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The Role of Dynamic Managerial Capability in Driving Digital HR Transformation and Sustainable Development Goal Achievement (SDGs)

Patricia Herpayanti Rajagukguk¹, Jonson Rajagukguk², Nalom Siagian³¹Universitas HKBP Nommensen, Medan, Indonesia, patricia.herpayanti@uhn.ac.id²Universitas HKBP Nommensen, Medan, Indonesia, jonson.rajagukguk@uhn.ac.id³Universitas HKBP Nommensen, Medan, Indonesia, nalom.siagian@uhn.ac.idCorresponding Author: patricia.herpayanti@uhn.ac.id¹

Abstract: Digital transformation has fundamentally changed how organizations manage human resources (HR) and demands that organizations possess managerial capabilities that can integrate technology, people, and sustainability strategies. The research gap in this study lies in the limited empirical studies that integrate Dynamic Managerial Capability (DMC), Digital HR Transformation, and Sustainable Development Goal (SDG) achievement into a coherent causal framework. This study aims to analyze the role of DMC in driving Digital HR Transformation and its contribution to SDG achievement. Using a qualitative literature review method, this study synthesizes research related to dynamic capabilities, digital human resource management, digital transformation, and sustainable HRM. The results show that DMC through sensing, seizing, and reconfiguring capabilities serves as a driving force in identifying digital opportunities, allocating resources, and adjusting organizational processes and competencies. Digital HR Transformation integrates AI, Big Data, HR analytics, automation, and digital systems to increase efficiency, productivity, innovation, and organizational adaptability. Furthermore, this transformation has the potential to support SDG achievement through competency development, decent work, innovation, equality, and sustainable organizational practices. The novelty of this study lies in proposing a conceptual framework that integrates the individual managerial level (DMC) with the organizational transformation level (Digital HR) and the societal sustainability level (SDGs) into a coherent causal chain, explaining why organizations with similar technology investments achieve different sustainability outcomes depending on their managerial capability profiles.

Keyword: Dynamic Managerial Capability, Digital HR Transformation, Digital Human Resource Management, Sustainable Development Goals, Sustainable HRM

INTRODUCTION

Digital transformation has become a significant shift in the development of modern organizations. The advancement of artificial intelligence (AI), big data, cloud computing, data analytics, and various digital platforms has transformed the way organizations conduct business activities and manage human resources. Digital transformation has become a strategic

agenda for organizations facing increasingly complex, dynamic, and technology-driven business environments (Teece, 2007).

Human Resource Management (HRM) no longer merely performs administrative functions such as payroll, employee administration, and recruitment, but has evolved into a strategic function that utilizes digital technology to support decision-making, competency development, talent management, employee experience, and organizational agility. Recent literature indicates that Industry 4.0 technologies have the potential to transform HRM into a strategic enabler for sustainable development. HR digitalization is no longer understood merely as the use of software in personnel administration, but as a transformation process that changes processes, practices, competencies, and the way organizations manage human resources (Strohmeier, 2020).

This transformation is increasingly important as organizations today face dynamic and uncertain business environments. Rapid technological change demands that organizations possess the ability to recognize change, make quick decisions, and adapt organizational resources and processes. Digital HR transformation has increasingly strong relevance to the sustainability agenda because HR decisions and practices are directly related to work quality, competency development, employee well-being, inclusiveness, productivity, and resource efficiency. Therefore, digital HR transformation is linked to several SDGs, particularly SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 12 (Responsible Consumption and Production).

The concept of Dynamic Managerial Capability (DMC) is relevant in explaining these capabilities. DMC describes a manager's ability to influence strategic change by utilizing their knowledge, experience, cognitive abilities, and social relationships. This capability enables managers to sense, seize, and reconfigure in response to environmental changes. In the context of digital transformation, managerial capability is crucial because transformation requires not only decisions about technology, but also changes to organizational structure, work processes, employee competencies, and organizational culture (Adner & Helfat, 2003).

This study aims to analyze the development of literature on Dynamic Managerial Capability in driving Digital HR Transformation and its contribution to the achievement of Sustainable Development Goals. Specifically, this study seeks to answer: (1) how has research on DMC and Digital HR Transformation developed?; (2) what is the relationship between Digital HR Transformation and SDG achievement?; (3) what is the role of DMC in driving digital HR transformation?; and (4) how can the conceptual relationship between DMC, Digital HR Transformation, and SDG Achievement be developed based on existing research?

