

THE DYNAMICS OF MANAGEMENT SCIENCE TRANSFORMATION: RESPONSE TO GLOBAL ECONOMIC AND GEOPOLITICAL UNCERTAINTIES

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ABSTRACT

The transformation of management science has become increasingly critical in addressing global economic and geopolitical uncertainties triggered by technological advancements, pandemics, international conflicts, and climate change. This study aims to explore the dynamics of management science transformation, particularly in the context of organizational adaptation to global challenges. Using a qualitative approach, data were collected through a literature review. The findings identify three key trends in the transformation of management science: (1) a shift from traditional methods to the adoption of digital technology and artificial intelligence, (2) a greater focus on strengthening organizational resilience in the face of uncertainty, and (3) the importance of cross-sector collaboration to drive sustainable innovation. Further discussions reveal various challenges in implementing these changes, including resistance to innovation, limited resources, and inflexible regulations. This study recommends fostering closer collaboration between academics and practitioners to create robust and relevant management models. Interdisciplinary approaches are also essential to address the complexity of global challenges. The findings contribute both theoretically and practically to the development of management science and provide strategic guidance for organizations in navigating uncertainties.

Keywords: a management science transformation, global uncertainty, organizational resilience, innovation, collaboration.

1. INTRODUCTION

In recent decades, the world has experienced increasingly complex and unpredictable economic and geopolitical changes. Rahadian (2024) identified three main challenges in current global dynamics. First, ongoing geopolitical conflicts. Second, changes in political leadership in various countries. Third, the global economic conditions are still weak, especially in large countries. Global uncertainty is increasingly evident with the prolonged impact of the Russia-Ukraine war, increasing tensions in the Middle East and the South China Sea, and general elections in more than 60 countries in 2024 involving around four billion people, including Indonesia. In addition, the global economy is still struggling to recover from the impact of the Covid-19 pandemic, with economic activity tending to be weak and growth varying across regions. These various global dynamics also affect the Indonesian economy. In the face of economic and geopolitical uncertainty, the transformation of management science becomes very crucial. These changes are triggered by technological developments, pandemics, international conflicts, and climate change, which create challenges for companies in various sectors, including changes in consumer trends, government regulations, exchange rate fluctuations, and other market dynamics. Therefore, management science needs to adapt and evolve to provide relevant and effective solutions. This study aims to examine the dynamics of management science transformation, particularly in the context of organizational adaptation to global challenges.

2. RESEARCH METODOLOGY

This study uses a qualitative approach with a literature study method and secondary data analysis. This study is exploratory, with secondary data sources, such as academic journals, and articles from trusted media that discuss economic, geopolitical, and management trends. Data collection techniques through a literature review of relevant literature, including previous research on the transformation of management science in the context of global uncertainty. This study applies qualitative analysis techniques with a content analysis approach, which aims to identify patterns, trends, and managerial strategies that emerge in the face of economic and geopolitical uncertainty.

3. LITERATUR REVIEW

Organizational resilience is one of the growing research topics and is seen as a key characteristic that enables an organization to face various challenges. Several studies have discussed and defined this concept from various perspectives, which can generally be categorized into four main perspectives: characteristics, capabilities, processes, and outcomes. The characteristics perspective assumes that organizational resilience is an attribute that is stably inherent in a company (Home & Orr, 1997; Burnard & Bhamra, 2011). The capabilities perspective views resilience as the capacity of an organization to survive in difficult conditions, maintain its position, and gain benefits from adverse situations (Kantur & Iseri-Say, 2015; Lengnick-Hall et al., 2011). Meanwhile, the process perspective views organizational resilience as a dynamic behavior that enables an organization to adapt to environmental changes (Williams & Shepherd, 2016). While the outcome perspective emphasizes the organization's ability to recover after experiencing a crisis (Sutcliffe & Vogus, 2003). Meanwhile, Li et al.'s research, 2023, emphasizes the perspective of capabilities and outcomes, where organizational resilience is understood as the company's capacity to survive, adapt, and thrive when facing a crisis, so that it is able to recover and even achieve better conditions than before.

