			
3 SIZE	0.374***	-0.121	1		
4 LEV	-0.512***	0.022	-0.585***	1	
5 ROE	0.628***	0.007	0.433***	-0.322***	1

Table 1 outlines the results of the correlation analysis. It can be seen that the dependent variable, information asymmetry (AI) is proxied by AMIHU price impact, and the independent variable is proxied by CSR. In more detail, the independent variable, CSR is reported to show a positive ($r = 0.203$) and significant ($p < 0.01$) correlation with AI.

Hypothesis Testing

The analysis was conducted by empirically testing the relationship between CSR practices and information asymmetry using the 2SLS model. However, the test is broken down into two different models because it follows the stages of 2SLS testing, namely estimating the first stage by regressing the endogenous variable (CSR) on instrumental variables and other exogenous variables to obtain the predicted value of the endogenous variable. Furthermore, the second stage estimates by regressing the dependent variable (information asymmetry) on the predicted value of the endogenous variable (CSR) and other exogenous variables.

Table 2. 2SLS regression analysis

VARIABLES	Expected Direction	First-Stage	Second-Stage
CSR _{i,t-1}	-		-0.0272** [-2.720]
CSR _{i,t-2}	-	-0.0301*** [2.663]	
CSR _{i,t-3}	-	-0.0305** [-2.276]	
SIZE	+/-	-0.0760*** [-5.801]	-0.0713*** [-5.484]
LEV	+/-	0.00000847 [0.042]	-0.00000702 [-0.035]
ROE	+/-	0.0027*** [3.375]	0.0022** [2.444]
Observations		540	540
R-squared		0.453	0.298

*** p<0.01, ** p<0.05, * p<0.1 indicate statistical significance at the 1 percent, 5 percent and 10 percent level respectively (two-tailed). t values are available in parentheses.

Table 2 displays the statistical output of the 2SLS regression analysis, which empirically tests the relationship between CSR practices and information asymmetry. The results obtained show that CSR is negatively and significantly related to information asymmetry. More precisely, the coefficient value of CSR is reported to be negative ($\beta = -0.0272$) and statistically significant ($p < 0.05$) when tested directly against information asymmetry. These results indicate that the hypothesis is statistically supported.

Discussion

Information asymmetry is a condition in which there is an imbalance of information between company management and external parties, such as investors and other stakeholders. Information asymmetry can cause agency problems and affect investment decisions and firm value. Therefore, it is important for companies to reduce information asymmetry by increasing transparency and information disclosure. In this context, Corporate Social Responsibility (CSR) can act as one of the mechanisms to reduce information asymmetry. CSR is a company's commitment to be responsible for the environment and surrounding communities, as well as considering the interests of stakeholders in decision making. By implementing good CSR practices, companies can increase transparency and trust from stakeholders, which in turn can reduce information asymmetry. Companies that implement CSR tend to have higher levels of transparency in their financial and non-financial reporting. This can reduce information asymmetry between companies and investors, thus allowing investors to make more informed and sustainable investment decisions..

In addition, CSR can also play a role in reducing information asymmetry between companies and consumers. By providing clear information about their production practices and supply chains, companies can build consumer trust and enable consumers to make more sustainable purchasing decisions. This is consistent with previous research which also found that good CSR practices will reduce information asymmetry (Michelon et al., 2015).

The relationship between CSR and information asymmetry can be affected by endogeneity issues, where there is a possibility of unclear causality or the presence of unobserved variables that affect both variables. To overcome this problem, Two-Stage Least Square (2SLS) regression can be used as a model to

minimize the endogeneity problem. 2SLS regression is an econometric method used to overcome endogeneity problems in regression models. Relevant research has proven that there is an inverse (negative) relationship between CSR engagement and information asymmetry (Cui et al., 2018b; Kim & Lee, 2019).

5. CONCLUSION

This study examines the effect of CSR and information asymmetry in Indonesia using the 2SLS model. Using a sample of 108 companies from 2018 to 2022, it was found that CSR can reduce information asymmetry. The effectiveness of CSR in reducing information asymmetry depends on the extent to which companies implement CSR practices consistently and transparently. In addition, proper regulation and supervision from the authorities are also necessary to ensure that firms actually adhere to their CSR commitments and do not simply engage in greenwashing or pseudo-CSR actions. Thus, while CSR can act as a mechanism to reduce information asymmetry, consistent implementation and strict oversight are needed to ensure that CSR actually fulfills its purpose of increasing corporate transparency and accountability.

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**THE INFLUENCE OF PRICE EARNING RATIO (PER), DEBT OF
EQUITY RATIO (DER), AND RETURN ON ASSET (ROA)
ON PRICE BOOK VALUE (PBV)
(Case Study on State-Owned Enterprises in The Energy and Mining Sector
Listed on The Indonesian Stock Exchange)**

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ABSTRACT

In the last five years, the world's economic and business conditions have experienced many challenges and trials. The first is the occurrence of cases of the corona infectious disease which then spread to become a pandemic and also the occurrence of conflicts or wars in several countries. The recent regional wars or conflicts have had a significant impact on the energy and mining sectors, both in the region and throughout the world. This research aims to analyze the influence of Price Earning Ratio (PER), Debt of Equity Ratio (DER) and Return on Assets (ROA) on Price Book Value (PBV) in Indonesian State-Owned Companies in the energy and mining sector listed on the Indonesian Stock Exchange. The data in this research is secondary data in the form of quarterly financial data for the period 2019-2023. The approach in this research is quantitative descriptive. The research results show that 1). Price Earning Ratio (PER) has a positive but not significant effect on PBV. 2). Debt of Equity Ratio (DER) has a positive but not significant effect on PBV. 3). Return on Assets (ROA) has a positive and significant effect on PBV listed on the Indonesian Stock Exchange. Price Earning Ratio (PER), Debt of Equity Ratio (DER) and Return on Assets (ROA) jointly influence the Price Book Value (PBV) of Indonesian State-Owned Companies in the energy and mining sectors listed on the Indonesian Stock Exchange.

Keywords: *PER, DER, ROA, PBV.*

1. INTRODUCTION

In the last five years, the world's economic and business conditions have experienced many challenges and trials. The first is the occurrence of cases of the infectious corona disease which then spread into a pandemic. The impact of the COVID-19 pandemic on the economy and business is very significant and extensive. Here are some of the main impacts, namely Travel restrictions, business closures, and a decline in consumer activity caused by the pandemic led to a decline in overall economic activity. Many sectors, such as tourism, hospitality and the entertainment industry, have been directly affected. Increase in Unemployment, Supply Chain Disruptions, Decline in Revenue and Profits, Shifts in Consumption

and Consumer Behavior, Changes in Government Policy. The impact of the COVID-19 pandemic on the economy and business is still developing, and it is important to continue to monitor developments and adapt business strategies to the changes that occur.

The corona pandemic has not yet passed but there is a regional conflict between Russia and Ukraine which of course also has a big impact on the business world. The war between Russia and Ukraine has had a complex and diverse impact on businesses, both in the region and around the world. Some of the impacts include: First, the armed conflict between Russia and Ukraine creates political and economic uncertainty in the region. This can disrupt investments, trade and overall business activities. Second, war could disrupt global supply chains because the region is the main route for trade in goods between Europe and Asia. These disruptions can cause delivery delays and increased logistics costs for the businesses involved. Third: Political and security uncertainty caused by war can reduce investors' interest in investing in the region. This can slow down economic growth and infrastructure development. Fourth: Ukraine is the main transit route for natural gas and oil supplies from Russia to Europe. Conflicts in the region could disrupt energy supplies, causing price increases and energy market instability. Fifth: War between Russia and Ukraine could trigger broader geopolitical tensions in the region. This can affect political stability and security, as well as the overall business climate.

The recent regional wars or conflicts have had a significant impact on the energy and mining sectors, both in the region and throughout the world. Some of the impacts include: Energy Supply Disruptions where Ukraine is an important transit route for natural gas and oil supplies from Russia to Europe. Conflicts in the region could disrupt energy supplies, causing uncertainty in energy supplies and prices on global markets. These disruptions could impact energy availability and production costs for businesses that depend on fossil fuels. Increase in Energy Prices, namely Uncertainty in energy supplies caused by conflict can cause an increase in energy prices, especially in European regions which depend on energy imports from Russia. This price increase can affect operational costs for businesses in various sectors, including manufacturing, transportation and hospitality. And disruptions in raw material supplies due to conflict can disrupt the supply of mineral and metal raw materials from the region. Ukraine is an important producer of several raw materials, such as iron ore, manganese and titanium. Disruptions in the production and export of these raw materials could impact global manufacturing industries that depend on these supplies.

2. RESEARCH METHODOLOGY

This research is quantitative descriptive research. The quantitative approach is a research process, hypothesis or prediction of results, empirical data, data analysis, and data conclusions until the final results are written using aspects of measurement, calculation, formulas and numerical data, or statistical calculations (Rukmining, et al. 2020).

The object of research is the State-Owned Enterprise (Indonesian State Company) in the energy and mining sector which is listed on the Indonesian Stock Exchange, namely PT. Perusahaan Gas Negara, Tbk. (PGAS), PT. Bukit Asam (PTBA), PT. Elnusa, Tbk. (ELSA), PT. Aneka Tambang Indonesia, Tbk (ANTM) and PT. Timah, Tbk. (TINS).

The data used in this research is secondary data taken from quarterly financial reports (20 quarters) from 2019-2023 (5 five years).

3. RELATED RESEARCH/LITERATUR REVIEW

Price Earnings Ratio (P/E Ratio) is an important measure in fundamental stock analysis. It measures the relationship between the stock price per share and the

earnings per share reported by the company. According to Eugene F. Brigham and Joel F. Houston in their famous book "Fundamentals of Financial Management (2019)," the Price Earnings Ratio (P/E Ratio) has some significant importance in investment analysis:

1. P/E Ratio helps investors assess stock valuations and compare them with other stocks or market indexes. This helps investors determine whether a stock is being priced fairly, too expensive, or too cheap.
2. P/E Ratio can provide clues about market expectations regarding a company's future profit growth. If the P/E Ratio is high, this may indicate that the market believes the company has bright growth prospects.
3. P/E Ratio allows investors to compare valuations between stocks in the same industry. This helps investors assess whether a stock is cheaper or more expensive compared to its competitors in the same industry.
4. P/E Ratio can be used as a tool in making investment decisions. For example, if a stock's P/E Ratio is lower than the industry average, this may be a signal to buy the stock.
5. P/E Ratio can reflect market sentiment towards a stock or industry. A high P/E Ratio may indicate that the market is bullish on the stock, while a low P/E Ratio may indicate bearish sentiment.

However, Brigham and Houston also reminded that the P/E Ratio should not be the only factor in making investment decisions. This should be considered together with other fundamental factors, such as earnings growth, the company's financial position, industry risks, and overall market conditions.

According to James C. Van Horne (2012), a financial expert known for his work in the field of financial management, the Debt to Equity Ratio (DER) has several significant interests in corporate financial analysis:

1. DER helps in evaluating the capital structure of a company by comparing the amount of debt the company has with its equity. This gives an idea of how much a company relies on external funding (debt) compared to internal funding (equity).
2. DER provides an indication of the level of financial risk of a company. Companies with high DER tend to have higher financial risk because large debt obligations can increase pressure on interest payments and debt principal payments.
3. DER is also used by lenders and financial institutions to evaluate the creditworthiness of a company. Companies with low DER tend to be considered safer and creditworthy because they have fewer debt obligations that they must manage.
4. DER allows comparison between companies in the same industry or similar sectors. This helps in assessing whether a company has a healthy capital structure relative to its competitors.
5. DER can be used as a tool in making investment decisions. Investors may consider DER as a factor in assessing the risk of investing in a company.
6. DER also helps management in long-term financial planning. By paying attention to DER, management can make the right decisions about how to manage the company's capital structure to achieve the set financial goals.

While DER is a useful tool in financial analysis, it is important to note that no single measure provides a complete picture of a company's financial health. Therefore, DER should always be considered together with other financial factors in conducting a comprehensive analysis.

Aswath Damodaran (2001) provides several reasons why Return on Assets (ROA) is an important measure:

1. ROA helps in assessing how efficiently a company uses its assets to generate profits. The higher the ROA, the more efficient the company is in utilizing its assets to generate profits.

2. ROA can provide an indication of company growth and productivity. If ROA increases over time, this can indicate that the company is successfully increasing its productivity or managing its assets better.
3. ROA allows investors to compare financial performance between companies in the same industry. It helps in assessing whether a company is performing better or worse than its competitors.
4. ROA is an indicator of a company's financial health. A high ROA indicates that the company is able to generate greater profits with the assets it owns, while a low ROA may indicate problems in the use of assets or inefficient operations.
5. ROA is used by investors to evaluate investment potential in a company. Companies with high ROA tend to be more attractive to investors because they show good financial performance.

However, Damodaran also notes that ROA must be considered together with other factors in conducting a comprehensive investment analysis. This includes considerations about capital structure, industry risk, earnings growth, and overall market conditions.

4. RESULTS AND DISCUSSION

Based on the results of data processing carried out with the SPSS version 25 program, the following multiple linear regression results were obtained:

Table 1. Result of Regresion Analysis

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	.962	.152	
	PER	.001	.001	.108
	DER	.016	.086	.019
	ROA	.040	.009	.478

Source : data is processed (2024)

Based on the results of table 2 coefficients, the following regression equation is obtained:

$$Y = 0.962 + 0.001X_1 + 0.016X_2 + 0,040X_3 + e$$

From the equation above it can be interpreted as follows:

1. The constant value (a) is 0.962 (positive), meaning that the variables Price Earning Ratio (PER) (X2), Debt to Equity Ratio (DER) (X1), and Return On Assets (ROA) (X3) have fixed or constant values , then Price to Book Value (PBV) (Y) is 0.962.
2. Price Earning Ratio (PER)) decreases by one unit, the Price to Book Value (PBV) will decrease by 0.001 units. The regression coefficient is positive, meaning that there is a unidirectional relationship between Price Earning Ratio (PER) and Price to Book Value (PBV).
3. Debt to Equity Ratio (DER) Ratio (DER) decreases by one unit, so Price to Book Value (PBV) will decrease by 0.016 units. The regression coefficient is positive, meaning that there is a unidirectional relationship between Debt to Equity Ratio (DER) and Price to Book Value (PBV).
4. Return On Assets (ROA) ROA) decreases by one unit, the Price to Book Value (PBV) will decrease by 0.040 units. The regression coefficient is positive, meaning there is a unidirectional relationship between Return On Assets (ROA) and Price to Book Value (PBV).

Hypothesis test

Partial testing (t test)

The T test is used to determine the relationship between independent variables individually (partially) influencing the dependent variable. The ttable obtained is 1,660, the following t test results can be seen in the coefficients table:

Table 2. Partial Test Results (T Test)

Model	Standardized Coefficients	t	Sig.
1	(Constant)	6.340	.000
	PER	1.169	.245
	DER	.186	.853
	ROA	4.591	.000

Source : data is processed (2024)

In Table 2 the coefficient can be seen from the results of partial hypothesis testing (t test) which can be explained as follows:

1. For the Price Earning Ratio (PER) (X1) variable, the value obtained is tcount (1.169) < ttable (1.660), namely tcount is smaller than ttable and (sig) = 0.245 is greater than the probability, namely 0.05 or 0.245 > 0.05. So it can be concluded that the hypothesis is rejected, the independent variable Price Earning Ratio (PER) (X1) partially has an insignificant effect on Price to Book Value (PBV) (Y).
2. The variable Debt to Equity Ratio (DER) (X2), obtained a tcount value of 0.186 with a ttable of 1.660, namely tcount is smaller than ttable (0.186 < 1.660) and (sig) = 0.853 is greater than the probability, namely 0.05 or 0.186 > 0.05. So it can be concluded that the hypothesis is rejected, the independent variable Debt to Equity Ratio (DER) (X2) has no significant effect on Price to Book Value (PBV) (Y).
3. Return on Assets (ROA) variable (X3), the value obtained is tcount (4,591) > ttable (1,660), namely tcount is greater than ttable and (sig) = 0.000 is smaller than the probability, namely 0.05 or 0.000 < 0.05 . So it can be concluded that the hypothesis is accepted, the independent variable Return on Assets (ROA) (X3) has a significant effect on Price to Book Value (PBV) (Y).

Simultaneous testing (f test)

The F test aims to determine the effect of variables together, namely the independent variable on the dependent variable. The Ftable obtained from two sides is 2.89.

Tabel 3. Simultaneous Test Results (F Test)

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	8.419	3	2.806	8.767	.000 ^b
	Residual	30.728	96	.320		
	Total	39.148	99			

Source : data is processed (2024)

From table 3 of the ANOVA, the Fcount value is 8,767 with an Ftable of 2.89. Thus Fcount (8,767) > Ftable value (2.89). And the significance level is 0.000 because sig < 0.05, the variables Price Earning Ratio (PER) (X1), Debt to Equity Ratio

(DER) (X2) and Return On Assets (ROA) (X3) have a positive effect simultaneously on Price to Book Value (PBV) (Y).

Testing the coefficient of determination (R²)

The Coefficient of Determination Test is used to measure the model's ability to explain variations in the dependent variable in the research. The results of the coefficient of determination test can be seen in the following table:

Table 4 Coefficient of Determination Test Results (R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.464 ^a	.215	.191	.56576

Source : data is processed (2024)

Based on table 5 of the Model Summary, it is known that the coefficient of determination (R²) is 0.215 (21.5%). This figure shows that the independent variables namely Price Earning Ratio (PER) (X1), Debt to Equity Ratio (DER) (X2) and Return On Assets (ROA) (X3) explain the dependent variable Price to Book Value (PBV) (Y) amounted to 21.5% while the remaining 78.5% was explained by other factors outside this model.

5. CONCLUSION

From the research results that have been obtained, several things can be concluded as follows:

1. The Price Earning Ratio (PER) variable has a positive but not significant effect on Price to Book Value (PBV) in State-Owned Enterprises (Indonesian State Companies) in the energy and mining sectors listed on the Indonesian Stock Exchange.
2. The Debt to Equity Ratio (DER) variable has a positive but not significant effect on Price to Book Value (PBV) in State-Owned Enterprises (Indonesian State Companies) in the energy and mining sectors listed on the Indonesian Stock Exchange.
3. The Return On Assets (ROA) variable has a positive and partially significant effect on Price to Book Value (PBV) in State-Owned Enterprises (Indonesian State Companies) in the energy and mining sectors listed on the Indonesian Stock Exchange.
4. The variables Price Earning Ratio (PER), Debt to Equity Ratio (DER) and Return On Assets (ROA) simultaneously influence Price to Book Value (PBV) in State-Owned Enterprises (Indonesian State Company) in the energy and mining sectors. listed on the Indonesian Stock Exchange.

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Community Empowerment in Agribusiness Governance at the Citarik Sub Watershed in Tanjungwangi Village, Cicalengka District, Bandung Regency. West Java, Indonesia

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ABSTRACT

Community empowerment is an effort to enable and make people independent so that they can fulfill their life needs and interests, as well as improve their standard of living by utilizing the resources they have. Agricultural activities in highland areas must wisely consider the balance of nature while maintaining conservation areas and not destroying productive agricultural regions. This research was conducted using quantitative methods and descriptive statistics with survey methods. The study was carried out in the upstream area of the Citarik sub-watershed, Tanjungwangi Village, Cicalengka District, Bandung Regency. The research location was chosen purposively with the consideration that apart from having great economic potential, its primary function is as a buffer area to store water reserves through the existence of conservation forests. Primary data was obtained through in-depth interview techniques, focused discussions, observation, and process documentation. Interviews using questionnaires were conducted with respondents selected randomly proportionally with a sample size of 120 farmers. The design used in this research is descriptive quantitative. The data analysis technique uses different test analyses intending to connect changes in awareness and ability to act after empowering farmers on conservation land in the Upstream Sub Watershed of Citarik. Research result showed the change in awareness has been good, but there is a need for continued education related to specific issues upstream of watershed Citarik regarding preserving conservation areas and keeping the production landscape sustainable. Farmers' ability to act has also increased towards improvement, but one aspect that still needs to be stronger is action to carry out environmentally friendly agricultural businesses. Empowering farmers on conservation land in the upper reaches of the Citarik watershed shows that changes in awareness have a significant influence on farmers' ability to act in protecting the environment of conservation land.

Keywords: *empowerment, change in awareness, ability to act, upstream sub-watershed, conservation land*

INTRODUCTION

A watershed applies the bioregion principle by following a line of ridges as the initial place where water falls to the earth's surface. Therefore, watersheds can be an appropriate unit of analysis in developing natural resource management concepts to ensure that water quality is maintained and the amount of water is distributed optimally. So water is still available during the dry season, but the amount is reasonable during the rainy season. According to Salampessy and Lidiawati (2017), the upstream area of the watershed has the function of preventing runoff to downstream areas so that flooding can be controlled, increasing infiltration capacity so that an area has good quality groundwater reserves, and being the primary source of landscape services.

A watershed is a natural resource that is a common pool resource determined by hydrological relationships, where optimal management requires coordination in the use of resources by all users. Achieving this requires coordinated management of various resources in watersheds, including forests, livestock, agricultural land, surface water, and underground water through hydrological processes (Suwarno, 2011).

Rivers have a strategic role as a natural resource that supports people's lives. The role of rivers in the urban context is critical, especially in efforts to maintain sustainable water resources. Watershed Management is one aspect of Water Resources Management (WRM) in a Water Resources Development Area (WRD), which is an effort to utilize water resources in an integrated manner with efforts to control and preserve them (Suganda et al., 2009).

The change in the natural resources (NR) management system from central to regional autonomy has impacted changes in community behavior. Land ownership, like common properties, is starting to be used as a reason for individuals to exploit land freely without paying attention to the impact of environmental damage, the long-term economic value of the land, the condition and correct land use, apart from that, as a result of this change in management, there are many forests in the Sub watershed area which is denuded and has been converted into agricultural land and housing (Harini et al., 2012).

Community empowerment in managing river watersheds (hereafter referred to as watersheds) is increasingly receiving attention, as seen by the number of authors who state the importance of community participation and independence in managing watersheds (Ohno, 2010). Community empowerment in managing watersheds is also the government's concern. This empowerment is proven by including articles regarding community empowerment in the management of watersheds in the laws and regulations relating to watershed management, such as Law No. 37 of 2014 concerning Soil and Water Conservation, as well as Government Regulation No. 37 of 2012 concerning watershed Management. Then, in 2014, the Minister of Forestry also issued Minister of Forestry Regulation No. P.17/Menhut-II/2014, which explicitly regulates procedures for community empowerment in watershed management activities. Even before the issuance of these regulations, the government had also carried out watershed management activities, which placed community empowerment as one of the main activities. These activities include Forest and Land Rehabilitation (RHL), the National Water Saving Partnership Movement (NWSPM), the Development of Integrated Land Conservation Farming (DILCF), and the construction of a Micro Watershed Model Area (MWMA).

Community empowerment is an effort to enable and make people independent so that they can fulfill their needs and interests, as well as improve their standard of living by utilizing the resources they have (Awang, 2008; Wrihatnolo & Dwijowijoto, 2007; Subejo & Supriyanto, 2004). Thus, community empowerment emphasizes initiative and autonomy in decision-making by the community. Therefore, Ife

and Tesoriero (2006) emphasize the importance of the learning process in empowerment to equip society towards sustainable change.

Apart from that, to achieve an empowered society, several efforts also need attention (Kartasasmita, 1997), such as 1) Creating an atmosphere or climate that allows the community's potential to develop. Community empowerment requires a strong commitment from the government and other related parties. These parties must create a supportive atmosphere or climate so that the community's potential develops. Community participation must be encouraged as widely as possible through mentoring programs towards their independence, and 2) Strengthening the potential or power possessed by society (empowering). This strengthening includes concrete steps and involves providing various inputs, as well as opening access to various opportunities that will make society more empowered, such as information, markets, and capital.

The essence of community empowerment is to enable and make the community independent so that it places greater emphasis on the decision-making autonomy of a community group, which is based on the resources they have (Wrihatnolo & Dwijowijoto, 2007). Thus, community empowerment should emphasize the process of positive change that occurs, as well as increasing and sustaining community empowerment. Empowerment means the transfer of power from those who have power (subjects) to those who are weak (objects), who initially become objects of development and become subjects. So that after being empowered, it becomes a subject-subject relationship. The creation of this situation will build a participative attitude to achieve independence. Intellectual independence, intellectual independence, and management (Fredian, 2014). Individuals or groups in the community can carry out empowerment efforts. Carried out by individuals in the same boat who join together and develop a critical awareness of their fate, this is the most effective step.

Empowerment in Tanjungwangi Village, Cicalengkan District, Bandung Regency, is carried out by several parties. Watershed shared observations of empowerment carried out by farmer groups. The role of an active farmer group leader provides awareness to members. The role and empowerment are also carried out by the MDK Tanjungwangi Foundation, Non-Governmental Organizations, Water Management of Tanjungwangi Lestari, and educational institutions, one of which is the Djuantika People's School Middle School (Frekuensi). Activities carried out by the MDK Tanjungwangi Foundation include making a master plan with the community, annual work meetings, education, and training for members, including training in making compost, training in making nurseries, and reforesting critical land. Activities carried out by farmer groups consist of regular and organic education to members in their daily lives with farmers.

In practice, many community empowerment activities are outside the concept of community empowerment. Community empowerment is often trapped in the logic of "projects," which emphasizes results and administrative accountability, such as the budget size, the number of activities carried out, and the assistance provided (Ife & Tesoriero, 2006; Firmansyah, 2012). The assistance makes community empowerment efforts tend to become participation mobilized by material incentives, so that often, instead of creating community independence, it causes community dependence on the government and other outside parties (help my mentality). Based on this reality, this research aims to examine the empowerment of the people of Tajnungwangi Village, Cicalengka District, Bandung Regency, towards changes in farmers' awareness and ability to act in agribusiness governance in the Hulu Sud Watershed of Citarik.

METHODS

This research was conducted using quantitative methods and descriptive statistics with survey methods. The research was carried out in the upstream area of the Citarik sub-watershed, Tanjungwangi Village, Cicalengka District, Bandung Regency. The research location was chosen purposively with the

consideration that apart from having great economic potential, its primary function is as a buffer area to store water reserves through the existence of conservation forests. With the abundance of water in the highland areas and the agri-climatology that supports agricultural businesses, the Upper Citarik sub-watershed has the potential for agribusiness development. Primary data was obtained through field research from informants or community members who have lived in the research area for a long time. Meanwhile, secondary data was obtained by searching library materials (books, documentation, and report materials) in communities, groups, institutions, agencies, and regional apparatus related to this research. Secondary data covers various things, including geographical and demographic conditions, socioeconomic and cultural conditions of the research area, and conditions of ecosystems, socio-systems, and geosystems. Primary data was obtained through in-depth interview techniques, focused discussions, observation, and process documentation. Interviews using questionnaires were conducted with respondents selected randomly proportionally with a sample size of 120 farmers. The design used in this research is descriptive quantitative. Descriptive research is data in the form of numbers or quantitative data in the form of scoring (Sugiyono, 2006). The data analysis technique uses different test analyses intending to connect changes in awareness and ability to act after empowering farmers on conservation land in the Hulu Sub Watershed of Citarik.

RESULT AND DISCUSSION

Change of awareness

Empowerment is carried out continuously and consistently among the community to increase their awareness of the potential within the farming community and its environment. This consistency means that farmers will get an example from the empowerer so that it will leave a strong impression of habituation towards the object of empowerment. Awakening is an educational or learning process that requires patience, seriousness, and sincerity. Need to instill confidence that they can change. Environmental improvements will provide benefits in the future (Nasdian, 2014).

Indicators that reflect changes in awareness include awareness about community poverty, awareness that farmers are prone to land degradation, awareness of preserving the environment, awareness of the dangers of littering, and awareness of the effects of building buildings in conservation areas. Table 1.1 shows indicators of farmer awareness regarding the effects of clearing land by cutting down trees. The level of awareness is relatively high at 69.83%. Awareness regarding the dangerous effects of littering is also relatively high at 69.17%. The Farmers also understand the problems in the Citarik watershed Sub with a reasonably high level of awareness of 50.00%. Awareness of one's problems is essential as capital for farmers to want to solve their problems.

There still needs to be a more vital awareness regarding problems in the upstream area of the Citarik watershed Sub that farmers still need to be educated about specific problems, especially in the upstream area of the Citarik watershed Sub. The value of the level of awareness, in this case, farmers are at an unaware level of 1.67%. However, overall, the level of farmer awareness was very high, with an index value of 99.77%. This condition must continue to be maintained so that this awareness becomes a habit in farmers' wise attitude towards the environment.

Table 1. 1 Changes in Farmers' Awareness in Upstream Sub Watershed Citarik

Indicator	Farmers' response (%)			
	SA	A	D	SD

Indicator	Farmers' response (%)				
	SA	A	D	SD	
PK01	I am aware of the root of the problem of poverty in my area	45,83	54,17	0,00	0,00
PK02	Be aware of the root of the problem in Sub watershed Citarik	40,00	60,00	0,00	0,00
PK03	Aware of problems upstream of the Citarik watershed Sub	50,00	48,33	1,67	0,00
PK04	Aware of the importance of preserving the environment	61,67	38,33	0,00	0,00
PK05	Be aware of the effects of clearing land by cutting down trees	69,17	30,83	0,00	0,00
PK06	Be aware of the effects of throwing rubbish into the river	65,83	34,17	0,00	0,00
PK07	Be aware of the effects of constructing buildings in conservation areas	46,67	53,33	0,00	0,00
	Average	379,17	319,17	1,67	0,00
	Level of Change in Awareness (Y1)	54,17	45,60	0,24	0,00

Note: SA = strongly Agree, A = Agree, = D = Disagree, SD = Strongly dDisagree

Action Ability

The process of empowering farmers hopes that there will be changes in actions within farmers ultimately. At first, it was forced, then it started getting used to it and finally got used to it. These actions are undoubtedly positive for self-improvement, business, and the environment. Self-improvement in the paradigm aspect of farming is not only about meeting one's own needs, but one must also think about the good of the next generation. Improving the farming business will, of course, involve changes in planning, organizing, implementing, and evaluating the farming business. Environmental changes include attitudes and treatment in preserving the environmental ecosystem around farmers.

Table 1.2 showed that farmers are braver in farming without opening new land in conservation areas. The approval value was 78.33% for the very brave category. This indicator is undoubtedly easier for farmers who are used to farming in production areas and understand how to maintain conservation land.

Table 1. 2 Farmers' Action Capabilities in the Upstream Sub Watershed of Citarik

Indicator	Farmers' responses (%)				
	SA	A	D	SD	
KB01	Encourage to farm without opening new land	78,33	21,67	0,00	0,00
KB02	Encourage and reprimand other farmers who cut down trees without permission	39,17	60,83	0,00	0,00
KB03	Encourage and reprimand residents who throw rubbish into the river	55,00	45,00	0,00	0,00
KB04	Plant annual/food crops in an intercropping pattern with trees/shrubs (alley cropping/alley).	62,50	31,67	5,83	0,00
KB05	Carry out farming on land with a terracing pattern	22,50	69,17	8,33	0,00
KB06	Capable of carrying out conservation-friendly farming because it is quite cheap	0,83	46,67	52,50	0,00

Indicator	Farmers' responses (%)			
	SA	A	D	SD
Action Ability Level (Y2)	43,06	45,83	11,11	0,00

Note: SA = strongly Agree, A = Agree, = D = Disagree, SD = Strongly dDisagree

Then, the indicator for planting seasonal/food crops using an intercropping pattern with trees/shrubs (alley cropping/alley) is also huge with an index value of 62.50%, and the terracing indicator is also quite high with a value of 69.17%. This percentage means farmers are used to modifying land on slopes to control runoff through terracing. Indicators that reduce the ability to act are indicators of conservation-friendly agriculture because they are quite cheap. The percentage value of farmers' abilities of 52.50% is categorized as incapable. These results meant that farmers still believe that the allocation for independent conservation efforts is still considered expensive and requires costs, including purchasing wood, fruit, and plantation tree seeds.

Analysis of Differences in Changes in Awareness and Action Capability of Farmers in Upstream Watershed Citarik

The results of this t-test showed that the average value of change in awareness is 47.44, and the average ability to act is 19.92, the average value that has implemented farmer empowerment in changing awareness at the farmer level in protecting the environment in the region. Conservation means that there has been no increase in yield after empowering farmers to understand conservation land in Hulu Watershed Citarik. A step that is very complex and requires time to see actual results, changes in awareness and sustainable agricultural practices usually do not occur in a short time. Several factors may influence the lack of increase in yield after empowering farmers to understand conservation land in the watershed upstream.

Land degradation due to the low adoption of soil and water conservation technology is one of the environmental problems that still requires resolution, especially in watershed conservation efforts. Water and soil conservation technology is used to preserve the fertility of land productivity, and it is widely known by farmers (Nana, 2013). However, efforts to promote conservation technology so farming communities widely adopt it have yet to provide satisfactory results. The low success of efforts to expand conservation practices in farming communities, according to Shiferaw (2009) and Agrawal and Perrin (2008), is partly due to the weakness of social institutions related to the conservation of natural resources. Shifferaw (2009) explains that institutions can condition farmers to innovate, adopt, and adapt the water and soil conservation technology they choose. Therefore, Bromley (2008) believes that in farming communities that need better institutions, it is almost certain that investment in conservation tends to be very low or not even carried out.

Changes in farmers' awareness and practices require changes in culture and knowledge that may take a long time to implement. Farmers may need ongoing education and technical support to adopt sustainable practices indeed. Increasing sustainable agricultural yields requires initial investment, such as introducing new technology or more environmentally friendly farming methods. If farmers need more resources or economic constraints, it may be easier for them to make changes. It is essential to have support from the government, conservation institutions, and community organizations involved in efforts to empower farmers.

Includes providing training, access to resources, and incentives to encourage sustainable agricultural practices. It is essential to take a comprehensive and sustainable approach, which includes technical support, education, incentives, and ongoing monitoring to increase the effectiveness of empowering farmers in protecting the environment in conservation areas; in the long term, this can help increase agricultural yields while protecting the environment. These conditions encourage the importance of building public awareness of the dangers of the watershed on land in the future, so it is indispensable to know the concept and application of soil and water conservation to increase land productivity through socialization, education, and conservation training (Indraningsih, 2016; Masnang et al. 1, 2019; Nasir et al. 1, 2019; Nuraeni et al. 1, 2012).

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Condition Changes	47,44	120	2,678	,244
Action Ability	19,92	120	1,479	,135

The results of the paired sample correlation test showed that the significance value is 0.000, where the sig value is > 0.00 . This value meant that changes in awareness and the ability to act have a significant relationship. Changes in awareness and ability to act had a close relationship in the context of individual development or social change. This relationship reflects the link between understanding and action, especially in the context of social and environmental change. Like environmental conservation, social change, or individual development, awareness and the ability to act are two complementary elements. Both work together to create positive and sustainable change. Therefore, in change efforts, it is crucial to consider both increasing awareness and developing the ability to act. Thus, environmental awareness can inspire a person's soul to love nature and the environment through concrete actions. This awareness could be realized by every society in general so that with their knowledge, they will be aware and be able to treat nature and the environment well, be friendly, and live in harmony with nature and the environment and not damage the environment (Neoloka, 2008; Jeni, 2021).