METHOD

This study employs a qualitative literature review method to examine the role of Dynamic Managerial Capability in driving Digital HR Transformation and Sustainable Development Goal (SDGs) achievement. This approach enables the synthesis of existing knowledge from multiple scholarly sources, identification of dominant themes, conceptual relationships, and research gaps in the literature.

The literature review was conducted systematically by searching academic databases including Scopus, Web of Science, and Google Scholar using keywords such as 'Dynamic Managerial Capability,' 'Digital HR Transformation,' 'Digital Human Resource Management,' 'Sustainable Development Goals,' and 'Sustainable HRM.' Selected articles were analyzed thematically to identify conceptual relationships and research developments relevant to the three core constructs examined in this study.

RESULTS AND DISCUSSION

Dynamic Managerial Capability

Dynamic Capability Theory (DCT) explains an organization's ability to integrate, build, and reconfigure internal and external competencies in the face of a rapidly changing environment. Dynamic capabilities relate to an organization's ability to sense change, seize opportunities, and reconfigure its resources and routines. In the context of digital transformation, DCT becomes relevant because digital technology causes changes in business processes, organizational structures, workforce competencies, and decision-making patterns. Therefore, the success of digital transformation is determined not only by technology ownership, but also by the organization's ability to integrate that technology into its processes and resources (Teece, Pisano, & Shuen, 1997).

Dynamic Managerial Capability (DMC) is the ability of individual managers to utilize, develop, combine, and reconfigure organizational resources in response to environmental changes. The concept of DMC is important because technological change often creates uncertainty, new competency requirements, and changes in organizational processes and structures. DMC has three main mechanisms: (1) Managerial Sensing Capability — the ability of managers to identify changes, opportunities, threats, and environmental developments that can affect the organization; (2) Managerial Seizing Capability — the ability to capture and utilize opportunities identified through the sensing process; and (3) Managerial Transforming — the ability to make changes and reconfigure the organization's resources, structures, processes, and practices to suit the demands of the new environment (Adner & Helfat, 2003; Helfat & Martin, 2015).

The literature also identifies three main components of DMC: managerial human capital, managerial social capital, and managerial cognition. Managerial human capital reflects the knowledge, experience, education, skills, and competencies possessed by managers. In the context of digital HR transformation, this is important because managers must understand not only HRM principles, but also developments in digital technology including Artificial Intelligence, HR Analytics, Cloud-based HR, Digital Recruitment, Digital Learning, Employee Analytics, and Automation. Managerial social capital relates to managers' networks, relationships, communication, and access to information and resources through social relationships. Managerial cognition relates to how managers understand, interpret, and give meaning to environmental changes (Helfat & Martin, 2015).

DMC at the organizational level focuses on the managerial level, which must be able to mobilize the organization to carry out sensing, seizing, and reconfiguring, so that it can provide real decisions and actions for change in the organization. This framework positions DMC as the critical link between environmental sensing and organizational response, making it especially relevant in contexts of rapid technological disruption such as digital HR transformation.

Digital HR Transformation

The development of Industry 4.0 has brought fundamental changes to the way organizations conduct business activities, including in human resource management. Digitalization, characterized by the increasing use of Artificial Intelligence (AI), Big Data, the Internet of Things (IoT), cloud computing, robotics, and various other digital technologies, encourages organizations to build work ecosystems that are increasingly connected, automated, data-driven, and capable of providing real-time information. These changes not only increase the efficiency of organizational processes but also create new demands on the HRM function to adapt processes, competencies, and workforce management systems to the digital environment (Strohmeier, 2020; Thite, 2022).

The implementation of Digital HR demonstrates that technology can transform HR activities that were previously manual, repetitive, and time-consuming into more automated, faster, and information-driven processes. The use of AI, cloud computing, digital job boards, social media, online interviews, and digital performance management systems allows various HR processes to be more integrated. AI-based systems can help screen candidates based on suitability to job requirements, while cloud systems enable organizations to manage data such as performance history, complaints, and leave more systematically (Thite, 2022).

