

Digital Transformation Model and the Role of HR in Indonesian MSMEs

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ABSTRACT

This study looks into how important human resources (HR) are to Indonesia's Micro, Small, and Medium-sized Enterprises (MSMEs) as they embark on a digital transformation. The study uses a quantitative method with a sample of 568 participants and focuses on the impact of staff skills, digital strategy, employee retention, and satisfaction. The findings indicate that there are complex interactions at play: employee skills show a negative correlation with the speed at which digital transformation is occurring, but employee retention, satisfaction, and digital strategy have a beneficial impact on both digital transformation and competitiveness in the global market. The study gives HR professionals useful insights and draws attention to the complex factors that will determine MSMEs' digital future. This study adds to the growing body of knowledge on HR and digital transformation by offering insightful recommendations for businesses attempting to navigate the challenging terrain of the Fourth Industrial Revolution.

Keywords: Digital Transformation HR, MSMEs Indonesia

INTRODUCTION

The backbone of the global economy, micro, small, and medium-sized enterprises (MSMEs) play a major role in employment, innovation, and economic growth. Digital transformation has become a vital catalyst for organizational success in an ever-changing corporate landscape. The incorporation of digital technologies into all facets of corporate operations highlights the transformative process's dynamics, which are transforming how companies function, engage with clients, and attain a competitive edge (Putritamara et al., 2023; Suwanto et al., 2022).

Human Resources (HR) are becoming a strategic cornerstone in this shifting environment, guiding businesses through the opportunities and problems brought about by digital transformation (Cooke et al., 2005; Mathis & Jackson, 2016). HR specialists are no longer restricted to traditional administrative positions; rather, they are now essential in helping to prepare employees for the digital age and coordinating HR plans with the organization's overall digital goals (Sari & Kusumawati, 2022).

An investigation into the complex effects of HR practices in this revolutionary journey was spurred by the critical role that HR played in the digital transformation of MSMEs (Nurani et al., 2020; Sari & Kusumawati, 2022). As digital transformation progresses, employees need to acquire new skills to adapt to the changing work environment (Khair & Malhas, 2023; Qin et al., 2022). Managers consider it essential to have a clear digital strategy and implement proper training initiatives for acquiring and maintaining digital skills within the organization (Kuhn et al., 2021; Sari & Kusumawati, 2022). A comprehensive digital transformation skills framework includes digital working skills, entrepreneurial skills, collaboration skills, communication skills, lifelong learning skills, and evidence-based working skills (Sivaraman, 2020; Sousa & Rocha, 2019a). A well-defined digital strategy is crucial for guiding organizations through the digital transformation process (Lestari, 2022; Phiri, 2020). HR professionals play a strategic role in ensuring that the human capital is skilled and

knowledgeable to meet the digitalization needs of the present and future (Lemon & Palenchar, 2018; Paais & Pattiruhu, 2020). The development of a digital HR strategy is necessary for managing the digital transformation of personnel management (Ostmeier & Strobel, 2022).

The digital transformation can impact employee retention, as it requires rapid changes in the workplace and the acquisition of new skills (Zhang et al., 2022). HR professionals need to focus on creating learning and training programs to help employees adapt to the new technologies and work methods (Kuhn et al., 2021; Sivaraman, 2020). This will not only help in retaining employees but also ensure that they are equipped with the necessary skills to contribute to the organization's digital transformation (Dabke, 2016; Triolita & Budiyanto, 2022; Viator, 2001).

The rapid changes brought about by digital transformation can affect employee wellbeing and satisfaction. HR professionals need to be aware of the potential risks associated with these changes and work towards creating a supportive work environment that fosters adaptability, resilience, and openness to change (Lang et al., 2016; Pan & Seow, 2016; Qin et al., 2022; Sousa & Rocha, 2019b; Viator, 2001; Zhao & Huang, 2022).

With its diverse culture and strong entrepreneurial culture, Indonesia offers a fascinating context for analyzing the intricate relationship between HR and digital transformation in the MSME industry. The success of micro, small, and medium enterprises (MSMEs) in Indonesia is contingent upon their capacity to fully utilize digital technology, which are becoming an indispensable component of company operations (Arie & Fikry, 2021; Kilay et al., 2022; Suliswanto & Rofik, 2019). The worldwide trend towards increased connectivity, automation, and data-driven decision-making highlights the necessity for MSMEs to negotiate the digital environment (Modau et al., 2018; Phiri, 2020). The idea of urgency is becoming more and more important in the dynamic, fast-paced world of modern enterprises. Decision-making procedures are influenced by urgency, which also changes workplace dynamics and organizational results. The goal of this study is to better understand the subtleties of urgency in an organizational setting, both as an internal force that fosters creativity, productivity, and adaptation, as well as a response to external pressures. The need for this urgent research stems from the realization that companies of all sizes and in all industries work in a world of unparalleled complexity and speed. The sense of urgency has grown as a permanent backdrop in organizational life due to a never-ending assault of technical developments, global competitiveness, and societal shifts. Being able to comprehend urgency is essential for both organizational survival and competitive advantage.

The motivation behind this study is due to the paucity of prior research that thoroughly examines urgency in all of its forms. Being a non-uniform force, urgency takes on diverse forms in various industries, organizational structures, and cultural contexts. Analyzing the dimensions, triggers, and repercussions of urgency is essential to navigating its obstacles and seizing its chances.

Given the increasing importance of digitalization in maintaining competitiveness and relevance, it is crucial to comprehend the various ways that HR practices influence MSMEs' development in the digital era. In order to explain how employee skills, retention, digital strategy, and satisfaction all work together to accelerate digital transformation and, in turn, affect a company's ability to compete in the global market, this research examines the relationship between HR and digital transformation.

Fundamentally, the urgency of this research arises from the vital requirement to provide knowledge that extends beyond theoretical discourse to HR practitioners, business executives, and policy makers. The need for MSMEs to manage the digital ecosystem with sagacity, resilience, and strategic foresight is not just academic; it is a call to action. The goal of this study is to offer timely and pertinent insights that MSMEs may use as a guide to navigate the challenges of the digital transformation.

Literature Review

a. Digital Transformation in MSMEs

The multifaceted process of digital transformation entails incorporating digital technologies into every facet of an organization. Due to their limited resources, MSMEs encounter particular difficulties when going through this transition (Nurani et al., 2020; Sari & Kusumawati, 2022). According to research by (Westerman et al., 2014), cultural changes and organizational-wide strategy alignment are just as important for a successful digital transformation as technology advancements.

The creation of business centers is one method for aiding MSMEs in their digital transformation process. These business centers can assist MSMEs in overcoming obstacles encountered throughout the transformation process and encourage them to go digital (Indriastuti & Kartika, 2022; Karr et al., 2020). Furthermore, it is critical to take into account both internal and external elements, such as organizational culture, administrative obstacles, and the accessibility of technology resources, that have an impact on MSMEs' digital transformation process (Iskandar & Kaltum, 2022).