Awareness often drives individuals to seek information and learn more about issues they care about. This condition could help in increasing their knowledge and understanding, which in turn can improve their ability to act. People aware of environmental issues will find concrete ways to contribute to environmental conservation. Awareness and the ability to act are complementary components in social or individual change efforts. A change in awareness can trigger action, while action can strengthen awareness and motivation for further change.

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 Condition Changes & Action Ability	120	0.562	0.000

The t-test results in a paired sample test show that the significance value is 0.000, meaning it is less than 0.05, so H_0 is rejected. These results meant that the results of farmer empowerment in the perception of changes in awareness in protecting the environment on conservation land and farmers' ability to preserve the environment are different. Empowering farmers in terms of increasing their

perception or awareness regarding protecting the environment and increasing farmers' ability to act to preserve the environment are two different aspects. However, they are interrelated in efforts to protect the environment. Farmer awareness regarding the environment and environmental issues is the first step in changing behavior. If farmers do not have awareness about the importance of protecting the environment or the negative impacts of their agricultural practices, they may not be motivated to change their behavior. Empowerment in terms of perception can involve education, communication, and awareness of environmental issues, as well as how to integrate them into daily agricultural practices. Action capability refers to the skills, knowledge, and resources farmers need to change their farming practices to be more sustainable. This capability might include technical understanding, access to environmentally friendly technologies, resource management, and adaptation skills to environmental changes. Empowerment regarding the ability to act can include training, technical support, and physical or financial resources.

The difference between the two is that awareness focuses more on understanding and recognizing environmental issues. In contrast, action capability focuses more on the concrete ability to change agricultural practices to be more sustainable. However, the two are interrelated in efforts to preserve the environment. Increased awareness can be a trigger to look for ways to act more sustainably. In contrast, the ability to act may require a deeper understanding of environmental issues to implement appropriate practices. Therefore, farmer empowerment should include these two aspects: increasing awareness and providing the ability to act needed to maintain environmental sustainability in agriculture and land conservation.

Thus, there is a significant difference between changes in awareness and the ability to act to empower farmers in preserving nature in the upper reaches of WATERSHED Citarik. Overall, the change in awareness has been good. However, there is a need for continued education related to specific issues upstream of WATERSHED Citarik regarding preserving conservation areas and keeping the production landscape sustainable. Farmers' ability to act has also improved so that farmers wisely consider the balance of nature by appropriately protecting conservation areas and not damaging productive agriculture.

When farmers wisely consider the balance between nature and productive agriculture, this is an essential step in supporting environmental sustainability in conservation areas. This condition would help minimize the negative impacts of agriculture on the environment, such as soil erosion, water pollution, or damage to natural habitats. In doing so, this will help maintain natural ecosystems, safeguard biodiversity, and ensure the sustainability of natural resources for future generations. Efforts to empower farmers in protecting the environment need to continue, and receive ongoing support to ensure that sustainable practices continue to be improved and implemented in agriculture. Improved awareness and ability to act is an essential first step towards sustainable environmental improvement.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Condition Changes & Action Ability	27.517	2.215	0.202	27.116	27.917	136.071	119	0.000

CONCLUSION

1. Change in awareness of farmers in the upstream Citarik WATERSHED Sub-Watershed. They are aware of being in the Citarik WATERSHED and its problems, as well as the dangers of littering and the consequences of cutting down trees to clear agricultural land. Overall, the change in awareness has been good. However, there is a need for continued education related to specific issues upstream of WATERSHED Citarik regarding preserving conservation areas and keeping the production landscape sustainable.
2. Farmers' ability to act has also increased towards improvement, but one aspect that still needs to be stronger is action to carry out environmentally friendly agricultural businesses. Farmers still consider intercropping farming to be capital-intensive. The government should facilitate this by providing more plant seeds or training in making nurseries for woody/annual plants or fruit plants.
3. Empowering farmers on conservation land in the upper reaches of the Citarik watershed shows that changes in awareness have a significant influence on farmers' ability to act in protecting the conservation land environment. Apart from that, it also shows that farmer empowerment can increase farmer awareness in protecting the conservation land environment so that they can do it.

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PRESERVING CULTURAL HERITAGE IN BALI: SUSTAINABLE ARCHITECTURAL STRATEGIES FOR TOURISM DEVELOPMENT

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ABSTRACT

Bali, an Indonesian island known for its rich cultural heritage, has become a popular tourist destination. The tourism industry in Bali has been a significant contributor to the local economy, but it has also posed challenges in terms of environmental and cultural sustainability. This article aims to explore the preservation of cultural heritage in Bali through sustainable architectural strategies, focusing on traditional Balinese architecture.

The research methodology for this article will involve a literature review of existing studies on sustainable tourism in Bali and the role of cultural heritage in this process. The study will focus on the traditional Balinese architecture, which is an integral part of the island's cultural heritage. The research will also consider the challenges and opportunities associated with the integration of sustainable architectural strategies in Bali's tourism development.

The study will employ a literature review and related research to analyze the current state of sustainable tourism development in Bali and the role of cultural heritage in this process. The article will conclude with recommendations for sustainable architectural strategies that can support the conservation of Balinese cultural heritage while promoting sustainable tourism.

Keywords: *preserving, cultural, heritage, architectural, tourism*

1. INTRODUCTION

Bali is one of the best tourist destinations in the world. The island of Bali has various unique things related to social and cultural activities. As a unique island, Bali has an invaluable ancestral heritage. In future developments, community participation and involvement will play a very important role in sustaining the uniqueness of this island. Preserving the cultural heritage of the archipelago, especially Balinese culture as the identity of the Indonesian nation, is a form of appreciation and respect for ancestors. Apart from that, regional culture also holds high historical value, bearing witness to a history of struggles and achievements that should be remembered and passed on to future generations. The existence of culture that continues to be passed down can be a source of knowledge for humans, whether related to culture, human life in the past, or learning other things (Wiriantari et al., 2006). Tourism development can have a positive impact on culture. But on the other hand it also has a negative impact. This happens because of the interaction between local communities and international communities, in this case tourists. Here cultural acculturation will occur, because of this interaction. In addition, regional cultures which are part of Indonesia's national culture will continue to develop (Wijaya, 2004).

It turns out that tourism development also has impacts in the socio-cultural field, such as: changes in demographic structure, changes in types of work, changes in

values, increased attention to the preservation of traditional arts and culture, a decline in artistic values, and changes in daily consumption.

Tourism developments that influence social change are people's behavior becoming consumerist, the emergence of individualistic attitudes, mutual cooperation among members of the community that has changed, the social system has undergone changes, social stratification or social inequality has occurred and the weakening of social values. The positive impacts of tourism development include; (1) expanding employment opportunities; (2) increased business opportunities; (3) increase income; (4) maintaining local culture; (5) familiarity with local culture by tourists.

Based on past cultural developments, especially those related to architectural heritage in the midst of the passage of time and technology that continues to develop, it is necessary to think about further strategies to be able to answer the challenges of technological developments which are feared will erode local culture and even open up the possibility of eliminating national identity. This article aims to explore the preservation of cultural heritage in Bali through sustainable architectural strategies, with a focus on traditional Balinese architecture.

2. RESEARCH METODOLOGY

Data collection methods used in this study include: first, systematic observation and participation. This method is to observe and record cultural events carried out by individuals, families, social organizations, communities and society. Second, structured interview methods and in-depth interviews were used to collect qualitative data regarding the cultural heritage of the past in society. Third, literature study. This method is used to review documents, books, regulations, archives and so on to enrich secondary data. In collecting data, so that interviews can be focused and effective, a set of instruments in the form of an interview guide is used.

3. RELATED RESEARCH/LITERATUR REVIEW

Cultural heritage is a relic that represents a system of values, beliefs, traditions, lifestyles and traces of a culture that are continuously passed down from the past to the present. Bali's cultural heritage is a valuable asset that must be protected and preserved. Architecture is the result of a society's culture, because architectural work is an embodiment of the life of a society in general, and an embodiment of a person's personal self (Aryani & Tanuwidjaja, 2013).

Adjusting the intensity of application of architectural principles, especially traditional Balinese architecture, is an important element in sustainable tourism development in Bali. Flexibility and flexibility in the context of applying traditional architectural concepts and principles are important points in balancing cultural heritage preservation and tourism in the context of modern tourism.

The existence of various adjustments to regional regulations, especially Bali provincial regulations number 5 of 2005, provides opportunities for buildings with various specific functions to be able to apply traditional Balinese architecture rules within limits that are adjusted to functional needs, location and their impact on the environment. This provides an opportunity for non-traditional building construction to continue to exist in Bali without rigid restrictions. However, it is important to ensure that adjustments to the intensity of application of traditional architectural principles are wise and in accordance with the goals of cultural preservation. An in-depth study of implementation is needed that adopts a balanced approach between preserving cultural heritage and sustainable development. Collaboration with architecture, community leaders, and other stakeholders can help ensure that any important adjustments take into account cultural and environmental values (Widiastuti et al., 2017).

The use of traditional architectural styles and characters is an important element in maintaining the island's cultural identity. These styles and characters reflect the beauty and richness of Bali's cultural heritage which has been inherited from generation to generation. Bali Regional Beautification Regulation number 5 of 2005 is used as the main guideline to ensure that stone buildings in Bali retain their traditional architectural characteristics. The use of local materials such as straw building coverings, brick and bamboo wall coverings not only respects cultural heritage architecture but also makes every effort to implement the principles of sustainability.

The use of local materials is believed to be an effort to help reduce carbon and utilize natural air circulation and integration with the natural environment to support environmentally friendly development.

Strengthening local Balinese cultural identity is an important element in maintaining traditional Balinese architecture. Traditional Balinese architecture not only reflects visual beauty but is also an expression of local wisdom, cultural values and rich history. More than that, strengthening Balinese cultural identity through traditional architecture is a form of cultural preservation. By maintaining the existence and integrity of traditional architecture, Bali not only maintains the heritage of the past, but also passes it on to future generations. This ensures that Balinese cultural values will live and develop in the future. However, it is important to remember that strengthening Balinese cultural identity through traditional architecture must be balanced with environmental sustainability. Several things that need to be considered when implementing traditional and environmentally friendly architecture-based development include (Wiriantari, 2020):

- a. Use of local building materials
- b. Utilization of natural circulation
- c. Integration with the natural environment

4. RESULTS AND DISCUSSION

Sustainable architecture is the use of design strategies that reduce the negative environmental impacts of the built environment. Architects consider site landscaping, energy management, and stormwater management when planning, and then use environmentally friendly building systems and materials during construction. Sustainable design is no longer just trend of the future—it is essential today and will benefit the communities where it is implemented. When designing public buildings with sustainability in mind, architects use the following five sustainable architecture strategies:

- a. **Passive Sustainable Design.** Passive strategies, such as considering solar orientation and climate when selecting a location and considering the placement and operation of windows, are used to properly manage natural lighting and natural ventilation and greatly help in reducing energy requirements for buildings. In certain climates, thermal mass techniques can be used to harness solar energy. In such cases, thick walls absorb solar heat during the day and release it into the building at night.
- b. **Passive Sustainable Design.** Passive strategies, considering solar orientation and climate when selecting location and considering the placement and operation of windows, are used to properly manage natural lighting and natural ventilation and greatly help in reducing energy requirements for buildings. In certain climates, thermal mass techniques can be used to harness solar energy. In such cases, thick walls absorb solar heat during the day and release it into the building at night
- c. **Sustainable Active Design,** designed to have little environmental impact.
- d. **Renewable Energy System.** Renewable energy systems, including those utilizing solar and wind energy, are also good options for some

- buildings. This system is often used in conjunction with passive design strategies.
- e. Environmentally Friendly Building Materials and Finishes. By prioritizing purchasing steel, wood, concrete, and finishing materials, such as carpeting and furniture, from companies that use environmentally responsible manufacturing techniques or recycled materials, architects are increasing their commitment to sustainability.
 - f. Native Landscape. The choice of landscape can have a major impact on the water consumption of civil buildings. By using trees, plants and grasses native to the area, the architects were able to significantly reduce irrigation requirements. Landscaping can also be used as part of passive energy strategy. By planting trees to shade roofs and windows during the hottest times of the day, solar heat gain inside buildings can be reduced.
 - g. Rainwater Management. When rain falls on untouched locations, the water that does not evaporate is absorbed back into the soil, thereby replenishing the natural water table. By implementing stormwater management strategies, such as permeable pavement that helps reduce water runoff and retention ponds that capture water runoff and slowly release the water back into the ground, the negative impact of buildings on the environment can be reduced.

Challenges of Preserving Local Traditions

Cultural heritage is part of culture, consisting of cultural elements that are classified based on a certain age (more than 50 years), including religious, aesthetic, historical, archaeological, anthropological or other scientific values. Cultural heritage is an asset for a community, ethnicity, nation and even the world (Brata et al., 2020). Cultural heritage has a very broad scope and if classified based on cultural forms it can be classified into:

- a. cultural heritage in the form of tangible objects (tangible cultural heritage), such as historical sites, temples, forts;
- b. cultural heritage that cannot be touched, but is captured by the five senses other than touch, such as: music, literature, art
- c. cultural heritage, which is more abstract than cultural heritage, includes concepts and cultural values (abstract cultural heritage), such as: the concept of tri hita karana, harmony values, balance values, aesthetic values.

There are several factors that become challenges in preserving local traditions. These challenges are:

- a. Globalization exists. One of the biggest challenges is globalization which makes interactions between people faster. Continuous changes occur, including the preservation of architectural culture.
- b. Social Change.
- c. Apart from individualism, the factor that is an obstacle to efforts to preserve traditional culture is the lack of socialization and mediation from the parties responsible for dealing with this problem. Apart from that, the role of society is also very important in teaching the younger generation to have the skills to maintain their ancestral heritage.
- d. Lack of Knowledge,
- e. Resources, and Motivation.

The inhibiting factors in preserving local culture are the environment, humans, progress over time, audience interest and funds or assistance to continue appearing and existing in every activity. Meanwhile, several important principles in preserving regional culture are:

- a. How to Preserve Regional Culture
- b. Get to know and study regional culture.

- c. Foster a sense of love for regional culture.
- d. Cultural overview.
- e. Not easily influenced by foreign cultures.
- f. Utilizing existing technology to introduce regional culture to the international realm.

5. CONCLUSION

Preserving cultural heritage is the duty and responsibility of all components of society, because the identity of nation can be seen from the culture of the nation concerned. Through cultural heritage, the current generation can communicate with previous generations through their cultural heritage. Cultural heritage is mandate that must be safeguarded, protected, developed and preserved and utilized for human welfare. The priority for tourism development is human development, especially empowerment of local communities, tourist satisfaction, and preservation of cultural heritage tourism resource. The synergy between the welfare of local communities, tourist satisfaction and the preservation of cultural heritage is fulfilled, which means that sustainable Bali tourism development can be realized. Based on the explanation above, there are several strategies needed to preserve cultural heritage, especially culture in the field of architecture, including:

1. Integration of traditional and design principles
2. Use of environmentally friendly materials and construction techniques
3. Adaptive reuse of historical structures
4. Community involvement and empowerment
5. Balancing conservation with economic development

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HOW 'KAMPUS MENGAJAR' PROGRAMS SUSTAINABLY AFFECTS ELEMENTARY SCHOOL LITERACY DEVELOPMENT?

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ABSTRACT

The 2022 PISA results show that Indonesia is ranked 71st in the reading category. Indonesian students' reading ability scores decreased from 371 to 359. At the elementary school level, the 2023 national education report card shows that the majority of Indonesian students have only reached the minimum literacy competency level with a percentage of 61.53%. This information indicates that the literacy level of Indonesian students in general is still very low. In response to this, the government through the ministry of education and culture launched a program entitled Kampus Mengajar. This program is designed to bring students to schools, especially elementary school level, to support increasing literacy. This program seeks to optimize student literacy development in Indonesia through improving the quality of teaching, utilizing technology, project-based learning, developing soft skills, and increasing access to innovative reading sources. This research seeks to explore the impact & potential of the Kampus Mengajar program for developing literacy in elementary schools in Indonesia in a sustainable manner. This research uses a type of literature study research (literature review) with the selected review model is a narrative review. Researchers use analytical descriptive methods by collecting, identifying, compiling and analyzing various data found. The result of this study shows that the kampus mengajar program has a good impact and potential in developing sustainable literacy in primary schools. The kampus mengajar has an impact on improving the quality of literacy learning in the classroom and students' reading and writing skills. The challenges for the sustainability of the kampus mengajar program are a limited resources and funding, addressing diverse learning needs, and measuring the long-term impact. Recommendations for program sustainability are; 1) focus on collaborative capacity building, 2) developing sustainable resources and practices, 3) integrating technology for enhanced learning experiences, and 4) monitoring and evaluation with a focus on sustainability.

Keywords: Kampus Mengajar, Literacy Skill, Sustainable Literacy

1. INTRODUCTION

Literacy is the fundamental skill that unlocks the vast storehouse of knowledge and empowers individuals to participate actively in society. While literacy development is a lifelong process, the foundation laid during elementary school is paramount (Murphy, 2023). Literacy development in elementary school is pivotal for several reasons. It lays the foundation for a child's academic success, enabling them to grasp new concepts, solve problems, and engage in independent learning more effectively. Children with strong literacy skills are more confident in their studies, approach education with a positive attitude, and exhibit improved cognitive abilities. This confidence and proficiency in reading and writing translate into better communication skills and a more proactive approach to learning, both inside and outside the classroom.

Literacy development is crucial for overall child development. It supports cognitive development, enhancing a child's ability to think, understand, and make sense of the world around (Whitehurst & Lonigan, 1998). Reading to children from

an early age not only improves their language acquisition and communication skills but also stimulates the brain, forming new neural connections and strengthening existing ones. This early exposure to reading helps children bridge the gap between what they see, hear, and read in stories and their own lives, fostering a deeper understanding of their world. Moreover, reading introduces children to the formal language of books, which differs from everyday speech, thereby enriching their vocabulary and grammatical structures. This early exposure to literacy is very important considering the vulnerability of Indonesian students to being left behind in their reading skills compared to other countries. This highlights the importance of early intervention and support for the development of reading skills in Indonesia.

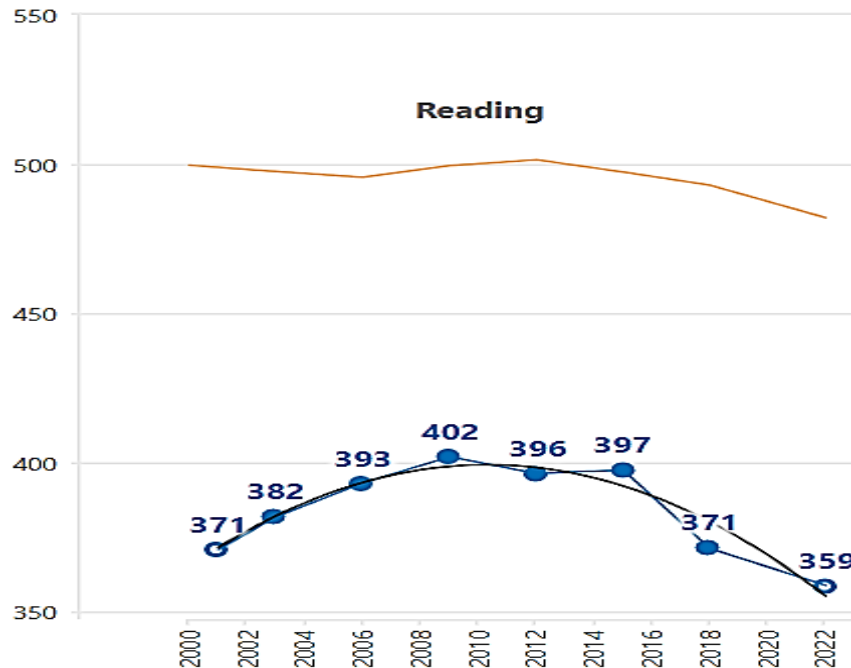
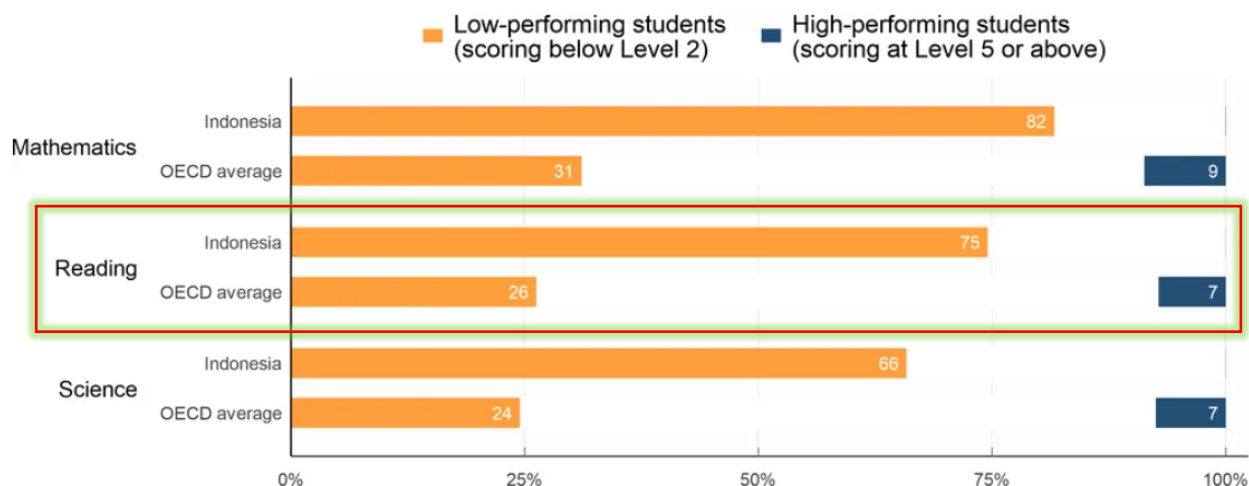


Figure 1. Trends in performance in mathematics, reading and science Indonesia's Student
(source: OECD, 2023)

The results of the Program for International Student Assessment (PISA) shows that Indonesian students' reading ability is still in the low range of 350-400. The score is still below the average score of students' reading ability globally (internationally) which is 500. The data validates the backwardness of Indonesian students in literacy skills. Over the most recent period (2018 to 2022), the gap between the highest-scoring students and the weakest students did not change significantly in reading. A smaller proportion of students in Indonesia, than on average across OECD countries, were top performers (Level 5 or 6) in at least one subject. At the same time a smaller proportion of students than on average across OECD countries achieved a minimum level of proficiency (Level 2 or higher) in all three subject, specifically in reading ability.



Note: Numbers inside the figure correspond to percentages.

Figure 2. Top performers and low-performing students in mathematics, reading and science Indonesia's Student (source: OECD, 2023)

Some 25% of students in Indonesia attained Level 2 or higher in reading (OECD average: 74%). At a minimum, these students can identify the main idea in a text of moderate length, find information based on explicit, though sometimes complex criteria, and can reflect on the purpose and form of texts when explicitly directed to do so. The share of 15-year-old students who attained minimum levels of proficiency in reading (Level 2 or higher) varied from 89% in Singapore to 8% in Cambodia. In Indonesia, almost no students scored at Level 5 or higher in reading (OECD average: 7%). These students can comprehend lengthy texts, deal with concepts that are abstract or counterintuitive, and establish distinctions between fact and opinion, based on implicit cues pertaining to the content or source of the information. The 2022 PISA results can adequately illustrate how generally low the quality of literacy in Indonesia is. The low literacy ability of Indonesian students is also supported by various expert research data which states that the literacy ability of Indonesian students in general is still far below that of developed countries throughout the world.

The government of Indonesia launched the Kampus Mengajar program in response to the low literacy rates among Indonesian students, particularly in elementary schools. This initiative is part of the broader Merdeka Belajar (Independent Learning) curriculum, aimed at transforming the traditional education system into a more flexible and independent learning environment. The Kampus Mengajar program is designed to enhance students' literacy and numeracy skills through a curriculum that emphasizes self-directed learning, critical thinking, and problem-solving. By focusing on these areas, the program seeks to address the fundamental literacy skills that are often lacking in the traditional education model. This approach not only aims to improve students' academic performance but also prepares them for lifelong learning and success in the modern world. The launch of the Kampus Mengajar program represents a strategic effort by the Indonesian government to address the literacy skills gap among students and ensure that they are well-equipped to navigate the challenges and opportunities of the 21st century.

The "Kampus Mengajar" program in Indonesia plays a significant role in literacy development. This initiative is part of a broader shift towards independent learning, which is a new paradigm of education in Indonesia. The Kampus Mengajar program aims to empower students with the skills and knowledge necessary to learn independently, thereby fostering a culture of lifelong learning. By emphasizing self-directed learning, students are encouraged to take ownership of their education, which is a critical component of literacy development. This approach not only enhances students' reading and writing skills but also develops

their critical thinking, problem-solving, and research abilities (Jamaludin et al., 2022) . These skills are essential for navigating the complexities of modern education and preparing students for future challenges in the workforce and beyond.

Moreover, the Kampus Mengajar program aligns with the Indonesian government's vision for education reform, which seeks to create a more dynamic and responsive educational system. By integrating technology and fostering a culture of independent learning, the program aims to equip students with the tools and attitudes necessary to thrive in a rapidly changing world (Sumani et al., 2022). This focus on literacy development through independent learning is particularly relevant in the context of Indonesia, where the country's rapid economic growth and increasing globalization present unique challenges and opportunities for education. The Kampus Mengajar program represents a strategic investment in the future of Indonesian education and the development of its citizens.

The potential impact of implementing the Kampus Mengajar program is significant. It has the potential to transform the educational landscape in Indonesia, moving away from a one-size-fits-all approach to education and towards a more personalized and flexible learning environment. This shift could lead to improved student outcomes, including higher literacy rates, better critical thinking skills, and enhanced problem-solving abilities (Nugraha et al., 2023). Furthermore, the program could contribute to a more dynamic and responsive educational system, better equipped to meet the challenges and opportunities of the future. By empowering students with the skills and knowledge necessary to learn independently, the Kampus Mengajar program not only enhances their academic performance but also prepares them for lifelong learning and success in the global economy. So the question is, how Kampus Mengajar programs guarantee the sustainable development of Indonesian students' literacy?

2. METHOD

This research uses a type of literature study research (literature review) with the selected review model is a narrative review. The study conducted in the narrative review model is to compare data from several national and international journals that have been analyzed and summarized based on the author's experience, existing theories and models. The research method used is a qualitative research method with the data source used in the form of secondary data obtained from several scientific journals, articles and previous studies that have been analyzed by the author, as well as internalizing the author's observations about the research problem being studied. Researchers use analytical descriptive methods by collecting, identifying, compiling and analyzing various data found.

3. RESULT AND DISCUSSION

3.1 Impact of 'Kampus Mengajar' programs on elementary school literacy development

Indonesia's Kampus Mengajar Merdeka Belajar program broadens access to quality education by deploying university students to under-resourced schools, enhancing teacher skills through professional development, and creating new learning materials. As Debrah et al. (2021) stated, this kind of initiative could injects fresh perspectives into classrooms, strengthens teacher expertise, provides valuable resources, and raises public awareness of education's significance, ultimately leading to a better learning environment for more Indonesian students.

The Kampus Mengajar Merdeka Belajar program enhances the quality of education for students in several ways (Nelly et al., 2022). University student mentors bring fresh perspectives and potentially stronger subject knowledge to classrooms, particularly in under-resourced schools. This exposure can ignite a passion for learning and improve student comprehension. Additionally, the program fosters the development of essential soft skills like problem-solving and communication through innovative teaching methods employed by the student

mentors. These combined factors can lead to a more well-rounded educational experience for students.

Drawing on global education research, the Kampus Mengajar Merdeka Belajar program's implementation aligns with strategies proven to enhance educational quality of UNESCO. By placing university students in underserved schools, the program echoes findings that peer learning approaches can boost student achievement and motivation (Topping et al., 2017). Moreover, the program's emphasis on professional development for teachers reflects global recognition of the critical role well-trained educators play in student success (OECD, 2019). This focus on both student exposure to fresh perspectives and teacher skill improvement creates a fertile ground for quality improvement within the Indonesian education system.

The Kampus Mengajar program holds promise for enhancing student reading and writing skills by leveraging two key strategies supported by educational research. Firstly, the program introduces university student mentors into classrooms. Research by Topping et al., (2017) demonstrates the effectiveness of peer learning approaches in boosting student motivation and achievement, including in literacy skills. These university mentors can serve as positive role models, igniting a passion for reading and writing in younger students. Additionally, they can provide personalized attention, particularly beneficial in under-resourced schools that often lack dedicated literacy programs.

Secondly, the Kampus Mengajar program emphasizes innovative teaching methods. The National Council of Teachers of English highlights the importance of engaging instructional practices in improving student comprehension and engagement with reading and writing (Seltzer & O'Brien, 2024). By encouraging these methods, the program equips student mentors with the tools to make literacy learning more interactive and effective. This combination of positive role models and engaging teaching methods has the potential to create a more supportive and stimulating learning environment, fostering significant gains in student reading and writing skills.

Apart from bringing innovation to reading and writing learning methods, the Kampus Mengajar program also requires students to initiate other literacy development programs in the nature of projects. To date, many works have been produced by students in the implementation of campus teaching at schools in order to create a strong literacy culture and nuance in schools. Various programs such as revitalizing reading corners, making wall magazines, literacy-rich environments, Indonesian drama classes, and literacy festivals have been able to change the atmosphere of literacy learning in schools to be more lively and enjoyable. Strickland & Walker (2004) said If teachers create a literate environment supporting all readers in their efforts to make sense of literacy events, students will come to revalue reading. Literacy learning should not be seen as an exclusive thing but integrated into daily habits.

The program empowers university mentors to create engaging literacy projects tailored to student interests. This builds upon the Merdeka Belajar principle of student-centered learning. By introducing students to a variety of reading materials beyond textbooks and incorporating games, discussions, or creative writing exercises, the program makes learning enjoyable and caters to individual preferences. This shift away from rote memorization and towards fostering a love for reading resonates with research by Allington (2006) who highlights the importance of student choice and engagement in developing a love for reading. This autonomy and focus on enjoyment can spark a natural curiosity and intrinsic love for reading that goes beyond mandated learning.

The Kampus Mengajar program in Indonesia, which places university students in elementary schools, offers a unique opportunity to not only enhance student literacy development but also positively impact teachers' professional growth and practice. Research suggests the program benefits teachers in several ways. Firstly, Kampus Mengajar students can expose teachers to innovative teaching strategies (Suprema et al., 2023), fostering professional development

through collaboration and knowledge sharing. This can involve techniques like incorporating technology into lessons or differentiated instruction to cater to diverse learners' needs. Secondly, the program reduces teacher workload by providing support with tasks like conducting reading groups or preparing materials, allowing teachers to focus on core instruction and personalized attention for students (Suyatno et al., 2023).

Furthermore, witnessing improved student literacy outcomes due to collaborative efforts can be a motivating factor for teachers, increasing job satisfaction and fostering a sense of shared responsibility for student success (references on teacher motivation and job satisfaction can be found in general educational research on professional development programs). Overall, the Kampus Mengajar program holds promise for creating a supportive environment where both teachers and students can thrive in their literacy development journeys.

3.2 Challenges and limitations of 'Kampus Mengajar' programs

1) Limited resources and funding

A study conducted by Laksono & Retnaningdyah (2018) reveal, resource limitations impede the program's capacity to deliver quality education consistently, with inadequate teaching aids, insufficient infrastructure, and a dearth of trained educators in remote areas exacerbating the challenge. Research by Allington (2014) emphasizes the importance of providing students with a wide range of engaging and age-appropriate reading materials. This lack of variety can hinder student motivation and make it difficult for them to find materials that spark their interest and cater to their reading levels. Hence, addressing these constraints through sustainable funding mechanisms and efficient resource allocation strategies is imperative to enhance the program's impact and ensure equitable access to education for all students.

According to Yasir (2021), underscores the pivotal role of financial backing in sustaining such initiatives, with the program heavily reliant on external funding to cover essential expenses like transportation, teaching materials, and accommodation for student volunteers. However, securing adequate financial support remains a formidable challenge, hindering the program's scalability and its potential to reach more remote and underserved communities. Funding could address logistical challenges faced by host schools, such as providing dedicated classroom space and essential teaching materials for the Kampus Mengajar students. Additionally, resources could be allocated for ongoing mentorship ensure a more supportive environment that ultimately leading to a more successful program (Muhammad Hilmi et al., 2022).

2) Addressing diverse learning needs

Addressing diverse learning needs within the development literacy programs in Indonesia presents a significant challenge due to the country's vast geographical and cultural diversity. With over 700 languages spoken across the archipelago (Sneddon, 2003), the literacy needs vary greatly among different regions, ethnic groups, and socio-economic backgrounds. Research by Azizah et al. (2022) highlights the disparities in literacy rates between urban and rural areas, as well as among different demographic groups, underscoring the importance of tailored approaches to address diverse learning needs effectively. Furthermore, inadequate access to quality education resources and trained educators in remote and marginalized communities further exacerbates the challenge of promoting literacy development comprehensively (UNESCO, 2017).

Moreover, the rapid advancements in technology and digital media pose additional challenges in addressing diverse learning needs within development literacy programs. While digital platforms offer new opportunities for literacy development, particularly among younger generations, the digital divide persists, with many communities lacking access to reliable internet connectivity and digital devices (Curran et al., 2019). Research by Kurniawan & Zaphiris (2006) emphasizes the importance of bridging this gap through innovative approaches that leverage technology while considering the socio-economic constraints faced

by marginalized populations. Additionally, promoting digital literacy skills alongside traditional literacy practices is essential to equip learners with the tools they need to navigate an increasingly digital world.

3) Measuring the long-term impact

Measuring the long-term impact of development literacy programs in Indonesia presents a significant challenge. While programs might show initial improvements in student reading skills, gauging their lasting effects requires a long-term perspective. Many Indonesian literacy programs struggle with resource constraints, which often limit the scope of monitoring and evaluation (M&E) efforts. In-depth, long-term studies can be expensive and require trained personnel, resources that might not be readily available. Without robust M&E systems, it's difficult to assess how effectively programs are contributing to sustained improvements in student literacy beyond the immediate program duration (S. Karimi, 2020).

Research by UNESCO (2017)) indicates that assessing the enduring effects of literacy initiatives requires longitudinal studies that track participants' progress beyond the duration of the program. However, logistical constraints, funding limitations, and the transient nature of program participants pose challenges in conducting comprehensive long-term evaluations. Additionally, the effectiveness of literacy interventions may be influenced by socio-economic factors, educational policies, and cultural dynamics, further complicating efforts to measure sustained impact (Benavot, 2015). Factors beyond the program's scope, such as a student's home environment, access to reading materials, and continued educational opportunities, all play a role in long-term literacy outcomes. This makes it challenging to isolate the program's specific long-term impact and attribute reading skill gains solely to the program's intervention.

3.3 Recommendations for development of sustainability

1) Focus on Collaborative Capacity Building: Strengthening partnerships with schools and communities

To strengthen partnerships with schools and communities and sustain the impact of 'Kampus Mengajar' programs, several recommendations can be considered. Firstly, fostering collaborative relationships with local schools is essential for integrating program activities into the existing educational infrastructure. Research by Aulia et al. (2022) underscores the importance of aligning program objectives with school curricula and learning outcomes to ensure relevance and sustainability. By engaging school administrators, teachers, and students in program planning and implementation, 'Kampus Mengajar' can enhance buy-in and foster a sense of ownership among key stakeholders. Additionally, providing professional development opportunities for teachers to incorporate innovative teaching methods promoted by the program can further strengthen partnerships with schools and promote long-term impact.