Dynamic Managerial Capability (DMC) plays an important position in driving Digital HR. Managers play a role in determining the direction of transformation, allocating resources, developing workforce competencies, overcoming resistance to change, and ensuring that technology use is aligned with organizational objectives. Leadership ability in digital strategy becomes part of managerial capability that allows technological knowledge to be connected with organizational objectives, resources mobilized, and cultural change managed effectively. Thus, DMC functions as a mechanism that allows organizations not only to adopt Digital HR technology, but also to integrate, develop, and reconfigure technology so that it is appropriate to the organization's continuing needs (Helfat & Martin, 2015; Teece, 2007).

In Digital HR, recruitment systems, performance management, training, competency development, personnel administration, employee analytics, and decision-making systems need to be connected to broader organizational systems. When various HR data sources can be integrated, organizations have a greater ability to produce consistent information and support data-driven decision-making. Conversely, technology implemented without integration can result in fragmented systems that fail to deliver optimal strategic benefits. Building integration capability requires cross-departmental coordination, appropriate system architecture, and leadership support capable of creating an organizational culture that is open to technological change (Strohmeier, 2020).

The integration of Digital HR with Dynamic Managerial Capability can generate value creation for organizations. Integration capability enables organizations to transform technology investments into tangible benefits in the form of operational efficiency, innovation, information transparency, improved decision quality, and competitive advantage. From a Resource-Based View perspective, this value does not come solely from the technology itself, but rather from the organization's ability to combine technology with specific knowledge, competencies, processes, and routines (Barney, 1991; Teece, 2007).

Sustainable Development Goal Achievement (SDGs)

Digital transformation in human resource management is not only oriented towards improving organizational efficiency and productivity, but also has wider implications for organizational sustainability and the achievement of the Sustainable Development Goals (SDGs). The SDGs agenda positions organizations as important actors in realizing sustainable development through a balance between economic, social, and environmental dimensions. In this context, HRM holds a strategic position because human resources are the actors who run, develop, and maintain various sustainability practices within organizations (Ehnert, Harry, & Zink, 2014).

The connection between HRM and SDGs becomes more important as organizations enter the digital era. Digital transformation enables HR functions to develop more integrated, data-driven, transparent, and adaptive workforce management systems. Digital HRM and Green HRM are increasingly developed as part of a Sustainable HRM framework oriented towards achieving the SDGs. By combining digital technology and sustainability-oriented HR practices, organizations can develop human resource management systems that not only increase organizational performance, but also provide contributions towards broader social and environmental agendas (Sharma, Leung, Kingshott, Davcik, & Cardinali, 2021).

The integration of digital technology into HR functions enables organizations to improve the quality of HR processes while simultaneously directing people management practices to better support sustainability outcomes. Research in the banking sector in developing countries shows that AI and Big Data Analytics influence digital transformation and SDG achievement, but organizational digital transformation is the strongest predictor of SDG achievement. These findings demonstrate that the mere presence of technology is not enough; technology must be translated through changes in processes, culture, digital integration, and strategic alignment to generate sustainability impact (Atieh et al., 2023).

The Role of DMC in Digital HR Transformation

Based on the literature review, DMC plays a central role as a driver of Digital HR Transformation through its three core mechanisms. Through Managerial Sensing, managers can identify technological opportunities and threats in the digital environment, enabling organizations to recognize which digital HR technologies are most relevant to their strategic context. Through Managerial Seizing, managers translate sensing insights into concrete resource allocation decisions, technology investment priorities, and organizational change initiatives. Through Managerial Transforming/Reconfiguring, managers orchestrate the reorganization of HR processes, competencies, culture, and systems to ensure that digital technologies generate strategic value rather than merely operational efficiency (Adner & Helfat, 2003; Helfat & Martin, 2015).

The literature indicates that DMC is particularly critical in overcoming the barriers to digital HR transformation. Organizations frequently encounter resistance to change, limited digital competency among the workforce, weak data integration, and misalignment between digital strategy and human resource strategy. Managers with high DMC are better positioned to manage these barriers by developing shared digital vision, building coalitions for change, developing digital learning programs, and aligning technology investments with organizational capability development (Teece, 2007).

Digital HR Transformation and SDG Achievement

The analysis of the literature reveals multiple pathways through which Digital HR Transformation supports SDG achievement. Digital HR supports SDG 4 (Quality Education) through digital learning platforms, e-training, competency development systems, and AI-driven personalized learning that expand access to quality education and training for employees across organizational levels and geographic locations. SDG 5 (Gender Equality) is supported through digital recruitment systems that reduce bias in candidate screening, transparent performance management that supports equal opportunity for advancement, and digital flexibility mechanisms that support work-life balance and female workforce participation (Sharma et al., 2021).