In summary, MSMEs' digital transformation is a challenging process that calls for organizational and cultural shifts in addition to technology improvements. It's critical to take into account both internal and external aspects while assisting MSMEs with their digital transformation journey and to provide the tools and resources they need, like business centers and government programs.

b. HR's Strategic Role in Digital Transformation

The foundation for comprehending the strategic role of HR in organizational performance is provided by (Wright & McMahan, 1992) grand theory of strategic HR management. According to this thesis, organizations will function better when HR procedures are in line with business strategy. When it comes to MSMEs going through digital transformation, HR plays a critical strategic role.

By facilitating the development of firm-specific competencies and creating connections between organizational strategic goals and HR initiatives, HR systems can give businesses a sustained competitive edge (Cooke et al., 2005; Mustafa et al., 2018).

HR competencies are critical in MSMEs' context for favorably impacting organizational performance (Tampubolon, 2022). HR specialists must adjust and create new tactics when MSMEs go through a digital revolution in order to properly manage the workforce (Purwanti et al., 2022; Putritamara et al., 2023). This involves educating staff members about financial transaction applications, product innovation, digital marketing, and creativity through initiatives run by the government and other industry associations (Suwanto et al., 2022).

HR digital transformation can challenge preexisting skills and expertise, expedite production processes, and alter the human workforce, all of which could endanger employee well-being (Agyeman & Ponniah, 2014; Campos, 2021; Iskandar, 2022). In order to create policies that are most appropriate for the company, HR

professionals must take a more proactive approach to studying business trends, risks, problems, and opportunities in sustainability (Y. S. Chen et al., 2023; Flamini et al., 2022; Hooi, 2014).

To put it briefly, the success of a business depends on the strategic role that HR plays in MSMEs going through digital transformation (Flamini et al., 2022). To achieve outstanding organizational performance, it is imperative to develop HR competences, align HR practices with business strategy, and adjust to the digital transition.

c. Employee Skills and Digital Transformation

The effectiveness of the digital transformation process depends heavily on the capabilities of the workforce. According to (Barney, 1991) Resource-Based View (RBV) thesis, precious, uncommon, and unique resources are the source of long-term competitive advantage. Employee talents are precisely that resource in the digital age. (Avgerou & McGrath, 2007) study emphasizes how crucial it is to fund employee training in order to improve digital skills.

Several studies that highlight the importance of ongoing staff skill development, particularly in the context of digital transformation, lend support to this (Khair & Malhas, 2023; Luo et al., 2021; Sari & Kusumawati, 2022). Two study, for instance, focused on the relationship between staff competency development and innovation implementation in the hotel industry (Abolnasser et al., 2023; Nikolova et al., 2019).

To better fulfill labor market demands, educational institutions should prioritize the development of social and emotional skills in addition to technical qualifications, according to a study on the role of higher education in balancing skills in the age of digital transformation (Fachrunnisa et al., 2020; Galindo-Martin et al., 2019; Meraghni et al., 2021).

The role that employee empowerment and absorption play in digital transformation is equally crucial in the context of SMEs (Amah & Oyetuunde, 2020; Pittino et al., 2016). Adapting to new procedures or technologies requires not only the acquisition of specialized technology skills but also the establishment of an appropriate organizational framework that fosters empowerment, knowledge generation, and sharing (Aini et al., 2022).

In summary, the effectiveness of digital transformation operations is greatly dependent on the capabilities possessed by employees. Enhancing digital capabilities and gaining a lasting competitive advantage require investing in employee training and establishing an organizational culture that values empowerment and ongoing learning.

d. Digital Strategy and Transformation Acceleration

(Teece, 2007) dynamic capabilities theory and the resource-based view (RBV) provide the framework for comprehending the impact of digital strategy. According to this hypothesis, businesses that possess dynamic capabilities—such as the capacity for innovation and adaptation—are more likely to establish a long-lasting competitive advantage. Well-thought-out digital strategies for MSMEs develop into dynamic capabilities that influence the success and speed of digital transformation (Putritamara et al., 2023).

MSMEs can maintain their operations and adjust to shifting market conditions thanks to this transition. When it comes to MSMEs in Indonesia, for instance, the vast majority of them opt to conduct business online using platforms like Facebook, Instagram, and WhatsApp (Andhyka et al., 2023; Kadarisman, 2019).

MSMEs should think about integrating knowledge management and dynamic capabilities into their organizational processes in order to successfully implement digital transformation (Arsawan et al., 2020, 2022; Roxas & Chadee, 2016). Goal management and MSMEs' ability to adjust to a changing and unpredictable environment can both benefit from this convergence (Putritamara et al., 2023; Santos et al., 2022). To achieve successful digital transformation, MSMEs should also concentrate on creating their digital strategy, using industry 4.0 practices, and acquiring cutting-edge technologies (Anshari & Almunawar, 2022; C.-L. Chen, 2019; Matt & Rauch, 2020).

e. Employee Retention and Digital Transformation

Employee retention in the context of digital transformation can be better understood via the lens of Meyer and Allen's grand theory of organizational behavior (Hackett et al., 1994; Jaros, 1997). According to this hypothesis, when workers feel that a business has a positive culture and their own beliefs align with the corporation's, they are more likely to stay with the company (Martdianty, 2018; Pittino et al., 2016). Maintaining such a positive culture becomes essential to keeping important talent in the digital age, where change is constant (Chandani et al., 2016; Kurdi et al., 2020; Presbitero et al., 2016).

Beyond work-related attitudes, a department with a strong work-family culture may see improvements in employee engagement, pride in the company, trust in management and leadership, and intention to stick around (Lee et al., 2014; Susanto et al., 2022, 2022). Furthermore, retention, inventiveness, and career aspirations are all significantly enhanced by strategic leadership techniques that prioritize employee development, communication, and empowerment (Kalliath et al., 2013; Sharma et al., 2016). Leaders that facilitate growth and career routes, include staff members in decision-making, and provide regular feedback and recognition are likely to foster higher levels of commitment, job satisfaction, and innovation in their workforce (Nair & Malewar, 2013; Tian et al., 2020).