Establishing community-led initiatives, such as parent-teacher associations or literacy clubs, can create platforms for ongoing collaboration and support for educational activities even after university students have completed their assignments. Instead, cultivate a collaborative environment where Kampus Mengajar students work alongside elementary school teachers. University students can share effective literacy practices, co-teach lessons, and mentor teachers on differentiated instruction strategies (Ahyar & Zumrotun, 2023). This collaborative approach equips teachers with the necessary skills and knowledge to sustain effective literacy instruction beyond the program's duration. Research by Desimone et al. (2003) highlights the importance of teacher collaboration in promoting effective teaching practices. By building teacher capacity and fostering a culture of shared learning, Kampus Mengajar can ensure continued literacy development even after university students' departure.

Promoting sustainability requires a long-term commitment to capacity building and institutional strengthening within both schools and communities. Catone et al., n.d. suggests investing in training programs for local educators, community

leaders, and university students to develop their skills in project management, leadership, and advocacy. By empowering local stakeholders to take ownership of educational initiatives and mobilize resources effectively, 'Kampus Mengajar' programs can foster a culture of self-reliance and resilience in the face of challenges. Additionally, establishing monitoring and evaluation mechanisms to track program impact and gather feedback from beneficiaries can facilitate continuous improvement and adaptation to evolving needs and circumstances. Through these concerted efforts, 'Kampus Mengajar' can strengthen its partnerships with schools and communities and maximize its long-term impact on education equity and quality in Indonesia.

2) Developing Sustainable Resources and Practices

The program's impact can be extended by creating resources and practices that schools can readily adopt after the university students leave. This could involve co-creating accessible lesson plans with teachers, compiling a library of age-appropriate reading materials for different skill levels, or establishing partnerships with local librarians or literacy organizations. These resources and connections can provide ongoing support for teachers and students, fostering a sustainable approach to literacy development. Developing sustainable resources and practices for a reading development program at an elementary school, also need to involves a multifaceted approach aimed at long-term effectiveness and community engagement. It need to establishing partnerships with local libraries, educational organizations, and community centers can provide access to a wide range of reading materials and resources. Collaborating with these entities not only ensures a steady supply of books but also fosters a sense of community involvement in the program.

In terms of routine practice in schools, alternative efforts to develop sustainable resources can be addressed by contextualize materials. Such as relate to local environment. Instead of using abstract concepts, Kampus Mengajar students can tailor their teaching to the specific environment of the elementary school. For example, reading exploring about water conservation efforts, or traditional sustainable agricultural techniques. Resources like "World Wildlife Fund: <https://www.worldwildlife.org/>" or "The Nature Conservancy: <https://www.nature.org/>" offer educational materials that can be adapted for younger audiences.

Another way, for example is using project base learning. Hands-on projects can solidify understanding of sustainability principles. Students could develop a school garden using recycled materials, design posters promoting water conservation, or conduct a waste audit to identify areas for improvement. Project Learning resources can be found from "Edutopia: <https://www.edutopia.org/>". The teachers can also create digital resources like presentations, interactive games, or short educational videos that can be easily adapted and used by future participants. Sharing platforms like "Google Drive: <https://www.drive.google.com/>" or "Dropbox: <https://www.dropbox.com/>" can be used to store and share these resources.

3) Integrating technology for enhanced learning experiences

Integrating technology can enhance both access to resources and the learning experience. Implementing digital libraries or online platforms for reading materials can overcome physical barriers and provide students with a diverse selection of books. Additionally, utilizing educational apps or interactive e-books can make reading more engaging and interactive, catering to different learning styles and preferences among students. For example, apps like Lexia Core5 and Raz-Kids provide adaptive activities targeting various aspects of literacy, such as phonics, comprehension, and vocabulary, while also tracking students' progress over time. In another way, platforms like Epic! and Storybird offer access to a vast library of digital books, audiobooks, and multimedia content, allowing students to explore diverse genres and formats

Optimizing technology to support sustainable programs can also be implemented in the provision of Collaboration and Knowledge Sharing forums. Creating online platforms or communities of practice where university students can exchange ideas, resources, and best practices fosters a sense of belonging and collective learning, strengthening their commitment to the program and its long-term sustainability (Mikroyannidis et al., 2023). Create a platform for Kampus Mengajar students to share their experiences, successful teaching strategies, and locally-sourced content related to sustainability. This platform could be a forum, online community, or social media group.

4) Monitoring and Evaluation with a Focus on Sustainability

Track Student Progress and Kampus Mengajar Implementation: Regular assessments should measure student literacy skills before, during, and after the Kampus Mengajar program. Additionally, M&E should evaluate factors influencing long-term sustainability, such as the effectiveness of teacher training provided to Kampus Mengajar participants, the integration of literacy practices into the regular curriculum by elementary school teachers, and the availability of necessary resources within the schools. Research by Durlak & DuPre (2008) emphasizes the importance of evaluating these implementation factors alongside student outcomes to understand how the program is functioning and identify areas for improvement.

Evaluate Long-Term Sustainability of Literacy Gains: M&E should extend beyond the Kampus Mengajar program's duration to assess the program's lasting impact on student literacy skills and school practices. This could involve tracking student literacy levels months after the program's completion or monitoring schools continued use of the Kampus Mengajar teachers' implemented literacy strategies. By collecting data on these long-term outcomes, the program can be adapted to ensure it contributes to lasting improvements in student literacy and empowers schools to continue promoting literacy development after the Kampus Mengajar students depart (Karimi et al., 2020).

4. SUMMARY

The kampus mengajar program shows good impact and potential in developing sustainable literacy in primary schools. The kampus mengajar has an impact on improving the quality of literacy learning in the classroom and students' reading and writing skills. The challenges for the sustainability of the kampus mengajar program are a limited resources and funding, addressing diverse learning needs, and measuring the long-term impact. Recommendations for program sustainability are; 1) focus on collaborative capacity building, 2) developing sustainable resources and practices, 3) integrating technology for enhanced learning experiences, and 4) monitoring and evaluation with a focus on sustainability.

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ANALYZING THE ANDRAGOGY PRINCIPLES TO BOOST LITERACY SKILLS OF UNIVERSITY STUDENTS

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ABSTRACT

Literacy is a fundamental skill that university students should master to reach greater academic achievement. Dealing with university students requires a certain approach and learning theory. The influence of the andragogy theory by Knowles in teaching university students cannot be ruled out. This research aims to analyze the andragogy principles in teaching and learning activities of sixth-semester students in the research methodology course of English Language Education, The Faculty of Teacher Training and Pedagogy, Dwijendra University. This research is qualitative research where the data were collected from in-depth observation and interviews with an English lecturer. The data were analyzed qualitatively by referring to Knowles' (1984) principles of andragogy which include (1) adults need to be involved in the planning and evaluation of their instruction, (2) experience provides the basis for the learning activities, (3) adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life, and (4) adult learning is problem-centered rather than content-oriented. The finding shows that the principles have been inserted in various learning activities to boost the literacy skills of sixth-semester students. The data shows that principles are potentially beneficial to dealing with university students due to their learning styles and students' characteristics.

Keywords: literacy skill, andragogy's principle, university student, Knowles

1. INTRODUCTION

Literacy is a fundamental skill that must be acquired by students at all levels to reach greater academic achievement. It is considered a foundational skill that is necessary to acquire knowledge and skill in the educational institution. Literacy simply refers to a combination of the ability to read and write as well as understand information and express ideas both concretely and abstractly (Haeussler, 2012). Literacy is also defined as the ability to create and communicate meaning from and by using various social contextual symbols, achieving desired goals through language skills (Akhter, 2014).

Literacy has an important role in various aspects of life. Mastery of literacy has an important role in cognition, social, and intellectual life, as well as influencing historical and cultural change (Huettig & Pickering, 2019). Literacy skills contribute to national development by reflecting the qualities of each person, being functionally beneficial to the surrounding environment, and optimizing citizen involvement in the development of their nation (Mulia, 2016). The definition of literacy emerges necessity and importance of literacy in the academic aspects.

Literacy skill in Indonesia is still considered a fundamental issue and it needs progressive improvement. Programme for International Student Assessment (PISA) 2023 shows that Indonesia reached a score of 371 points which places Indonesia in 68th rank out of 81 countries being studied (Ahdiat, 2024). It can be a strong basis of

reflection for all academic institutions. All stakeholders should pay attention and find a solution to this issue.

University as a higher education institution encounters the literacy issue. The issue of literacy is even more risky at the university level since most of the learning materials in university are distributed in written text such as modules, books, articles, etc. The academic achievement of university students relies on literacy skills. Furthermore, people with a lack of literacy competency are more likely to experience poorer employment opportunities and outcomes and lower income (Miranda, 2021). As a result, they often face welfare dependency, low self-esteem, and higher levels of crime.

The problem of literacy was also experienced by the students of sixth-semester students of English Language Education, Faculty of Teacher Training and Pedagogy, Dwijendra University. The fundamental problem with literacy is students' motivation. The students did not have any motivation to read the written resources given in the Research Methodology course by the lecturer. The students skimmed the text and did overgeneralization of the contents with resulting of misinterpretation of the content of the reading material.

The approach of university students is special and different compared to lower education levels. The theory of pedagogy is not merely effective for university students; thus, it is implemented of the andragogy theory which refers to the adult learning theory. Andragogy is a theory that connects self-direction, prior experience, readiness to learn, and immediacy of application to improve learning (Hagen & Park, 2016). Furthermore, it is defined as the study of adult learning, and its principles and processes can influence the learning satisfaction of graduate students (Ekoto & Gaikwad, 2015). It usually refers to the field of educating or guiding adults, playing an innovative role in enabling moments of community in organizations, educational systems, neighborhoods, and society in general (Note, Backer, & Donder, 2020).

The implementation of andragogy in teaching university students is based on certain principles. Knowles (1984) proposes four principles of andragogy that can be implemented to teach university students. The principles are (1) adults need to be involved in the planning and evaluation of their instruction, (2) experience provides the basis for the learning activities, (3) adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life, and (4) adult learning is problem-centered rather than content-oriented.

The research aims to analyze and elaborate on the implementation of andragogy principles by Knowles (1984) in the teaching and learning process of six-semester students of English Language Education at Dwijendra University in the academic year 2023/2024. The implementation of the principles is to boost the literacy skills of the students. It will be beneficial to find the practice of andragogy theory in teaching university students specific to the aspect of literacy.

2. RESEARCH METODOLOGY

This research is qualitative in the form of a case study that describes the implementation of andragogy principles by Knowles (1984) in teaching and learning activities of six-semester students of the English Language Education at Dwijendra University in the academic year 2023/2024. The subject of the research was the lecturer of English Language Education who taught Research Methodology. The data were collected through observation and interviews. The instruments of data collection were an observation sheet and an interview guide. The data were analyzed qualitatively using Miles and Huberman (1994) theory of data analysis which consists of data collection, data reduction, data display, and conclusion drawing/ verification.

3. RELATED RESEARCH/LITERATUR REVIEW

a. Literacy

Literacy is a fundamental skill in the academic life of the students. Literacy can be defined in various definitions; most of them relate to reading and writing skills. Literacy is often defined as the ability to read, write, understand information, and express ideas both concretely and abstractly (Daley, 2003). Literacy is seen as an "autonomous" property or ability of the individual, and literacy teaching focuses on remedying deficiency and developing competence in literacy skills (Hodgson, 2019).

Literacy is defined as a combination of the ability to read and write as well as understand information and express ideas both concretely and abstractly (Haeussler, 2012). Literacy refers to the ability to create and communicate meaning from and by using various social contextual symbols, achieving desired goals through language skills (Akhter, 2014). Langer et al. (1985) consider literacy as a complex issue involving cognitive psychology, linguistics, anthropology, sociology, education, history, and philosophy, with implications for historical and cultural change. Literacy enhances people's ability to predict spoken language, aiding comprehension and providing a stable environment for training the predictive system (Huettig & Pickering, 2019).

b. Andragogy

Andragogy is the methods and principles in adult education. Andragogy concerns adult education and learning, but its meaning is ambiguous and has different historical and professional perspectives (Loeng, 2018). It is a theory that acknowledges learners as self-directed and autonomous, with the teacher acting as a facilitator of learning rather than a presenter of content (Henschke, 2011). It is a process for helping students become self-directed learners, involving them in planning, conducting, and evaluating an educational program (Kerwin, 1981). Andragogy is a learning theory focusing on the specific needs of adults, emphasizing self-direction and responsibility for decisions (M. Knowles, III, Swanson, & Robinson, 2020).

c. Andragogy Principles

The theory of andragogy is implemented in certain principles to characterize the teaching and learning process reflected in the theory. Knowles (1984) proposes four basic principles of andragogy in adult learning classrooms. The principles include:

- 1) Adults need to be involved in the planning and evaluation of their instruction
- 2) Experience provides the basis for the learning activities
- 3) Adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life
- 4) Adult learning is problem-centered rather than content-oriented.

4. RESULTS AND DISCUSSION

The research was conducted in the sixth semester of English Language Education at Dwijendra University in the academic year 2023/ 2024. The data were collected from observation in the classroom and interviews with the lecturer who implemented the concept of andragogy in boosting students' literacy skills.

Based on the interview with the lecturer, literacy skills in Research Methodology play an important role in achieving academic achievement in this course. Most of the learning sources provided by the lecturer are written; either printed or digital version. The students were expected to learn the theories related

to research by reading the learning sources and then implementing them in writing a research proposal.

The evidence reflects that the need for literacy skills is undeniable. In implementing the activity to boost students' literacy skills, the lecturer was aware that the theory of andragogy cannot be skipped to get an expected result. The lecturer implemented andragogy principles by Knowles in achieving the goal of literacy skills. The implementation of andragogy principles in the classroom can be seen in the following section.

a. Principle1: Adults need to be involved in the planning and evaluation of their instruction

Teaching adult learners has great disparity with the teaching of young learners. The teacher of young learners does the planning and evaluation initially before the class through the discussion with the peers. Based on the observation and interview with the lecturer of English Language Education, this principle is implemented in the first meeting within 17 meetings. In the first meeting, the lecturer always does classroom discussion to determine the whole learning activity, task, project, and evaluation. It dealt with the planning of the lecturer which can be a strong indication of the principle of andragogy principles in teaching university students.

Based on the observation, the first class began with the presentation of the lesson contract containing the list of materials and set of rules in the lecture's process. The interview shows that he intended to be democratic with the students since the students are adults and should have the ability to discuss and give opinions.

Planning in the educational context can be defined as the process of setting objectives and determining the means to achieving the objectives, it deals with deciding in advance what to be taught, how to teach, who is to be taught, and the evaluation of the recipient (Innocent, 2021). The involvement of students of students in the planning process has the potential to motivate students to be physically and emotionally engaged in the teaching and learning activities (Susila, 2021).

Considering the content of the material in Research Methodology, the role of students in determining the reading material is important. Based on an interview with a student in the sixth semester, she mentioned that the lecturer gave the freedom to the students to choose recommended books related to Research Methodology in advance. The students were expected to commit to their choice since the result must be achieving the learning competencies in the course. There are some selection of books that students can choose as follows:

Table 1. Recommended Book for Research Methodology

No.	Author	Year	Title
1.	Sugiyono	2017	Metode Penelitian Kuantitatif, Kualitatif dan R&D
2.	Suharsimi Arikunto	2011	Prosedur Penelitian Suatu Pendekatan Praktik
3.	John W. Creswell	2008	Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research
4.	Craig A. Mertler	2008	Introduction to Educational Research

Source: Interview with the lecturer (2024)

Table 1 shows the recommended books with rich and comprehensive explanations the lecturer offered to the students. However, if the students have any relevant books which meet the standard, they are acceptable. Letting the students involved in planning especially in determining the reading material is potentially effective in boosting students' literacy skills.

b. Principle 2: Experience provides the basis for the learning activities

Teaching adult learners is challenging since it deals with a democratic atmosphere. The experience is a must when it comes to teaching adult learners or university students. They need to experience the material and the concept rather than being explained and forced to believe it. Knowles (1984) states the importance of providing learning experience in the learning activities of adult learners.

Research Methodology class aimed at giving students the experience to fail and succeed at the same time. Based on the observation, the students were not driven to a certain topic of the research when they determined the topic of the proposal. The students chose the topic by their experience of the lectures they had joined and then read the book related to the topic to get a specific research problem.

The lecturer empowered students' experiences in reading the theory as a consideration of selecting a research topic. It relies on the assumption that the students tend to remember the theory they like to read. Based on the observation, most of the students remembered about Speech Act theory by Austin and Searle. It was a great connection to make a research proposal from the Speech Act topic. The learning process in teaching adult learners will become more effective and interactive if it is connected to their experiences (Susila, 2023). However, the process of giving students experience depends on the individuals to proceed and connect to the material being explained. Some individuals may perceive great results meanwhile others may feel differently.

The lecturer makes use of the students' experience to build students' interest in reading the relevant references as well as the process of writing the proposal. The reading and writing or literacy skills cannot be perceived theoretically; it is perceived by the process of experiencing the reading and writing of certain topics. It is expected that by having the experience of making and writing the research proposal, the students will boost their literacy skills. Norman (2022) stated that giving meaningful learning experiences in teaching adult learners can significantly improve their specific skills and knowledge. Furthermore, the highlight of the learning experience in university classes can be motivated activity with full engagement and contribution of students.

c. Principle 3: Adults are most interested in learning subjects that have immediate relevance and impact on their job or personal life

Adult learners can be characterized as intentional learners; they learn something they want to know or need. University students have the freedom to choose the major and study they like to learn and master. Knowles (1984) highlighted the use of relevancy and direct impact of the material and topic in adult classes to the students personal lives or job requirements.

Based on the interview to selected students, the students of English Language Education chose this major due to their willingness to be an English teacher. They learn the lectures offered in the major lists as a professional English teacher. One of the requirements to graduate is Research Methodology. This lecture gives the students ability to write a research proposal related to English education or linguistics.

However, this lecture is also needed by the students to run a requirement as a teacher. The teacher is required to conduct a classroom action research to improve their quality of the students. Based on the interview to the lecturer, the students as prospective teacher should be able to conduct a research in classroom setting. In addition, the research report is also necessary to upgrade the teacher level.

To confirm, the observation of the teaching and learning process in sixth semester class shows that the lecturer always provides the strong reason of learning especially in reading material source they select. The lecturer shows the situation where and when the students need to learn about it. When the students are aware the importance of learning the lecture, they will have willingness to read the materials. The students said that their literacy activities were carried out attentively since they know they would need this competency in the future.

Their intentions to join English Language Education were not only as a teacher but also as a willingness to master English for personal purposes such as wanting to live abroad. The lecturing process which enables students to realize the importance of study literacy will lead to their literacy skills including reading and writing which are necessary in living abroad.

By recognizing their need for literacy skills as a relevant skill for their job, the students of English Language Education at Dwijendra University showed great motivation and engagement in the Research Methodology course. A student stated that he has a clear understanding of the importance of literacy skills to their job in the future. Furthermore, he added that knowing his needs let him practice and improve his literacy skills.

d. Principle 4: Adult learning is problem-centered rather than content-oriented

There are some characteristics of an adult learner by the experts that give a certain identity of adult learners. Besides highlighting the needs, adult learning must accommodate problem-centered learning. Adult learners in this case university students can think critically to solve the problem. It can be categorized as a problem-centered learning approach.

Knowles (1984) has highlighted that adult learning has preferred to learn something problem-centered rather than content-oriented. Based on the observation, the lecturer facilitated students to solve the problem given. At that time, the lecturer asked the students what a possible research title based on the topic of blended learning. The students read some references and articles to be able to answer the questions. By giving the problem to the students, it enabled students to read as many articles as possible to find the title of the topics. It boosted students' literacy skills when they read and wrote some information.

The practical implementation of problem-center in adult learners is by the implementation of problem-solving activities. Hsu and Hsu (2020) suggested the implementation of problem-solving activities that encourage students to learn something intensively. Being encouraged in learning by problem-centered, students are willing to empower their reading and writing skills to solve the problem. The expected result of this activity is the boosting of students' literacy skills.

5. CONCLUSION

This research is intended to analyze the principles of andragogy by Knowles (1984) in boosting the literacy skills of university students in Research Methodology courses. The finding shows that all principles were implemented by the lecturer in boosting literacy skills in the sixth semester of English Language Education. Principle 1: adults need to be involved in the planning and evaluation of their instruction was implemented in the planning process in the first meeting. Principle 2: Experience provides the basis for the learning activities is implemented by providing various experiences, especially in literacy skills. Principle 3: adults are most interested in learning subjects that have immediate relevance and impact on their job or personal life is implemented when the lecturer allowed students to relate the major to students' personal lives. Principle 4: adult learning is problem-centered

rather than content-oriented was implemented by giving students problems to be served where the students must empower the literacy skills to solve the problem.

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AN INNOVATIVE LEARNING MODEL BASED ON FLIPPED CLASSROOM IN TEACHING ENGLISH FOR YOUNG LEARNERS

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ABSTRACT

English becomes an important language taught in Indonesia since it is used as a foreign language. English as a foreign language had been inserted in the Indonesian education curriculum from elementary school through university or institute. However, most Indonesian students, especially young learners have difficulties in learning English because they lack of vocabularies and confidence. Therefore, it was hard for them to improve their English skills. This research aims to describe flipped classroom as an innovative learning model used in teaching English for young learners. Flipped Classroom in this study was an instructional approach which integrates technology-based learning method. It gave students' opportunities to learn in the different way. The students could learned English and accomplished their learning practices outside classroom by watching instructional videos. This research used descriptive qualitative research design which focus on literature study from relevance references. The data were collected by doing library research, thus the writer got the data as the reference from books as well as journals regarding the object of the study. This study showed some benefits of Flipped Classroom for students, such as they could increase their self-efficacy, motivation, and critical thinking. Meanwhile, the use of flipped classroom could help teacher in creating positive classroom atmosphere, utilizing technology in creating innovative instructional videos or materials and improving students' engagement in learning process, thus it could achieve the goals of learning outcomes.

Keywords: *Flipped Classroom, Teaching English, Young Learners*

1. INTRODUCTION

English becomes an important language taught in Indonesia. It is used as a foreign language in Indonesia English as a foreign language has been inserted in the education curriculum in Indonesia. The main objective of learning English as an international language for students is to master language competence which is an indicator of the success of a language learner. The competencies meant are in the fields of knowledge, skills, attitudes, and behaviours that should be had by students related to the ability to use language (Ratminingsih, 2019).

English language teaching in Indonesia starts from the basic level of education until the highest level in university or institute. In relation with this, it is important learning English at early age for children' development. It can be started by learning and improving English vocabularies. Students at this age are considered as good period for learning English. In this golden period, children will understand what have they learnt more quickly. English as an International language is better to be taught at early age because it could improve children's vocabulary and their language skills (listening, reading, writing and speaking).

Meanwhile, teaching English for young learners is challenging. It can be caused by some factors such as the students lack of vocabularies and motivation in learning English, they difficulty in pronouncing some words and they have limited environment to learn English. Furthermore, Mustafa (2003) mentions three problems of teaching English to young learners, such as (1) the lack of the English language in real-life situations which would likely involve children in their daily life;

(2) The way English words are written as opposed to the way the words are pronounced; and (3) There has been a persistent misconception about how children learn including learning a foreign language due to the lack understanding of who the children are.

Meanwhile, the cognitive development of a child is at the concrete operational stage. Concrete operational means that the students learn through their experiences (learning by doing) by utilizing some objects around their environment. Teaching and learning process in English classroom for young learners will be better and more enjoyable if the teacher conducts physical activities and uses concrete objects around them. Thus, the students will understand what is being taught by the teacher (Ratminingsih, 2019).

Since learning English for young learners should be fun and enjoyable, the teacher have to use an innovative learning model. Learning by doing and having relation with the real life will makes students more remember and understand what they have learnt (*long-term memory*). The use of learning media in the form of video instructional is better for teaching English for young learners.

Mandasari & Wahyudin (2021) in Sutrisna (2022) state that one of the learning model that can be used in learning by utilizing technology is the Flipped Classroom model. Flipped Classroom is a learning model that uses video as teaching media. This video will contain an explanation of the material that will be discussed in class. Students and educators can access this video with the help of internet. In addition, instructional videos can also be learnt repeatedly anytime and anywhere, therefore it easier for students to understand the material presented. Furthermore, educators can utilize learning process in the classroom by giving reinforcement in the form of exercises and other learning activities. In other words, the role of video in the Flipped Classroom learning model is to minimise the educator's time explaining the material in front of the class and learning activities in the classroom will become a place to realize the results of learning outcomes in a more meaningful way.

2. RESEARCH METODOLOGY

The type of this research is descriptive qualitative research. Descriptive qualitative method is concerned on the analysis of the relationships between non-manipulated variables and the development of generalizations (Riduwan, 2008). This study used literature study techniques from the relevance sources. The collected data were analysed descriptively qualitatively, therefore it could be seen the characteristics and English learning approaches for special needs students, especially autistic students.

3. RESULTS AND DISCUSSION

Teaching English for Young Learners

Teaching English for young learners is important nowadays. At this age students will remember and understand what they have learnt. Harmer (2007) and McKay (2007) in Ratminingsih (2021) state that students at the age of 3 -12 years old are called as their golden age or critical period. It is a potential period for learners to acquire language and even multilingualism at once, because their language acquisition devices are good.

Besides that, teaching English for young learners should be fun and meaningful. The implementation of English learning strategies for children is very necessary because at this time children like to play and do fun activities. If children feel comfortable and happy during learning activity, it will be easier for them to understand the topic being studied. Furthermore, fun learning will not be meaningful if the material taught is not related to the real world. In addition, teacher has an important role in teaching English for young learners. A good teacher is one who can bring real world learning. Learning based on the real world can provide real and meaningful experiences for students in learning. This experience could

improve students' ability, memory, and knowledge. Besides that, learning style has significant influence in learning process. There are three learning style that used by children, namely:

a. Visual Learner

Students can be said to be visual learners because they need visualization to describe the material. Students usually understand lessons by seeing, describing, and visualizing their knowledge concepts. Students with a visual learning type tend to learn faster by using *mind maps* to explain the material they have learned. In addition, students like to see what they are learning and remember the details of the material they have seen such as using pictures.

b. Auditory Learner

Students' with auditory learning style tend to communicate ideas orally. Students learn by communicating memorized material by speaking aloud. In this case, the students will remember more easily. They can learn faster through recording classroom learning and re-listening when they study again.

c. Kinesthetic Learner

Kinesthetic learners tend to learn using movement. They are comfortable moving around while listening or talking. This is because students with this type cannot learn just by listening or reading, they will learn faster by doing experiments. Students tend to learn by doing hands on practice not just theory.

The three characteristics of learning styles above are very suitable for learning media in the form of videos. Video as a teaching aid that contains sound and moving images or animations that can stimulate children to follow every instruction in it. Thus, learning by doing activities directly will make students understand the material better.

Teaching Vocabulary to EFL Young Learners

According to Besral (in Ratminingsih et al., 2021), in terms of its function, vocabulary can be classified into two types, namely active vocabulary and passive vocabulary. Active vocabulary is vocabulary whose meaning is known and is often used in speaking and writing (*productive skill*), while passive vocabulary is vocabulary that is rarely used, however in listening or reading activities (*receptive skill*), listeners or readers can understand its meaning. However, passive vocabulary can turn into active vocabulary when it is used in activities that produce the language itself, such as speaking and writing.

Vocabulary plays an important role in children's language development. It is one competencies in language skills and has important role in teaching English as a foreign language. The growth of children's vocabularies is strongly influenced by the environment around the child, the more words the children get from the environment, the more vocabulary they have.

Teaching vocabulary for young learners should be fun and enjoyable for the children. Teachers can utilize instructional videos in teaching vocabulary for young learners. By using instructional videos, children can hear, see and imitate the teacher's examples. By combining visual and auditory learning styles, students are expected to be able to remember what they have learnt before. In addition, the introduction of English vocabulary to children through the learning process at school should be introduced early, because at this age students can learn things easily and quickly.

Flipped Classroom

Flipped Classroom is one of the English learning models that can be implemented from young learners to adults. This learning model can help teachers in teaching English to students. The teacher utilizes this model to accomplish students' practices outside classroom by asking them to watch some videos that relate to certain topics. Mary (2016) claims that flipped classroom is an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered homework, into the classroom. In a flipped classroom, students watch online lectures, collaborate in online discussions, or carry out research at home and engage in concepts in the classroom with the guidance of a mentor.

Furthermore, Johnson (2013) in Sutrisna (2022) adds that the Flipped Classroom is a learning model which facilitated by digital technology that can minimize learning activities learning through lectures the learners in the classroom. This learning model gives opportunity for learners to learn earlier before learning activities in the classroom. In addition, this learning model supported by some learning materials for learners that can be accessed virtually. The students could access and read English materials before class. Thus, the students will ready with the learning activities.

In flipped classrooms students watch lesson videos at any computer, from their tablets, smart phones or from different media players at any time as they want. The video contains of materials complete with the exercise that should be completed by the students. They could bring their homework to the classroom and participate actively to learning process. In relation with this, Flipped classroom does not eliminate the education in the class directly. However, this approach maximizes the time spend for each student instead of spending time for all students at once (Hamdan et al., 2013).

In addition, the flipped learning model consists of five elements, namely: 1) Students are active in learning, 2) Technology facilitates hands-on learning, 3) Students learn the material online before in- class activities, 4) Real-world problems are assigned to students, and 5) In-class activities are focused on discussion and other communicative activities directly guided by the teacher (Julinar and Yusuf, 2019).

Meanwhile, video as a teaching aid is the most used by the teacher in using flipped classroom as learning model. Nowadays, instructional videos are used as one of the most frequently learning media used by educators to assist the learning process. Video is one of the media that displays visuals and audio which use to introduce or explain something to others. Video as one of the advances in technology that has many positive influences and advances for humans and their culture. With video, it is no longer difficult for people to get various information, knowledge and entertainment (Busyaeri, et al 2016). From a video learning, the students are allowed to approach things at their own pace without worry of peers noticing them moving slower or faster. Furthermore, students are able to stop, pause, rewind, and fast forward material so that they can examine things in their own way. Juliari, Yuniari & Sudarmawan (2021) state that video is considered capable of delivering material better than modules and reducing the quantity of internet quota usage. Besides that, video is media that displays visual and produces audio which serves to introduce or explain something to others. In this case, the students at elementary school level will be interested and motivated to learn the materials

The Benefits of Flipped Classroom

There are some benefits in implementing Flipped Classroom in teaching and learning process, such as:

a) Focusing on student's center

Students' center refers to focusing attention on student's learning: what the student is learning, how the student is learning, and the conditions under which the student is learning, whether the student is retaining and applying the learning, Learner-centered teaching shifts the responsibility for learning to the students and away from the teacher (Erlinda, 2018). In learning process, students' take their own responsibilities, while teacher as the facilitator which facilitate and guide the students. In flipped classroom, the teacher provides instructional videos that students can study at home. Students will have knowledge before entering the class and they will more active in the learning process.

b) Increasing student's self-efficacy

Flipped classroom approach can promotes some soft skills needed by 21st century's learners. Outside class activities in flipped classroom focusses on comprehending learning content based on students' time and pace. It promotes students' self-efficacy in their ability to learn independently (Enfield, 2013) in Erlinda (2018). In-class activities of flipped classroom approach emphasizes to encourage students to implement the previous knowledge acquired from outside classroom activities into deeper and more contextual learning through collaborative and cooperative activities, such as discussion, debate, peer-work and other group projects. Simultaneously, those activities can encourage social interactions, team-based skills and cultural diversity among students.

c) Enhancing student's critical thinking skill

Bretzmann (2013) in Erlinda (2018) states that flipped classroom promotes students' higher order thinking skills by making learning becomes student-centered. Moreover, flipped classroom application involves metacognitive activities to increase students' performance and academic achievement since students internalize concepts, gain critical thinking skills and control their development in terms of learning outcomes (Hamdan et al., 2013).

d) Increasing student's motivation

As stated above Flipped Classroom focuses on before class activities, so the students will be involved in implementing the content they learned through digital material obtained outside the classroom (Mary, 2016). It enables students to be more active in learning process by answering question, doing the exercise, stating opinion, and sharing knowledge with their peers in teacher's guidance.

e) Utilizing technology in creating innovative learning materials

Currently, technology plays an important role in the learning process. In this case, the flipped classroom model uses video as a learning tool that is given to students as a provision for them to learn outside the classroom. In order to create an interesting video, several applications such as *filmora* or *windows movie maker* are required. Teachers can utilize these applications and add interesting music and animation to produce attractive instructional videos that can attract students' attention in learning.

Flipped Classroom in Teaching English For Young Learners

Teaching English for young learners is challenging. It is important for teacher to add and improve students' vocabularies at this age. They will remember for long time because at this golden age students' have good *long-term memory*. Besides that, in teaching English for young learner the teacher should use some innovative strategies to make students involved in learning process.

Anwar (2017) explains some procedures that could be prepared by teacher in teaching vocabulary to EFL young learners by using flipped classroom, such as:

1. The teacher has to make sure that a software “windows movie maker” or as such thing been installed in their PC (Personal Computer).
2. After it has been installed, the teacher then will write down the script to read from the beginning of video until the end. The content of the script can be talking about kinds of animals, fruits, vegetables, or some topics young learners like so much in the efforts of enriching students’ vocabulary mastery dealing with the syllabus materials in certain semester.
3. The teacher then will prepare the supporting materials to be created in that video. It can be various pictures, clips, illustrating instrumental music, words, quotes, and so forth. Those materials will support the narration uttered by the teacher.
4. The teacher will record his or her voice reading the script. Then, the teacher inserts the recorded voice and all supporting materials merged to the video format. The teacher should arranges them all in the right order and appropriate sequence so that the video will be interactive and attractive to students. After it finished, the video can be sent or given to the students. The teacher asks students to watch the video outside of the classroom (can be at home or somewhere), to figure out the contents or message of the material, and to try to answer the questions. Beforehand, the teacher can instruct the students to make group of two or three depending on the total number of the students in a class.
5. In the next meeting, the students in one group are asked to come forward per group to deliver their answers related to the questions given in the video. While listening to the students’ answers, the teacher will guide and respond them enthusiastically and interactively. With an interesting and creative activity, the class will be alive and cozy so that students will not hesitate to tell the teacher more on words or vocabularies provided in the video. As the result, if it runs well, the students’ vocabulary mastery will be eventually richer than before for sure.

4. CONCLUSION

English is better to be taught for young learner. Teaching English for young learners should be fun and interesting. It can be done by implementing an innovative learning model and using technology. Flipped Classroom is one of learning model that utilize technology in its process. Flipped Classroom is a learning model which facilitated by digital technology that can minimize learning activities learning through lectures the learners in the classroom. This learning model gives opportunity for learners to learn earlier before learning activities in the classroom. The use of instructional video is the best choice in teaching English for young learners. By using instructional video students can watch the lesson from videos at any computer, from their tablets, smart phones or from different media players outside classroom. The students will have knowledge of the next topic before they come to classroom. Besides that, instructional video contains of colorful visual and attractive sound that makes students motivated to learn and active in learning process.

