



# HUMAN RESOURCE MANAGEMENT STRATEGY IN MSMEs TO FACE THE GLOBAL MARKET THROUGH INNOVATION AND DIGITAL TECHNOLOGY

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## Abstract

This study examines the human resource management (HR) strategy in micro, small, and medium enterprises (MSMEs) as they confront the global market via innovation and digital technology. The research methodology employed is qualitative, utilizing an in-depth interview approach and case studies on numerous MSMEs that integrate digital technology into their HR management and product marketing processes. The study results show that MSMEs implementing digital technology in HR management have experienced increased operational efficiency, especially in employee data management, attendance, and payroll. However, the main challenges faced are the low digital skills of most employees and the high cost of implementing technology. In addition, the role of technology-savvy leadership is crucial in the success of the transition to a digital system. Using digital technology in marketing and product innovation also enables MSMEs to expand their market reach, including the global market. The results of this study show that the use of digital technology in human resources management and marketing is the most important factor for micro, small, and medium-sized enterprises (MSMEs) to improve their competitiveness and survive in the global market.

**Keywords:** MSME, Human Resource Management, Digital Technology, Innovation, Global Market, Leadership, Digital Marketing.

## INTRODUCTION

Human Resource Management (HRM) is a discipline that focuses on managing the workforce in an organization. According to Alwy (2022), HRM includes strategies and tactics designed to manage people in an organization to achieve predetermined goals. Human resource management (HRM) is primarily responsible for planning, organizing, directing, and controlling workforce development and maintenance activities. The objective is to ensure that the organization has a skilled, driven, and efficient workforce to accomplish its goals; as Herawati et al. (2024) stated, effective HRM can improve its overall performance.

Human resource planning focuses on determining future workforce needs based on organizational goals. Recruitment and selection aims to attract and select suitable candidates to fill available positions. Training and development seeks to improve employee skills and knowledge to carry out their duties effectively. Performance management is evaluating and ensuring that employees perform according to established standards. Compensation and benefits are designed to provide employees with fair and competitive rewards to motivate them.

Employee relations build and maintain harmonious relationships between management and employees. Occupational health and safety ensures a safe and healthy working environment for employees.

HR management focuses not only on operational aspects but also strategic ones. It means that HR management must be aligned with the overall business strategy. For example, in facing global

competition, organizations must ensure that they have a workforce that can adapt to change and has relevant competencies. As Innayah et al. (2024) expressed, integrating technology and innovation in HR management is crucial in today's digital era. In addition, HR management also plays a role in shaping organizational culture. A positive culture can increase job satisfaction, employee loyalty, and productivity. Conversely, a negative culture can lead to high turnover rates and decreased organizational performance. As expressed by Purnama (2021), implementing digitalization in HR management can help shape an adaptive organizational culture to change.

Human resources management must also adjust to technological advancements in the current digital age. For instance, human resources information systems can assist with managing employee data, recruitment processes, and performance assessments. As a result, effective human resources management can give organizations a competitive edge when dealing with increasingly complicated business challenges. As Alamsyah (2024) expressed, implementing digital solutions in HR management can increase operational efficiency by up to 30%. Micro, Small, and Medium Enterprises (MSMEs) are important in the Indonesian economy. However, in the bal market, MSMEs face faces, including fierce competition, changes in consumer preferences, and rapid technological developments. To remain competitive, MSMEs must use innovative HR management strategies and digital technology. Purnama (2021) states that digitalization in human resources management can assist micro, small, and medium enterprises (MSMEs) adjust to changes in the Industry 4.0 era.

One important step is the digitalization of HR management processes. By utilizing digital technology, MSMEs can increase efficiency in various methods, such as recruitment, training, and performance appraisals. Alamsyah (2024) states that implementing digital solutions in HR management can improve operational efficiency by up to 30%. In addition, digital technology allows MSMEs to access a wider market through e-commerce and digital marketing. However, to take advantage of this opportunity, MSMEs must ensure their employees have adequate digital skills. Therefore, investment in training and development of digital skills is crucial. As Herawati et al. (2024) state, developing employee skills in digital technology can increase their adaptability to technological changes and the market.

This innovation in HR management can also assist MSMEs in establishing an organizational culture that fosters collaboration and creativity. For example, employees can be more at ease sharing ideas and collaborating to develop innovative solutions by promoting open communication and implementing a more flexible organizational structure. This culture can be a competitive advantage for MSMEs facing global market dynamics. As expressed by Innayah et al. (2024), integrating technology and innovation in HR management is effective and in line with MSMEs' business goals.