It is crucial to concentrate on a department-by-department strategy in order to establish a positive organizational culture (Powell et al., 2014). This entails encouraging a healthy work-life balance, enabling flexible scheduling, and creating chances for professional development and advancement for employees (Lee et al., 2014; Sharma et al., 2016; Susanto et al., 2022, 2022). Furthermore, it is recommended that firms give priority to diversity and inclusion programs, as research has demonstrated their ability to foster a more inventive and efficient work environment. In the digital age, keeping important talent requires cultivating a positive company culture that is consistent with the personal beliefs of the workforce (Azmy, 2021).

f. Employee Satisfaction and Digital Transformation

Herzberg's Two-Factor Theory and other more general theories of organizational behavior are intimately related to the idea of employee satisfaction (House & Wigdor, 1967; Jalagat, 2016; Smerek & Peterson, 2007). According to this idea, hygiene elements like working conditions and motivational factors like hard work and recognition have an impact on job happiness. In order to create an environment during digital transformation that is conducive to employee satisfaction, it is imperative to comprehend and address these elements (Saman, 2020; Vorina et al., 2017).

Organizations must take into account both hygiene and motivational aspects during the digital transformation process in order to foster a work environment that

promotes employee satisfaction (Afrizal et al., 2022; Claudia et al., 2020). For instance, transformational leadership and employee motivation were found to have a favorable and significant impact on employee performance through job satisfaction in the setting of the Indonesian banking industry (Winasis et al., 2020). Similarly, it was discovered that elements including inclusive leadership, organizational justice, work engagement, and perceived organizational support affected job satisfaction in the context of manufacturing SMEs during digital transformation (Y. S. Chen et al., 2023; Susanto et al., 2022).

g. Sustainable Competitive Advantage in the Global Market

Developed by (Penrose, 1959; Wernerfelt, 1984), the Resource-Based View (RBV) paradigm offers a perspective through which to view how resources—including digital capabilities made possible by HR practices—contribute to long-term competitive advantage. Dynamic capacity theory (Teece, 2007) highlights the necessity of ongoing innovation and adaptation in the global economy as a prerequisite for preserving competitive advantage.

A framework for comprehending how resources, such as digital capabilities made possible by HR procedures, contribute to long-term competitive advantage is provided by RBV theory. The theory of dynamic capability underscores the necessity of ongoing innovation and adaptation to sustain this competitive advantage in the international market (Somsuk et al., 2012). Through efficient management and utilization of their distinct resources and competencies, businesses can attain a competitive edge and adapt to the always evolving business landscape.

Research Gap

Table 1. Previous research

| Authors | Sampel and Location | Findings |
|-------------------------------|---|---|
| (Kretschmer & Khashabi, 2020) | Not Found | This article classifies and analyzes the impact of digital transformation on the output generation process in businesses to create a comprehensive picture of how it influences organizational design. |
| (Winasis et al., 2020) | 110 Employee | The psychological state of employees will be directly impacted by the effects of change. Since businesses require dedication and involvement from their employees throughout this phase, improper handling of this could have a negative impact on the changes itself. The survey results from a private bank that implemented technology-based improvements a year ago will be presented in this article. It also offers recommendations for more study on the topics covered. |
| (Okorie et al., 2023) | 13 Company Manufactur | This study emphasizes how important it is for businesses to include labor and supply chain relationships, as well as the development of intangible assets, in their digital transformation plans. Furthermore, we show how RBV may be used as a lens to assess corporate sustainability efforts' potential for creating a competitive advantage and to help build relevant strategies. |
| (A. Butt et al., 2020) | 352 private higher education institutions in Pakistan | The findings demonstrate how internal marketing's reputation, social, and economic components foster positive employee attitudes. The economic component appears as a critical factor for worker retention even in the face of psychological contract violations. The findings give HR managers in private higher education institutions and the regulators overseeing the higher education sector substantial insight into how to increase employee retention for a sustained competitive advantage while maintaining the standard of instruction. |

| Authors | Sampel and Location | Findings |
|--------------------------|---------------------|--|
| (Miguel et al., 2022) | 127 sampel | The study's findings demonstrate how sensing, capturing, and innovative capabilities belong together in a concept known as "Dynamic Capabilities." The identification of actual client demands, following up with them to address issues, and providing goods and services by foreseeing their requirements have all been made possible by digital transformation. |
| (Hosseini et al., 2018) | 50 sample | Quality, efficiency, creativity, and accountability were found to be competitive advantage variables that positively and significantly correlated with the development of new products. |
| (Alfawaire & Atan, 2021) | 400 sample | OI was found to have a partial and indirect significant mediation impact on the direct relationship between KM and SHRM and universities (organizations) gaining SCAs. The study's results show that there is a significant positive relationship between the following pairs of variables: KM and SCA; SHRM and SCA; SHRM and OI; KM and OI; and OI and SCA. In the end, it was determined that businesses should give the OI component more consideration and integrate it with KM and SHRM in a way that encourages SCAs. |

Source : Exiting Literature By Reseacher (2023)

Based on table 1, In the realm of digital transformation within Micro, Small, and Medium Enterprises (MSMEs) and the strategic involvement of Human Resources (HR), there exists a notable research gap necessitating exploration; addressing these gaps is crucial for advancing our understanding of the intricate relationship between HR practices and digital transformation in the specific context of MSMEs. One prominent gap is the absence of studies that comprehensively integrate various HR factors in the context of digital transformation in MSMEs; this research seeks to fill this void by adopting a holistic approach to explore how the amalgamation of employee skills, digital strategy, employee retention, and satisfaction influences the acceleration of digital transformation. Additionally, a notable gap in the literature lies in the limited exploration of HR practices from the perspective of employees during the digital transformation process; this study endeavors to bridge this gap by incorporating employee perceptions, offering a more complete understanding of the intricate dynamics at play.

Conceptual Framework

This conceptual framework emphasizes the intricate relationships between HR practices and digital transformation in MSMEs. It suggests that a holistic approach, considering the synergies among employee skills, digital strategy, employee retention, and satisfaction, is essential for fostering an environment conducive to successful and accelerated digital transformations. The interconnected nature of these elements underscores the need for strategic HR management tailored to the unique challenges and opportunities presented by the digital landscape in MSMEs.