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THE CONTRIBUTION OF ARCHITECTURE TO SUSTAINABLE DEVELOPMENT

Application of Green Architecture as a Strategy for Realizing Sustainable Architecture (Case Study: Traditional Balinese House in Bangli and Modern Cafe in Ubud)

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ABSTRACT

Currently, environmental problems such as increasing physical environmental damage and global warming are being hotly discussed in the world of architecture. The implication is the importance of implementing sustainable architecture through green architecture. Green architectural practices in the world of architecture continue to be carried out on an ongoing basis as an effort to care for the environment. Green architecture itself is defined as architecture that is environmentally friendly, energy efficient, sustainable, and is a high-performance building. Traditional architecture is recognized as architecture that really cares about the environment, as can be seen in the Balinese Traditional House Architecture in Penglipuran, Bangli. The implementation is based on the concept of local wisdom inspired by Hindu-Balinese beliefs. Apart from that, there is also contemporary (modern) architecture in commercial buildings, namely WYAH Cafe in Ubud which applies green architecture. The design was carried out by maintaining existing elements such as the contour of the land and trees, thereby making this building blend with nature and the surrounding environment. The research method used is qualitative research with a descriptive approach to describe the application of green architecture in building design. Includes the process of verifying green architectural concepts and standards as well as implementing the concept of Traditional Balinese House Architecture in Penglipuran and WYAH Art & Creative Space Cafe in Ubud which are related to green architecture. It is hoped that the results of this verification can explain the relationship between existing theories/concepts and the research object, namely looking at the value of green architecture in traditional houses and modern buildings from the perspective of green architecture theory. The research results obtained show that the mass patterns of the Penglipuran Bangli traditional house and WYAH Ubud Cafe are very in accordance with the values of green architecture.

Keywords: *green architecture, sustainable architecture*

1. INTRODUCTION

In the current era of globalization, environmental problems such as decreasing environmental quality, increasing physical damage to the environment, global warming and the energy crisis are still major issues in the world of architecture. This is caused by the increasing need for physical facilities and infrastructure which triggers excessive exploitation of natural resources, such as large amounts of green open land being converted into buildings and infrastructure, which has implications for reducing the carrying capacity of the environment. Apart from that, the phenomenon of sick building syndrome has also emerged, namely health problems and discomfort due to air quality and air pollution in buildings, poor ventilation and lack of natural lighting. This makes it important to integrate

sustainable architecture through the application of green architecture in depth in building design practice because it understands the current phenomenon of environmental damage.

In the practice of developing designs related to environmental and energy issues in the world of architecture, Jimmy Priatman (2003) stated that green architecture is an architectural concept that is environmentally conscious and based on concern for environmental preservation with an emphasis on energy saving, a sustainable and holistic approach. Apart from that, according to Wajong (2018) green architecture not only integrates green building facades and lots of plants but also sustainable buildings. This means that buildings are environmentally friendly by empowering their potential and trying to minimize negative impacts on the surrounding environment by utilizing energy sources and natural resources efficiently and optimally.

Rapoport (1969) stated that traditional house architecture is known as architecture that really cares about the environment and is believed to be a form of architecture that has experienced trial and error in dealing with natural behavior. Architectural works during this period have basically adapted to natural behavior, including simple procedures for utilizing natural resources efficiently. According to Sari & Wirahadi (2020), Traditional Balinese Architecture is the art of designing the spatial layout of Balinese buildings and refers to achieving harmony and integration, both for humans, the surrounding environment and the universe. The life of the Balinese people brings ecological values to the environment, space and traditional culture which originate from local beliefs, religious teachings, local wisdom and natural characteristics.

Until now, this value is still maintained in several places, one of which is Penglipuran Village, Bali. The application of the Balinese traditional house concept can be seen from the physical form of the residence and other buildings. One form of implementation can be seen in the mass pattern of the building. Apart from that, traditional Balinese architecture buildings have advantages in spatial planning so that air circulation runs smoothly and is cool. The positive impact can reduce the use of AC (Air Conditioner) in daily activities. Traditional Balinese house architecture has a spatial layout that is translucent and close to nature (open). With many gaps and partitions that blend with nature, air circulation in and out runs well. Apart from that, the Balinese traditional house architecture has a courtyard surrounded by a brick fence and contains separate building units.

On the other hand, apart from traditional architecture, current architectural trends with the concept of green architecture are increasingly in demand by modern society. Not only applied to homes, the concept of green architecture is also widely applied to commercial buildings. Like one of the iconic commercial buildings, namely the WYAH Art & Creative Space cafe in Ubud. This building is surrounded by forest and contoured land. This place is challenging to create buildings that blend with nature and a collection of buildings that are more connected to the open air. The aim of this research is to obtain an overview of the application of green architecture in Penglipuran Bangli traditional houses and WYAH Ubud cafes as a form of strategy for achieving sustainable architecture.

2. RESEARCH METODOLOGY

The research method used is qualitative research with a descriptive approach. This approach is used to describe the application of green architecture in the design of the Penglipuran Bangli traditional house and the WYAH Ubud cafe. The location of this research is in two places, namely in Penglipuran Village which is located on Jl. Penglipuran, Kubu, Kab. Bangli, Bangli Regency, Bali. Then at the WYAH Ubud cafe which is located on Jl. RSI Markandya II, Keliki, Ubud District, Gianyar Regency. The research data comes from primary data, namely data on existing conditions in the field related to building elements that apply the green architecture concept. Meanwhile, secondary data comes from the archdaily website which

contains architectural news, architects' opinions regarding the design of WYAH Ubud and comes from previous similar research regarding the application of green architecture in Penglipuran traditional house buildings and WYAH cafes. The data collection technique was carried out by field observation by recording data regarding existing conditions to obtain a detailed picture and information at the research location. Apart from that, interviews were conducted to obtain specific information regarding building elements as well as documentation to collect visual data in the form of photos and drawings. The population in this research is building owners and architects, while the unit of analysis is buildings. The analysis carried out in this research was through a verification process regarding green architectural concepts and standards for the research object, namely building design. From this verification process, it is hoped that a conclusion can be drawn to the extent to which the Penglipuran Bangli traditional house and the WYAH Ubud cafe contain green architectural values.

3. RELAT ED RESEARCH/LITERATURE REVIEW

Definition of Green Architecture

Green architecture is a building planning approach that seeks to minimize various harmful impacts on human health and the environment. The main goals of green architecture are environmentally friendly architecture, natural architecture and sustainable development. Green architecture can be implemented by increasing energy efficiency, water use and using materials that reduce the impact of buildings on health. According to Robert and Brenda (1991), there are 6 principles that can create Green Architecture buildings, including:

- A. Conserving energy (energy saving), that is, the building must minimize the use of fuel or electrical energy and maximize natural energy around the building location as much as possible. Examples of applications include minimizing the use of AC cooling equipment and utilizing solar energy for lighting in buildings.
- B. Working with climate, namely utilizing natural conditions, climate and the surrounding environment in the form and operation of buildings. Examples of its application include building orientation facing sunlight, using a cross ventilation system to channel clean and cool air into the room. Apart from that, it also uses plants and water as climate control and uses windows that can be opened to get light and ventilation as needed.
- C. Minimizing new resources means optimizing existing materials by minimizing the use of new materials.
- D. Respect for site (responding to the condition of the building site), namely not damaging the original condition of the building site, both in terms of construction, shape and operation, and not damaging the surrounding environment. Examples of implementation include maintaining the condition of the site by creating a design that follows the shape of the existing site and using local materials and ingredients that do not damage the environment.
- E. Respect for users (paying attention to building users), namely considering the needs and comfort of users.
- F. Holistic, namely applying the 5 existing principles into one unit.

Application of Green Architecture Concepts to Buildings

Subijono (2012) explains the application of green architecture as a strategy to achieve sustainable architecture and a form of concern for the environment that can be done in ways such as saving energy use, saving water and being environmentally friendly. Furthermore, Prawibawa and Santosa (2015) explained the application of green architecture in buildings consisting of:

- A. Earth friendly, namely by utilizing natural lighting and ventilation.
- B. Sustainable, namely design that can meet current needs without jeopardizing the ability of future generations to meet their needs.
- C. Future healthy, namely by considering the health and sustainability of the surrounding environment.

- D. Climate supportly, namely building designs that are responsive to local climate conditions.
- E. Aesthetics, namely the application of aesthetics that also has benefits for the environment.
- F. High performance buildings are energy utilization by utilizing energy that comes from nature (energy of nature) and combined with high technology (high technology performance).

4. RESULTS AND DISCUSSION

Penerapan Green Architecture pada Arsitektur Rumah Tradisional Penglipuran

If we look at the concept of green architecture, there are several things that can be found in the layout patterns of traditional Penglipuran architectural buildings, such as energy utilization efficiency, water conservation, as well as physical comfort and air quality in buildings. The value of green architecture in the mass pattern or spatial layout of traditional Penglipuran residential buildings can be described as follows:



Figure 1. Site Plan Penglipuran Bangli (2022)

A. Energy efficiency

The layout of the mass of buildings in the Penglipuran traditional house is patterned after the Bali Aga which is often called a row of wayang even though they don't exactly face each other. This pattern is in the form of a cluster, that is, there is a space in the middle as an orientation center which is usually called natah. This mass pattern allows almost all rooms to make maximum use of sunlight. In general, the need for 75% natural light to illuminate the room has been achieved. Thus, it can be said that the cluster mass pattern in the Penglipuran traditional house has a relatively low energy consumption pattern.

B. Physical comfort and air quality in buildings

Each building mass in the Penglipuran traditional house is relatively small. The mass of this building is arranged according to certain rules and creates a balance between massive elements and open space. This layout pattern allows fresh air circulation to flow very well into the building. The concept of cross ventilation, especially in bedrooms in accommodation bales, seems to have also been implemented. Thus, a mass composition like this will have a good influence on temperature comfort and air quality inside the building.

C. Outdoor space design (open space)

Judging from the site arrangement, not the entire yard area is built with building mass. Areas that have not yet been built or areas that are formed between building masses are not entirely hardened with natural hardscape materials, but most of them are maintained as green areas by planting plants. Some rear areas of yards that are being developed tend to be used as additional buildings and garages. However, the arrangement still takes into account the availability of open space for vegetation areas. The arrangement of the Penglipuran traditional house garden is at least able to minimize the effects of heating and

the various types of vegetation planted can lower the air temperature and reduce the amount of carbon dioxide as an air pollutant or in other words the plants will be able to 'clean the air in the residential environment.

Penerapan Green Architecture pada Arsitektur Masa Kini Kafe WYAH Ubud

A. Conserving energy & working with climate (earth friendly, climate supportly)

The absence of walls or open spaces in this building allows many dynamic natural phenomena to be perceived by the human senses, such as changes in temperature, wind, humidity, the smell of rain, natural light and shadows. Surrounded by trees and without walls followed by no air conditioning, but still provides natural light and natural temperature. This means reducing building energy by using lights and air conditioning. Apart from that, this aims to involve the surrounding nature to create a natural atmosphere in the WYAH building such as natural trees.



Figure 2. Building Interior (2023)

B. Respect for site (sustainable)

This building is surrounded by forest and contoured land. This place is challenging to create buildings that blend with nature. The design began by maintaining existing elements, such as the contour of the land and trees. This makes this building initiate users to be more connected with nature. Five polygon-shaped masses are positioned according to the contour of the site. Not only does this design create an interesting play on building heights, it also minimizes cutting and filling. Apart from that, the design of this building also avoids cutting down existing trees, so that more of the building mass is connected to the open air.



Figure 3. Layout Plan WYAH Ubud (2023)

C. Minimizing new resources (high performance building)

The materials used in WYAH buildings are iron, concrete and shingles. All of these materials come from Bali, follow the context in which the building stands and have a theme of natural materials, especially shingles. Iron is used as building support pillars, concrete is used in parts of buildings that have walls

such as kitchens and other service areas and as floor material, while shingles are used for the appearance of the building, namely the roof. All of these ideas are based on considering the uniqueness or special features of the building as well as the impression of being at one with nature from the use of the natural surroundings of the building.



Figure 4. Building Exterior

D. Respect for users

The WYAH building is a building that provides comfort both in terms of privacy, the desire to linger in the building, a sense of peace, and so on. This is related to the architectural characteristics applied to buildings, such as the appearance of the building, the mass of the building, the natural features around the building, the location of the building, and the spatial arrangement. The appearance of the building referred to by visitors is a building made of materials (wood, concrete and iron) as well as a building without walls or using narrow openings. This feature creates a sense of comfort for visitors, where visitors feel awake, cool, have privacy and tranquility when inside the WYAH building.



Figure 5. Top View WYAH Ubud

5. CONCLUSION

Based on the results and discussion, it can be concluded that the Penglipuran Balinese Traditional House Architecture and the WYAH Ubud cafe building implement aspects of green architecture such as conserving energy, working with climate, minimizing new resources, respect for site, and respect for users.

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BUSINESS INNOVATION FOR SUSTAINABLE DEVELOPMENT: STRATEGIES AND CHALLENGES IN THE MODERN ERA

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ABSTRACT

In the modern era marked by increasingly complex environmental and social challenges, innovation in the business world becomes a key factor in achieving sustainable development. Sustainable development requires a shift in business paradigms, taking into account the long-term impact on the environment and society. The importance of business innovation in the context of sustainable development is crucial in today's world. Business innovation can serve as a solution to address the environmental and social challenges faced by the global community. The aim of this research is to evaluate the strategies and obstacles involved in implementing business innovation for achieving sustainable development in the current complex landscape. This study adopts a descriptive analysis approach using literature research methodology. The research findings state that Eco-innovation is a strategy to create significant change towards sustainable development. Although there are several barriers in implementing sustainable business innovation, such as high costs, limited access to resources, regulatory uncertainties, and lack of employee awareness, steps like collaboration, investment in research and development, employee capacity building, and policy advocacy can help overcome these barriers. Through eco-innovative efforts, companies can not only enhance their competitiveness and operational efficiency but also contribute to environmental preservation and overall societal well-being. Therefore, eco-innovation holds great potential for creating significant added value for both companies and society, and for helping achieve sustainable development goals on a broader scale.

Keywords: Business innovation, challenges, Eco-innovation, Strategy, Sustainable development

1. INTRODUCTION

In the modern era characterized by increasingly complex environmental and social challenges, innovation in the business world becomes a key factor in achieving sustainable development. Sustainable development necessitates a change in business paradigms, considering the long-term impact on the environment and society. The importance of business innovation in the context of sustainable development is crucial in today's world. Business innovation can serve as a solution to address the environmental and social challenges faced by the global community. Through business innovation, more environmentally friendly solutions can be developed to reduce negative impacts on the environment. This includes the development of more efficient technologies in resource usage, carbon emission reduction, and the implementation of more sustainable business practices overall. Business innovation can help enhance the efficiency of natural resource usage such as energy, water, and raw materials. By developing new technologies and processes, businesses can reduce waste and maximize the use of limited

resources. Business innovation focused on sustainable development can also create new opportunities for sustainable economic growth. This may include the development of new markets for environmentally friendly products and services, as well as the creation of job opportunities in sectors that support sustainable development. Business innovation can also help address social challenges such as poverty, inequality, and access to basic services. Through inclusive business models and solutions that focus on the needs of society, businesses can play a role in building a fairer and more sustainable society. The aim of this research is to evaluate the strategies and obstacles involved in implementing business innovation for achieving sustainable development in the current complex landscape.

2. RESEARCH METODOLOGY

The method applied is literature study or literature review, which involves the collection and analysis of literature that serves as primary data sources. This research approach adopts the methodology of literature study or literature review.

3. RELATED RESEARCH/LITERATUR REVIEW

In the early 1990s, the concept of sustainable development became increasingly relevant and contemporary. This approach began to be applied as a way to address the complexity of economic, social, and environmental issues across various sectors and regions with different policies (Tseng et al., 2018). The foundation of sustainable development is known as the triple bottom line, which considers the economic, social, and environmental impacts of current policies and actions on both present and future generations (Elkington, 1998). The triple bottom line approach emphasizes the use of environmentally friendly strategies and technologies to reduce pollution and address the risks of climate change (Tseng et al., 2018). A study conducted by Shahzad et al. in 2021 indicates that investing in and adopting the latest technologies and sustainable practices are not only valuable for long-term success but also paying attention to aspects such as organizational knowledge management is crucial in the current knowledge-based economy.

Business innovation is the process of creating, adopting, and implementing new ideas, products, services, or processes that bring significant change in the operations, strategies, or business models of a company. The main objective of business innovation is to create added value, enhance competitiveness, and meet customer needs more effectively. Business innovation in this study is Eco-innovation. Eco-innovation involves developing new ideas, promoting operations, products, and processes to protect the environment, aiming to achieve environmental sustainability. Eco-innovation enhances overall quality of life by using natural resources efficiently and minimizing the release of harmful substances as much as possible. It is not only about the use of cutting-edge technology but also involves innovation in lifestyles and individual behaviors. Eco-innovation results in reductions in emissions and waste. Examples of eco-innovation include the use of renewable energy sources, energy recovery from solid waste, recycling waste for materials, fertilizer production from wastewater, eco-friendly products, and various management systems (Panapanaan, V. et al., 2014).

Eco-innovation supports the survival of companies by building an image acceptable to stakeholders. Innovation that reduces environmental impact and consequently enhances business sustainability, including eco-friendly products, eco-friendly processes, and eco-friendly organizational factors, is called eco-innovation (Ganapathy, S.P. et al). Eco-innovation is based on the principle of eco-efficiency, which is the economic value ratio of a product or service to the environmental impact it produces. The third component in this paradigm is the

social value of eco-innovation (Scarpellini et al, 2012). Eco-innovation is innovation aimed at reducing environmental impact. Thus, it encompasses new products, processes, organizational methods, and marketing strategies that provide more environmental benefits than alternatives (Rozkrut, 2014).

4. RESULTS AND DISCUSSION

Eco-innovation, which encompasses environmentally friendly products, processes, and organizational factors, aims to reduce environmental impact and promote corporate sustainability. Technological advancements benefit companies through the adoption of eco-innovation, not only in terms of the environment but also in terms of cost. Companies take eco-innovative steps due to pressure from governments, the need to meet consumer demands, and awareness of the risks of global climate change. Environmental threats such as climate change, ozone depletion, acidification, eutrophication, biodiversity loss, and land degradation are primary concerns for companies and stakeholders. Therefore, there is hope that companies will prioritize eco-innovation as a step to protect the environment and human life. Overall, eco-innovation contributes to the survival of companies by addressing environmental challenges faced by various stakeholders (Eryigit and Ozcure, 2015).

The role of innovation in creating added value for companies and society is crucial: (1) Enhancing Competitiveness: Innovation helps companies remain relevant in rapidly changing markets, enhancing their competitiveness, and winning new market shares; (2) Improving Efficiency: Innovation in business processes can lead to higher efficiency, reducing production costs, and increasing productivity; (3) Creating Better Products and Services: Product and service innovation helps companies better meet customer needs, creating significant added value for consumers; (4) Generating Economic Growth: Innovation drives economic growth by creating new jobs, increasing income, and encouraging investment in research and development; (5) Addressing Social and Environmental Issues: Innovation can also be used to address social and environmental challenges, such as reducing carbon emissions, combating poverty, or improving access to healthcare. Overall, business innovation is a key driver of company and societal growth and development. By continuously innovating, companies can create sustainable added value and improve the quality of life for the wider community.

Some obstacles that companies may face in implementing sustainable business innovation: (1) High Costs: High initial investments in green technology and sustainable practices can be a barrier for companies, especially those with limited resources. The costs of acquiring new equipment, training employees, and changing production processes can pose a significant financial burden; (2) Limited Access to Resources: Companies may encounter constraints in accessing the resources needed to implement sustainable business innovation, such as environmentally friendly raw materials or green technology. Particularly for companies in developing countries, the lack of infrastructure and supply networks that support sustainable practices can also be an issue; (3) Unclear or Inconsistent Regulations: Lack of clarity or consistency in environmental regulations and government policies can hinder companies in implementing sustainable business innovation. Legal uncertainty can make companies reluctant to take risks in adopting new sustainable practices; (4) Lack of Awareness or Skills Among Employees: Insufficient awareness or skills about sustainable business practices among company employees can also be a barrier. Training and education on the importance of environmental sustainability and how to implement it in a business context may be necessary to overcome these obstacles.

To overcome these obstacles, companies can take the following steps: (1) Collaboration and Partnerships: Companies can seek partnerships with non-profit

organizations, research institutions, or governments to get support in developing and implementing sustainable business innovations. This kind of collaboration can help share costs and resources, as well as expand supply networks that can support sustainable practices; (2) Investment in R&D: Companies can allocate resources for research and development (R&D) to create innovative solutions that are more efficient and affordable in terms of environmental sustainability. This may include the development of new technologies, alternative raw materials, or more environmentally friendly production processes; (3) Employee Capacity Development: Companies can provide training and education to employees about sustainable business practices and their benefits for the company. By increasing employee awareness and skills, companies can create a culture that supports innovation and sustainability; (4) Policy Advocacy: Companies can also play an active role in advocating for public policies that support sustainable business practices. By participating in dialogue with governments and international institutions, companies can influence the formation of regulations and policies that support the transition to a more sustainable economy. By taking these steps, companies can overcome the challenges associated with sustainable development, as well as ensure that the solutions they adopt can contribute significantly to their sustainability goals.

5. CONCLUSION

Overall, eco-innovation is a strategy to create significant changes in efforts towards sustainable development. With a focus on developing environmentally friendly products, processes and organizational factors, eco-innovation aims to reduce negative impacts on the environment and promote corporate sustainability. Although there are several barriers to implementing sustainable business innovation, such as high costs, lack of access to resources, regulatory uncertainty, and lack of employee awareness, steps such as collaboration, investment in research and development, employee capacity building, and policy advocacy can help overcome these obstacles. Thus, companies can play an important role in responding to environmental challenges faced by global society by implementing sustainable business practices. Through eco-innovative efforts, companies can not only improve their competitiveness and operational efficiency, but also contribute to environmental preservation and the overall well-being of society. Therefore, eco-innovation has great potential to create significant added value for companies and society, as well as helping to realize sustainable development goals more broadly.

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EDUCATION FOR SUSTAINABLE BUILDING IN THE PASRAMAN PURNAJATI

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ABSTRACT

The research aims to explore the practice of Education for Sustainable Development (PPB) in the Pasraman Purnajati. Setting research: Pasraman Purnajati – North Jakarta who is already motivated in the management of physical and biological environment. The type of research used is qualitative naturalistic that advances the existence of interactions and participatory observations with the subject studied, and performs observations, and interviews with the community of the Pasraman Purnajati. Sample selection is purposive, accidental, and snow-ball sampling. Environmental conditions and PPB learning processes are observed in depth. The interview results are transcribed, then presented in a descriptive way. Qualitative research data is narrative, descriptive, personal documents, field records, Pasraman Purnajati documents, photos, video tapes, and CCTV footage. To obtain data validity, the components of data analysis are data clustering, reflection, and triangulation. The results of the research found the five dimensions of PPB: environmental, economic, socio-cultural, educational and spiritual dimensions that have been well implemented in everyday life by the entire Pasraman Purnajati. This implementation is mainly supported by curriculum factors, the learning process of general knowledge and religion, as well as the spiritual activity of the Pasraman Purnajati and its Founders.

Keywords: *PPB, Educational dimensions, Spiritual dimensions, Pasraman*

1. INTRODUCTION

Education for Sustainable Development (EfSD) has been implemented globally since 1992. The implementation of the PPB in Indonesia was agreed in 2004, but has not yet been fully implemented at all levels of education as expected. The goal of the PPB is to prepare future generations to contribute better to the achievement of sustainable development. The ultimate goal of PPB is a noble moral education from early age to college. The PPB emphasizes environmental activities as global thinking with local action (Think globally act locally).

The PPB dimension (in Sudibyo, 2008) conceptually covers three areas: economic, socio-cultural, and environmental. One of the strategic issues of PPB in Indonesia is noble moral education from early age to college. The implementation of the PPB is more focused on the forms of practice or values of behavior in everyday life, and is an imperative that cannot be postponed for a better life now and in the future. Making PPB a burden of both formal and non-formal and informal education is regulated in Permendiknas No. 63 of 2003 on the Quality Assurance System of Education (SPMP). The contribution of all parties to creating better living conditions for sustainable development (Hastuti, 2009).

Indonesia has a Hindu-specific educational institution known as Pasraman. Statistical data on the number of Pasraman spread across 20 provinces in Indonesia is 110 Pasraman (kemenag.go.id, 2021). Pasraman as a fun education is the implementation of the Law No. 20 Year 2003 on the National Education System. Pasraman as an educational institution in the Hindu context, then has a fairly long history, in which in the process of the Pasraman education has made a major

contribution to the civilization and the development of Hindu religion. (Subagiasta, 2014). The existence of Pasraman also helped the development of Hinduism in terms of building students and younger generations to understand the teachings of the Hindu religion in depth and comprehensively.

The existence of Pasraman is not only an institution that serves to support the process of Hindu religious education, but Pasraman has become a container while Hindu religion education in families and schools is less attentive. (Suda, 2017). It can be a Sunday school where there are no teachers teaching Hindu education in public schools, so students still get their right to study Hindu according to the curriculum.

This shows that the presence of Pasraman is very helpful to parents and students in fulfilling the teaching of Hinduism. Learning is carried out by instilling spiritual religious values as well as practices based on local wisdom that can support the implementation of religious activities. This makes the Pasraman a suitable container for deepening the teachings of Hindu religion that are not only theoretical but also practical.

Based on the above description, this study aims to explore the practice of PPB in Pasraman. The results of this research are expected to be useful to know how far the concept of PPB has been practised in pasraman as a representation of religious Indonesian society. Through the practice of PPB, Pasraman can help to generate human resources (students) who have knowledge, skills, attitudes, and values towards the environment, which are always spiritualized by the high values of Hinduism.

2. RESEARCH METHODOLOGY

This research is focused on the Purnajati Pasraman that was chosen as the focus of the research because Purnajati Pasraman is one of the largest Pasraman in Northern Jakarta and as the trendsetter of the Pasraman in the capital of Jakarta. Purnajati Pasraman was founded in 1975 and is the backbone of the construction of young Hindu generations in North Jakarta and its surroundings to educate and give a variety of Hindu breathing skills.

The type of research used is qualitative research. This research advances the existence of interaction and participatory observation with the subject studied, conducting observations and interviews. (Strauss, A., & J. Corbin, 2009).

The source of data in this study is the community of Pasraman including managers, teachers, students, sanitary officers, canteens, gardeners, and communities around Pasraman, alumnae, parents of students, and related agencies. Sample selection is purposive, accidental, and snow-ball sampling. To obtain the validity and validity of the data, the components of data analysis are data clustering, grinding, reflection, and triangulation.

Qualitative research data are narrative, descriptive, personal documents, field records, and Examination documents. Data are analyzed descriptively based on the results of interviews, recordings, and recordings of both live observations as well as footage, voice, and activity with hand-held cameras and CCTV.

3. RESULTS AND DISCUSSION

The results of the exploration on the practices/behavior of students and the community of Pasraman, are grouped according to the dimensions relevant to the PPB, i.e. the environmental, economic, and social-cultural dimensions. Besides,

there are other dimensions findings such as the educational dimension and the spiritual/religious dimension.

Practical educational dimensions of PPB by students, obtained from the educational process. Through the learning process, students acquire materials/theories related to environmental, economic, and socio-cultural issues from various subjects in an integrated way, both reviewed from the point of view of science and Hindu religion. PPB materials are already embedded in the curriculum applied to the Purnajati Pasraman by blending the national curricula with the more loaded local and religious Pasraman curricula. Thus, there is a kind of strong integration between the two, so there is strong synergy and dialogue through the expansion process managed based on the 2013 curricular guidelines, i.e. related to the duties of teachers, and related to learning processes (Sutirna, 2015). Management based on curriculums, of course, the national learning objective is aimed at improving the quality of Hindu human resources based on Hindu religious teachings. (Sutriyanti, 2017). In that regard, many educational experts explain that learning is a "implementation" of curricula (Dimiyati dan Mujiono, 2013). Curriculum with learning has a coherent, even identical link. The learning process is a mirror of the curriculum content and the mirror mirror is the output of the learning process.

The practice of PPB environmental dimensions in the Purnajati Pasraman has become a routine of students in everyday life. The results of the interviews showed that all the Pasraman communities, especially students, are involved in preserving, exploiting, and not damaging the environment. However, the daily maintenance and maintenance of the environment is carried out by the sanitary/garden cleaning officer. Environmental determination and selection of plant types are the prerogatives of the foundation. Physically, the Purnajati farm has a land of 5,000 m², with a planned physical building of 2,500 m², and the rest is an open green space that has been planted with various kinds of plants. It is a practice of improving biodiversity, i.e. implementing greening to preserve natural resources. In addition, this greening can also reduce the carbon emissions practiced by banning the use of motor vehicles into Pasraman. Physical conditioning, layout of facilities and facilities, as many as 10 buildings such as temple, classroom, library, art hall, health room, canteen, toilet, parking, boarding house, and others. This means the foundation has recognized the importance of using natural energy that is environmentally friendly. The position of the classroom that stretches north and south, is intended to take advantage of sunlight sources from the east and west. With this position, the lighting of the room is sufficient, so that the use of electricity can be minimized.

The practices of the socio-cultural dimensions that emerged in Purnajati include: (1) the system of values, (2) the customs of norms, (3) the diversity, (4) the culture of entries. PPB practices related to the implementation of the value system are "*gotong royong*" activities and cooperation, observed on healthy and clean Sunday activities. This practice is conducted by students in collaboration with teachers and hygienists. Besides, CCTV footage shows students also working together in cleaning up the classroom every Sunday.

The social solidarity between students is pretty good. If there's a sick friend who lacks money, they treat each other, visit, or borrow his money. Maintaining custom is embodied in behavior of obedience to the norms of susila, religion, and the norm of law in force in Purnajati. The result is that there has never been a serious breach of the norm, except for using longer return permits, or returning without permission and not at the time of return. Appreciate the diversity practiced practically by students. Different regions of origin, customs, family backgrounds, economic conditions are practiced in the form of high tolerance towards each other's friends. Students can work together in one class for six hours is a practice of tolerance. Entry culture is a practice that has become customary in Pasraman. The number of students that is more than the number of facilities available, or the staff that serves,

requires the student to behave in a moderate manner in the use of toilet facilities.

The practical economic dimensions of the Purnajati Pasraman are mainly carried out by students. Furthermore, since the economic component of Pasraman is one of the determinants of the sustainability and existence of pasraman, then the economic support of Pasraman is carried out by the foundation. Based on the library study of the implementation of the economic dimension of PPB in PNFI, there are three attitudes that need to be instilled for students: a simple life, a life of economy, and a distance from the nature of consumerism and hedonism. This attitude will emerge after students acquire the theory/science from Hindu-based Economics subjects.

Although originally formed from compulsion, this behavior is expected to become a habit as well as a form of worship. Economically speaking, Purnajati is a self-reliant, autonomous type of Pasraman, who does not receive any aid from outside. Such a venture was initially economically autonomous, as the foundation had the assets as the principal financial focus of the venture. The party is not willing to receive help from other parties like donations, or ask for help through proposals. Even if any help is acceptable only because of the involvement of the parents of the students found in support of perceptions, attitudes and practices of the PPB is the spiritual dimension of the pioneer that scans on the students and other Parraman communities. This spiritual dimension is believed to be the greatest dimension of its influence on the four dimensions of PPB. The influence of the spiritual dimension on PPB practice can be explained as follows. The foundation of Pasraman Purnajati was due to the strong commitment of the foundation to preserve and develop the teachings of Hinduism in the capital.

Besides, the application of the economic dimension with the openness of management and the availability of "very abundant" funds as a result of the foundation applying the philosophy of "hands on top" fanatically, through existing funds. Another spiritual activity that is always practiced in Pasraman is the prayer of the Tri Sandhya together before learning. *Tri Sandhya* prayer is compulsory and must be followed by all students except the daughter of the student who is in trouble. The teacher accompanies the students to prevent students from being lazy for the *Tri Sandhya* prayer. The observations also saw the presence of waiting activities in temple carried out by students and teachers together as extra curricular activities.



Figure 1. Practical Activities of Students of Purnajati Pasraman



Figure 2. Prayer with Students and Teachers of Purnajati Pasraman

4. CONCLUSION

The conclusion that can be drawn from the results of the exploration of perceptions, attitudes, and practices of Education for Sustainable Development at Pasraman Purnajati is that education for sustainable development (PPB), which is addressed in three dimensions and its strategic issues in Indonesia, has been largely practiced by the community of Pasraman Purnajati.

In addition to the three dimensions of the PPB, there are also two dimensions that are characteristic of education in the Purnajati area, the educational dimensions and the spiritual dimensions. The educational dimension is a means in shaping the soul that meets the principles of PPB. The spiritual dimension is believed to have the greatest influence when compared with other dimensions in its existence and continuity.

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DESIGN INNOVATION AT TOURIST FACILITIES (RESTAURANT AND COFFEE SHOP) IN KINTAMANI, BANGLI: CHALLENGES AND OPPORTUNITIES FOR TOURISM DEVELOPMENT

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ABSTRACT

This research discusses design innovation in the development of tourist facilities, with a focus on eatery facilities located in the Kintamani district, Bangli. Eatery are an important part of tourism infrastructure that can provide unique experiences for visitors. Kintamani is known for its stunning natural beauty. This potential presents both opportunities and challenges in developing tourism in this area. Through this research, challenges and opportunities in facing the sustainable development of tourism are identified. Various aspects including interior and exterior design, ambiance, and environmental sustainability are explored to enhance the attractiveness and quality of tourist experiences. Findings from this study provide valuable insights for stakeholders in designing and managing sustainable tourist facilities in major tourist destinations like Kintamani while preserving its natural and cultural heritage.

Keywords: Design Innovation, Tourism Development, Cultural, Nature.

1. INTRODUCTION

Kintamani is one of the sub-districts in Bangli Regency. Kintamani is also a tourist destination that is much sought after by local and foreign tourists because of its natural beauty (Batur Caldera) and culture. Kintamani is also known because there are many tourist villages that have traditional settlements that still survive today. These villages are Pinggan Village, Kedisan Village, Terunyan Village, and Bayung Gede Village, where these villages are at the foot of Mount Batur.

Tourism conditions in Kintamani are still influenced by several factors, including the global impact caused by the Covid-19 pandemic. After the Covid-19 pandemic, tourism in Kintamani is slowly increasing and developing. This can be seen through the many buildings that function as tourist facilities (restaurants and cafes) which use new innovations in their architectural design. This innovation aims to attract tourists to come to visit. Innovation in this design can be seen from the exterior and interior appearance of the building.

Facilities that are currently appearing a lot, especially in Kintamani, are restaurant and coffee shop facilities. The restaurant and coffee shop in Kintamani offers a unique experience due to its location amidst natural beauty. Restaurants and coffee shops in Kintamani usually serve local coffee which is well known in Bali with stunning views of Mount Batur and the Batur Caldera. This facility often provides a comfortable resting place for tourists exploring the area. Tourists who come can also enjoy the aesthetic design of the restaurant and coffee shop building. Not only foreign tourists, but also local tourists deliberately come to

Kintamani just to eat at one of the restaurants/coffee shops which have a unique architectural design with beautiful views.

Based on the 2009 Bali Province Regional Regulation (Perda) concerning Provincial Spatial Planning (RTRWP), development in Bali must integrate traditional values related to spatial planning as a basis for planning and development from the regional scale to individual buildings (Empuadji et al., 2015). However, like other tourism destinations, Kintamani is also faced with a number of challenges. For example, increasing numbers of visitors can put pressure on the natural environment and local culture. Therefore, it is important to manage tourism growth in a sustainable manner, paying attention to environmental sustainability, maintaining cultural authenticity, and providing fair economic benefits for local communities.