The use of digital technology also enables the implementation of data-based performance management. With this system, MSMEs can monitor employee productivity in real time, identify training needs, and provide faster and more measurable feedback. According to Herawati et al. (2024),

using data analytics in HR management can increase decision-making effectiveness, especially regarding talent management and increasing productivity. Digitalization in human resources management can also assist micro, small, and medium-sized enterprises manage compensation and incentive aspects more effectively. Using a technology-based system makes it possible to pay salaries, performance-based incentives, and other benefits in a way that is more transparent and accurate. Not only does this improve employee satisfaction, it also assists micro, small, and medium-sized enterprises (MSMEs) in reducing the number of administrative errors that frequently occur in manual systems (Purnama, 2021).

The implementation of technology in HR management in MSMEs also faces several challenges. One of them is the readiness of human resources to use digital technology. Many MSMEs still experience a digital skills gap among their workforce. Therefore, HR training and development programs must be integral to the MSME digitalization strategy. Innayah et al. (2024) emphasized that increasing digital literacy among MSME workers can accelerate digital transformation and increase global market competitiveness. In addition, organizational culture factors also play an important role in the success of digital-based HR management. An organizational culture that is open to change and innovation will make it easier to use new technology. Conversely, resistance to change can be a major obstacle in the digitalization process. Therefore, effective leadership in managing change is crucial for MSMEs who want to succeed in facing the global market (Herawati et al., 2024).

The MSME sector in Indonesia, which plays a critical role in the national economy, was the focus of this research. MSMEs are responsible for approximately 60% of Indonesia's Gross Domestic Product (GDP) and employ over 97% of the national workforce, as indicated by data from the Ministry of Cooperatives and SMEs (2023). Therefore, strengthening HR management strategies in this sector is crucial in increasing competitiveness in the global market. One of the main reasons for choosing MSMEs as a research location is because this sector has unique characteristics compared to large companies. MSMEs tend to have more flexible organizational structures but often face limitations regarding access to technology, skilled human resources, and effective managerial strategies. Sutanto et al. (2024) explain that one of the biggest challenges for MSMEs is the limitations in technology-based HR management, which often hinders innovation and business growth. Therefore, this study aims to explore more deeply how MSMEs in Indonesia can use HR management strategies based on innovation and digital technology to increase their competitiveness.

The location of this research is focused on several big cities in Indonesia that have a rapidly growing MSME ecosystem, such as Jakarta, Surabaya, Bandung, and Yogyakarta. These areas were chosen because they have access to digital technology and support from various government and private institutions in developing MSMEs. According to the latest research by Alamsyah (2024), MSMEs in big cities tend to use technology faster than MSMEs in rural areas. Therefore, mapping digital-

based HR management strategies in big cities can be a reference for MSMEs in other regions to implement similar models.

This study also examines specific sectors within MSMEs with high export potential, including the creative industry, culinary, textiles, and craft products. These sectors have much potential for entering the global market but still encounter several challenges regarding innovation and workforce management. Herawati et al. (2024) stated that one of the biggest challenges for export MSMEs is human resources' readiness to understand international regulations and the use of technology in the global supply chain. Therefore, a digital technology-based HR management strategy is urgently needed for MSMEs who want to compete worldwide.

In addition, this study also considers the role of supporting institutions such as business incubators, MSME associations, and digital platforms in supporting HR transformation in the MSME sector. Purnama (2021) emphasized that collaboration between MSMEs and various parties, including the government and the private sector, can accelerate the adoption of digital technology in HR management. With the support of a strong ecosystem, MSMEs can more easily access digital training, develop employee competencies, and optimize their HR management strategies to face the global market.

HR management strategies in MSMEs are influenced by various factors that can determine their success or failure in facing the global market. One of the main factors is the workforce's readiness to use digital technology. Many MSMEs face challenges recruiting and retaining a workforce with digital and innovative skills. Innayah et al. (2024) showed that most of the workforce in MSMEs still has limitations in digital literacy, which has an impact on the slow adoption of technology in HR management. Therefore, investment in training and development of digital skills is an important step for MSMEs to increase the competitiveness of their workforce. Herawati et al. (2024) emphasized that visionary leadership can create an organizational culture that is more adaptive to change so that the workforce can easily accept and implement digital technology.

The ability of MSMEs to access digital technology is also a very influential factor. Some MSMEs still experience limitations in digital infrastructure, such as limited internet access and high software costs. Purnama (2021) revealed that many MSMEs still have not fully utilized digital-based HR management systems due to financial limitations and a lack of understanding of the benefits of this technology. Therefore, support from the government and the private sector in providing MSMEs access to technology is very important to increase their competitiveness in the global market. Regulations related to employment, tax incentives for MSMEs that implement digitalization, and training and certification programs for workers can encourage HR transformation based on digital technology. Alamsyah (2024) noted that countries with proactive policies supporting MSME digitalization tend to have higher technology adoption rates in their HR management.