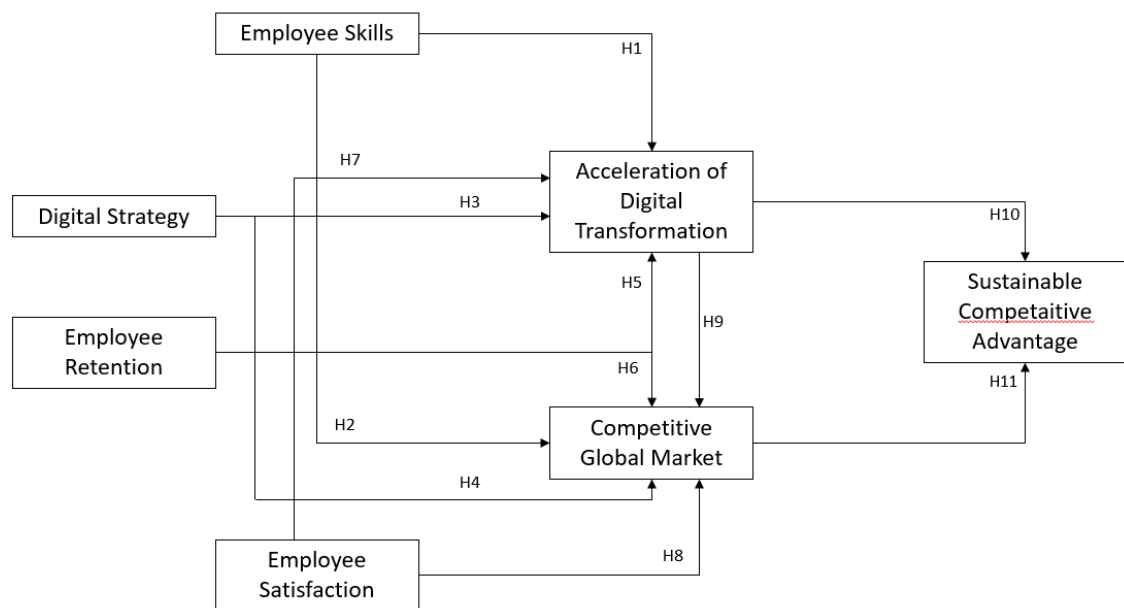


Figure 1. Conceptual & Hypotesis

METHOD

a. Design

This study falls under the category of applied research, which includes criteria for goals and data types. As such, the research strategy is quantitative, using surveys as a means of data gathering. The main focus of this study is how MSMEs in Indonesia are managing their human resources in the context of digital change. This study data is first needed through documentation studies, literature approaches, and surveys (questionnaires). Additionally, the data was analyzed using a Partial Least Squares technique with a structural equation model (Smart-PLS version 4). This study's hypothesis was produced using an inductive method to literature reviews. As to (Dana & Dana, 2005), the utilization of inductive and non-quantitative research methods is highly advantageous in implementing suitable approaches to support studies on micro, small, and medium-sized businesses and entrepreneurship. In order to methodically examine the connection between HR-related variables and digital transformation in Indonesian MSMEs, this study uses a quantitative research strategy. The strength and direction of these associations are best explored through quantitative research, which offers a statistical foundation for reliable findings (Sekaran & Bougie, 2016).

b. Sample

The MSMEs in Indonesia comprise the study's population. Owing to the heterogeneous composition of MSMEs, a stratified random selection technique was employed to guarantee representation from various sectors and regions. In SEM-PLS research, the sample size was calculated using the available statistical methods. For eight weeks, beginning on March 6, 2023, and concluding on April 29, 2023, the author distributed data both offline and online. Given the size of Indonesia, the author was assisted by enumerators who were composed of students (15 enumerators) and academic colleagues from Bogor Agricultural University who were dispersed throughout the country during the author's Master's program (25 academic colleagues). To prevent potential respondents from being confused about how to answer the questions in the questionnaire, enumerators and academic colleagues first

discussed visualizing a single goal before distributing the questionnaires. The research questionnaire was conducted in Indonesian. With the dedication of enumerators, writers, and academic colleagues, 568 data points belonging to MSME owners in Indonesia were gathered. You can see how this sample distribution happened in Table 2 below.

Table 2. Demographic Respondents Distribution

| Business Experience | Frequency | % | Education Background | Frequency | % |
|----------------------------|-----------|-------|-------------------------|-----------|-------|
| < 5 years | 120 | 20.7% | Junior High School | 60 | 10.3% |
| 6 – 10 years | 150 | 25.8% | Senior High School | 146 | 25.1% |
| 11 – 15 years | 100 | 17.2% | Bachelor's Degree | 200 | 34.4% |
| 16 – 20 years | 80 | 13.8% | Master's Degree | 150 | 25.8% |
| > 20 years | 131 | 22.5% | Doctoral Degree | 25 | 4.3% |
| Business Profile | Frequency | % | Total Employee | Frequency | % |
| Individu or Family | 250 | 43% | 1-5 employee | 200 | 34.4% |
| CV | 180 | 31% | 6-20 employee | 280 | 48.3% |
| Corporate or PT | 151 | 26% | > 20 employee | 101 | 17.4% |
| Geographic Distribution | Frequency | % | Geographic Distribution | Frequency | % |
| Jakarta and Banten | 180 | 31.0% | Bali and Nusa Tenggara | 45 | 7.7% |
| Java (Central, West, East) | 250 | 43.0% | Kalimantan | 75 | 12.9% |
| Sumatera | 101 | 17.4% | Sulawesi | 55 | 9.5% |

Source : Primary Data (2023)

The study's demographic data (Table 2) paint a distinct picture of the Micro, Small, and Medium-Sized Enterprises (MSMEs) in Indonesia that are taking part. The distribution of business experience is quite even, with roughly 20.7% having less than five years' experience, 25.8% having between six and ten years' experience, and 22.5% having more than twenty years' experience. This diversity demonstrates a broad range of businesses at various stages of development. The educational backgrounds of the respondents are mixed, with 25.1% holding a PhD and 34.4% holding a bachelor's degree. This highlights the diversity of academic backgrounds within the MSME workforce. The company profile highlights the presence of locally owned small businesses by revealing that 43.0% of companies are managed by individuals or families. The fact that 48.3% of MSMEs employ between six and twenty people highlights the significance of medium-sized businesses in Indonesia's economic environment. Geographically, the largest contributions were from Java (44.0%), Jakarta (31.0%), and Banten (31.0%), showing a wide presence across several locations. In addition to improving the study's findings' generalizability, this rich demographic diversity offers a thorough grasp of the ways in which the many attributes of MSMEs might impact HR dynamics and digital transformation within Indonesia's business ecosystem.

c. Data Analysis

SMARTPLS version 4 was used to analyze the study data using the partial least squares method and structural equation modeling (PLS-SEM). We employed the Confirmatory Composite Analysis (CCA) approach, which is predicated on the previously established theoretical framework, to bolster this study. This guarantees the latent variable indicators' and the model architecture's robustness. Two stages of analysis are used in the PLS-SEM methodology to assess the outer and inner models. Various statistical analyses are performed to assess the construct validity and coherence of the survey tool indicators.

Convergent and discriminant validity are two distinct metrics that were used to assess the validity of the instruments. Cronbach's alpha (CA) and Composite Reliability (CR) metrics are used to quantify the reliability of instruments. According to

the CCA approach, latent variables are deemed reliable if the CR and CA values are more than 0.70. The CCA Method evaluates convergent validity through the Average Variance Extracted (AVE) measure. (Hair et al., 2019) guidelines state that a value of more than 0.50 indicates satisfactory convergent validity.