This research was carried out with the aim of finding out design innovations applied to tourist facilities with the building function as a place to eat (restaurant) or a place to just drink coffee (coffee shop) or similar. The innovations analyzed are from the exterior and interior of the building. This innovation will later be linked to challenges and opportunities for the tourism aspect in Kintamani.

2. RESEARCH METHODOLOGY

The methodological approach applied in this research is descriptive qualitative. These steps involve direct observations in the field to understand the existing situation. After the data is collected, the information is then analyzed using architectural theory concepts to reach relevant conclusions in the context of this research.

3. LITERATURE REVIEW

INNOVATIONS IN ARCHITECTURE

Technological developments that have experienced rapid progress since the 20th century have produced many technological innovations that facilitate and simplify human life. Technology that continues to develop then gives rise to the term "innovation" which reflects continuous efforts to create new things for progress and sustainability (Widjaja, 2023). The term "innovation" covers more than just technological progress, it includes any field affected by technological progress, including architecture. There are 4 categories of innovation, namely (Henderson & Clark, 1990):

1) Incremental Innovation

Incremental innovation is a type of innovation that focuses on gradual changes or improvements to existing products, processes, or services. It involves additional development or refinement of an existing product or process, without radically changing the fundamentals. Incremental innovation can include small changes such as improving features, quality, efficiency, or reducing production costs, which can gradually increase the value or performance of the product or process. In this context, incremental innovation is different from radical innovation which involves deeper and transformational changes.

2) Disruptive Innovation

Inovasi disruptif merupakan jenis inovasi yang mengubah paradigma atau mengguncang pasar dengan cara yang mendasar. Biasanya, inovasi ini muncul dengan memperkenalkan produk, layanan, atau teknologi baru yang secara radikal berbeda dari yang sudah ada dan

seringkali menargetkan segmen pasar yang terabaikan atau tidak terlayani dengan baik oleh solusi yang sudah ada.

Disruptive innovations often change the way people do things or meet their needs more efficiently, affordably, or effectively. Disruptive innovations can often disrupt established markets and force major changes in certain industries. Although sometimes initially perceived as a threat to existing businesses, these innovations can also create significant new opportunities for growth and advancement.

3) Architectural Innovation

Architectural innovation refers to creative ideas and significant changes in design, construction, and use of space that have a positive impact on the built environment. Innovations in the field of architecture, for example, environmentally friendly design, sustainable architecture, smart buildings, adaptable design, use of public space, biomimetic architecture and green buildings.

Innovation in architecture does not only involve the physical aspects of buildings, but also includes the development of broader concepts to create a built environment that is sustainable, comfortable and efficient for its residents and the surrounding environment.

4) Radical Innovation

Radical innovation is a type of innovation that results in major changes in existing products, processes, or business models. This innovation does not just improve or improve existing things, but creates something completely new and changes the paradigm or industry standards as a whole. Radical innovation often involves the use of new technology or revolutionary approaches that can change the way we do things in ways we never thought possible.

The essence of innovation in the field of architecture is novelty which is an essential part of an authentic architectural work. Novelty cannot stand alone, but is an inseparable part of the entire architectural work. The center of innovation value in architectural work lies in the unique design which functions as the core that unites all elements in the architectural work. Unique designs can increase their innovative value through the elements that form innovation in architecture, such as vocabulary, technological change (disruption), and the use of completely new technology. The combination of these innovative values creates varying levels of innovation in architectural works. The more collaboration with elements that form innovation, the higher the innovative value an architectural work can have (Widjaja, 2023).

4. RESULT AND DISCUSSION

The development of tourist facilities in the form of restaurants/coffee shops is increasingly rapid with various innovations in architectural aspects. Along Panelokan Street Kintamani, the change in its face is now visible with the emergence of several new restaurant buildings. Not all of them are new buildings, as several local entrepreneurs have creatively added or changed the appearance of existing buildings, including the types of food offered, creating new attractions for guests and tourists. Previously, restaurants and cafes there carried a typical Balinese tropical architectural style, but now the design variations are more diverse

with modern minimalist, industrial and other touches. Even so, the panoramic beauty of Mount Batur remains the main attraction that sells and invites tourists to Kintamani. Architectural innovation seen in restaurant and cafe facilities is divided into two, namely, innovation in the exterior of the building and innovation in the interior of the room.

A. Eksterior Innovation

The building exterior is the outside part of a building that is visible from the outside. It includes all the visual elements that make a building look attractive, such as facade design, layout of windows, doors, roofs, walls, and other decorative elements. A good exterior design can reflect the desired architectural style, pay attention to the function of the building, and take into account environmental factors such as climate and local context. Innovations in the exterior aspects of buildings can be seen in the following elements:

a) Building Facade

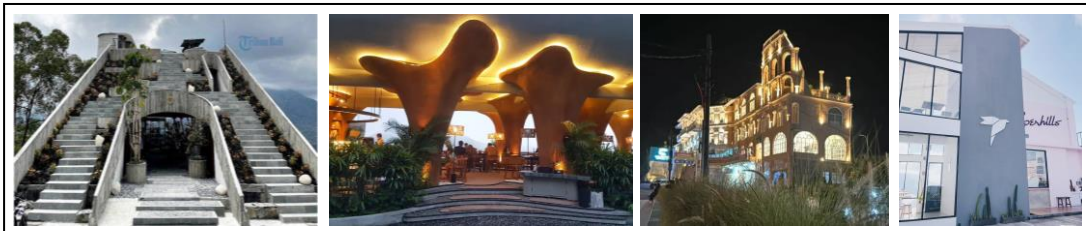


Figure 1. Restaurant Building Facade in Kintamani
Source: www.google.com

The architectural styles used or applied to restaurant buildings in Kintamani vary greatly. Dominated by a modern tropical concept combined with the natural beauty of Kintamani and Balinese traditions. The facade of this restaurant building is very Instagrammable and has a spot directly facing Mount and Lake Batur. Other architectural styles used are modern minimalist, industrial, European, and organic architecture. The cafe concept with an organic design provides a touch of uniqueness that differentiates it from most other cafes. The most phenomenal building facade is a building that imitates the shape of the Colosseum in Rome. The application of a building facade like this is solely aimed at attracting tourists to visit the restaurant/cafe.

b) Landscape

The landscape arrangement of restaurants/cafes in Kintamani is very simple but can provide a new experience for visiting tourists. The use of softscape elements in the form of local plants in the area such as reeds. The use of reed plants aims to give the impression of a garden that is integrated with the surrounding nature. Even though the position of the building is higher than Mount Batur, the view is formed as if the plant is one unit with the area of Mount and Batur Caldera behind the building. The cool air further supports the beautiful landscape atmosphere with amazing views.



Figure 2. Restaurant Landscape Restoran in Kintamani
Source: www.google.com

c) Ornament

As in general, buildings that use modern minimalist and modern tropical concepts usually use minimal ornament. Likewise, tourist facilities in Kintamani are dominated by the use of glass and curved accents on the exterior of the buildings. This aims to ensure that tourists can enjoy the natural beauty optimally from inside the building.

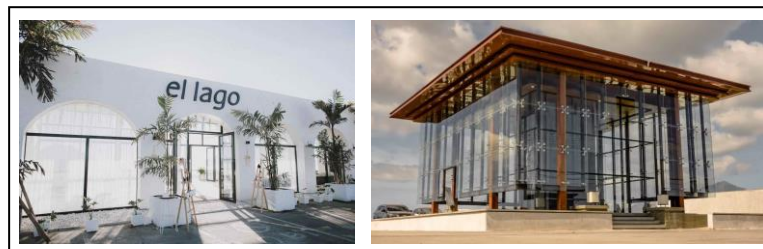


Figure 3. Ornaments on Building Facades
Source: www.google.com

B. Interior Innovation

Building interiors refer to the design and arrangement of space within a building. This includes elements such as color selection, lighting, textures, and furniture used to create the desired atmosphere in the space. Interior design does not only focus on visual appearance, but also considers the function and comfort of the occupants. The main goal is to create a space that is aesthetic, functional, and meets the needs of its users.

a) Lighting

The use of glass material that dominates the building walls aims to maximize natural lighting. The open space concept in the interior is very pronounced with the room stretching out wide, column-free and approximately five meters high. There are also several round windows and decorative niches. To maximize the view of Mount Batur, the boundary between the inside dining area and the outside balcony is equipped with floor-to-ceiling glass doors and windows.

b) Furniture

The use of furniture places more emphasis on unique and decorative shapes. Decorative lights hung from the ceiling at a height of approximately five meters give a modern aesthetic impression. The balcony area has no cover and is mostly surrounded by concrete outdoor sofas. The paint colors used in several restaurants and cafes are dominated by white and brown with pillars designed to be quite large and unique arches. The tables and chairs are also simply

designed, providing comfort when sitting and eating while still exuding aesthetics.

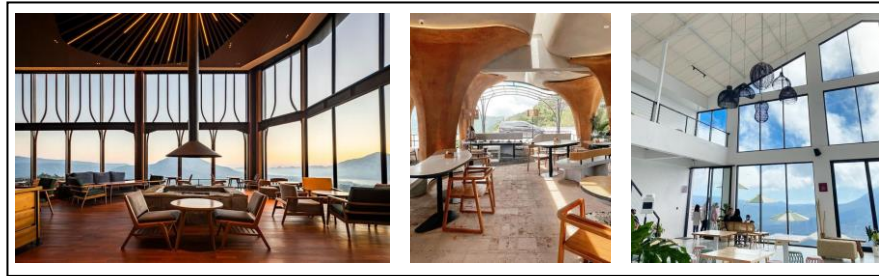


Figure 4. Interior of Restaurant and Cafe Building in Kintamani
Source: www.google.com

C. Opportunities and Challenges for Sustainable Tourism Development

Sustainable tourism is a form of tourism that considers natural or environmental sustainability, socio-cultural values, and the welfare impact on society (Tamrin et al., 2021). Innovation in architectural works, especially in tourist facility buildings in the Kintamani area, is growing rapidly and is diverse. This condition is both an opportunity and a challenge for sustainable tourism development which has long been advocated by the local government. It is called an opportunity because tourism development in Kintamani is increasingly heading in a positive direction. More and more tourists are coming to visit, both local, domestic and foreign. This condition also supports the principles of sustainable tourism because the existence of these tourist facilities maintains the existence of natural resources and the capacity of local communities in managing them.

This innovation is also a challenge for tourism in Kintamani. The challenge of maintaining and continuing the rapidly developing tourism conditions, through architectural aspects in particular. As we know, developing architectural trends always follow the times and cannot be predicted. This is a challenge for architects in combining innovation with cultural and contextual heritage preservation. Respecting local historical and cultural values while still creating something new and innovative is an art in itself. Understanding these challenges can help architects develop a holistic and sustainable approach to innovation in the field of architecture.

5. CONCLUSION

Innovation in architecture is an important step to present new creative and effective solutions in designing the built environment. Innovation in the design of tourist facility buildings in the form of restaurants and cafes can be seen from various aspects, namely, exterior design (facade, landscape and ornaments) and interior design (lighting and furniture). This design innovation is both an opportunity and a challenge in relation to sustainable tourism development. Innovation is not always related to new technology or materials. Creativity in solving complex design problems or creating unique experiences for users is also a valuable innovation.

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PROJECT BASED E-MODULE DEVELOPMENT FLIPBOOK APPLICATION-ASSISTED LEARNING FOR IMPROVE STUDENTS' CRITICAL THINKING SKILLS ELEMENTARY SCHOOL

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ABSTRACT

This research aims to improve the critical thinking skill of fourth grade elementary school students, through the development of e-modules based on project-based learning assisted by flipbook applications. This research type was a type of research and development ADDIE model adopted from Dick and Carry in 1996. In summary, this research included 5 stages, namely: Analyse, Design, Depelovment, Implementation and Evaluation. The subjects of this research were fourth grade students of SD Negeri 1 Petang with a total of 15 students, consisting of 8 male students and 7 female students. Data regarding students' critical thinking skill were obtained using test questions in the form of essays. The data that has been collected, analyzed using descriptive quantitative. Material, media and language validation on e-module products meet good qualifications with very high material expert criteria, very high media validity and high language validity. The practicality of the e-module product was 92.5%, meeting the criteria of being very practical. And the results showed a classical student percentage of 87% with product effectiveness criteria which is very high. Based on the results of the analysis that has been carried out, it can be concluded that the Development of E-Modules Based on Project Based Learning Assisted by the Flipbook Application can improve the critical thinking skill of fourth grade students of SD Negeri 1 Petang.

Keywords: E-Module, Project Based Learning, Flipbook, Critical Thinking

1. INTRODUCTION

Education is one of the important aspects for realizing a good human life progress and prosperity. This is because prosperity is no longer based on natural resources and physical capital, but also resources in intellectual and social capital. Life The 21st century is life without borders, globalization, internationalization, and technological exploration very easy information and communication.

According to NCREL and Metiri Group (in Punia, 2011). The era of the digital economy in the 21st century requires a workforce that is knowledgeable and skilled in producing innovation as well increase a country's productivity. The world of education has a very important role in increasing quality human resources. Education in schools should be develop students' abilities in solving various problems with ability superior thinking to be ready to enter global society. Along with this, education is starting to experience a paradigm shift where learning must be changed from horizontal to knowledge circle that combines knowledge, application, and contribution goes on continuously. To overcome the challenges of the 21st century, students need to be equipped with skills 21st century to strengthen the competitive spirit in this era. NCREL and Metiri Group (in Punia, 2011) identified four main components of 21st century skills, namely literacy skills digital, creative thinking, effective communication skills, and high productivity. Based on these four main components, critical thinking ability is one an important aspect and a skill that

students must have to face the challenges of the century 21. An opinion was expressed by Trilling and Fadel (2009), that critical thinking and solving problems are considered to be a new basis for learning in the 21st century. Critical thinking skills, according to Schafersman (2012) is one of the competencies that must be developed and trained on students through learning activities, so that these abilities continue to grow and develop because this ability is very important in various aspects of life.

Critical thinking skills must be instilled from an early age. In this case, elementary school become the starting point in cultivating critical thinking attitudes and skills. Maulana Research (2013) provides an illustration of how important it is to develop higher-level thinking abilities focuses on critical and creative thinking skills. In this research it was explained that The demands of human resources in the global era lie in individual readiness to face all the problems that occur. This is assessed by the way a person faces and looks for solutions best for all existing problems, then it needs to be instilled in primary school education critical thinking skills because elementary school is the beginning of a student's education after returning home.

Based on the results of interviews with the class IV homeroom teacher at Petang 1 Elementary School, it is clear Natural Sciences learning tends to be text book oriented, so that students do not fully understand the material being taught. Many students are lacking likes science subjects, because they are considered boring subjects. This situation shows that students will find it difficult to accept, meaning students are passive in thinking. Apart from components The complex problems of students can be seen from the competence of a teacher. Things to do A teacher must be able to optimize the classroom as a supportive learning space understanding of learning towards students. Then produce maximum educational practices by using meaningful teaching strategies, especially learning materials Elementary School Science. But in practice, a teacher mostly uses the lecture method Indeed, science subjects are reading texts. So that students' understanding when learning science It is very lacking if you only listen to the teacher's explanation and students are less able to explore his thinking ability. Apart from that, the use of learning media is still very rare. This shows that the learning process used has not been able to accommodate and facilitate all The learning abilities of each student are different from each other. The teacher's efforts to encourage students to Critical thinking is still relatively minimal, the teacher only asks simple questions students can answer directly, so students can answer directly without pushing students to think critically. Teachers should use more teaching materials for learning can be more attractive to students as the main subject of learning and develop abilities critical thinking in students. Module or e-module teaching materials are one way to improve students' critical thinking skills.

A module is a printed teaching material that contains a summary of the material explained in simple language and by adapting materials and basic competencies, so that it is easily understood by students according to IM Sadjati (2012). At the moment, The increasingly rapid development of technology is encouraging the replacement of printing technology with computer technology in learning activities. The module was originally a media printed learning, its presentation is transformed into electronic form so that it gives birth The new term is electronic module or better known as e-module (Winatha, Suharsono, & Agustin, 2018).

E-modules do not only display two-dimensional media as is the case on print-based modules. E-modules are also called interactive multimedia because of the variety of media Learning can be presented in it such as displaying text, images, graphics, audio, animation and videos in the learning process. So that students can be more interested in the process learning. To make e-modules more interesting, researchers have innovated to develop modules model-based. Currently, many learning models have been introduced, including: is a Project Based Learning Model. Project learning model Based learning according to Saefudin (2014: 58) is a project-based learning

model or produce products. Project Based Learning can improve critical thinking skills learners. The use of project based learning is known to also improve abilities students' cognitive abilities. Applying the project method can also improve learning achievement and skills students in learning when compared with lecture and discussion methods. Apart from that, researchers Use flipbooks as assistive media in the learning process later to attract more interest student learning.

Flipbook is a form of presenting book learning media in virtual form. Life (2015) explained that flipbooks are a development of e-books as an alternative to facilitates independent learning. Rasiman (2014) explained that students were more interested follow the lesson using a flipbook. Flipbook can contain text, images, videos, music or songs and moving animations. Through this feature, flipbook makes it easier for students to understand abstract material. Abstract things that cannot be proven and are difficult to see directly by eye and then can be presented easily in a flipbook. Therefore researchers choose an E-module based on project based learning assisted by flipbook media to improve students' critical thinking attitudes. Because with this model students can experiment make a work, especially in science learning and this trains students to think critical since elementary school.

The results of observations in Class IV of the Evening 1 Elementary School found several the problem is. Students' critical thinking skills are low because students memorize more often learning to get high grades. Students do not dare to express their opinions for fear of making mistakes and being criticized. Students are also less interested in studying using printed books, but more enthusiastic when the teacher presents material through learning media such as videos and Images. Apart from that, learning activities are still centered on educators (teacher centered). educators only use the lecture method as a way of delivering learning material, without paying attention to the character of elementary school students who prefer to play, sing, be active, want to know and others. Lack of use of modules based on Problem Based Learning, Project Based Learning, Discovery, Inquiry and others. Based on the problems found, and with the advantages of project-based E-Modules based learning assisted by the flipbook application, researchers have a solution to answer the problem namely by developing Assisted Project Based Learning E-Modules Flipbook Application to Improve Students' Critical Thinking Skills.

2. RESEARCH METODOLOGY

The research method used in this research is the research method and development. The Research and Development method is a research method produces a product in a certain area of expertise, followed by certain by-products as well as the effectiveness of the product (Budyono, 2017). Development model used to develop e-modules based on Project Based Learning, namely models development of ADDIE, which was developed by Dick and Carry in 1996. Model selection This is based on the consideration that this model was developed systematically and based on the basis of learning design theory. This development model is structured systematically as follows: problem solving efforts in learning that are appropriate to the characteristics of students. The participants who are the subjects of this research are Material Experts, Media Experts, Linguists and Practitioners. Material experts, media experts and language experts are educational expert lecturers in the Dwijendra University environment. Meanwhile, the practitioner is a class IV teacher at SD Negeri 1 Evening. The object in this research is a Project Based Learning E-Module Assisted by Flipbook Application to Improve Students' Critical Thinking Skills in Class IV Elementary school. The data that will be collected in this research is quantitative data in the form of results validation from material experts, media experts, language experts, users, and students.

Apart from that, it is also collected Qualitative data in the form of literature studies that support product development and descriptions input from validators regarding the feasibility of the final product. The data sources for this research are: others: 1) lecturer/material expert 2) lecturer/media expert; 3) lecturer/language expert; 4)

fourth grade teacher at SD Negeri 1 Evening, 5) fourth grade students at SD Negeri 1 Petang and 6) literature review that supports development e-module products based on project based learning assisted by flipbook applications to improve critical thinking skills of fourth grade elementary school students.

On research In this case, instrument validation is obtained from assessments carried out by experts. Test the validity of the instrument content carried out by two experts on each type of instrument. The content validity test formula used is Gregory's Formula. According to Candiasa (2011), there are several things that are done in the Gregory test, including other: 1) experts provide an assessment of the instrument for each item using (scale 4 ; 2) the scale categorization, namely 1 and 2, is the result of the instrument being invalid/not suitable for use, while 3 and 4 are the results that the instrument is valid/suitable for use, and 2) perform cross tabula expert assessment results with a matrix.

3. RESULTS AND DISCUSSION

The data from this research are grouped into four, namely material validity data, media validity, Linguist validity, product practicality, and effectiveness of learning outcomes. as for the results of data recapitulation from the main points of the product being developed are presented in Table 1 below.

Table 1 Results of Material Expert Validity

Butir	Penilai		S ₁	S ₂	Σs	n(c-1)	V	KET
	I	II						
Butir 1-20	76	76	56	56	112	140	0.80	Validitas Sangat Tinggi

Material Expert Validation Results: E-Module material based on project based learning in the qualification "very tall". So the e-module product is very suitable for use for its function in learning.

Table 2 Media Expert Validation Results

Butir	Penilai		S ₁	S ₂	Σs	n(c-1)	V	KET
	I	II						
Butir 1-14	53	53	39	39	78	98	0.80	Validitas Sangat Tinggi

Results of E-Module Media Expert Validation based on project based learning in "very high" qualification so that e-module products are very suitable for use for their function in learning.

Table 3 Linguist Expert Validation Results

Butir	Penilai		S ₁	S ₂	Σs	n(c-1)	V	KET
	I	II						
Butir 1-9	33	34	24	25	49	63	0.78	Validitas Tinggi

Results of E-Module Language Expert Validation based on project based learning in "high" qualifications so that e-module products are very suitable for use for their function in learning.

Practicality testing is a test stage that functions to determine the level of practicality of the product used. The practicality test was carried out by 1 practitioner, namely the fourth grade teacher at 1 Petang Elementary School, giving a percentage score

of 92.5% or in very practical qualifications so that the emodul product very practical to use for its function learning.

Based on the percentage of student completeness obtained, it reached 87% with high product criteria. There were 2 students who did not complete and 13 students who completed. So project based learning based e-module products are declared effective in improving skills students' critical thinking.

This research uses the research and development method, namely ADDIE development model. This model consists of 5 steps, namely: Analyze, Design, Development, Implementation and Evaluation. First there is the Analyze or analysis stage, this stage is an activity analysis of various factors from the innate development targets which includes analysis of student needs such as Learning resources and infrastructure such as laptops and internet networks at school are already available to students The average person also has a cellphone as a means of learning at home. At the load analysis stage.

Learning at SD Negeri 1 Petang uses the Merdeka curriculum in accordance with demands applicable curriculum. At the environmental analysis stage the school is located in a strategic location close to main road, so there are no problems with internet network access. Design or planning stage contains product specifications and product design plans. Product specifications are e-module based.

This projectbased learning contains a cover, foreword, instructions for using the e-module, table of contents, instructions information, projects, materials (content) regarding the topic of learning about energy transformation around us, evaluation questions as well as a summary of the material. This e-module product design uses Canva pro software as the application used to design e-module layouts. Based on the design that has been carried out, at the development stage an emodule was successfully developed. Stage development This use Canva And Flip PDF Pro For add a number of object like videos, link and can change appearance e-module so that Can in flip or in shift worthy book. Stage Implementation product e-module based projects based learning This in implement to Teacher And student in elementary school Evening, on stage This Teacher will evaluate use e-module Which has developed for know level practicality e-module and test try on student used for know effectiveness emodule in increase skills think critical student. After stage implementation next with stage evaluation, on stage This done review in a way comprehensive to e-module as well as do repair to e-module based projects based learning Which developed.

The validity of the e-module based on project based learning in science learning is highly qualified Good. This can be seen from the validation results of material experts who had a score of 0.85 with the qualification "very high" where the e-module implemented is relevant to the curriculum objectives and learning suggestions. Results media expert validation which has a score of 0.85 with a "very high" qualification, the selected e-module is capable achieve learning goals and help construct students' concepts. Language expert validation results has a score of 0.78 with high qualifications, the language used in the e-module is straightforward, communicative, dialogical and interactive and in accordance with the rules and cognitive development of students. Based on the results of the e-module validation above, the science content e-module is based on project based learning with the help of the flipbook application is very suitable to be applied to help in the learning process. This matter is also in line with the opinion of (Helna, 2015) which states. Benefits of using E-module media as Learning resources in the learning process include, among other things, being able to add to and expand the offerings in the class, and being able to stimulate thinking, behavior and further development.

The material developed in an enriching e-module. Students can broaden their horizons by study additional materials presented in the e-module. According to (Fitri Nurmayanti, Fauzi Bakri, 2015), "electronic learning modules have certain properties such as easy to use, adaptive, and consistent". Any of the software tools or

instruments designed with the aim of converting files PDF in the form of a digital book or publication flip page, namely Flip PDF Pro. Device or instrument This software can convert PDF files so that they are more attractive, like a book which can display images, video and sound. Learning resources are in the form of application-assisted E-modules It is hoped that this flipbook can attract students' attention and interest so that they are motivated to learn can improve critical thinking skills of elementary school students.

The results of the practicality test of the science content e-module based on project based learning are highly qualified practical, this can be seen from the product percentage results, namely 92.5% or with very practical qualifications, Based on user experience, the e-module is very easy to use, helps in understanding The material presented is very practical to use anytime and anywhere. So the e-module product Project based learning is very suitable to be used for its function in learning. This is also supported by the opinion of (Laili, 2019) who states that E-Modules can help teachers in explaining the subject matter that will be explained. E-Module has an important role in learning. Learning can take place effectively and practically when using E-modules because it can help students who experience difficulties in learning. Apart from that, Rahim's opinion (2017) where the research results show that e-modules can improve critical thinking skills and motivate students because the e-module already has very good criteria.

The results of the effectiveness test of the science content e-module based on project based learning show the effectiveness qualifications tall. This can be seen from the results of the student completion percentage, which is 87% with product effectiveness criteria tall. Based on the results of high product effectiveness test calculations, the e-module product contains Sains project based learning assisted by the flipbook application is suitable to be applied to help learning. This is supported by researchers (Fitrayani & Hunaepi, 2016) namely electronic development modules that are supported by audio and video with the help of technology such as cellphones/laptops/computers become independent teaching materials for students, and the educators only serve as facilitators process of teaching and learning activities. This is also supported by (Prastowo, 2015:14) along with the development of increasingly sophisticated technology, the module format has changed from printed to format electronics which are also commonly called electronic modules (e-modules). E-Modules can help students to learn independently and can improve students' critical thinking skills. In the E-module there are objectives the end of the learning activities that will be carried out so that students can know what they need to do they master or understand to achieve goals. Scientific Journal of Education and Learning which has been determined (Laili, 2019).

The qualifications for validity, practicality and effectiveness have been fulfilled, emodule products based on project based learning assisted by flipbook applications in science learning with topics The transformation of energy around us is worthy of application in learning. This is in line with (Laili, 2019) which shows that the E-module was developed using a project based learning model help students play a more active role in learning, with projects carried out by participants students make students more involved in learning and can improve students' critical thinking skills.

4. CONCLUSION

E-modules can be developed using the ADDIE Development model. Validation of materials, media and the language in the e-module product meets good qualifications with material validity details of 0.85 (very high) media validity 0.85 (very high) and language validity 0.78 (high). The practicality of e-module products is 92.5% met the very practical criteria. The effectiveness of e-module products meets high qualifications with the percentage of student completion was 87%. Based on these results, the e-module product is project based learning is suitable to be applied in science learning in class IV elementary schools. Thus, because it has met the qualifications of validity, practicality and effectiveness, the emodul product based

projects based learning help application flipbook on topic transformation energy around We worthy For applied in learning.

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ANALYSIS OF FACTORS INFLUENCING AGRICULTURAL EXTENSION WORKERS IN ADOPTING SMART TECHNOLOGY IN WEST JAVA

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ABSTRACT

Agriculture plays a central role in Indonesia's economy, especially in rural areas such as Garut Regency, West Java. In the face of technological advancements, the adoption of smart technology is important to improve agricultural efficiency. This study aims to understand the factors that influence the adoption of smart technology by agricultural extension workers in Garut Regency and formulate strategies to increase the adoption of such technology. The research method includes primary and secondary data. The results showed that factors such as technological infrastructure, awareness and education, institutional support, resources, trust, culture, economic benefits, and regulations influence the adoption of smart technologies. Collaboration between the government, educational institutions, agricultural organizations, and the private sector is needed to increase technology adoption. Agricultural extension workers in Garut Regency have a positive perception of smart technology, indicating great potential for its adoption. This is expected to support sustainable growth and development in Garut's agricultural sector. This study aims to analyze the factors that influence the decision of agricultural extension workers in adopting smart technology in West Java. In the context of globalization and technological advancement, the adoption of smart technologies has become the key to improving agricultural productivity and sustainability. However, at the agricultural extension level, the adoption of smart technology still faces a number of challenges. Agricultural extension officers play an important role in connecting technology with farmers, but their decision to adopt smart technology is influenced by complex factors such as knowledge, access to technology, institutional support, and socio-cultural aspects. Through quantitative and qualitative approaches, this study will investigate these factors and identify strategies to increase the adoption of smart technologies at the agricultural extension level. The results of this study are expected to provide valuable insights for policy makers and agricultural practitioners to strengthen the agricultural extension system and accelerate the adoption of smart technologies in West Java, which in turn will contribute to increased agricultural productivity and farmer welfare as well as the sustainability of the agricultural sector as a whole.

Keywords: *agriculture, smart technology, extension*

1. INTRODUCTION

Agriculture plays a central role in Indonesia's economy, especially in rural areas such as West Java. By providing information, training, and technical guidance, agricultural extension officers play an important role in improving farmers' productivity and welfare. However, with the rapid advancement of technology, the use of smart technology is becoming increasingly important to improve agricultural productivity and competitiveness. West Java, which is an agricultural region, faces several problems when utilizing smart technology in agriculture. The rate of

technology adoption by agricultural extension workers is still low despite the many technological innovations available.

Therefore, an in-depth understanding of the factors that influence the adoption of smart technologies by agricultural extension workers is crucial to formulate appropriate strategies. Some of the factors that might influence the adoption of smart technologies by agricultural extension workers in West Java include the availability of technological infrastructure, awareness and education, institutional support, resource availability, trust and confidence, cultural and social factors, economic benefits, and regulatory factors. With these factors in mind, further research can be conducted to identify barriers and opportunities in the adoption of smart technology by agricultural extension workers in West Java. Collaborative implementation of strategies between the government, educational institutions, agricultural organizations, and the private sector is expected to help increase the adoption of smart technologies and promote sustainable growth and development in West Java's agricultural sector. Agriculture plays a major role in Indonesia's economy, especially in rural areas such as West Java. In an effort to improve farmers' productivity and welfare, agricultural extension officers play a crucial role. They are tasked with providing information, training, and technical guidance to farmers. However, in the midst of rapid technological development, the adoption of smart technology is important to improve the efficiency and competitiveness of the agricultural sector.

Agriculture plays a vital role in Indonesia's economy, providing food and livelihoods for the majority of the population and national economic development. In the context of globalization and technological acceleration, the application of smart technology is an urgent need to improve the agricultural sector. Smart technologies, such as the use of sensors, data analytics and artificial intelligence, can improve agricultural efficiency, productivity and sustainability. However, despite the importance of such smart technologies, their application at the agricultural extension level, especially in rural areas such as West Java, is often faced with various obstacles. The role of agricultural extension officers in facilitating technology adoption by farmers is crucial, yet their decision to accept smart technologies is influenced by a complex array of factors.

West Java, which is one of the agricultural sentra agriculture in Indonesia, has a strategic role in meeting national food needs. However, the adoption of smart technologies by agricultural extension workers in this area has yet to reach its full potential. Factors such as lack of knowledge and skills, access to technology, institutional support, economic conditions, and socio-cultural aspects are some of the factors that influence the decision of agricultural extension workers to adopt smart technology. Therefore, a study that identifies the factors that influence agricultural extension workers' decisions to accept smart technologies in West Java is very important. With a deeper understanding of these factors, strategic steps can be taken to increase the adoption of smart technologies at the agricultural extension level. This will have a positive impact on increasing agricultural productivity, improving farmers' welfare, and the sustainability of the agricultural sector in the region.

2. RESEARCH METODOLOGY

This research uses primary data and secondary data as sources of information. Primary data was obtained directly from the original source through various field observation methods. These include structured interviews with the use of questionnaires, direct observation of farmers and other objects, in-depth interviews to obtain more in-depth data, as well as Focus Group Discussions (FGDs) as a tool to confirm quantitative data obtained in the field. The research informants involved were the Head of BPP, heads of District and Provincial Extension Centers, farmer groups, and farmers.

Meanwhile, secondary data was obtained through literature studies, which included analysis of various sources such as books, research journals, and relevant documents from institutions such as the Central Bureau of Statistics, the Ministry of Agriculture, and the Department of Agriculture. The secondary data collection method also involved the use of questionnaires and literature studies to support the initial data collection as research outputs.

3. RESULTS AND DISCUSSION

Respondent Characteristics Age

The characteristics of agricultural extension workers studied include age, formal education, non-formal education, and length of service. Age is considered a factor that influences work ability, where older extension workers tend to be less responsive to changes in innovation and technology, while younger extension workers are considered more productive and have high ideals. The data shows that the age of agricultural extension workers in West Java Province varies between 25 and 59 years, with an average age of around 40 years. This indicates that most of the extension workers are at a productive age, in accordance with the definition of productive age by Statistics Indonesia (2016) for the rural population aged above 15 years.

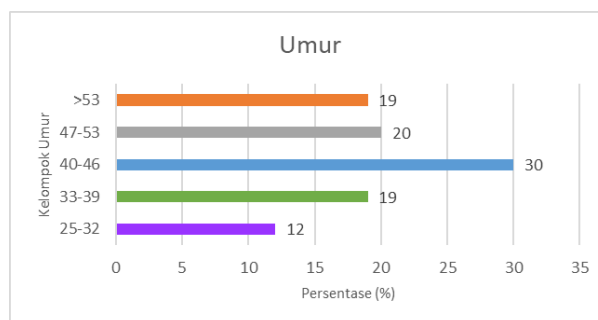


Figure Distribution of Respondents' Age

Agricultural extension workers in West Java are dominated by the 40-46 years age group, indicating that most of them are in their productive age, which allows them to work optimally in improving farmers' attitudes, abilities, and skills. Despite having to reach out to remote areas, these productive-age extension workers are still dexterous in carrying out their duties. They have the ability to receive information well, including in the face of changes towards smart technology.

In contrast, older people tend to experience physical decline and find it difficult to accept new innovations, tend to think traditionally, and maintain old habits. However, despite this, agricultural extension workers in West Java show a good ability to accept and implement technological innovations, despite being at an older age.

Formal Education

Education is considered an important indicator in development and determines the quality of human resources. According to Slamet (2003), education is an effort to create changes in human behavior, while according to Soeitoe (1982), education is an organized process to achieve changes in behavior. In the context of this study, formal education refers to the type of education that farmers have successfully completed. The types of formal education that farmers have successfully completed include primary education (6 years), secondary education (9 years), senior secondary education (12 years), and higher education (15 years).