4. RESULTS AND DISCUSSION

The transition from traditional methods to the use of digital technology and artificial intelligence (AI) has been shown to increase the efficiency, effectiveness, and competitiveness of organizations. Research shows that organizations that adopt AI in management are better prepared to face global uncertainty, more innovative, and more adaptive to market changes. The Industrial Revolution 4.0 opens up opportunities for SMEs to improve operational efficiency through technologies such as the Internet of Things (IoT), AI, and additive manufacturing. Digitalization helps optimize production, manage supply chains, and reduce costs. Big data analysis enables more effective business strategies, while digital networks expand partnerships and improve customer experiences. Technologies such as AI have transformed business operations by increasing efficiency, personalizing services, and decision-making. Case studies in the automotive, health, and agricultural sectors show the adoption of Era 5.0 technology to create added value and maintain competitiveness. However, challenges such as data security, implementation costs, and organizational adaptation remain. This article emphasizes the importance of cross-sector collaboration, investment in human resource development, and ethical awareness in facing the challenges of a more technologically connected society (Mardiana et al, 2024; Maria et al, 2024). However, to maximize its benefits, organizations need to overcome implementation challenges, improve HR digital literacy, and build clear ethical and regulatory systems in the use of AI.

Strengthening Organizational Resilience in the Face of Uncertainty

A study conducted by Li et al (2023) provides theoretical and managerial implications for companies to develop organizational resilience to deal with the adverse impacts of emergencies. The six conditions explored in the study that can influence organizational resilience are: - Manager self-efficacy (cognitive factor) - Mindful

organizing (cognitive factor) - Explorative innovation (behavioral factor) - Exploitative innovation (behavioral factor) - Bonding social capital (contextual factor) - Bridging social capital (contextual factor) The three configuration modes identified for high organizational resilience are: - Exploratory configuration - Ambidextrous configuration - Defensive configuration. The study found that various combinations of these six conditions can lead to high organizational resilience, which can be classified into these three broad modes or pathways.

Abubakar and Aulia's (2023) research aims to measure organizational resilience and identify aspects that need to be improved to increase organizational resilience. This study builds a measurement instrument from 5 aspects of resilience capabilities (physical, mental, emotional, spiritual, and intelligence) and 1 additional aspect of resilience knowledge. Measurements were conducted through a survey with a purposive sampling approach to leaders in 3 groups of organizations facing digital disruption - management consultants, corporate universities, and universities. The measurement results show that the majority of respondents have above-average resilience levels, although only 50% of respondents have sufficient knowledge of resilience. This condition occurs because the organizational culture that is in line with the resilience capability aspect has been well internalized. The measurement instrument built, measurement methods, and presentation of resilience measurement results in this study are new. The measurement results will be input for respondent organizations in increasing their resilience.

The Importance of Cross-Sector Collaboration to Drive Sustainable Innovation.

The main focus of Utomo and Harjono's (2021) research is on the importance of building a multi-party collaborative platform as a key driving factor in developing an innovation ecosystem for Industry 4.0 in the new normal era. The recommended policy in preparing for Industry 4.0 is to take a multi-party collaborative approach to facilitate development, including pooling digital transformation initiatives so that limited resources can be optimized. This suggests that as a form of soft industrial policy, a platform organization is needed as a sustainable program manager and provider of technical facilities and emphasizes the need to prepare driving technology that can be utilized by all cross-sectoral digital economy actors in an affordable manner.

The role of Human Resources (HR) is very important to manage and maintain human resources, which are important assets for organizations Aula et al (2022). Effective HR helps organizations achieve their goals efficiently by ensuring the availability of competent human resources, utilizing them effectively, and aligning individual/group goals with organizational goals. The main roles of HR in enhancing organizational resilience include: (1). Implementing strategic HR policies, programs, and practices that support organizational resilience; (2) Fostering constructive and caring leadership that supports employee well-being and resilience; (3) Prioritizing employee well-being, mental health, and creating a sense of belonging among employees; (4) Providing training and development programs to enhance employee resilience and innovative capabilities; (5) Forming diverse teams with different backgrounds and cultures; (6) Collaborating with all organizational stakeholders. In short, Aula et al (2022) research highlights the important role of HR in building organizational resilience by managing and developing human resources effectively, supporting employee well-being, and fostering an environment that allows organizations to adapt and thrive in the face of uncertainty and crisis.

5. CONCLUSION

The transition to digital technology and AI increases the efficiency, effectiveness, and competitiveness of organizations, especially in operational optimization and decision-making. However, challenges such as data security and implementation costs need to be addressed. Cross-sector collaboration and investment in human resource development are essential to support this transformation. Factors such as manager efficacy, innovation, and social capital also play a role in organizational

resilience. The role of human resource management in supporting employee well-being, training, and constructive leadership is crucial to dealing with uncertainty and crises.

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