The questionnaire was piloted and first given to doctorate holders in entrepreneurship who had published high-caliber papers in Scopus before it was finalized. Then, thirty temporary samples of the query words were chosen. There are three dependent variables and four independent factors in this study. Referring to research (Aviv et al., 2021; Chala & Bouranta, 2021; Citraa et al., n.d.), the first independent variable, employee skill (ESL), is asked about four indicators: cooperation, communication skills, timeliness of completion, and quality of work. Three question indicators are used to probe the second independent variable, or Digital Strategy (DSY) ICT adoption, digital service effectiveness, and firm strategy alignment, with references to (J. Butt, 2020; Lestari, 2022; Phiri, 2020; Setyawati et al., 2023). Three variables are used to assess the third independent variable, employee retention (ERT): company initiatives to keep employees, offering employee incentives, and business culture (Basheer et al., 2022; Saeed et al., 2014). Four indicators are used to ask questions about the final independent variable, employee satisfaction (ESA): jobdesk, work culture, remuneration, and supervisor support (Deb et al., 2023; Judge & Bono, 2001; Pasaribu et al., 2022).

In the meantime, five questions are used to assess the acceleration of digital transformation (EBT), which is the first dependent variable. These questions cover the following topics: availability of latest technology, application of change in daily work, resource and training support, understanding of digital transformation, and business process changes (Alkhamery et al., 2021; Gozali et al., 2020; Rupeika-Apoga & Petrovska, 2022). Perception of Competitive Advantage, Global Marketing Strategy, Adaptation to Global Competition, Global Market Penetration, Understanding of Global Market Needs, and Response to Global Market Changes are among the six questions from the Global Competitice Market (CGM) that are mentioned in (Caleb M. et al., 2012; Suherlan & Widyamurti, 2018). Lastly, four questions encompassing (Barney, 1991) framework—the Sustainability Indicators—are asked about the Sustainable Competitive Advantage (SCA) variable. These questions are: Valuable, Rare, Imitable, and Non-Substitutable. The criteria employed to ascertain the acceptability of these questionnaire items are detailed in Table 3.

Table 3. Validity and Reliability Quisoner

| Variable & Indicators | Items Cuisoner | Loading Factor |
|-----------------------|--|----------------|
| Employee Skills | Cronbanch's Alpha = 0.846, Composit Reliability = 0.896, AVE = 0.684. | |
| | 1. The quality of my subordinates' work is good | 0.797 |
| | 2. Deadline for work to be completed as expected | 0.866 |
| | 3. Employees have good cooperation | 0.870 |
| | 4. Employees always communicate confusion and other factors well | 0.769 |
| Digital Strategy | Cronbanch's Alpha = 0.810, Composit Reliability = 0.887, AVE = 0.723. | |
| | 1. I agree that the company has successfully adopted information and communication technology (ICT) in its operations. | 0.865 |
| | 2. I agree that the company's digital services are effective in meeting customer needs | 0.849 |
| | 3. I agree that the company's digital strategy fits into the overall strategy of the company | 0.837 |
| Employee Retention | Cronbanch's Alpha = 0.892, Composit Reliability = 0.933, AVE = 0.823. | |
| | 1. The company does its best to retain employees | 0.887 |
| | 2. The company provides benefits and incentives that motivate employees to keep working. | 0.897 |
| | 3. As a business leader, I am satisfied with the program implemented by the company to retain employees. | 0.937 |

| Variabel & Indicators | Items Cuisoner | Loading Factor |
|--|---|----------------|
| Employee Satisfaction | Cronbach's Alpha = 0.865, Composit Reliability = 0.908, AVE = 0.713. | |
| | 1. The assignment of job descriptions to employees is determined by the skills they possess. | 0.863 |
| | 2. The work culture in this company supports cooperation and employee welfare. | 0.782 |
| | 3. We always compensate employees, especially on holidays. | 0.848 |
| | 4. My superiors always support employee ideas and innovations. | 0.881 |
| Acceleration of Digital Transformation | Cronbach's Alpha = 0.882, Composit Reliability = 0.914, AVE = 0.682. | |
| | 1. I feel that company components help the company in the effectiveness of digital transformation | 0.754 |
| | 2. I have endeavored to make changes related to digital transformation have been effectively implemented in my daily work | 0.873 |
| | 3. The company's internal factors are supported by the resources and training provided to support digital transformation | 0.846 |
| | 4. The company has successfully transformed its business processes through digital transformation | 0.815 |
| | 5. The company provides and adopts the latest technology to support digital transformation | 0.835 |
| Competitive Global Market | Cronbach's Alpha = 0.884, Composit Reliability = 0.912, AVE = 0.633. | |
| | 1. I believe that this company's products or services have a competitive advantage in the global marketplace | 0.765 |
| | 2. I feel that the company has successfully implemented an effective marketing strategy in the global market | 0.754 |
| | 3. The company can adapt to competition in the global marketplace | 0.842 |
| | 4. Companies struggle to penetrate global markets with their products or services | 0.736 |
| | 5. The company understands customer needs and preferences in the global market | 0.832 |
| | 6. The company is able to respond to global market changes quickly and effectively | 0.840 |
| Sustainable Competitive Advantage | Cronbach's Alpha = 0.807, Composit Reliability = 0.874, AVE = 0.634. | |
| | 1. The business sustainability strategy adopted by the company adds significant value to long-term sustainability | 0.772 |
| | 2. The business sustainability initiatives taken by this company are rarely found in similar industries or markets | 0.767 |
| | 3. Key elements of the company's sustainability strategy are difficult for competitors to replicate or copy | 0.817 |
| | 4. The sustainability strategy adopted by the company cannot be replaced by a simpler or more common alternative. | 0.827 |

Source : Primary data processing (2023)

Thirty questionnaire questions in all were used for this study; the list of requirements for validity and reliability is provided in Table 3 above. The questionnaire's validity was assessed using convergent validity, which was computed using the partial least squares method. Convergent validity is measured by how well an index for a dimension captures the dimension. An assessment instrument is deemed to have convergent validity if its AVE (Average Variance Extracted) value is higher than 0.5 (Hair et al., 2019). The table displays the factor loadings for each item, all of which are higher than 0.70. The construct composite reliabilities are all greater than 0.70 and the AVE values are all greater than 0.50, as expected.