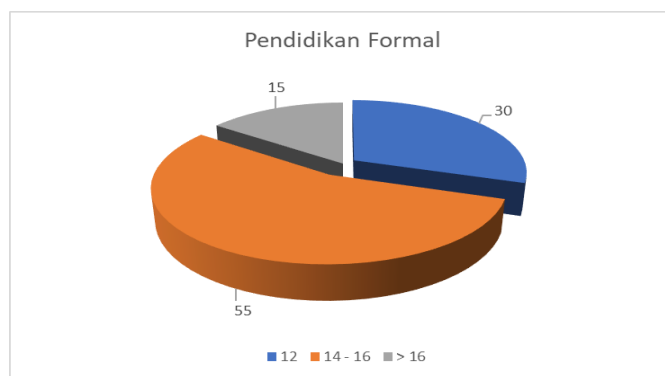


Figure Distribution of Respondents' Formal Education Level

The data shows that the majority of agricultural extension workers have a formal education level in college (14-16 years), although there are still around 30 percent who only have education up to the high school/vocational school level. This difference may result in knowledge disparities between extension workers with different levels of education.

A study by Mosher (1987) showed that the level of education has a significant impact on the performance of agricultural extension workers, where the higher the level of education, the broader the knowledge and insight. Kartasapoetra (1991) adds that a low level of education can result in a lack of knowledge in utilizing available resources. Therefore, extension workers with higher education have greater potential to improve their performance. Research by Lubis (2016) also supports these findings, showing that the level of education of agricultural extension workers has a significant influence on their performance, with the level of influence reaching 57 percent.

Non Formal Education

In addition to formal education, this study also analyzed non-formal education for agricultural extension workers in West Java. Non-formal education is an organized educational activity outside the formal system, which aims to provide special services to participants or help identify learning needs to suit their learning goals. Non-formal education is defined as a structured education system that aims to achieve learning objectives outside of formal education. In the context of this study, non-formal education is an effort to improve knowledge, attitudes and skills through various trainings and courses. The data shows the distribution of non-formal education that respondents have attended.

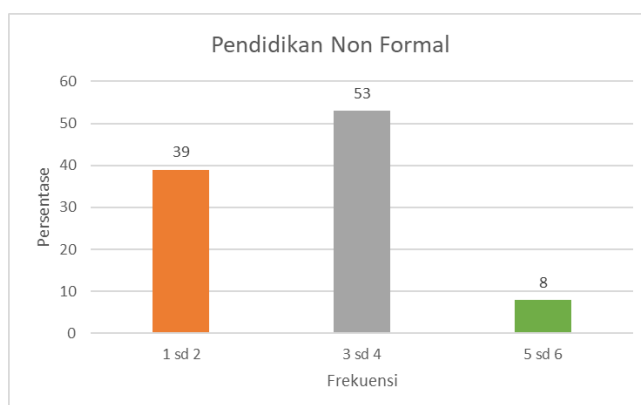


Figure Distribution of Non-Formal Education Data of Research Respondents.

Non-formal education provides opportunities for agricultural extension workers to improve their knowledge and skills, in line with Anwar's (2013) view that frequent training can improve the quality of extension activities. Respondents in this study have attended various non-formal education, including training on cultivation and agricultural extension management. The data shows that the majority of respondents attended non-formal education 3-4 times, indicating a fairly high intensity in the development of their skills and knowledge. This is in accordance with the concept that non-formal education can be a starting point for more in-depth human resource development (Fauzi, et al., 2019), providing opportunities for agricultural extension workers to improve their qualifications in carrying out their duties as agricultural extension workers.

Length of Service

Tenure in this study refers to the length of time agricultural extension workers have worked in the profession. The experience accumulated during the working period is considered as knowledge gained through human thinking and experience, which is then organized into a consistent pattern. This experience influences the attitude of extension workers in accepting new technologies and innovations, in accordance with the theory presented by Soekartawi (2006). The data shows the distribution of respondents' tenure in this study.

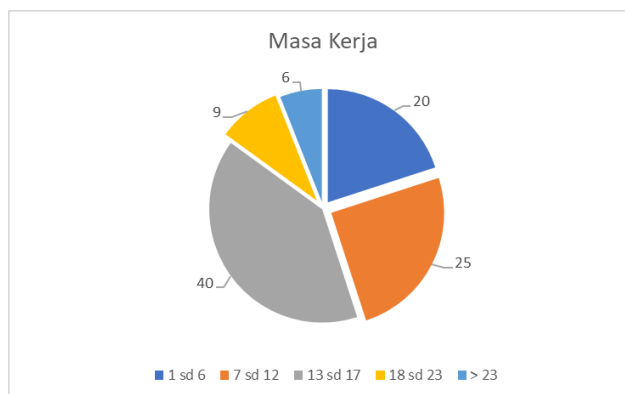
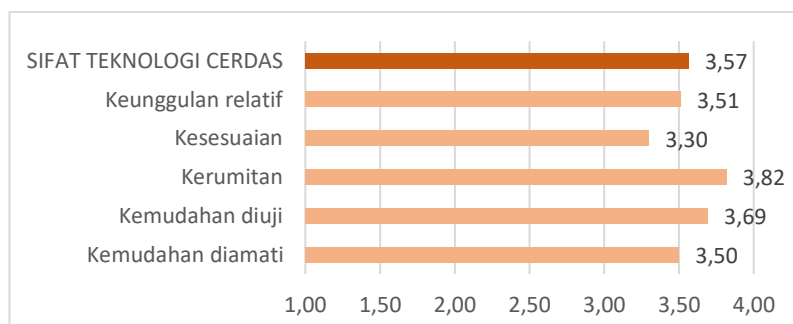


Figure Distribution of Respondent Work Period Data

Based on the results of the field study, the respondents' length of service varied greatly, ranging from one year to 46 years. The majority of respondents have a working period of 13-17 years with a percentage of 40 percent. This shows that the experience possessed by agricultural extension workers in West Java is quite diverse. A person's tenure will generally affect his or her decision-making process. Similarly, in agricultural extension workers, the working period that forms experience will provide flight hours for agricultural extension workers in making decisions and solving problems that occur in farmers.

Nature of Smart Technology

According to Devore (1980) and Mitcham & Mackey (1972), individual perceptions of technology have an impact on the adoption of innovations. Smart technology is seen as an innovation that can improve the performance of agricultural extension workers. Based on the category of indicators of the nature of smart technology proposed by Rogers (1983), the results showed that the perception of extension workers towards the nature of smart technology was in the good category (3.57).

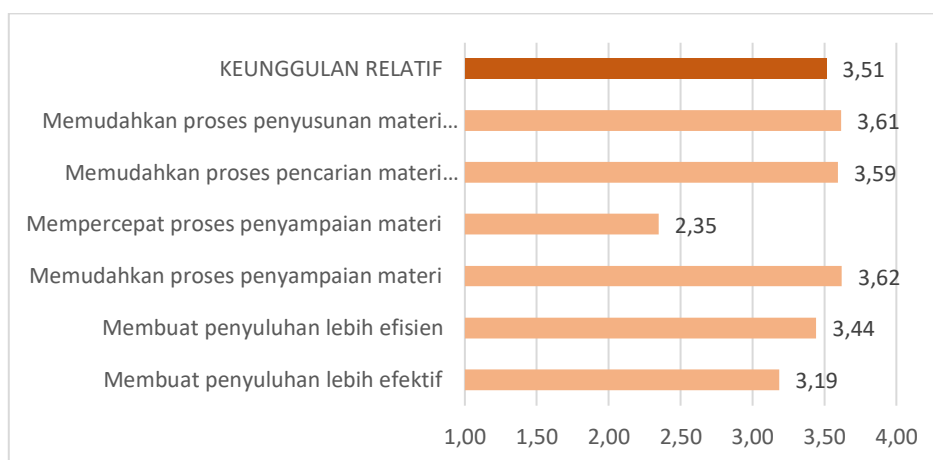


Description: ≤ 1.80 (very less); 1.81-2.60 (less); 2.61-3.40 (simply); 3.41-4.20 (good); > 4.20 (excellent)

This indicates a great opportunity for the adoption of smart technology by agricultural extension workers. Rogers (1983) states that an individual's perception of innovation predicts the speed of innovation acceptance. Although uncertainty is a major barrier to innovation adoption, the adoption of smart technology is expected to facilitate agricultural extension workers in carrying out their duties more effectively and efficiently. The results show that the perception of the relative advantages of smart technology is observed to be in the good category.

Relative Advantage

Relative advantage is the degree to which an innovation is perceived to be better than previous innovative ideas. Usually, relative advantage is measured in economic terms, convenience, and satisfaction are often important components. The following are the results of respondents' perceptions of indicators of relative advantage in the variable nature of smart technology:



Description: ≤ 1.80 (Very Poor); 1.81-2.60 (Poor); 2.61-3.40 (Fair); 3.41-4.20 (Good); > 4.20 (Very Good)

Figure 5.6 Extension Workers' Perception of the Relative Advantage of Smart Technology in West Java Province

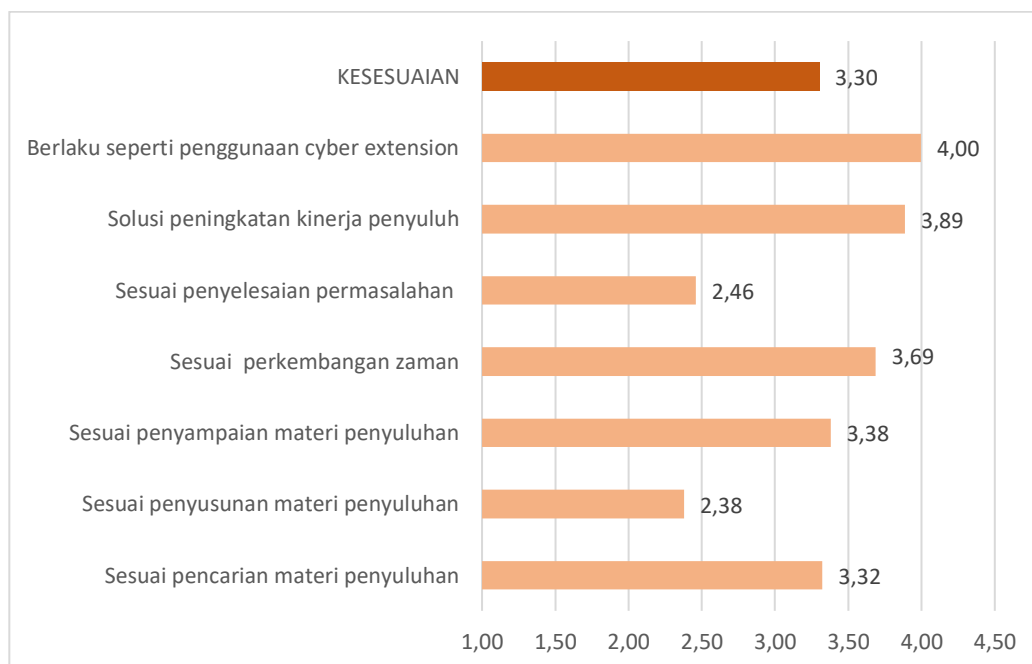
Figure 5.6 shows that respondents' perceptions of the relative advantages of smart technology fall into the good category (3.51). Respondents feel that smart technology can provide benefits for respondents in an effort to improve their performance as agricultural extension workers. This is in accordance with the statement of S, one of the extension workers in West Java.

"... I strongly agree if extension activities are carried out by utilizing smart technology that is developing at this time, we also have access to cyber extension, and it really helps us, ma'am".

The more relative advantages an innovation is perceived to have, the faster its adoption rate will be (Rogers, 1983). This has also been proven by *literature review* research conducted by Tornatzky and Klein (1982) which shows that out of 29 studies on relative advantage, eight articles were found to be statistically directly relevant to the relationship between the relative advantage of an innovation and its adoption rate. Therefore, smart technology in the future must pay attention to aspects of relative advantage so that it will be more easily adopted by agricultural extension workers in an effort to improve their performance. Smart technology must be able to read the needs of agricultural extension workers and predict problems that can occur in the world of agricultural extension.

Suitability

Conformity is the degree to which an innovation is perceived to be consistent with existing values, past experiences, and the needs of potential adopters. An idea that is incompatible with the values and norms of a social system will not be adopted as quickly as a compatible innovation (Rogers, 1983). Rogers and Shoemaker (1971) explain that conformity refers to conformity with the values or norms of potential adopters or may represent conformity with existing practices of adopters. The first definition implies a kind of normative or cognitive conformity (conformity with what people feel or think about a technology), while the second is practical and operational conformity (conformity with what people do). In this study, the suitability indicator is analyzed based on the assessment of extension workers on smart technology when viewed from the level of compatibility with the circumstances, problems and challenges that have been faced by agricultural extension workers. The following is the acquisition of the perception score of agricultural extension workers on the suitability indicator:



Description: ≤ 1.80 (Very Unsuitable); 1.81-2.60 (Unsuitable); 2.61-3.40 (Moderately Suitable); 3.41-4.20 (Suitable); > 4.20 (Very Suitable).

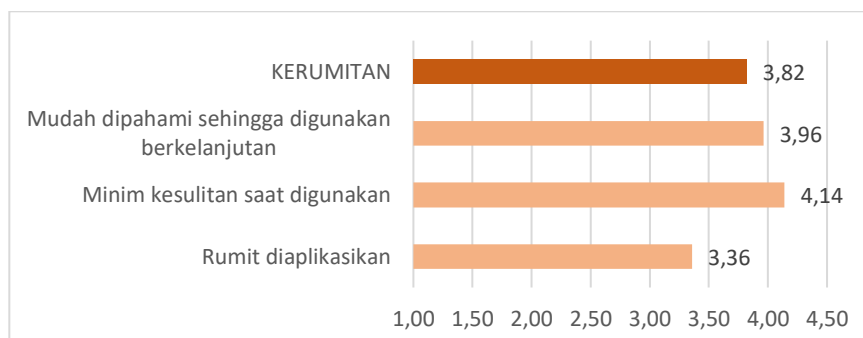
Figure 5.7 Perceptions of Extension Workers on the Suitability of Smart Technology in West Java Province

Based on Figure 5.7, it shows that extension workers' perceptions of the suitability of smart technology fall into the moderately suitable category (3.30). These results indicate that smart technology is suitable enough to be adopted by agricultural extension workers in West Java Province. However, it needs to be improved so that agricultural extension workers increasingly have a strong desire to adopt smart technology in their extension activities. This is in accordance with the statement

from Sholahudin and Setyawan (2017) which states that suitability has a significant effect on an individual's desire to adopt an innovation.

Complexity

According to Rogers (1983), complexity is the degree to which an innovation is perceived as difficult to understand or use. Some innovations are easily understood by most members of the social system. Others are more complicated and so will be slow to adopt. Complexity is assumed to be negatively related to the adoption and implementation of innovations. Complexity in this study was analyzed by looking at how complicated smart technology is for agricultural extension workers to adopt. The following is the score of agricultural extension agents' perceptions of the complexity indicator:



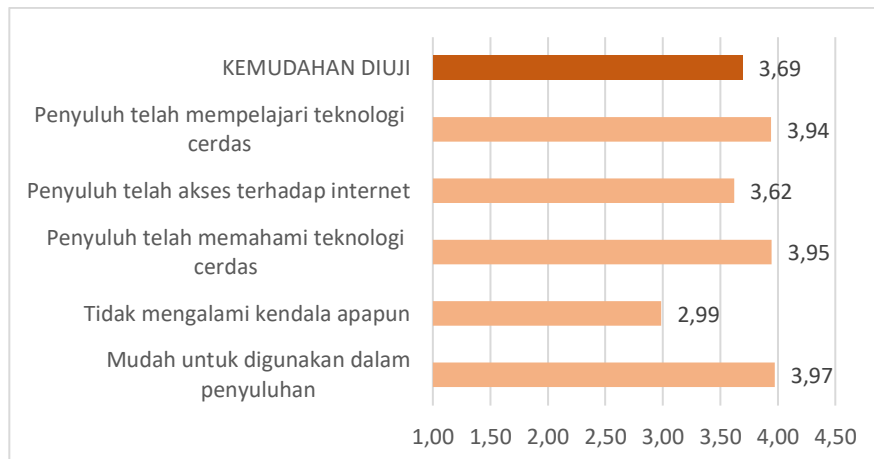
Description: ≤ 1.80 (Very Complicated); 1.81-2.60 (Complicated); 2.61-3.40 (Moderately Complicated); 3.41-4.20 (Uncomplicated); > 4.20 (Very Uncomplicated)

Figure 5.8 Extension Workers' Perception of the Complexity of Smart Technology in West Java Province

Based on Figure 5.8, it shows that the perception of extension workers towards the complexity of smart technology is included in the uncomplicated category with a score of 3.82. Therefore, it can be seen that smart technology can be easily accepted by agricultural extension workers in West Java Province. This happens because the more complicated a technology is, the more reluctant individuals are to adopt it, otherwise if the technology is easy to use, the higher the individual's desire to adopt it (Marshal *et.al*, 2003). However, the complexity of a technology can be minimized by massive socialization and training. In addition, smart technology needs to be equipped with clear instructions for use so that it is easier to understand how to apply it.

Ease of Testing

The degree to which an innovation can be experimented on a limited scope (Rogers, 1983). In theory, according to Rogers and Shoemaker (1971), innovations that can be tried will be adopted and implemented more often and faster than innovations that are less implementable. A technology must of course be tested first before it is adopted, this is to provide an overview as well as to form the perception of its adopters. The ease of testing indicator in this study will be analyzed by looking at the extent to which smart technology can be tried so that the ease of application can be known. The following is the acquisition of respondents' perception scores on the ease of testing indicator:



Description: ≤ 1.80 (Very Uneasy); 1.81-2.60 (Uneasy); 2.61-3.40 (Fairly Easy); 3.41-4.20 (Easy); > 4.20 (Very Easy)

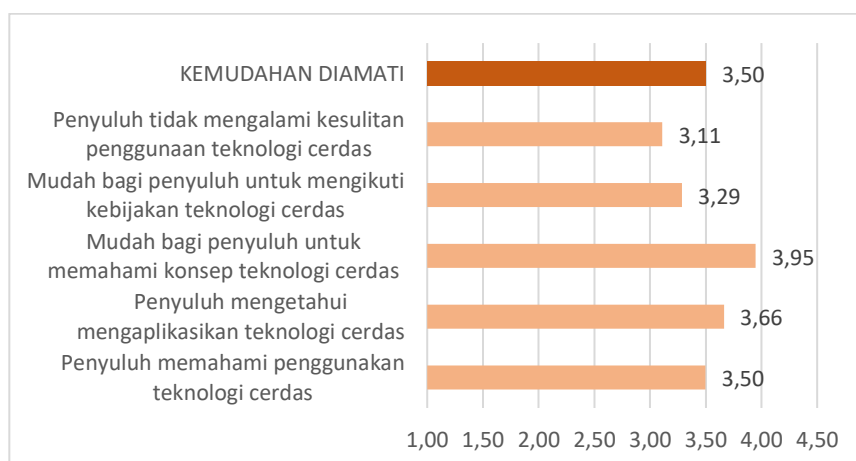
Figure 5.9 Perceptions of Extension Workers on the Ease of Testing Smart Technology in West Java Province

Based on Figure 5.9 shows that the perception of extension workers on the ease of testing smart technology is included in the easy-to-test category with a score of 3.69. This shows that smart technology can be tried and implemented so that it creates an easy impression for the extension workers. Implemented so that it creates an easy impression for agricultural extension workers to adopt it.

Ease of Observed

According to Rogers (1983), observability is the degree to which an innovation is perceived as difficult to understand or implement. It is the degree to which an innovation is perceived as difficult to understand or use. Some innovations are easily understood by most members of the social system. Others are more complicated and will be slow to be adopted. Ease of observability is assumed to be negatively associated to the adoption and implementation of innovations. Ease of observability in this research was analyzed based on respondents' feelings towards the arising from observations of smart technology in agricultural extension.

These observations include ease of understanding and knowledge of smart technology. The following is the score of respondents' perceptions of the indicator ease of observation on the variable nature of smart technology:



Description: ≤ 1.80 (Very Uneasy); 1.81-2.60 (Uneasy); 2.61-3.40 (Fairly Easy);
3.41-4.20 (Easy); > 4.20 (Very Easy)

Figure 5.10 Perceptions of Extension Workers on the Ease of Observing Smart Technology in West Java Province

Based on Figure 5.10, it shows that the perception of extension workers on the indicator of ease of observation related to smart technology is included in the easy-to-observe category with a score of 3.50. The score indicates that smart technology can be understood and understood by respondents based on their observation and sensing. This is a potential that provides hope for the ease of adoption of smart technology in the world of agricultural extension in Indonesia.

4. CONCLUSION

The characteristics of agricultural extension workers in West Java Province, including age, formal education, non-formal education, and length of service, play pivotal roles in shaping their effectiveness in improving farmers' livelihoods. Despite the dominance of extension workers aged 40-46 years, they exhibit adaptability and receptiveness to technological advancements, showcasing a positive attitude towards embracing innovations in smart technology. Formal education, predominantly at the college level, empowers extension workers with broader knowledge and insight, enhancing their performance significantly. Additionally, non-formal education initiatives further augment their skills and competencies, with a notable emphasis on training in cultivation and agricultural extension management.

The diverse tenure of extension workers, ranging from one to 46 years, underscores the wealth of experience within the workforce. This experience enriches decision-making processes and problem-solving abilities, fostering resilience in addressing agricultural challenges.

Smart technology emerges as a promising tool to enhance agricultural extension activities, with extension workers perceiving its relative advantage, suitability, and ease of observability favorably. While perceived as moderately suitable, efforts to refine smart technology and align it more closely with the needs and preferences of extension workers could expedite its adoption and integration into agricultural extension practices.

In essence, West Java stands at the nexus of tradition and innovation, where extension workers, equipped with a blend of experience, education, and openness to technological advancements, are poised to drive agricultural development forward, ensuring sustainability and prosperity for the region's farming communities.

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POLICY FORMULATION REGULATIONS FOR MANAGEMENT AND UTILIZATION OF FISHERY RESOURCE CATCHES FOR PEOPLE'S WELFARE

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ABSTRACT

Indonesia is an archipelagic country where more than half of the country's territory is sea. The natural resources in Indonesia's oceans are quite promising to be used as a source of strength for the national economy which has experienced a downturn. Therefore, the government issued Regulation of the Minister of Maritime Affairs and Fisheries Number 12/PERMEN-KP/2020 concerning Lobster Management (panulirus sp.p), Crabs (scylla spp.), and Ranjungan (portunus pelagicus spp.) in the territory of the Republic of Indonesia. The presence of this Ministerial Regulation is presumptively aimed at maintaining the existence and availability of the three stock species, namely Lobster, Crab and Crab. The formulation of the problem in this research is about how to regulate the capture and management of fishery products, especially lobster from the lus Constitutum perspective and how to regulate criminal sanctions against violators of catching fishery resources, especially lobster from the lus Constituendum perspective. The research method that researchers use is normative legal research with the aim of this research being to find out and analyze further regarding the regulation of catching and management of fishery products, especially Lobster from the lus Constituendum perspective, as well as the regulation of criminal sanctions against violators of catching fishery products, especially Lobster from the lus Constituendum perspective. which is guided by the technique of collecting legal materials through literature study using the concept of the rule of law, the concept of legal certainty, the theory of punishment, the theory of authority, the theory of criminal law policy, the concept of legal consequences, and the concept of legal responsibility as analytical tools in discussing policy formulation regarding management and utilization of caught fishery resources for the welfare of the people. The research results show the following conclusions: first, the implementation of Minister of Maritime Affairs and Fisheries Regulation no. 12/2020 concerning the current ban on catching lobsters, crabs and crabs certainly has implications or impacts in its implementation because there are no clear sanctions and the too frequent changes in these regulations have resulted in a vacuum in norms. Second, the sustainability aspect must be interpreted to mean that the resources we enjoy today must not be at the expense of the interests of future generations who also have the same rights to existing resources, both in quantity and quality.

Keywords: Policy, Regulation, Management, Fisheries Resources

1. INTRODUCTION

In recent years, this economic activity has become the center of attention because it is alleged that there has been a process of exploiting marine resources, namely lobsters, crabs and crabs, which exceeds its capacity. Exploitation that is not balanced with an understanding of the sustainability of marine biota certainly leaves its own problems for the survival of the biota itself so that in several coastal areas in Indonesia and especially in Bali, it is approaching maximum utilization (over fishing), namely a situation where the level of utilization has approached an alarming condition. for the preservation of lobster, crab and crab biota. This overfishing phenomenon not only threatens the sustainability of fish resources, but more than that it will cause horizontal turmoil among the fishing communities themselves. The emergence of horizontal turmoil is now tending to start to become real and open, this is happening because there is increasingly fierce competition due to the nature of the use of fish resources where there are no restrictions on catching (open access), as well as the implementation of the regional autonomy era which has been misinterpreted. In the author's observations in the field, there are other problems related to the management and preservation of fisheries resources here, namely that there are still many opinions from the fishing community who think that Lobster, Crab and Crab resources will never run out, so they never think sustainably, and unfortunately for them thinking that what is important today can be taken as much as possible for life's needs and tomorrow's problems are another matter without paying attention to the population and existing legal regulations.

To overcome these various phenomena, the government issued a policy product, namely Minister of Maritime Affairs and Fisheries Regulation Number 12/PERMEN-KP/2020 concerning the Management of Lobsters (*panulirus* sp.p), Crabs (*scylla* spp.), and Ranjungan (*portunus pelagicus* spp.) in the region Republic of Indonesia. The presence of this Ministerial Regulation is presumptively aimed at maintaining the existence and availability of the three stock species, namely Lobster, Crab and Crab due to their declining population numbers in a number of regions in Indonesia. Apart from that, this Ministerial Regulation also contains a prohibition on catching Lobsters (*Panulirus* spp.), Crabs (*Scylla* spp.), and Crab (*Portunus pelagicus* spp.) in spawning conditions and regulates restrictions on the size of these three species that can be caught.

Based on the background described above, researchers are encouraged to raise this problem in the form of research with the title "Policy Formulation Regarding the Management and Utilization of Catches from Fishery Resources for the Welfare of the People." Based on the description above, the main problem in this research is how to regulate the capture and management of fishery products, especially lobsters from the *Ius Constituendum* perspective and how to regulate criminal sanctions for violators of catching fishery products, especially lobsters from the *Ius Constituendum* perspective. The objectives that the researchers want to achieve are: 1) To find out and study the regulations regarding the capture and management of fishery products, especially lobsters, in accordance with the *Ius Constitutum* perspective. 2) To find out and analyze the regulation of criminal sanctions against violators of catching fishery resources, especially lobsters according to the principle of *Ius Constituendum*.

2. RESEARCH METODOLOGY

The research method used is normative legal research. Normative legal research is legal research carried out by examining library materials, which means that this research is carried out by examining norms, principles, philosophies or doctrines and legal principles in library materials. The data required is primary data as the main data source in addition to secondary data in the form of legal materials as the data source.

The technique for collecting legal materials that researchers use is by conducting a literature study which includes collecting laws and regulations, books, journals, especially those related to the Formulation Policy Concerning the Management and Utilization of Catches from Fishery Resources for the Welfare of the People as legal material. The legal material technique used is an evaluative technique which is an analysis technique that cannot be avoided by the user. After that, the data is presented in a descriptive analysis by explaining it systematically and comprehensively, so that it can answer the problem¹.

3. RELATED RESEARCH/LITERATUR REVIEW

Analyzing the problems in this research, the author uses the following theory:

1. Punishment Theory

The theory of purpose as a Theological Theory and the combined theory as an integrative view on the purpose of punishment assumes that punishment has a plural purpose, where both theories combine a Utilitarian view with a Retributivist view. The Utilitarian view states that the goal of punishment must produce beneficial consequences that can be proven and the retributivist view states that justice can be achieved if the Theological goal is carried out using the principles of justice².

2. Authority Theory

The theory of authority is related to the source of authority from the government in carrying out legal acts in relation to public law and in relation to private law. There are three types of authority that originate from statutory regulations. This authority includes: attribution, delegation and mandate³. Philipus M. Hadjon divides how to obtain authority into two ways, namely: attribution; and delegation and sometimes also mandate⁴.

3. Criminal Law Policy Theory

Criminal law policy is basically the totality of regulations that determine what actions are prohibited and included in criminal acts, as well as what sanctions are imposed on perpetrators with the aim of preventing crime. In theory, many doctrines put forward by experts are related to the understanding of criminal law policy. Barda Nawawi, believes that the term "Policy" is taken from the terms "policy" (English) and "politiek" (Dutch), so that "Criminal Law Policy" can also be called "Criminal Law Politics" and which is often known by the term "penal policy", "criminal law policy" or "strafrechts politiek"⁵. Criminal law policy is implemented through stages of concretization/operationalization/functionalization of criminal law which consist of:

¹Dewi, N. M. L., Satriana, I. M. W. C., & Kusumayanthi, K. E. (2019). PRINSIP PERSOONLIJKE VERGUNNING PADA PELAKSANAAN PERATURAN KEPALA KEPOLISIAN RI NOMOR 9 TAHUN 2012 TENTANG PENERBITAN SURAT IZIN MENGEMUDI. *Kerta Dyatmika*, 16(2), 22-31

²Muladi. 2002, *Lembaga Pidana Bersyarat*. Alumni. Bandung. hlm.15

³Indiharto, 2018, *Hukum Administrasi Negara*, Raja Grafindo Persada, Jakarta, hlm. 104.

⁴Philipus M. Hadjon, 2011, *Wewenang Kepolisian (bestuurbevoegdheid)*, Media Pustaka, Bandung, hlm. 94

⁵Barda Nawawi Arief, *Bunga Rampai Kebijakan Hukum Pidana Perkembangan Konsep KUHP Baru*, Cetakan Ke-1, Kencana Prenadamedia Grub, Jakarta, hlm. 26.

- a. Formulation/legislative policy, namely the formulation/drafting stage of criminal law.
- b. Applicative/judicial policy, namely the stage of implementing criminal law.
- c. Administrative/executive policies, namely the implementation stage of criminal law⁶.

4. RESULTS AND DISCUSSION

4.1. Regulations regarding the catching and management of fishery products, especially lobsters, Ius Constitutum Perspective

Legal developments will always be in accordance with societal developments. Likewise, legal issues will also develop in accordance with developments in problems occurring in society. Implementation of legal provisions in the fisheries sector is very important in order to develop fisheries well and sustainably. Implementation of Minister of Maritime Affairs and Fisheries Regulation No. 56 of 2016 concerning the prohibition on catching and releasing lobsters, crabs and crabs certainly has implications or impacts in its implementation. The legal implications of this ministerial regulation for fishermen can be seen from the restrictions on catching crabs and lobsters which must comply with the regulations in this regulation, namely a carapace width of more than 10 (ten) cm or a weight of more than 60 (sixty) grams. If there are crabs that do not comply with the regulations, they will be released.

This release is a form of law enforcement of the applicable regulations and at the same time to provide guidance to service users regarding the importance of awareness of these regulations. With this release, it is hoped that the crab crab will be preserved, the ecosystem and the sustainability of natural resources. In principle, law enforcement must be able to provide benefits or utility for the community (in this case the fishing community), but apart from that, the community also expects law enforcement to achieve justice. This is in line with one of the legal principles of fisheries resource management contained in Law Number 31 of 2004 as amended by Law Number 45 of 2009 concerning Fisheries, namely the Benefit Principle, a principle which shows that fisheries management must be able to provide benefits. and maximum benefits for increasing prosperity and welfare of the people and the principle of justice, where fisheries management must be able to provide equal opportunities and opportunities proportionally for all citizens without exception. The implementation of this Ministerial Regulation will be monitored. Supervision to/from and at shelters or collectors outside the entry and/or exit points is carried out by the Directorate General which has technical duties in the field of monitoring marine and fisheries resources in coordination with quarantine officers.

Supervision of

The implementation of the Ministerial Regulation prohibiting fishing for crabs by fishermen was carried out by the relevant agencies only in the initial months since the enactment of this Ministerial Regulation. So that in the following months until now there is no longer strict supervision. Despite this, fishermen still catch and sell crabs that do not comply with the provisions contained in the Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 concerning the Prohibition of Catching and/or Releasing Lobsters (*Panulirus* spp.), Crabs (*Scylla* spp.), and Crab (*Portunus* spp.) from the Territory of the Republic of Indonesia. Talking about

⁶Barda Nawawi Arief, 2007, "*Masalah Penegakan Hukum dan Kebijakan Hukum Pidana dalam Penanggulangan Kejahatan*", Kencana Media Group, Jakarta, hlm. 78 –79.

supervision, in carrying out supervision regarding the ban on crab fishing, officers make more coaching efforts than imposing fines or arresting fishermen who violate it. This is done because the maritime and fisheries service does not only carry out a supervisory function but also has another function, namely the coaching function. The implementation of Minister of Maritime Affairs and Fisheries Regulation No. 56 of 2016 is not solely based on the intention to kill people's businesses, but the Government actually wants to save a bigger interest, namely how to save lobster resources so that their economic value can be enjoyed in the long term. Previously, the Government, through the Ministry of Maritime Affairs and Fisheries, issued Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 concerning the Prohibition and Export of Lobsters, Crabs and Crab from the Republic of Indonesia Territory. The implementation of this regulation must be addressed as part of learning for all of us, that we have a responsibility to manage these resources in a sustainable manner. The sustainability aspect must be interpreted to mean that the resources we enjoy today must not be at the expense of the interests of future generations who also have the same rights to existing resources, both in quantity and quality. The issuance of this Ministerial Regulation was motivated by the phenomenon of uncontrolled exploitation of lobster seeds in nature and actually causing a decline in the stock of lobster resources in Indonesian waters.

This rule regulates the prohibition on catching egg-laying lobsters and/or weighing less than or equal to 200 grams or carapace width less than or equal to 8 cm. For example, in 2015 at least 1.9 million lobster seed smuggling was successfully thwarted, with an estimated economic value of up to 98.3 billion. Meanwhile, based on data from BKIPM (Fish Quarantine Agency, Quality Control and Safety of Fishery Products) Mataram, in 2014 the total number of lobster seeds leaving NTB was recorded at 5.6 million with a value of up to 130 billion rupiah. Currently, it has become the largest lobster resource asset in the world, therefore it is important to preserve this asset, so that the lobster life cycle can run normally. The government is trying to regulate the pattern of utilization of lobster resources so that on the one hand the economic value can be felt, and on the other hand its sustainability is maintained. If the exploitation of lobster seeds continues, it is certain that the lobster life cycle will be interrupted, the impact will be that the availability of lobster stocks in nature will decrease drastically and it is very possible that our children and grandchildren will no longer recognize this commodity. As is known, smuggling of lobster seeds and lobster eggs is still widespread in a number of areas because of the attractive prices offered by buyers in the countries where they are sent. In fact, fishermen can sell at much higher prices, if the lobsters are allowed to grow first.