SDG 8 (Decent Work and Economic Growth) is supported through digital HR systems that improve work quality, productivity, and employee well-being, while SDG 9 (Industry, Innovation and Infrastructure) is advanced through organizations' digital HR investments in innovation capability. SDG 10 (Reduced Inequalities) is addressed through digital platforms that reduce information asymmetries and expand access to organizational resources across employee groups. However, realizing these SDG contributions requires that Digital HR transformation be guided by strategic intent and supported by DMC: technology alone does not automatically generate sustainability outcomes; they depend on management's ability to align digital investments with sustainability goals (Atieh et al., 2023; Ehnert et al., 2014).

Conceptual Framework: DMC → Digital HR → SDG Achievement

Based on the synthesis of the literature, this study proposes a conceptual framework in which Dynamic Managerial Capability functions as the driver, Digital HR Transformation functions as the mechanism of change, and SDG Achievement functions as the sustainability outcome. DMC provides the organizational sensing, seizing, and reconfiguring capacity necessary to guide digital transformation in a strategic direction. Digital HR Transformation provides the specific technological, process, and competency mechanisms through which organizations integrate people management with digital systems. The resulting transformation then generates sustainability contributions across multiple SDG dimensions, with the quality and scope of those contributions depending on the depth of integration between technology, people, strategy, and culture.

This framework extends existing literature in three directions. First, it integrates the individual managerial level (DMC) with the organizational transformation level (Digital HR) and the societal sustainability level (SDGs) into a coherent causal chain. Second, it highlights the mediating role of Digital HR Transformation between managerial capabilities and sustainability outcomes. Third, it suggests that DMC moderates the relationship between technology adoption and SDG achievement, explaining why organizations with similar technology investments achieve different sustainability outcomes depending on their managerial capability profiles. This constitutes the primary novelty of this study that distinguishes it from prior research.

CONCLUSION AND SUGGESTION

Conclusion

Dynamic Managerial Capability (DMC), Digital HR Transformation, and Sustainable Development Goals (SDGs) have a mutually related relationship. DMC plays a role as an enabling driver for managers to perform *sensing*, *seizing*, and *reconfiguring* in the face of technological and environmental change. This capability is crucial because digital HR transformation requires not only technology, but also changes in processes, workforce competencies, structure, and organizational culture.

Digital HR Transformation transforms the HR function from an administrative activity into a more strategic, data-driven, integrated, and adaptive function through the use of AI, cloud computing, HR analytics, and automation. However, the success of the transformation is not only determined by technology, but also by workforce competence, data governance, integration capability, and digital leadership. From a sustainability perspective, Digital HR has the potential to support the achievement of SDGs 4, 5, 8, 9, 10, and 12 through competency development, increased productivity, equal opportunities, innovation, well-being, and more sustainable work practices.

This study confirms that DMC is the driver, Digital HR Transformation is the mechanism of change, and SDG Achievement is the sustainability outcome. The integration of the three shows that Digital HR transformation should not be viewed merely as the digitization of HR processes, but as a strategic capability that enables organizations to create economic, social, and environmental value and contribute to the achievement of the SDGs.

Limitations

This study has several limitations. First, it employs a qualitative literature review method, so findings are conceptual in nature and have not yet been empirically tested. Second, the study examines a limited set of variables, and other factors may potentially influence the relationships between constructs. Third, the research approach does not fully capture the dynamics of change that occur over the long term. Therefore, the results of this study should be interpreted within its defined research scope.

Suggestion

Future research should empirically test the proposed conceptual framework using quantitative methods and multi-industry samples to validate the causal relationships identified in this literature review. The use of analytical methods such as Structural Equation Modeling (SEM) or longitudinal approaches can provide a deeper understanding of the dynamics between DMC, Digital HR Transformation, and SDG achievement.

Author Contributions

All authors contributed significantly to this research. Contributions include research conceptualization, theoretical framework development, data collection, data analysis, results interpretation, manuscript writing, scientific revision, and final approval of the manuscript to be published. All authors declare that they have read and approved the final version of the article.

AI Disclosure Statement

The authors declare that this research manuscript was independently prepared, researched, written, and developed without the use of artificial intelligence (AI) technology or techniques.

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