Table 4. Discriminant Validity research

| | ESL | DSY | ERT | ESA | EDT | CGM | SCA |
|---|-------|-------|-------|-------|-------|-------|-----|
| Employee Skills | 1 | | | | | | |
| Digital Strategy | 0.341 | 1 | | | | | |
| Employee Retention | 0.642 | 0.343 | 1 | | | | |
| Employee Satisfaction | 0.234 | 0.753 | 0.291 | 1 | | | |
| Acceleration of Business Transformation | 0.173 | 0.137 | 0.177 | 0.211 | 1 | | |
| Competitive Global Market | 0.112 | 0.414 | 0.169 | 0.492 | 0.271 | 1 | |
| Sustainable Competitive Advantage | 0.210 | 0.298 | 0.273 | 0.127 | 0.192 | 0.281 | 1 |

Source : Primary data processing (2023)

A statistical tool for assessing the discriminant validity of research tools is the Heterotrait-Monotrait Coefficient (HTMT). Remember that the HTMT ratio was proposed by (Ringle et al., 2012) as a more precise metric to evaluate discriminant validity in PLS-SEM research. To ascertain the authenticity of the instrument, it is important to confirm that the HTMT ratio does not surpass 0.90. Table 4 shows that the HTMT ratio values for each latent variable are all less than 0.90, indicating the validity of the research instrument employed to assess the model it contains. The purpose of the structural or internal assessment is to quantify the degree to which the conceptual model accurately predicts the variance of the independent variable. Figure 2 shows the internal model and the steps involved in building it. It also includes a list of the four measurement experiments that were carried out.

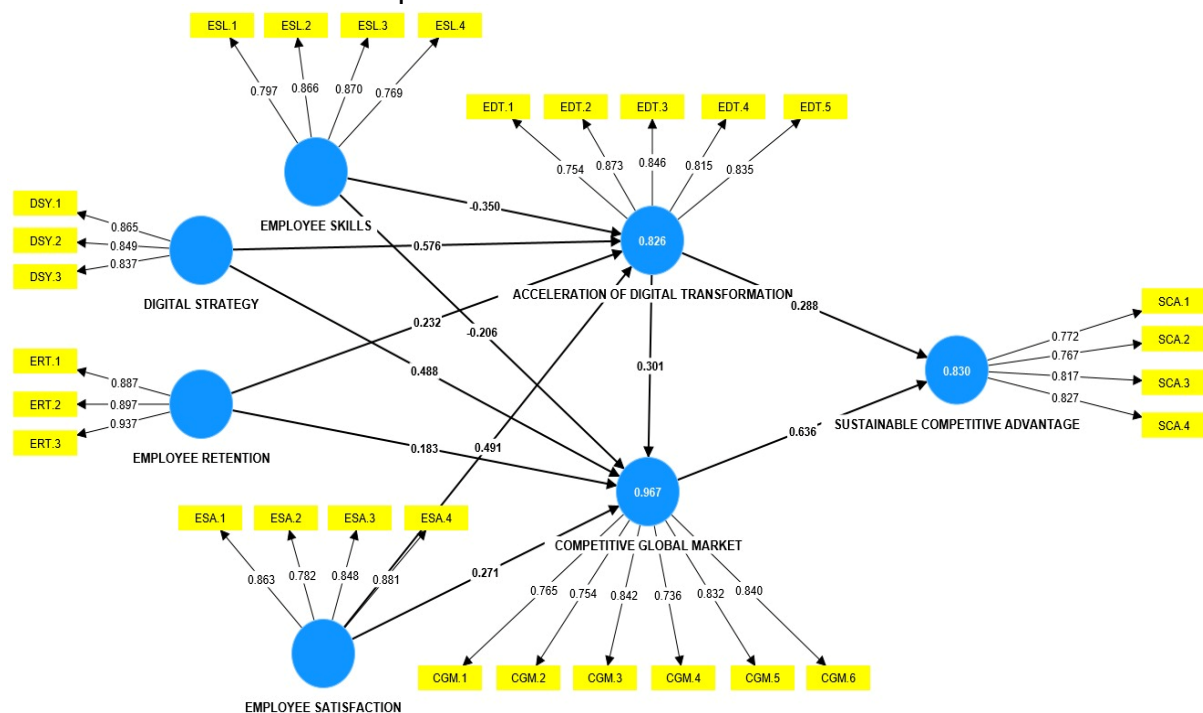


Figure 2. Model Internal Assessment

Determining how well the conceptual model predicts the variance of the independent variables is the aim of the internal or structural assessment? This is accomplished by doing four measurement analyses. The R-square (R²) value, or coefficient of determination, was used to evaluate the significance of the combined effect of exogenous and endogenous components. In addition, the statistical significance of the direct and indirect path coefficients was assessed using the bootstrap technique on a subsample of 5000. This evaluation employs the t-statistic, sometimes referred to as the p-value, and requires a value of less than 0.1 to demonstrate a statistically significant relationship between latent variables. The study's hypotheses were tested at this level using the research methodology outlined by (Hair et al., 2019). Next, using a Goodness of Fit analysis, the overall structural model's robustness was confirmed and the measurement and structural model's overall efficacy evaluated. The analysis assesses the strengths of the Chi-Square ratio, NFI, and SRMR values. The blindfolding methodology, which is based on cross-validated redundancy and was thoroughly explained by Sarstedt, Straub, and Hair in

2012, is another method used in this study in addition to the previously mentioned predictive relevance analysis. A primary objective of this work is to review and analyze partial least squares structural equation modeling (PLS-SEM) in the context of structural equation modeling.

RESULTS AND DISCUSSION

Situations within SEM-PLS

If nothing else, the designers of PLS-SEM empirical research specifically advise (Hair et al., 2019) that you ensure that no outlier data is missing from the distribution of questionnaires to study participants prior to performing a more in-depth analysis. Initially, 600 questionnaires were distributed; however, upon data entry by authors, enumerators, and academic colleagues, it was discovered that some outliers were absent or respondents had not filled out the form entirely. Following the removal of the missing outlier data, 568 questionnaires were deemed appropriate and correct. According to (Hair et al., 2019), research using SEM-PLS as a data analysis method should multiply five to ten times more than the entire number of study indicators. With 30 indicators in total, this study demonstrates that a minimum of 300 samples are required to test the sample requirements in PLS-SEM. This indicates that 568 samples met the requirements for eligibility.

The second criterion in the PLS-SEM testing sequence is to make sure that any variable utilized to form constructs does not have a multicollinearity assumption. In the event that the VIF value is less than 3,000, the conditions to be free from this assumption are outlined by (Hair et al., 2017). In order to conduct this research without depending on the multicollinearity assumption, the results are displayed in the table below.

Table 5. Inner VIF Model

| Variable | Acceleration of Digital Transformation | Competitive Global Market | Sustainable Competitive Advantage |
|--|--|---------------------------|-----------------------------------|
| Employee Skills | 1.921 | 2.234 | |
| Digital Strategy | 2.532 | 1.784 | |
| Employee Retention | 1.962 | 2.109 | |
| Employee Satisfaction | 1.989 | 1.483 | |
| Acceleration of Digital Transformation | | 2.298 | 1.762 |
| Competitive Global Market | 2.118 | | 2.195 |

Source : Primary data processing (2023)

The multicollinearity assumption criteria in this work have met the relevant conditions, according to (Hair et al., 2017). As Table 5 above shows, every construct generated has an inner VIF value of less than 3,000. According to the VIF values of network variables on these themes, the values of government policies regarding business incubators and entrepreneurial ecosystems were determined to be less than 3,000. Moreover, values less than three thousand were found for the constructs related to the dependent variables.