Head of the Fish Quarantine Agency, Quality Control and Safety of Fishery Products (BKIPM) KKP, Rina said that pearl lobster seeds are sold in Indonesia for a maximum of IDR 79 thousand to IDR 90 thousand per head. In Singapore the price is approximately USD 10 or around Rp. 145 thousand per head. Sand type lobster seeds are sold by fishermen for IDR 18 thousand to IDR 26 thousand per head. In Singapore the price is up to double. The public is asked not to catch and send lobster seeds because the economic value obtained is still far below what it should be. Apart from that, catching lobster seeds can threaten the sustainability of lobsters in nature. The prohibition on catching lobster seeds (seeds) is in accordance with the Minister of Maritime Affairs and Fisheries Regulation No. 56/Permen-KP of 2016 concerning the Prohibition of Catching and/or Releasing Lobsters, Crabs and Crab from Indonesia. killing fishermen's livelihoods, also becoming an arena for extortion. Traditional fishermen admit that the implementation of the Ministerial Regulation prohibiting lobster fishing has had a negative impact on fishermen's welfare. Since there was a ban on catching lobster

seeds, it has been very miserable for fishermen. There are more than 1,000 traditional fishermen who have lost their livelihoods. Based on data from the KKP, lobster seeds in Indonesian waters are very abundant, reaching around 12.35 billion seeds per year. Deputy chairman of the Research and Development Division of the Stakeholder and Public Consultation Commission of the Ministry of Maritime Affairs and Fisheries (KP2 KKP), stated that the potential for lobster seeds to live in nature is very small, namely 1:10,000. meaning, out of 10,000 seeds that have the potential to live to great lengths, only one is one.

The implementation of these regulations must be addressed as part of learning that various parties have a responsibility to manage these resources in a sustainable manner. The sustainability aspect must be interpreted to mean that the resources we enjoy today must not be at the expense of the interests of future generations who also have the same rights to existing resources, both in quantity and quality. If the exploitation of lobster seeds continues, it is certain that the lobster life cycle will be interrupted. Meanwhile, the impact, he continued, is that the availability of lobster stocks in nature will decrease drastically and potentially will not be found again by future generations. This requires awareness among the community of former lobster seed catchers to stop their activities, this indicates that the community has not begun to understand the importance of managing marine and fisheries resources responsibly and sustainably. Fisheries are a strategic economic resource to improve the welfare of the Indonesian people. This strategic meaning is reflected in the objective conditions of Indonesia's territory, which covers an area of approximately 7.8 million km², consisting of 74.3 percent sea and 25.7 percent land. Its marine waters cover an area of 5.8 million km² of archipelagic waters, and 2.7 million km² of exclusive economic zone (EEZ).

Based on the constitutional mandate, all natural fisheries resources must be managed in such a way that they can improve the welfare of the people, and at the same time, their sustainability must also be maintained. In the provisions of the 1945 Constitution of the Republic of Indonesia, Article 33 Paragraph (3), it is stated, "Earth and water and all natural resources contained therein are controlled by the state and used for the greatest prosperity of the people." The scope of state control over land, water and natural resources contained therein is also contained in Article 2 paragraph (1) UUPA which "On the basis of the provisions in article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia and matters as follows as referred to in article 1, the earth, water and space, including the natural resources contained therein, are at the highest level controlled by the State as the authority of the people." Fisheries resources are a type of natural resource that can be renewed, but these fish resources have certain limits according to their carrying capacity. Therefore, if its use is carried out contrary to management principles, it will result in extinction.

The government has anticipated these side effects. This anticipation is by providing compensation in the form of support for fish cultivation business activities, by allocating a budget of IDR 50 billion for fish cultivation businesses. This compensation is in the form of support for fish cultivation facilities for 2,246. The implementation of KP Ministerial Regulation Number 56 of 2016 is not solely based on the intention to kill people's businesses, but the government actually wants to save a bigger interest, namely how to save lobster resources so that their economic value can be enjoyed in the long term. Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 concerning the Prohibition and Exclusion of Lobsters, Crabs and Crab from the Republic of Indonesia Territory, is motivated by the phenomenon of uncontrolled exploitation of lobster seeds in nature and has actually caused a decline in the stock of lobster resources in Indonesian waters. This regulation regulates the prohibition on catching egg-laying lobsters and/or weighing less than or equal to 200 grams or width less than or equal to 8 cm. Minister of Maritime Affairs and Fisheries Edhy Prabowo has signed Minister of Maritime Affairs and Fisheries Regulation Number 12 of 2020 concerning the

management of lobsters, crabs and crabs in Indonesian territory. Through this regulation, Edhy reopened the export of lobster seeds which was previously prohibited by regulations under the Minister of Maritime Affairs and Fisheries, Susi Pudjiastuti. The decision of the Minister of Maritime Affairs and Fisheries, Edhy Prabowo, to issue KP Ministerial Regulation Number 12 of 2020 concerning the Management of Lobsters (*Panulirus* spp.), Crabs (*Scylla* spp.), and Crab (*Portunus* spp.) in the midst of the Covid-19 pandemic is considered appropriate.

The reason for the Minister of Maritime Affairs and Fisheries is to save lobster fishermen in the midst of a crisis, caused by the Covid-19 pandemic. Before this policy was adopted, the Ministry of Maritime Affairs and Fisheries had already conducted a study. It is also believed that this policy will improve welfare for fishermen and increase foreign exchange. This is automatic because every export must have taxes. Every seed caught has economic value for fishermen. Every cultivation opens up employment opportunities. Candy No. 12 of 2020, according to the Minister of Maritime Affairs and Maritime Affairs, will greatly benefit fishermen and the country. The re-allowance of catching and selling lobster seeds is a form of government support for fishermen. If lobster seeds are not utilized and free in nature, the majority will die. However, the use of lobster seeds requires attention to sustainability. arranged to maintain sustainability, if it is not used, the majority will die before they grow up.

In connection with the theory of punishment, if seen from the issue of regulations regarding the capture and management of fishery products from the perspective of the *Ius Constitutum*, the legal basis used to enforce the law on criminal acts of catching and managing fishery products, especially lobsters, is as a set of rules for the public to understand about criminal acts that should not be violated or not taking or catching lobsters that do not comply with applicable regulations as stated in the Regulation of the Minister of Maritime Affairs and Fisheries as part of law enforcement. And the author uses the theory of authority as an analytical tool for the problem of regulations regarding the capture and management of fishery products in accordance with the *Ius Constitutum* perspective so that we can understand the influence, legal basis and legal conformity in accordance with the regulations regarding the capture and management of fishery products.

4.2 Arrangement of Criminal Sanctions for Violators of Catching Fishery Resources, Especially Lobsters, *Ius Constituendum* Perspective.

Implementation of legal provisions in the fisheries sector is very important in order to develop fisheries well and sustainably. The implementation of Minister of Maritime Affairs and Fisheries Regulation number 12 of 2020 concerning the management of lobsters, crabs and crabs certainly has implications or impacts in its implementation. The legal implications of this ministerial regulation for fishermen can be seen from the restrictions on catching lobsters which must comply with the regulations in this regulation, namely a carapace width of more than 6 cm or a weight of more than 150 grams per fish for sand lobsters and a carapace length of 8 cm or a weight of more than 200 grams. grams per head for other types of lobster. If there are lobsters that do not comply with the provisions, they will be released. This release is a form of law enforcement of the applicable regulations and at the same time to provide guidance to service users regarding the importance of awareness of these regulations. With this release, it is hoped that the crab crab will be preserved, the ecosystem and the sustainability of natural resources. In principle, law enforcement must be able to provide benefits or utility for the community (in this case the fishing community), but apart from that, the community also expects law enforcement to achieve justice. This is in line with one of the legal principles of fisheries resource management contained in Law Number 31 of 2004 as amended by Law Number 45 of 2009 concerning Fisheries, namely the Benefit Principle, a principle which shows that fisheries management must be able to provide benefits. and maximum benefits for increasing prosperity and

welfare of the people and the principle of justice, where fisheries management must be able to provide equal opportunities and opportunities proportionally for all citizens without exception.

In an effort to maintain the existence and availability of resource populations of Lobsters (*Panulirus* spp.), Crabs (*Scylla* spp.), and Crab (*Portunus* spp.), the Republic of Indonesia Minister of Maritime Affairs and Fisheries Regulation Number 56/Permen-Kp/2016 concerning the Prohibition of Catching was born. and/or Export of Lobsters (*Panulirus* Spp.), Crabs (*Scylla* Spp.), and Crab (*Portunus* Spp.) from the Territory of the Republic of Indonesia. The prohibition on catching Lobsters (*Panulirus* Spp.), Crabs (*Scylla* Spp.), and Crab (*Portunus* Spp.) has been clearly stated in several articles in the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 56/Permen-Kp/2016. Article 2 states that:

"Catching and/or removing lobsters (*Panulirus* spp.), with Harmonized System Code 0306.21.10.00 or 0306.21.20.00, from the territory of the Republic of Indonesia can only be carried out with the following conditions:

- a. not in egg-laying condition; And
- b. carapace length of more than 8 (eight) cm or weight of more than 200 (two hundred) grams per head."

Article 4 paragraph 1 states that:

"Catching and/or removing small crabs (*Portunus* spp.), with Harmonized System Code 0306.29.10.00, from the territory of the Republic of Indonesia can only be carried out in conditions where they do not lay eggs and the carapace width is above 10 (ten) cm or the weight is above 60 (sixty)) grams per head."

Regulation of the Minister of Maritime Affairs and Fisheries Number 56/PERMEN-KP/2016 does not completely prohibit fishermen from fishing, but instead places restrictions on fishing, namely not being allowed to catch Lobsters, Crabs and Crab that are laying eggs and setting the carapace width of the catch to be above 8 cm or weighing over 200 grams, crabs over 15 cm or weighing over 200 grams, and crabs over 10 cm or weighing over 60 grams. The issuance of Minister of Maritime Affairs and Fisheries Regulation Number 56/PERMEN-KP/2016 concerning the Prohibition of Catching and/or Releasing Lobsters (*Panulirus* spp.), Crabs (*Scylla* spp.), and Crab (*Portunus* spp.) from the Territory of the Republic of Indonesia, is actually due to The existence and availability of lobsters, crabs and crabs has decreased in population, so it is necessary to limit the catch of these three species. Regulations regarding catching lobster seeds have been regulated in the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 1/PERMEN-KP/2015. However, in its development, this regulation has also undergone updates. On December 23 2016, the Minister of Maritime Affairs and Fisheries Susi Pudjiastuti issued Minister of Maritime Affairs and Fisheries Regulation (Permen KP) No.56/Permen-KP/2016 concerning the Prohibition of Catching and/or Exporting Lobsters, Crabs and Crab from Indonesia. However, this candy, which aims to protect the sustainability of lobsters, crabs and crabs, has actually become "bitter candy" for tens of thousands of fishermen on Lombok Island, West Nusa Tenggara (NTB). 35 Minister Susi Pudjiastuti said that previously lobsters in Indonesia were 6000-7000 tons. now 400 tons. Vietnam can now produce 4000 tons. Because the seeds come from Indonesia.

The provisions regarding catching lobster seeds according to the Minister of Maritime Affairs and Fisheries Regulation Number 1/PERMEN-KP/2015 are regulated as follows

Article 1 Number 1/PERMEN-KP/2016, states:

In this Ministerial Regulation what is meant by:

1. Everyone is an individual or corporation
2. Corporations are organized groups of people and/or assets, whether they are legal entities or non-legal entities
3. Minister is the Minister who administers government affairs in the fisheries sector.

4. Director General is the Director General who carries out technical duties in the field of capture fisheries.

Article 2 Number 1/PERMEN-KP/2016, states:

Everyone is prohibited from catching Lobsters (*Panulirus* spp.), Crabs (*Squilla* spp.), and Crab (*Portunus pelagicus* spp.) in spawning condition.

Article 3 Number 1/PERMEN-KP/2016, states:

(1) Lobsters (*Panulirus* spp.), Crabs (*Squilla* spp.), and Crab (*Portunus pelagicus* spp.) can be caught using the following sizes:

- a. Lobster (*Panulirus* spp.) with a carapace length of >8 cm (above eight centimeters)
- b. Crabs (*Squilla* spp.) with a carapace width of >15 cm (above fifteen centimeters); And
- c. Crab (*Portunus pelagicus* spp.) with a carapace width of >10 cm (above ten centimeters)

(2) Methods for measuring lobsters (*Panulirus* spp.), crabs (*Squilla* spp.) and crabs (*Portunus pelagicus* spp.) as stated in the attachment which is an inseparable part of this Ministerial Regulation.

Article 4 Number 1/PERMEN-KP/2016, states:

Everyone who catches Lobsters (*Panulirus* spp.), Crabs (*Squilla* spp.), and Crab (*Portunus pelagicus* spp.) must:

- a. Releasing Lobsters (*Panulirus* spp.), Crabs (*Squilla* spp.), and Crab (*Portunus pelagicus* spp.) in spawning condition as intended in Article 2 and/or with sizes that do not comply with the provisions as intended in article 3 paragraph (1) if still alive;
- b. Carrying out records of Lobsters (*Panulirus* spp.), Crabs (*Squilla* spp.), and Crab (*Portunus pelagicus* spp.) in egg-laying condition as intended in Article 2 and/or with sizes that do not comply with the provisions as intended in Article 3 paragraph (1) who are caught dead and report it to the Directorate General through the head of the base port as stated in the Fishing Permit.

Law has a very important role in social life, because law is not only a parameter for justice, order, peace and order, but also to guarantee legal certainty. Realizing the importance of the function of law for the life of society, nation and state, the government carries out development and guidance of all elements of the legal system. Legal development basically includes efforts to carry out reforms in nature that are directed at the formation of new laws that are needed in the development of society⁷.

Implementation of legal provisions in the fisheries sector is very important in order to develop fisheries well and sustainably. Implementation of Minister of Maritime Affairs and Fisheries Regulation No. 56 of 2016 concerning the prohibition on catching and releasing lobsters, crabs and crabs certainly has implications or impacts in its implementation. The legal implications of this ministerial regulation for fishermen can be seen from the restrictions on catching small crabs which must comply with the regulations in this regulation, namely a carapace width of more than 10 (ten) cm or a weight of more than 60 (sixty) grams. If there are crabs that do not comply with the regulations, they will be released. This release is a form of law enforcement of the applicable regulations and at the same time to provide guidance to service users regarding the importance of awareness of these regulations. With this release, it is hoped that the crab crab will be preserved, the ecosystem and the sustainability of natural resources. In principle, law enforcement must be able to provide benefits or utility for the community (in this case the fishing

⁷1 Made Wahyu Chandra Satriana, 2020, *Pembaharuan Hukum Pidana,, Suatu Konsep Kajian Kematian Yang Diinginkan (Euthansia)*, Udayana University Press, Denpasar, hlm. 19

community), but apart from that, the community also expects law enforcement to achieve justice. This is in line with one of the legal principles of fisheries resource management which is included in Law Number 31 of 2004 as amended by Law Number 45 of 2009 concerning Fisheries, namely that fisheries management must be able to provide the maximum benefits and advantages for increasing prosperity and welfare of the people and the Principle of Justice, where fisheries management must be able to provide equal opportunities and opportunities proportionally for all citizens without exception.

5. CONCLUSION

Regulations regarding the catching and management of fishery products, especially lobsters, have been regulated in Minister of Maritime Affairs and Fisheries Regulation number 12 of 2020 which prohibits catching lobsters in egg-laying condition and having a shell length of 6 cm, weight of 150 grams per head for sand lobsters and shell length of 8 cm, weight 200 grams per head for other types of lobster. . The implementation of the Minister of Maritime Affairs and Fisheries Regulation number 12 of 2020 concerning the management of lobsters, crabs and small crabs is currently of course the implementation of legal provisions in the fisheries sector which is very important in the context of good and sustainable fisheries development, as well as having implications or impacts in its implementation because it has not yet been implemented. the existence of clear sanctions and too frequent changes in these rules have resulted in a vacuum in norms. Meanwhile, criminal sanctions against violators of lobster fishing have not been regulated in Minister of Maritime Affairs and Fisheries Regulation number 12 of 2020, where violators of lobster fishing will only be subject to administrative sanctions. Law has a very important role in social life, because law is not only a parameter for justice, order, peace and order, but also to guarantee legal certainty. At the next level, the law is increasingly directed as a means of progress and welfare of society by providing criminal sanctions for violators who catch fisheries products. The sustainability aspect must be interpreted to mean that the resources we enjoy today must not be at the expense of the interests of future generations who also have the same rights to existing resources, both in quantity and quality. If the exploitation of lobster seeds continues, it is certain that the lobster life cycle will be interrupted. However, clear sanctions are not yet contained in this rule, which makes it less accurate for this rule to work properly.

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HATE SPEECH IN THE 2024 PRESIDENTIAL ELECTION (PILPRES): FORENSIC LINGUISTIC STUDY

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ABSTRACT

The implementation presidential election in 2024 is suspected to violate the constitution. This has caused some people argue that presidential election process was unfair. To express this incident, netizens via the social media TikTok uploaded hate speech against Gibran Rakabuming Raka, President Jokowi, Judge of the Constitutional Court. The public believes that Joko Widodo intervened a lot to win Gibran Rakabuming Raka accompanied Prabowo Subianto in the process of selecting presidential and vice presidential candidates. The hate speech that has been described is in the form of hate speech which can be classified as assertive and directive illocutionary force. The form of locution is in the form of hope, and all the hate speech can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia. Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

Keywords: hate speech, election, forensic linguistic

1. INTRODUCTION

The presidential election which will be held on April 14 2024 is characterized by tension because the presidential election is suspected to have been carried out with fraud and presidential intervention. The 2024 presidential election will involve three pairs of candidates. Pair 01 with presidential candidate (capres) Anies Baswedan and vice presidential candidate (cawapres) Muhaimin Iskandar, Pair 02 with presidential candidate Prabowo Subianto and cawapres Gibran Rakabuning Raka, and pair 03 with presidential candidate Ganjar Pranowo and cawapres Mahfud M.D. The community is automatically polarized into three parts. Political tensions are increasing ahead of the presidential candidate debate. Narratives aimed at guiding public opinion ahead of the presidential and vice presidential candidate debates. Political issues are built and the tendency is for political issues to be packaged in hate speech. Hate speech was exposed by each pair of pairs number 01, 02 and 03 on social media and on debate programs held by television stations. Hate speech takes the form of 1) Insults 2) Defamation 3) Defamation 4) Unpleasant actions 5) Provoking 6) Inciting 7) Spreading false news. This kind of hate speech is used by each supporter and even the supporters of each presidential candidate and vice presidential candidate to attack each other on social media.

This hate speech needs to be studied from a forensic linguistics perspective. From a forensic linguistics point of view, hate speech that has been produced can be used as evidence in a trial if there is a report to the police as a result of the hate speech. This study purely examines the potential for hate speech to be used as evidence in making a report to the police. Therefore, it is necessary to conduct a study of hate speech before, during and after the presidential election. The study carried out was a study from a forensic linguistics perspective.

Linguistics or better known as linguistics is a field of science that specifically uses language as its material for study. According to Chaer (1995) language assessment can be carried out internally or externally. Language assessment can be carried out depending on the context of the purpose of the study, for example related to social, cultural, community, medical, psychological, forensic, etc. Linguistics which is linked to the field of forensics is a new field of science and is included in applied linguistics. Applied linguistics will always be faced with matters that will discuss the legal field. The role of a linguist or language expert will be very important in analyzing data that will be used as evidence in a trial. The data referred to here is of course in the form of language components. Etymologically, the word forensic itself comes from the Latin word *forēns(is)*, which means "relating to the forum or public".

Toolan (2009) defines forensic linguistics as follows: "the study of language-information in legal processes". In another expression, Olsson (2009) says: "forensic linguistics is a science in which linguistic techniques are applied to legal processes to resolve cases and provide a point of view only on evidence." All of these definitions show that there is a close correlation between linguistics and law. So forensic linguistics is the study of language in which the study of language is focused on all language problems in the legal field. Therefore, linguists are really needed to be present in all parts of the field laws relating to language.

This study was conducted to determine: 1) the types of hate speech that existed during the presidential election, 2) the potential of this hate speech as evidence in reporting hate speech to the police from a forensic linguistics perspective.

2. RESEARCH METODOLOGY

An approach is defined as a basic conceptual framework used as a methodological basis for research in order to answer research problems. The approach used as a basis for research is phenomenological. This paradigm is proposed by German scholars who views humans as human beings. This approach is labelled as phenomenological. Phenomenologists view social reality as something holistic, complex, dynamic, and full of meaning. Research is carried out on natural objects. Natural objects are objects that develop as they are, are not manipulated by researchers, and the presence of researchers does not really influence the dynamics of the object. Reality for phenomenologists is subjective and meaningful. Research that uses this approach considers humans or people as instruments, namely the researchers themselves. To be able to become an instrument, a researcher must equip himself with various concepts, theories and broad insight regarding the phenomena being studied so that the researcher is able to construct social situations clearly and can interpret the social phenomena found (Bungin, 2007: 12).

This approach views that meaning can be captured through an interaction process by prioritizing three premises, namely first, humans act on the basis of the meaning

given to something. Second, the meaning of something is obtained, formed and revised through the process of interaction in everyday life. Third, the meaning of something in action or interaction does not take place mechanically but involves a process of interpretation (Bungin, 2007:12).

Based on this approach, the method used in line with the phenomenological approach is the qualitative method. The object of this study is hate speech on social media (Tiktok) related to the 2024 presidential election. Hate speech is analyzed using a forensic linguistic perspective. The data collected was then analyzed based on speech act theory. With theory, hate speech can be analyzed and the meaning of the speech can be interpreted. Steps to analyze hate speech data:

1. Determine words, phrases or sentences that contain hate speech: Hate speech in the form of words, phrases and sentences is codified into locutionary speech acts.
2. Examination of context and implicit meaning: It is important to examine the context surrounding hate speech texts to understand their implicit meaning. This involves research into the social, political, and cultural background in which the text produced, as well as how certain meanings are conveyed implicitly or explicitly. Analysis of the context and meaning of the utterance is carried out by determining the illocutionary force of the utterance.
3. Sentiment and opinion analysis: Using sentiment analysis techniques can help identify opinions or feelings containing in the text, whether they are positive, negative or neutral. Hate speech tends to have strong negative sentiments towards certain groups. Sentiment and opinion analysis can be analyzed based on the effects of the hate speech produced (perlocution of the speech).

3. RELATED RESEARCH/LITERATUR REVIEW

3.1 Hate Speech

Hate speech refers to the use of language or expressions that attack or demean certain groups based on characteristics such as race, religion, ethnicity, sexual orientation, or gender. This may include the use of derogatory language, negative stereotypes, or rhetoric that incites hatred and discrimination against the group. Hate speech not only harms the targeted individual or group, but can also create an atmosphere that is deadly to diversity and tolerance in society. This often constitutes a violation of human rights and can have psychological, social and even physical damaging impacts.

Brison (2013: 2332) defines hate speech as slanderous speech, based on certain characteristics, such as race, ethnicity, religion, gender and sexual orientation. Hate speech is an act of communication carried out by certain individuals or groups in the form of provocation, incitement, insults, blasphemy, defamation, as well as the spread of hoax in aspects such as race, skin color, gender, ethnicity, physical disability, orientation. sexual, citizenship, religion, etc.

3.2 Linguistic Forensics

Linguistics is the scientific study of language as a human activity. It is concerned with both the structure of language and the ways in which it functions in different settings. There are many fields in linguistics and one increasingly prominent area of applied research is forensic linguistics. This field has developed from a research-based understanding of language. Forensic linguistics involves the application of scientific knowledge to language in the context of criminal and civil law.

Forensic linguists have an interest in understanding the language of the written law, its complexity and its origin, as well as the use of language in forensic procedures. They also study the judicial process from point of arrest, and through the interview, charge, trial and sentencing stages. For example, linguists are interested in the language of police interviews with witnesses and suspects, and in the language of lawyers and witnesses in cross-examination (AHRC, 2009).

3.3 Speech Act Theory

The speech act theory was introduced by Oxford philosopher J.L. Austin in *How to Do Things With Words* and further developed by American philosopher J.R. Searle. It considers the degree to which utterances are said to perform locutionary, illocutionary acts, and/or perlocutionary acts. Austin (1962-94) says that the utterance of certain noises, certain words construction. In other words, a locutionary act is an act of producing a meaningful linguistic expression. In a simple way, locutionary act is the meaning of what a speaker say, for example in the utterance " I'd like to order a cup of coffee", the locutionary act is the speaker wants to order a cup of coffee.

Illocutionary acts are characteristically performed in the utterance of sounds or making of marks. According J.Searle (1969-42), Illocutionary act is also known as illocutionary force. The important point of illocutionary act is force. Illocutionary act carried out by a speaker making an utterance is the act viewed in terms of the utterance's significance within a conventional system of social interaction. Illocutions are acts defined by social conventions, acts such as requesting, giving help, expressing dislike, guessing, showing confuse, expressing angry, disbelieving, asserting, giving clarification, refusing, showing curiosity, showing bored, showing worried, suggesting, admitting, and commanding. To make the illocutionary act easier to understand. In the utterance "I'm very grateful to you for all you have done for me", it performs the illocutionary of thanking. Perlocutionary Act. Perlocutionary act (or just simply perlocution) carried out by a speaker making an utterance is the act of causing a certain effect on the hearer and others. Austin (1962-103) says that it is important to make a distinction between illocutionary and perlocutionary act because both of these speech acts are considered to do thing. Basically, an illocutionary act is a linguistic act performed in uttering certain word in a given context, while a perlocutionary act is a non-linguistic act performed a consequence of performing the locutionary and illocutionary acts. To make the explanation above easier to understand, the writer gives an example. If I say "There is a hornet in your left ear", the illocutionary act is to warn you that there is a hornet in your left ear. While the perlocutionary act is the hearer's reaction after hearing my utterance. It may cause the hearer panic, scream, and scratch wildly at your ear. Causing these emotions and actions of yours is the perlocution of my utterance, or the perlocutionary act perform by making that utterance.

Searle improves on Austin's Speech Act theory by distinguishing between two types of speech acts: Direct and Indirect Speech Acts. Searle (1969) categorizes the illocutionary act into five classes:

1. Assertives: Assertives are speech acts that bind the speaker to the truth of the proposition expressed, for example stating (stating), suggesting (suggesting), boasting (boasting), complaining (complaining) and claiming (claiming) (Searle in Rahardi, 2019: 36).

2. Directives: Directives are speech acts that are intended by the speaker to influence the speech partner to take action, for example ordering, commanding, requesting, advising and recommending (Searle in Rahardi, 2019: 36).

3. Expressives: Expressives are speech acts that function to express or show the speaker's psychological attitude towards a situation, for example thanking, congratulating, pardoning, blaming, praising.), and condolences (condoling) (Searle in Rahardi, 2019: 36).

4. Commissives: Commissives are speech acts that function to express promises or offers, for example promising, vowing and offering something (Searle in Rahardi, 2019: 36).

5. Declarations: Declarations are speech acts that connect the content of speech with reality, for example resigning, dismissing, christening, naming, appointing, excommunicating, and punish (sentencing) (Searle in Rahardi, 2019: 36).

4. RESULTS AND DISCUSSION

Data on hate speech before, during and after the 2024 presidential election as shown below.

Data 01:

After the 2024 elections were completed, Gibran Rakabuming Raka wanted to hold communication with the General Chair of Partai Demokrasi Indonesia Perjuangan (PDIP) (Mega Wati Soekarno Putri) but Gibran stated that his intention was prohibited. This was commented on by a netizen. The comments are as in the following image.



Analysis of Speech

Act Theory

No.	Speech Act Theory		
	Locution	Illocutionary	Perlocutionary
1.	Woi anak haram konstitusi 'Wow, illegitimate child of the constitution.'	Assertive	Hopefulness: Gibran realized that he had become vice presidential candidate in violation of the constitution.
2.	Kalau ngomong itu pakai otak. Jangan pakai dengkul. 'When you are talking, you use your brain. Don't use your knees'	Directive	Hopefulness: Gribran uses his brain when he speaks, not his knees.

"Wow, illegitimate child of the constitution. When you are talking, you use your brain. Don't use your knees."

Gibran is an illegitimate child of the constitution because Gibran Rakabuming Raka's candidacy caused political uproar because his candidacy was considered a violation of the constitution. The announcement of Gibran's candidacy came a week after the Constitutional Court amended the election law which initially set the minimum age limit at 40 years, so that anyone below that age could still be nominated as long as they had previously served as a regional head or member of the legislature. The public believes that this nomination was due to the intervention of President Joko Widodo, who is the father of Gibran Raka Buming Raka. This decision caused controversy. There was a lot of public condemnation of this decision on social media so that Gibran was called an illegitimate child of the constitution because his candidacy violated the law due to the intervention of President Jokowi and the Chief Justice of the Constitutional Court.

This speech includes hate speech in the form of insults towards Gibran Rakabuming Raka. This can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia

Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

Data 02.



No.	Speech Act Theory		
	Locution	Illocutionary	Perlocutionary
1.	<p>Katanya generasi emas, faktanya cuma anak emas.</p> <p>'They say the Golden Generation, in fact the Golden Children'</p>	<p>Assertive (reminding))</p>	<p>Hopefulness: President Joko Widodo must be consistent in carrying out his program to achieve a golden generation in 2045 without violating the constitution for the benefit of his son (Gibran).</p>

In 2045 Indonesia will celebrate 100 years of independence. At that time, Indonesia will be developed and strong nation. Taking advantage of the demographic bonus which will reach its peak in 2030. However, this demographic bonus can only be achieved if we prepare Indonesian human resources that have good quality, competitive and free from stunting. The government has implemented various programs to achieve a Golden Indonesia (Indonesia emas). This program was used as a joke because of the controversy related to the nomination of Gibran Rakabuming Raka as vice presidential candidate for the Presidential and Vice Presidential Election paired with Prabowo Subianto. This is a form of satire aimed at President Joko Widodo.

"They say the Golden Generation, in fact the Golden Children." This sentence is a form of criticism towards President Joko Widodo. Netizens implicitly conveyed that how could a golden generation be achieved while President Joko Widodo prioritized his son to be candidate vice president. Netizen accuse Joko Widodo intervened in the process of determining candidate of vice president.

This speech includes hate speech in the form of insults towards Gibran Rakabuming Raka. This can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

Data 03



No.	Speech Act Theory		
	Locution	Illocutionary	Perlocutionary
1.	Air mineral lebih berguna daripada Airlangga 'Mineral water is more useful than Airlangga'	Assertive (stating)	Hopefullnes: Airlangga was more careful in making statements comparing Sutan Sjahrir with Gibran. Gibran cannot be compared with Sutan Sjarir

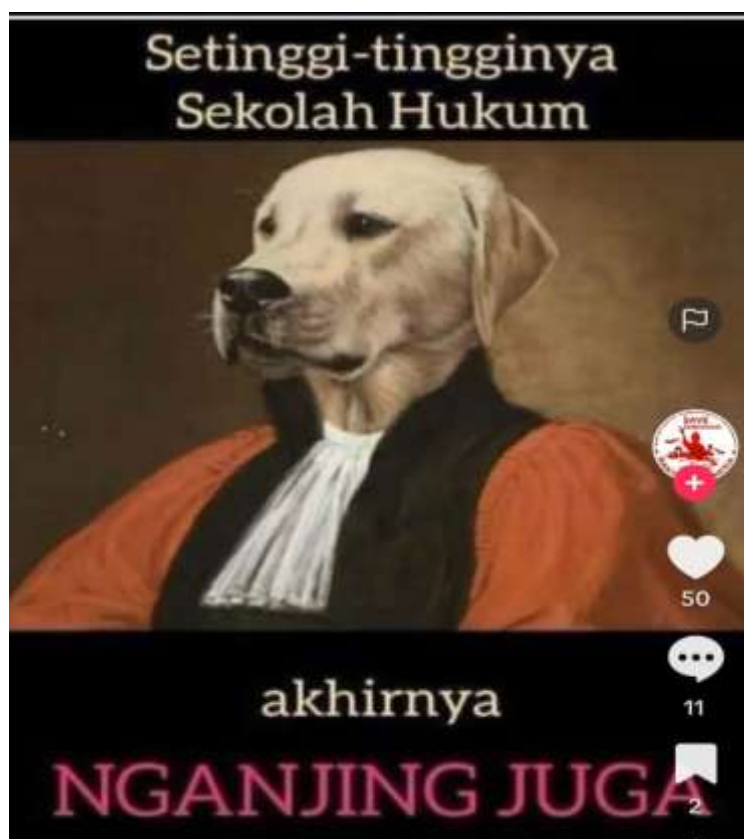
Airlangga Hartarto as general chairman of the Golkar party gave arguments regarding the nomination of Gibran Rakabuming Raka as vice presidential candidate Prabowo Subianto. Airlangga commented that Gibran was exactly like Sutan Sjahrir. The argument presented by Airlangga was that Gibran's candidacy in terms of age had no problem. Airlangga stated that Gibran was exactly like Sutan Sjahrir.

Based on several sources, Sutan Sjahrir, at the age of 36, was already Prime Minister of Indonesia. At a young age, Sutan Sjahrir's role was very important in Indonesian politics.

With this, it is possible that Airlangga Hartarto compared Gibran with Sutan Sjahrir. Airlangga's statement implicitly means that there is nothing wrong with Gibran's candidacy in terms of age. Airlangga's statement received comments from Rocky Gerung. Rocky Gerung said Gibran hasn't done anything yet. Gibran leads the Mayor of Solo and becoming Mayor of Solo is easier than leading BEM UI and UGM because the process is more complicated. Gibran cannot be compared with Sutan Sjahrir. The fault is not with Gibran but the fault with Airlangga. He is unable to see that our history is the history of the mind, not the history of the constitution. So that's why mineral water is more useful than Airlangga.

This speech includes hate speech in the form of insults towards Gibran Rakabuming Raka. This can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

Data 04



No.	Speech Act Theory		
	Locution	Illocutionary	Perlocutionary
1.	<p>Setinggi-tingginya sekolah hukum akhirnya nganjing juga</p> <p>, It's useless to study law at the highest level and finally follow the need the authorities</p>	<p>Assertive (claiming)</p>	<p>The statement in the locution is a hope that the legal knowledge that has been studied will be implemented to fight for justice, not for profit Joko Widodo's family.</p>

The Constitutional Court (MK) rejected the request the results of the 2024 Presidential and Vice Presidential Election (Pilpres) dispute proposed by Anies Baswedan-Muhaimin Iskandar (01) and Ganjar Pranowo-Mahfud M.D. (02). It is suspected that the 2024 presidential election will not be held honestly and fairly due to the intervention of President Joko Widodo.

The hopes of supporters of 01 and 03, the results of the presidential election dispute were granted but the MK rejected lawsuits 01 and 02. As a result of this

decision, one netizen was disappointed with the MK's decision. His disappointment was expressed by making the sarcasm "As high as I went through law school, I ended up sucking it." This was addressed to the judges at the Constitutional Court. The Constitutional Court judges who decide the 2024 presidential election dispute cases have doctoral and professor qualifications, but such qualifications do not guarantee that they will decide presidential election disputes with high integrity. Netizens suspect that the Constitutional Court's decision was due to government intervention. It was said that the judge "finally gave a shit" which means that the Constitutional Court judge complied with what the government wanted. Dogs have the connotation of obedient pet.

This speech includes hate speech in the form of insults towards Gibran Rakabuming Raka. This can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia. Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

5. CONCLUSION

The hate speech that has been described is in the form of hate speech which can be classified as assertive and directive illocutionary force. The form of locution is in the form of hope, and all the hate speech can be used as evidence of hate speech. This speech is regulated in Laws of the Republic Indonesia. Number 1 Year 2024 about Second Amendment to Law Number 1, Year 2008 Concerning Electronic Information and Transactions on article 27A. Every person intentionally attacks the honor of another person by accusing him of something, with the intention of making the matter known to the public in the form of electronic information and/or electronic documents carried out through an electronic system. as intended in Article 27A shall be punished with imprisonment for a maximum of 2 (two) years and/or a fine of a maximum of IDR 400,000,000.00 (four hundred million rupiah).