Furthermore, as a suggested criterion, the GoF in the research model will be investigated. As per Hair et al., 2017 and 2019, the SMARTPLS website offers suitable benchmarks for evaluating model fit. Model fit evaluation is crucial to ascertaining the overall usefulness of the exterior, inner, and structural models. As a result, the theta

root mean square (RMS) and the standardized root mean square (SRMR) ought to be less than 0.02, 0.10, or 0.08. Furthermore, the value of the numerical fit index (NFI) needs to be at least 0.9.

Table 6. GoF Research

| | Saturated Model | Estimated Model |
|------------|-----------------|-----------------|
| SRMR | 0.072 | 0.081 |
| d_ULS | 0.811 | 0.870 |
| d_G | 0.602 | 0.598 |
| Chi-square | 1720.182 | 1755.392 |
| NFI | 0.825 | 0.825 |

Table 6 shows the estimated model's SRMR value, which is 0.081, below the suggested threshold of 0.10, and its NFI value, which is 0.825, indicating a strong degree of fit. The study's model satisfies the Goodness of Fit assumptions in light of the research findings.

Model Architecture Inside

The degree to which other factors influence the dependent variable can be ascertained by utilizing the coefficient of determination (R-square). According to (Chin, 1998; Hair et al., 2019), the structural model dependent latent variable R² value of 0.67 and above indicates that the influencing independent factors have a favorable effect on the influenced dependent variable. As for the results, they are categorized as weak if they fall between 0.19 and 0.33 and moderate if they fall between 0.33-0.67.

Table 7. R² Test

| Variable | R ² | R ² adjusted |
|--|----------------|-------------------------|
| Acceleration of Digital Transformation | 0.513 | 0.571 |
| Competitive Global Market | 0.632 | 0.662 |
| Sustainable Competitive Advantage | 0.693 | 0.722 |

Source : Processing data analys (2023)

The R-squared (R²) and adjusted R-squared show that the statistical model is able to explain approximately 51.3%, 63.2%, and 69.3% of the variation in Acceleration of Digital Transformation, Competitive Global Market, and Sustainable Competitive Advantage respectively, with a consistent increase in explanation when considering model complexity.

Applicability of the Model for Forecasting

This study employed the Q2 redundancy measure to assess the model while taking into consideration the reflecting component of the metric, as advised by (Hair et al., 2017). Hair's Q2 value shows how well the model predicts outcomes outside of a sample. In structural equation models, the predictive usefulness of the route model for a certain dependent construct reflecting endogenous variables is shown by a Q2 value greater than zero. Table 8 presents the data and shows that the model has predictive value.

Table 8. Blindfolding Test Result

| Variable | SSO | SSE | Q2 (=1-SSE/SSO) |
|--|------|----------|-----------------|
| Acceleration of Digital Transformation | 3351 | 3531.029 | 0.053 |
| Competitive Global Market | 3351 | 3122.052 | 0.068 |
| Sustainable Competitive Advantage | 3351 | 3219.020 | 0.039 |

4.4 Bootsrapping Test

The hypothesis is deemed significant when the t-statistic value is higher than the t-statistic at the 95% confidence level (>1.96). The results shown here were produced using the SmartPLS bootstrap software. The analysis of construct hypotheses is shown in Table 9 along with the beta value, mean, standard deviation, t-value, and p-value. As a result, the choice was made using the 0.05 p-value.

Table 9. Hypotesis Test

| Hypotesis | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T-statistic | p-Values | Results |
|------------|---------------------|-----------------|----------------------------|-------------|----------|-----------|
| ESL -> EDT | -0.350 | -0.357 | 0.138 | 2.535 | 0.011 | Supported |
| ESL -> CGM | -0.206 | -0.227 | 0.088 | 2.345 | 0.019 | Supported |
| DSY -> EDT | 0.576 | 0.574 | 0.111 | 5.200 | 0.000 | Supported |
| DSY -> CGM | 0.488 | 0.497 | 0.073 | 6.725 | 0.000 | Supported |
| ERT -> EDT | 0.232 | 0.220 | 0.119 | 2.018 | 0.004 | Supported |
| ERT -> CGM | 0.183 | 0.189 | 0.058 | 3.153 | 0.002 | Supported |
| ESA -> EDT | 0.491 | 0.512 | 0.125 | 3.924 | 0.000 | Supported |
| ESA -> CGM | 0.271 | 0.281 | 0.049 | 5.522 | 0.000 | Supported |
| EDT -> CGM | 0.301 | 0.289 | 0.040 | 7.549 | 0000 | Supported |
| EDT -> SCA | 0.288 | 0.293 | 0.128 | 2.249 | 0.025 | Supported |
| CGM -> SCA | 0.636 | 0.632 | 0.126 | 5.058 | 0.000 | Supported |

Interesting insights into the links between important constructs in the context of MSME digital transformation were found through structural equation modeling analysis using the bootstrap approach. In order to determine how employee skills, digital strategy, retention, and satisfaction affect digital transformation, global competitive positioning, and sustainable competitive advantage, several hypotheses were investigated.

The results confirm hypothesis 1 by showing a positive correlation between employee skills and quicker digital transformation (t-statistic = 2.535, p-value = 0.011). Overemphasizing some abilities, though, could prevent metamorphosis. The significance of evaluating the relevance of skills in global market strategy is indicated by the positive but not statistically significant link (t-statistic = 2.345, p-value = 0.019) between employee skills and competitive position in worldwide markets (H2 accepted). The correlation between digital strategy and speeding digital transformation is positive and substantial (t-statistic = 5.200, p-value = 0.000), indicating that digital strategy plays a crucial role in propelling change (H3 approved). The necessity of coordinating digital endeavors with organizational goals was further supported by the discovery of a positive and strong link (t-statistic = 6.725, p-value = 0.000) between digital strategy and global competitive position (H4 approved).

A stable workforce appears to have a favorable impact on an organization's ability to adapt to digital change, as seen by the positive correlation between employee retention and accelerated digital transformation (t-statistic = 2.018, p-value = 0.004) (H5 accepted). Make keeping knowledgeable staff a top priority if you want your digital endeavors to succeed. The association between competitive position in international markets and employee retention that is positive (t-statistic = 3.153, p-value = 0.002) highlights the part that employee dedication plays in determining worldwide competitiveness (H6 accepted). Aligning workforce expectations with those of the

global market is advantageous for organizations that place a high priority on staff retention. The significance of a happy work environment is highlighted by the positive correlation between employee happiness and faster digital transformation (t-statistic = 3.924, p-value = 0.000) (H7 approved). Content workers can adjust to changes in the digital landscape more easily. The association between competitive position in the worldwide market and employee happiness is positive and significant (t-statistic = 5.522, p-value = 0.000), which supports the idea that employee well-being plays a role in an organization's ability to succeed globally (H8 accepted). One of the main influences on employee satisfaction is the work culture.

Rapid digital transformation appears to provide a worldwide competitive advantage (H9 approved) since there is a strong positive correlation between it and competitive position in the global market (t-statistic = 7.549, p-value = 0.000). Adapting to competition is crucial for this research's findings. Proactive digital transformation has a benefit as evidenced by the positive correlation between accelerated digital transformation and sustainable competitive advantage (t-statistic = 2.249, p-value = 0.025) (H10 approved). The significance of competitive position in the global market to long-term survival is further supported by the positive relationship between competitive position and sustainable competitive advantage (t-statistic = 5.058, p-value = 0.000) (H11 approved). To sum up, proactive digital transformation initiatives help create a long-lasting competitive edge in the international market.

Discussion

There is strong evidence linking employee skills to both competitive positioning in the global marketplace and accelerated digital transformation. These results highlight the need for fresh perspectives on how employee talents affect an organization (Pittino et al., 2016). Grand theories of organizational transformation state that it's critical to strike a balance between specialized knowledge and flexibility (Lysaght et al., 2018; Mathis & Jackson, 2016). This equilibrium is supported by empirical findings, which indicate that a focus too much on specialized skills could impede the speed of digital transformation and the ability to compete in the global market (Baten, 2017; Chala & Bouranta, 2021; Ibrahim et al., 2017; Singh, 2019).

Grand theory's emphasis on strategic planning is compatible with the substantial positive association shown between digital strategy and the rapidity of digital transformation and competitive positioning in global markets (Barney, 1991; Teece, 2007). In the age of digital transformation, empirical findings support the significance of a well-thought-out and integrated digital strategy in fostering organizational success (Fachrunnisa et al., 2020; Westerman et al., 2014). This is consistent with earlier studies that highlight the strategic contribution of digital projects to increased competitiveness (Phiri, 2020).

Organizational behavior theories are compatible with the favorable associations observed between employee satisfaction, retention, and digital transformation with global market competitiveness. The results highlight the vital role that a happy and dedicated workforce plays in helping a company adapt to digital transformation and project a favorable image (Lee et al., 2014; Sharma et al., 2016; Susanto et al., 2022). This is consistent with earlier studies that showed a link between worker well-being and organizational success (Kalliath et al., 2013; Pittino et al., 2016; Sharma et al., 2016).

The broad theoretical assumption that agility in adopting digital technologies contributes considerably to market competitiveness is compatible with the extremely

strong positive association between expedited digital transformation and competitive position in the global market (Caleb M. et al., 2012; Ershov & Tanasova, 2020; Thrassou et al., 2020). This result strengthens the theory's empirical argument, which highlights the crucial part that digital transformation plays in boosting competitiveness in the global market (Caleb M. et al., 2012; Niros et al., 2022; sangadah, 2020).

According to well-established theories of strategic management, there is a favorable correlation between competitive positioning in international markets and durable competitive advantage (Alfawaire & Atan, 2021; A. Butt et al., 2020; Liu, 2013). The results support the notion that long-term organizational success is influenced by a robust worldwide market presence (Bala & Verma, 2018; Caleb M. et al., 2012; Young et al., 2012). This validates earlier studies that highlight the connection between sustained competitive advantage and global competitiveness (Mackintosh et al., 2011; Riswanto et al., 2019).

Theoretical Implications

The results add to the grand theory of organizational change by supplying factual data that strengthens and validates its claims. The associations discovered support the grand theory's emphasis on striking a balance in organizational change initiatives, especially with reference to personnel capabilities (House & Wigdor, 1967; Smerek & Peterson, 2007). The theoretical understanding of how HR practices affect the dynamics of digital transformation in MSMEs is enhanced by the findings of this study (Y. S. Chen et al., 2023; Flamini et al., 2022, 2022; Hooi, 2014; Mustafa et al., 2018).

The strategic importance of digital initiatives is highlighted by the strong correlation between digital strategy, digital transformation, and global competitiveness. This is consistent with research on innovation and strategic management, which emphasizes the importance of a well-thought-out digital strategy in accomplishing organizational objectives (Augier & Teece, 2009; Teece, 2007).

The correlation that exists between organizational performance indicators and employee contentment, retention, and satisfaction raises the possibility that HR practices have a significant impact on organizational outcomes. These findings, which support earlier studies highlighting the strategic significance of HR in the digital age, add to a better understanding of the connection between organizational success and human resource management (Kuhn et al., 2021; Sari & Kusumawati, 2022; Sivaraman, 2020).

Practical Implications

1. Organizations can benefit from insights on balancing specialized skills with adaptability in the context of digital transformation.
2. HR leaders should formulate and execute robust digital strategies aligned with organizational objectives.
3. Prioritizing employee well-being and retention is essential for fostering a committed workforce and achieving success in digital transformation and global markets.

Limitations and Future Research

Although our study yielded useful insights, it is not without limits. It is more difficult for us to determine causality when the data are cross-sectional. Longitudinal designs may be used in future studies to offer a more dynamic interpretation of the associations found. Furthermore, a deeper investigation into particular sectors and businesses may produce context-specific learnings.

CONCLUSION

To sum up, this study adds a great deal of understanding to the complex interactions between HR dynamics and the digital transformation path of Indonesian MSMEs. The results highlight how crucial it is for effective digital projects to have a well defined digital strategy, retain qualified staff, and promote employee satisfaction. Reevaluating how companies use current talents for transformational processes is necessary since the study, contrary to expectations, finds a negative correlation between employee skills and the speed of digital transformation.

The necessity for an all-encompassing approach to HR management in the digital age is highlighted by the favorable correlations found between the acceleration of digital transformation, global market competitiveness, and sustainable competitive advantage. Businesses that proactively coordinate their HR procedures with digital projects will be in a stronger position to prosper in the cutthroat global marketplace.

In the future, the study recommends long-term studies to fully capture the fluidity of digital transitions. Moreover, industry-specific studies may highlight particular difficulties and chances in a range of sectors. This study acts as a cornerstone, providing the framework for further investigations into the changing function of human resources in organizational digital preparedness. The results offered here provide practical advice for HR professionals, organizational leaders, and legislators looking to improve the digital resilience and worldwide competitiveness of Indonesian businesses as MSMEs continue to negotiate the challenges of the digital era.

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