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IMPLEMENTATION OF GREEN BUILDING IN BALI: CHALLENGES AND OPPORTUNITIES IN SUSTAINABLE DEVELOPMENT

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ABSTRACT

The effects of global warming are now a concern for all parties and its implementation has begun to expand in almost all aspects and fields of human life, one of which is in the field of architecture and building construction. In the last decade, *green building* has become a hot topic that is often discussed by experts and has begun to be implemented in commercial and government-owned buildings and public housing. Although the application of green buildings can reduce environmental damage, not all new buildings are designed and built by applying the concept of green buildings. This is because the application of the green building concept is not easy, and besides that there are challenges and benefits of implementing the concept of green building in sustainable development. This study tries to describe the challenges that occur in the application of green building buildings and the benefits obtained in sustainable development. Data was obtained from field studies in the form of interviews with contractors, consultants, and *owners*. From the results of the interview, the challenges in realizing green building buildings are the lack of funding in building green buildings, lack of public attention to green buildings, and lack of commitment from administrative leaders to protect the environment. Meanwhile, the benefits according to the interview results are that Green Building can increase the value of building assets, reduce building operational costs, and improve the comfort and health of building users.

Keywords: green building, challenges, benefits, sustainable development

1. INTRODUCTION

The effects of global warming are now a concern for all parties and its implementation has begun to expand in almost all aspects and fields of human life, one of which is in the field of architecture and building construction. In the last decade, green building has become a hot topic that is often discussed by experts and has begun to be implemented in commercial and government-owned buildings and public housing.

Green buildings are buildings that pay attention to environmental aspects so that the building does not have a negative effect on the environment or emit emissions that are too high in emitting greenhouse effect emissions. The design of green building plans includes, among others, air circulation, managing energy and water sources, green land management, materials used and so on. The manifestation is an effort in the efficient use of energy, water and renewable energy to be one aspect of minimizing environmental damage.

One of the strategies to achieve the above is through energy efficiency in buildings. The building sector in general is the third largest energy user after the industrial and

transportation sectors and this figure will continue to increase. IESR, 2019 noted that there has been a 50% increase in electricity consumption in the last more than a decade, of which 40% of energy consumption is currently in the building sector. (BALI GOVERNOR Ruling Number 879/03-M/HK/2022)

The Bali Provincial Government began efforts to mitigate energy and environmental issues through the enactment of Governor Regulation Number 45 of 2019 concerning Bali Clean Energy. This regulation technically provides legal payment for efforts to develop and organize development that is environmentally friendly, sustainable, energy efficient and encourages the use of clean and renewable energy. Article 22 of this governor's regulation specifically regulates the adoption and development of Green Building as an effort to achieve energy savings and other natural resources in the building sector.

Green Building or Green Building is a building that is planned to reduce adverse impacts on the environment. Green Building not only has a positive impact on the environment but also provides many benefits in terms of finance, market, industry and positive impacts for users of the building. But besides that, there are challenges that hinder the application of the concept of green building. These challenges generally come from financial aspects, lack of public attention and knowledge, as well as other challenges from construction actors (Landman, 1999). Therefore, the purpose of this study is to find out how the challenges in realizing green buildings and the benefits of green buildings.

2. RESEARCH METHODOLOGY

This type of research is quantitative research which is interpreted as a research method based on the philosophy of positivism, used to examine certain populations or samples. This study aims to determine the status and phenomena that exist based on the collected data. (Sugiyono, 2012)

3. LITERATURE REVIEW

a. Understanding Green Building

Green Building or Sustainable Building is defined as a building that meets the technical standards of building buildings and has a significant measurable performance in saving energy, water, and other resources through the application of green building building principles in accordance with functions and classifications in each stage of its implementation (ps. 1 PP 16/2021 concerning UUBG Implementation Regulations).

Green buildings are buildings where from the planning, construction, operation to maintenance stages pay attention to aspects in protecting, saving, reducing the use of natural resources, maintaining the quality of indoor air quality, and paying attention to the health of its occupants who all adhere to the rules of sustainability. The development of green buildings is based on a study that shows that buildings consume 40% of building materials in the world, using 55% of wood for non-fuel use, 12.2% of total water consumption, 40% of total electricity use, producing 36% of carbon dioxide gas emissions (Hoffman & Henn, 2008). Because of the great influence on the environment, the green building movement was born which in essence is an increase in efficiency in construction projects in using resources and minimizing the negative impact resulting from the project on the environment (Retzlaff, 2008). According to PUPR Regulation Number 21 of 2021 concerning Building Performance Assessment, there are 7 criteria reviewed in green building buildings, including: 1. Site management; 2. Efficient use of energy; 3. Water use efficiency; 4. Indoor Air Quality; 5. The use of environmentally friendly materials; 6. Waste management; and 7. Wastewater management.

According to Chau et al. in Anggunmulia et al (2015), the challenges of green building can be divided into 3 categories, namely:

1. Commodity-related challenges.
 - Lack of public attention to green buildings
 - Knowledge gaps in the calculation of green building development
 - Risks and uncertainties in building green buildings
 - Lack of funding in building green buildings
 - Uncertainty of measurable benefits in realizing green buildings
2. Organizational and personal behavioral challenges.
 - Lack of incentives for investors to invest in green buildings
 - Lack of technical knowledge from project team members about green buildings
 - Lack of commitment from administrative leadership to protect the environment
 - Lack of communication between stakeholders and administrators
 - Resistance to change to build green buildings
3. Process-related challenges.
 - Lack of measurable requirements on green buildings
 - Lack of communication between project team members in building green buildings
 - Doubtful information about sustainable building methods
 - Unavailability of green products in the surrounding area

b. Benefits of Green Building

The purpose of green building development is to mitigate impacts arising from the establishment to use of a building. Thus the benefits of green building as conveyed by Utami (2017) are as follows:

1. Energy and water saving

One of the most visible benefits of *green building* is energy savings. With the use of efficient systems and renewable energy sources, green buildings can reduce energy consumption significantly.

Green buildings also generate significant water savings through technologies such as vacuum toilets. When compared to ordinary toilets that require about 6 liters, vacuum system toilets only require 0.5 - 1.5 liters of water for one use

2. Mengurangi emisi karbon

Based on the EPA report, at least buildings contribute as much as 30 percent of the world's carbon emissions. However, the concept of *green building* can minimize this impact by leaving a place for green space.

When a building has green space, it can at least help to reduce pollution and carbon emissions in the air. When CO₂ gas emissions are successfully suppressed, the problem of *global warming* can be solved.

3. Awet dan dapat dipakai hingga lama

The next benefit of green building is that it is durable. Quality green building materials certainly cause a long building life. A number of green buildings are like houses growing so that they can continue to grow.

4. Low operational costs

Buildings that apply the concept of *green building* are very likely to install solar panels. The existence of solar panels can reduce the use of electrical power by up to 10 percent every day. In addition, green buildings are also able to reduce operational costs because they are efficient in terms of water use.

Buildings are said to have implemented the concept of green building if they successfully go through an assessment evaluation process called the Rating System (Utami, 2017). In Indonesia, currently there are 2 (two) recognized rating systems prepared by the government through ministerial regulations and the Green Building Council Indonesia (GBCI).

The government's green building categorization system is differentiated based on, programming stage, planning stage, implementation stage, utilization stage and demolition stage (PUPR Regulation Number 02/PRT/M/2015).

Table 1. Comparison of Principles in Green Building Government and GBCI Version
(source: PUPR and GBCI)

No	Green Building Element	Minister of PUPR Ruling No. 21/2021	GBCI
1	Site	Site management	Appropriate site development
2	Energy	Energy use efficiency (re-use, reduce, recycle)	Energy Efficiency and Conservation
3	Water	Water use efficiency (re-use, reduce, recycle)	Water Conservation; Sub-metering
4	Air	Indoor air quality	Indoor health and comfort
5	Other materials	Use of environmentally friendly materials, Wastewater management; Waste management	Material resources and cycle
6	Management	Organization and governance	Building Environment Management

4. RESULTS AND DISCUSSION

The development of green buildings in Indonesia, especially in Bali, can be said to be slow despite the many benefits obtained. The number of green buildings in Indonesia is still very small, this is because there are challenges that hinder the realization of a green building. In Bali itself, only one green building, namely Sukawati Art Market, was built with an environmentally friendly concept (green, there is wind circulation, lighting system so it does not require air conditioning. With the issuance of Governor Regulation 45 of 2019 concerning Bali Clean Energy, followed by the issuance of Technical Guidelines for the Implementation of Green Building in the Framework of Bali Energy Implementation in Bali Province, it is gradually expected that existing buildings in Bali, especially for newly planned buildings, have adopted green buildings.

From the results of the survey conducted in terms of challenges to linkages with commodities, almost 66.7% of respondents said they strongly agreed with the lack of public attention to green buildings, 77.8% agreed with the knowledge gap in the calculation of green building development, 55.6% of respondents agreed with the risks and uncertainties in building green buildings and 55.6% said they agreed with the lack of funding in building green buildings.

In terms of organizational and personal challenges, 55.6% agreed with the lack of communication between stakeholders and administrators, and 44.4% strongly agreed with the lack of commitment from administrative leaders to protect the environment. In terms of process-related challenges, 77.8% agreed with the lack of

communication between project team members in building green buildings, 66.7% of respondents agreed with doubtful information about green building methods and 44.4% agreed with the lack of measurable requirements for green buildings.

While in terms of benefits to health and community, almost 66.7% strongly agree that it can improve the comfort and health of building users, 77.8% of respondents strongly agree that it can improve air, temperature and environmental lighting, and 77.8% strongly agree that it can contribute to improving the quality of life. Financial benefits, 55.6% said they agreed that the implementation of green buildings could increase the value of building assets, 55.6% of respondents said they strongly agreed that it could increase worker productivity, and 44.4% said they strongly agreed that it could reduce building operational costs.

As for the benefits in terms of the market, almost 44.4% of respondents agreed that it could lower promotional costs. And the benefits in terms of industry, a total of 55.6% said they agreed to open new jobs.

5. CONCLUSION

Based on the results of the research data processing mentioned above, it can be concluded that in the application of green building buildings in Bali there are still many challenges that will be faced such as the lack of knowledge and calculation of green building development. Meanwhile, in terms of benefits, most know the benefits of green building buildings on the environment. This must be a commitment from all parties, not only the government but from other stakeholders must also have a commitment in the implementation of green building in Bali, so that it can support sustainable development.

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CONSUMPTIVE BEHAVIOR AS AN INTERVENING ON THE INFLUENCE OF RELATED FACTORS ON ONLINE PURCHASE DECISIONS

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ABSTRACT

Consumptive behavior has become a bad habit for consumers, especially young consumers, and this is a phenomenon because this behavior cannot be avoided today in the midst of a lot of e-commerce, and changes in the function of social media which is a medium to advertise products that suit the account owner. Novelty in this study, on consumptive behavior variables that have two roles at once, as predictors and mediates variables that influence purchasing decisions. Variables such as lifestyle, social media advertising, financial literacy, and consumptive behavior are predictions of variables that influence consumer decisions in online shopping and how consumptive behavior variables as intervening variables among other variables used in this study. The data used in this research is primary data, sampling using purposive sampling techniques with non-probability sampling methods. Data analysis techniques in hypothesis testing use path analysis because between the independent variable and the dependent variable there is an influencing mediation. The result is financial literacy has no significant influence on online purchase decisions but lifestyle and social media ads has a significant influence on online purchase decisions. Based on the sobel test, it is known that consumptive behavior only mediates lifestyle to online purchase decisions.

Keywords: *consumptive, online_purchase, financial_literacy.*

1. INTRODUCTION

Consumptive behavior is categorized as owned by a consumer if the consumer buys goods only for pleasure even just for lifestyle and not for the fulfillment of his needs, consumptive behavior often leads consumers towards an extravagant life because what is the basis of this behavior arises because of excessive consumption. Although a consumer's purchase decision is the consumer's own personal right regardless of how the purchase activity can occur, they still have to buy wisely as a consumer.

According to research, the age of consumers with a range of 18 to 35 years still dominates online shopping activities (Vika Azkiya Dihni, 2022). The phenomenon of many young consumers is what makes social media advertising easily can be found on the sidelines of the younger generation opening social media through their devices. The appearance of this advertising is adjusted to the history of browsing activities of goods that have been carried out by consumers.

Tracking browsing activity helps social media predict the products we might be looking for cari (kompas.com, 2020). According to Ardianto (2014), the level of media use can be seen from the frequency and duration. The ease of someone accessing social media and the high frequency of using social media can be a trigger for

someone to have consumptive behavior because they are tempted by advertisements on social media.

The difficulty in controlling expenses is closely related to how consumers manage their finances. Knowledge of personal financial management is included in financial literacy. According to the 2022 National Financial Literacy and Inclusion Survey (SNLIK) from the Financial Services Authority (OJK), Indonesia's financial literacy index score reached 49.68% in 2022 (Annur, 2022). The phenomenon that occurs is in the midst of a high financial literacy index, but young consumers are currently faced with various conveniences in terms of shopping for their needs, both goods and services. In terms of the use of technology, everything becomes easy and practical because consumers no longer need to spend money and energy to go to visit existing stores, it also brings changes to their lifestyle. Shopping online can bring pleasure to young consumers so they often do not control their spending just to keep up with trends.

Consumptive behavior has become a bad habit for consumers, especially young consumers, and this is a phenomenon because this behavior cannot be avoided today in the midst of a lot of e-commerce, and changes in the function of social media which is a medium to advertise products that suit the account owner. In fact, according to Sarbani (2022), in the current digital era related to the economic ecosystem, social media should provide access for its users to be more productive, not make its users as consumptive individuals.

Novelty in this study, on consumptive behavior variables that have two roles at once, as predictors and mediates variables that influence purchasing decisions. Variables such as lifestyle, social media advertising, financial literacy, and consumptive behavior are predictions of variables that influence consumer decisions in online purchases and how consumptive behavior variables as intervening variables among other variables used in this study.

Based on the background that has been described, the problem in this study is how does lifestyle, social media advertising, financial literacy, and consumptive behavior influence online purchasing decisions? and does consumptive behavior mediate lifestyle, social media advertising, and financial literacy in online purchasing decisions?

2. RESEARCH METODOLOGY

This research belongs to the type of quantitative research based on hypothesis testing. The data used in this research is primary data, sampling using purposive sampling techniques with non-probability sampling methods. Data analysis techniques in hypothesis testing use path analysis because between the independent variable and the dependent variable there is an influencing mediation. The purpose of path analysis is to look at the direct influence and indirect influence of variables.

Sample Identification

To determine the number of respondents in the research questionnaire because the size of the existing population cannot be known with certainty, so using the Bernoulli method:

$$N = \geq \frac{\left(\frac{Z\alpha}{2}\right)^2 x p x q}{e^2} \quad (1)$$

Note Information:

N = number of samples
 α = confidence level (95%)
Z ($\alpha/2$) = Normal distribution values (1,96%)
p = probability of the population not being sampled
q = probability of population taken as sample (1-p)
e = error rate (10%)

The probability of the population not being sampled and sampled is 0.5 respectively. If the calculation is carried out using the formula above, the minimum number of samples is obtained $\geq \frac{(1,96)^2 \times 0,5 \times 0,5}{0,1^2} = 96,04$. The minimum sample size in this research was 96 respondents.

Data Type

The data used in this study is primary data collected from questionnaires in which there are instruments to measure the variables used in the study. Each instrument has a scale and in this study used a 5-point Likert Scale, each of which was given a score. The five-point Likert scale is a commonly used scale in research because it has a fairly good index of validity, reliability, strength of discrimination, and stability (Budiaji, 2013).

Structural Equations

Based on the research conducted, the structural equation for path analysis is as follows:

$$Y1 = \beta1 X1 + \beta2 X2 + \beta3 X3 + \epsilon1 \quad (2)$$

$$Y2 = \beta4 X1 + \beta5 X2 + \beta6 X3 + \beta7 Y1 + \epsilon2 \quad (3)$$

Note Information:

X1 = lifestyle

X2 = social media ads

X3 = financial literacy

Y1 = consumptive behavior

Y2 = purchase decision

$\beta1 - \beta7$ = path coefficient

$\epsilon1, \epsilon2$ = structural.

3. RELATED RESEARCH/LITERATUR REVIEW

Previous research on consumer decision-making for online purchases illustrates that there are many factors that influence online purchase decisions. Riskayanti's research (2020) found that financial literacy has a positive and significant effect on consumptive behavior. In research by Mustomi, et al. (2020) stated that there was no significant influence between social media on consumptive behavior. In contrast to the results of Richadinata's research, et al. (2021), the results of his research prove that social media affects consumer purchasing decisions, especially students. Research on lifestyle by Philip (2019) shows that lifestyle and consumptive behavior both have a significant and positive effect on purchasing decisions.

The difference with previous research is to make consumptive behavior variables as intervening or mediating variables to determine their role among lifestyle variables, social media advertising, and financial literacy on consumer purchasing decisions. Through path analysis, the independent variables in this research did not directly influence changes in purchasing decision variability.

4. RESULTS AND DISCUSSION

Test Validity and Reliability

The validity test is carried out to determine whether the instrument used is valid or not. For the purpose of instrument trials, questionnaires were given to 30 respondents first. With r table = 0.361. Test validity by comparing r count > r table

that states the question or indicator is declared valid. In addition to validity tests, reliability tests on questionnaires were also carried out. Obtained alpha value $> r$ table, which is $0.9 > 0.361$, the questionnaire in the study can be said to be reliable or consistent.

Path Analysis

The design of the path diagram model based on the theory and variables used is as follows:

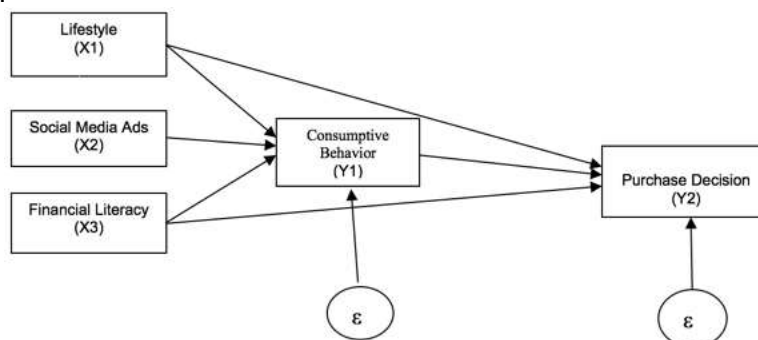


Figure 1. Path Analysis Model

The first step in path analysis is to determine that there is a significant influence on the independent variables of lifestyle, social media ads, and financial literacy on the variable of consumptive behavior.

Table 1. Coefficients of Structural Model I

Variables (Model I)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	17.492	.535		32.713	.000
Lifestyle	.379	.034	.712	11.002	.000
Social Media Ads	.093	.040	.144	2.301	.024
Financial Literacy	.059	.035	.125	1.716	.089

a. Dependent Variable: Consumptive behavior
Source: Processed primary data (2023).

Based on Table 1. The results of testing the influence of lifestyle, social media ads, and financial literacy on consumptive behavior variables are known to be only financial literacy variable whose significance is more than alpha at the level of 5 percent ($0,089 > 0,05$), this indicates that there is no significant influence between financial literacy and consumptive behavior. Other variables such as lifestyle and social media advertising had significance values less than alpha at the level of 5 percent, respectively $0,000 < 0,05$ and $0,024 < 0,05$. This means of these two variables has a significant influence on consumptive behavior.

Table 2. Coefficient of Determination of Structure Model I

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.860 ^a	.739	.731	.99830	1.907

a. Predictors: (Constant), Financial literacy, Social Media Ads, Lifestyle

b. Dependent Variable: consumptive behavior
Source: Processed primary data (2023).

The result of the coefficient of determination is 0,731. This value shows that the influence of financial literacy, social media ads, and lifestyle variables on consumptive behavior by 73,1 percent, the remaining 26,9 percent is explained by

other variables outside this research study. Based on the Adjusted R Square value in Table 2, the calculation of the standard error value is:

$$\epsilon_1 = Pe_1 = \sqrt{1-0,731} = 0,518 \quad (4)$$

Based on the results of data processing in Table 1. and the standard error value (ϵ_1), the structural equation of model I is as follows:

$$Y_1 = 0,712 X_1 + 0,144 X_2 + 0,125 X_3 + 0,518 \quad (5)$$

The results of tests that have been conducted on the influence of financial literacy variables, social media advertising, lifestyle, and consumptive behavior on online purchase decision variables are presented in Table 5.

Table 3. Coefficients of Structural Model II

Variables (Model II)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-13.594	4.537		-2.996	.003
Lifestyle	-.297	.126	-.357	-2.363	.020
Social media Ads	-.332	.101	-.329	-3.300	.001
Financial Literacy	.052	.085	.070	.614	.541
Consumptive Behavior	1.460	.249	.933	5.874	.000

a. Dependent Variable: Online Purchase Decision
Source: Processed primary data (2023).

Based on the results of Table 3, it is known that only financial literacy variable is more than alpha at the level of 5 percent ($0,541 > 0,05$). This indicates that financial literacy has no significant influence on online purchase decisions.

Table 6. Coefficient of Determination of Structure Model II

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.617 ^a	.381	.354	2.419	1.797	

a. Predictors: (Constant), Financial literacy, Social Media Ads, Lifestyle

b. Dependent Variable: consumptive behavior

Processed primary data (2023).

The result of the coefficient of determination is 0,354. This value shows that the influence of financial literacy, social media ads, lifestyle, and consumptive behavior variables on online purchase decision by 35,4 percent, the remaining 64,6 percent is explained by other variables outside this research study. Based on the Adjusted R Square value in Table IV, the calculation of the standard error value is:

$$\epsilon_2 = Pe_2 = \sqrt{1-0,354} = 0,804 \quad (4)$$

Based on the results of data processing in Table III and the standard error value (ϵ_1), the structural equation of model II is as follows:

$$Y_2 = -0,357X_1 - 0,329X_2 + 0,070X_3 + 0,933Y_1 + 0,804 \quad (5)$$

Based on the standard error values ϵ_1 (0,518) and ϵ_2 (0,804), the coefficient of determination of the total structural equation from this research model can be calculated by the following calculations:

$$R^2m = 1 - (\epsilon_1)^2(\epsilon_2)^2 \quad (6)$$

$$R^2m = 1 - (0,518)^2(0,804)^2$$

$$R^2m = 1 - (0,268) \times (0,646)$$

$$R^2m = 1 - (0,173)$$

$$R^2m = 0,827$$

The total coefficient of determination of 0,827 means that 82,7 percent of the variables used can be explained by the model formed, while the remaining 17,3 percent is explained by other variables outside the model formed.

Direct Influence

Financial Literacy has an insignificant relation on a person's consumptive behavior (P-Value>0,05). The findings explain that there may be external factors where financial literacy is not a priority for respondents. Other priorities, such as technological developments because everything in shopping activities can be done effectively and efficiently with technology so as to change consumption behavior.

While the relationship between lifestyle, social media advertising on online purchase decisions has a significant effect. Based on the result, it means lifestyle and social media ads has contribution and relation with consumer's decision on online purchasing. The constant value of the two variables is negative, negative signs indicate a non-directional relationship. The increasing influence of social media advertising accompanied by an increasing lifestyle reduces consumers' online purchase decisions, this can happen due to the factor that consumers are able to support their lifestyle from products purchased directly or offline to meet their satisfaction right away without having to wait for the product to be delivered at a certain period of time.

Financial literacy has an insignificant relationship to consumers' online purchasing decisions (P-Value>0,05), Although financial literacy is related to one's financial management which includes decisions in purchases, in this study it is not a benchmark for making an online purchase decision. Because respondents are consumers aged 18-35 years who are in high online purchase activities so that financial literacy is not their calculation when making online purchase decisions.

Indirect Influence

The indirect influence of lifestyle, social media ads, and financial literacy on online purchase decisions mediated by consumptive behavior is as follows, The amount of direct influence given by lifestyle on online purchase decisions is -0.357 while the indirect influence of lifestyle through consumptive behavior on online purchase decisions is $0.712 \times 0.933 = 0.664$. The amount of direct influence given by Social Media Ads on online purchase decisions is -0.329 while the indirect influence of Social Media Ads through consumptive behavior on online purchase decisions is $0.144 \times 0.933 = 0.134$. The amount of direct influence given by financial literacy on online purchase decisions is 0.070 while the indirect influence of financial literacy through consumptive behavior on online purchase decisions is $0.125 \times 0.933 = 0.117$. All calculations provide positive values, which means that the three variables provide positive changes in online purchase decisions from a consumptive behavior.

Mediation Variable Test

Based on the results of the sobel test, it is known that consumptive behavior only mediates lifestyle to online purchase decisions where z-score > Z-table ($3,688 > 1,64$).

5. CONCLUSION

Based on the results of the analysis and discussion, the following conclusions can be conveyed: Financial literacy has no significant influence on online purchase decisions but lifestyle and social media ads has a significant influence on online purchase decisions. Financial literacy is not factored in by consumers aged 18-35 years who are in high online purchase activities. The sample does not provide enough evidence that consumptive behavior can mediate social media advertising

and financial literacy to online purchase decisions. Only lifestyle was mediated by consumptive behavior towards online purchase decisions in this study.

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THE EXISTENCE OF TELAJAKAN IN BALI AS AN IMPLEMENTATION TRI HITA KARANA

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ABSTRACT.

Tri Hita Karana is a basic concept used by Balinese traditional people in their lives. The Tri Hita Karana concept, if studied from the basic concept of dialectical natural law, will be depicted in the form of a harmonious relationship between humans and Ida Sang Hyang Widhi Wasa (parahyangan), a harmonious relationship between humans and each other (pawongan), and a harmonious relationship between humans and their environment (palemahan). One implementation of the Tri Hita Karana teachings to preserve the surrounding natural environment is maintaining the existence of telajakan in Bali. In traditional Balinese architecture, the telajakan is part of the palemahan and in residential units, it is located in a sacred area that is full of aesthetic, security, social, and spiritual meanings. The arrangement of the telajakan is carried out by local conceptions or rules that have been in effect for generations and are generally based on Balinese cultural values. In preserving the telajakan in Bali, the function of the telajakan is one of the characteristics of local community wisdom and aesthetics. The Tri Hita Karana philosophy teaches that for humans to live happily, safely, peacefully, and in physical and spiritual prosperity, humans must maintain a harmonious relationship with the Almighty Creator, with each other, and with the natural environment. Implicitly, Tri Hita Karana contains a message for humans to manage natural resources and the environment wisely and judiciously to maintain their sustainability.

Keywords: telajakan, environment, Tri Hita Karana

INTRODUCTION

Tri Hita Karana (THK) is a basic concept used by Balinese traditional people in their lives. Tri Hita Karana, namely three harmonious relationships between humans and God/Ida Sang Hyang Widhi Wasa, humans and humans, and humans and the environment which are described by the existence of parahyangan, pawongan, and palemahan (Windia, 2010). Tri Hita Karana is basically a balanced attitude in life between worshiping God and serving fellow humans, as well as developing compassion for the natural environment (Yhani & Supastri, 2020). The Tri Hita Karana concept derives from the Tri Mandala concept which consists of: the utama mandala being the parahyangan or holy place, the madya mandala being a yard that includes a residential building and natah, while the nista mandala is the backyard of the house (teba) and the front yard of the house (telajakan) (Dwijendra, 2010).

Telajakan in traditional Balinese architecture are one of Bali's heritage which is related to landscape and cultural elements (Yudiantini, 2012). Telajakan is a piece or part of a highway or village road in front of or next to the yard of the house, including the road itself, sewers and waterways, etc. (Kaler, 1983). Telajakan not only decorates the front of house fences but also decorates public facilities such as government offices and commercial buildings (Yudiantini, 2012). Telajakan has a function as environmental aesthetics, as a transition space between residential units and the surrounding environment (Joga & Ismaun, 2011), and has a conservation function which is carried out based on cultural values in Bali (Paturusi & Diartika, 2010).

Telajakan are an important element in maintaining the existence of Green Open Space in a residential unit and can support the quality of the surrounding environment (Dewi, 2018). Green open space is a form of land use in an area designated for reforestation. The ecological function of green open space is to create a comfortable microclimate, absorb rainwater, and maintain the ecosystem. The greater the number and types of plants in a green space, the greater the green space's ability to overcome environmental problems. In addition, the presence of vegetation in green open spaces can influence microclimatic conditions, such as air temperature, air humidity, and solar radiation (Sapariyanto et al., 2016). In preserving telajakan in Bali, the function of telajakan is one of the characteristics of local wisdom of the community and aesthetics which is now given almost little attention (Setiawan et al., 2019). Based on this, the author is interested in reviewing the existence of telajakan in Bali as an implementation of Tri Hita Karana.

DISCUSSION

Tri Hita Karana and the Environment

The concept of Tri Hita Karana, if studied from the basic concept of dialectical natural law, will be depicted in the form of a harmonious relationship between humans and God (parahyangan), a harmonious relationship between humans and each other (pawongan), and a harmonious relationship between humans and the environment (palemahan) (Subagia, 2016). Every relationship has a life guideline of respecting other aspects of the surroundings. The principles of implementation must be balanced and in harmony with one another (Wiana, 2007). The Tri Hita Karana concept is a basic concept in spatial planning in Balinese buildings. The application of the Tri Hita Karana concept is also one way of implementing contextual architecture in the Bali area. The highest area is the utama mandala. On the vertical path, man's relationship with God is the highest. The relationship between humans and God is a form of gratitude for everything that has been obtained in the world. Madya mandala is the middle part of all the elements of Tri Hita Karana which anatomizes human-human relationships. Relationships between humans produce good and positive social interactions. Nista mandala is part of the Tri Hita Karana which has the lowest level of sacredness. Nista mandala philosophizes the relationship between humans and the environment and nature (Nabilah et al., 2022). According to Emil Salim, nature as a living environment has a very complex meaning, namely all objects, conditions, and influences that exist in the living space that we occupy and influence living things, including human life (Wastika, 2005).

According to their nature, humans are social creatures or creatures of society. The Balinese indigenous people as a social society, in their civilization have a concept of norms that regulate their lives since the time of the introduction of culture which is known as the Tri Hita Karana cosmology concept and is a philosophy of life that has survived to this day even though it is in the concept of social change which is always dynamic as one of its characteristics or the character of civilization. The Balinese traditional community teaches its people to uphold the Tri Hita Karana concept and implement it in everyday life (Subagia, 2016) including protecting the surrounding environment (palemahan). According to Rahmawati (2021), the aim of implementing palemahan in Balinese Hindu society is to maintain balance and sustainability between the universe and ourselves. Humans are required to maintain the sustainability and balance of nature. The palemahan concept teaches that human life is part of nature so if nature is damaged, human life will also be disturbed. With the implementation of palemahan, balance and harmony in life can be realized.

The Existence of Telajakan and Efforts to Protect the Environment

In traditional Balinese architecture, the telajakan is part of the palemahan and in residential units, it is in the nista area. Telajakan as Balinese ancestral heritage is the front garden of houses in Bali which is full of aesthetic, security, social, and spiritual meaning (Dwijendra, 2013). According to Yudiantini (2019), telajakan is a small garden located in front of a traditional Balinese residence which is between the house wall (penyengker) and the water channel (jelinjingan) while Dwijendra (2010) states that telajakan garden is a space between the angkul-angkul and the road or marga in Balinese. According to Setiawan et al., (2019), the types of telajakan include: telajakan temple, telajakan merajan, telajakan office, telajakan school, telajakan road, telajakan telabah, telajakan village, telajakan subak, telajakan castle, and so on. Physically, there are three main functions of the telajakan, namely greening the environment, maintaining environmental quality, and maintaining building boundaries for safety and comfort in managing the building and its environment.

Telajakan as a green open space is by Minister of Public Works Regulation Number 05/PRT/M/2008 concerning Guidelines for the Provision and Utilization of Green Open Space, that what is meant by green open space is an elongated area/lane and/or clustered, whose use is more open, a place growing plants, both those that grow naturally and those that are deliberately planted. Telajakan is a form of green open space that should be maintained in every residential unit. By the Instruction of the Minister of Home Affairs Number 14/1998, telajakan should function as a green open space. Telajakan, which is a form of green open space, also has a function as environmental aesthetics; as a transition space between the residential unit and the surrounding space (Dewi, 2018).

Parks in the Bali area have a high touch in terms of customs. The choice of plants is not only influenced by aesthetic factors but is also influenced by traditional functions, namely upakara and usada (Ambarani et al., 2016) as well as plants with Balinese philosophical functions (Hazrinah et al., 2016). The use of plants on telajakan gives a natural, aesthetic impression and creates a green environment (Mahardika et al., 2016). Telajakan also functions as a water catchment area. Concrete buildings make it difficult for water to seep into the ground. With the passage, the water catchment area will be maintained so that during the rainy season water seeps into the ground. Apart from that, telajakan also produces O₂ from the plants planted on the telajakan. In this way, the availability of O₂ in nature will still be balanced. Telajakan also maintains plant biodiversity because it is planted with various types of trees or other types of plants according to needs (Sarwadana & Lila, 2016). Plants on the telajakan also function as a means of controlling the microclimate (Aryadiva et al., 2019) because the presence of various types of plants causes a decrease in the surrounding temperature, sufficient humidity, and an increase in O₂ levels (Hakim, 2012).

According to Paturusi & Diartika (2010), the arrangement of telajakan along community settlements is carried out in accordance with local conceptions or rules that have been in effect for generations. The conceptions in arranging the telajakan which are generally carried out based on cultural values in Bali include: (a) supporting the function where the telajakan is located, so that it provides appropriate benefits for the place where the telajakan is located and the surrounding environment; (b) utilize natural elements in arranging the telajakan, including plants, soil, water and air; (c) there is a balance between natural elements in the arrangement of the telajakan so as to create harmony and harmony in the environment; (d) have harmony with the economic capabilities of the land owner and the social interactions that occur in the exploration area; and (e) the character created from the telajakan arrangement is based on the Tri Hita Karana concept, namely being able to harmonize the relationship between humans and God, humans and humans, and humans and the environment.

Various efforts have been made to preserve the telajakan, including (a) structuring the telajakan by applying local conceptions (local wisdom); (b) telajakan management by applying the Tri Hita Karana concept; (c) in terms of regulations and management systems, namely with the existence of village awig-

awig and perarem which regulate and protect the existence of telajakan as well as sanctions given to those who commit violations; and (d) active community participation in the arrangement and management of the telajakan (Dewi, 2018). In implementing the Tri Hita Karana concept, it is emphasized that its three elements (parahyangan, pawongan, and palemahan) must be applied in a complete and integrated manner (Subagia, 2016). Maintaining the existence of the telajakan, both in terms of its structure and function, can be said to be local wisdom that aims to maintain the existence of culture in an area (Paturusi & Diartika, 2010). Implicitly, Tri Hita Karana actually contains a message for humans to manage natural resources and the environment wisely and judiciously to maintain their sustainability (Sutawan, 2008).

CONCLUSIONS

1. The existence of telajakan in Bali has a function that has a significant influence on efforts to protect the environment, including: as a green open space, water catchment area, and microclimate controller.
2. The telajakan arrangement is carried out by local conceptions or rules that have been in effect for generations and are generally based on Balinese cultural values.
3. Telajakan is a characteristic of local wisdom and aesthetics whose existence is well maintained based on the Tri Hita Karana concept.

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