Organizational culture in MSMEs also influences how HR management strategies are implemented. MSMEs with a work culture open to innovation and change make it easier to use digital technology than those that maintain traditional work systems. Sutanto et al. (2024) emphasize the importance of creating an organizational culture that supports digital transformation as a strategic step in HR management. Other factors influencing HR management in MSMEs are increasing global competition and changing market trends. To compete in the international market, MSMEs must have a workforce that can adapt to market changes and has skills relevant to the needs of the global industry. Innayah et al. (2024) emphasize that workforce flexibility in dealing with market changes is key for MSMEs that want to succeed globally.

Table 1 MSMEs in Human Resource Management to Face the Global Market

No.	Location Name	MSME Sector	Reasons for Choosing a Place
1	South Jakarta	Culinary, Retail	As Indo, Asia's economic center, Jakarta has many MSMEs growing rapidly in the culinary and retail sectors. The research here provides a more representative picture of technology adoption in this sector.
2	Bandung	Fashion, Handicrafts	Bandung is known as a creative city, with many MSMEs engaged in fashion and handicrafts. This location is important to understand how MSMEs in this sector face global market challenges.
3	Surabaya	Manufacturing, Electronics	Surabaya has many MSMEs in the manufacturing and electronics sectors. The research provides insight into the challenges of implementing technology in a more production-based sector.
4	Yogyakarta	Education, Technology	Yogyakarta has many MSMEs that focus on education and technology. The research here will provide a perspective on the role of digital technology in managing human resources in the education sector.
5	Medan	Agribusiness, Trade	A city with a growing agribusiness sector, Medan is a strategic location for studying HR management in agribusiness MSMEs facing the international market.

The table above shows the research locations selected based on Indonesia's rapidly growing MSME sectors, which are relevant to the research objectives regarding human resource management to face the global market. Each location was selected by considering the characteristics of the MSME sector in the area, such as the culinary and retail sectors in South Jakarta, fashion and handicrafts in Bandung, manufacturing and electronics in Surabaya, education and technology in Yogyakarta, and agribusiness in Medan. The selection of these locations aims to provide a representative picture of the challenges and opportunities faced by MSMEs from various sectors in managing their human resources and applying digital technology to improve their efficiency and competitiveness in the global market. Through research in multiple locations, it is hoped that relevant patterns can be found regarding how MSMEs integrate technology-based human resource management strategies in facing

the demands of an increasingly competitive global market. This study also examines the events in the Indonesian MSME sector, particularly those related to human resources management and the use of digital technology. This phenomenon demonstrates the MSME sector's difficulties in developing effective human resources management to improve local and global competitiveness. One of the main phenomena is the gap in the adoption of digital technology among MSMEs. Although some MSMEs in big cities have begun to utilize various digital platforms to improve operations and management, most MSMEs in other areas are still not aware of the importance of digital technology in managing their HR. In this case, there is a delay in digital transformation, making it difficult for many MSMEs to compete in the global market. For example, according to research conducted by Alamsyah (2024), even though digital technology is available and easily accessible, MSMEs still rely on traditional workforce and operational management methods due to a limited understanding of technology, implementation costs, and difficulties in designing a management system that is integrated with technology.

Another phenomenon is the uneven implementation of HR management strategies in various MSME sectors. Some sectors, such as culinary and creative industries in big cities, are quicker to use technology for HR management, while other sectors, especially those focused on producing goods and services, are still struggling with problems related to labor efficiency and business process management issues. Sutanto et al. (2024) noted that MSMEs in the manufacturing sector often have difficulty adapting production processes to digital technology, making it more difficult for them to adapt to global market demands. In contrast, sectors more connected to consumers, such as culinary and retail, integrate technology into their human resource management quicker to provide a better customer experience and improve operational efficiency.

Another phenomenon that has emerged is the unpreparedness of the workforce in the MSME sector to adapt to new technologies. Most of the workforce in Indonesian MSMEs still have limited digital skills, which hinders a broader digital transformation in HR management. Purnama (2021) shows that most MSME employees lack the technical skills to utilize sophisticated HR management software, such as digital-based recruitment systems, performance evaluation tools, or online-based training platforms. Therefore, improving workforce competency through training and education is an important step to accelerate the adoption of digital technology in this sector. It is related to limitations in finance, digital infrastructure, and lack of access to human resources with the required technological skills. Alamsyah (2024) argues that the success of implementing technology in MSMEs also depends heavily on the ease of access to the technology in terms of cost and the availability of support from related institutions. For this reason, empowering MSMEs through access to financing or technology subsidies needs to be part of government policy.

MSMEs face various problems in managing HR to face the global market. The first problem that often arises is the low level of digital literacy among MSME workers. This problem hinders the

adoption of digital technology in various operational aspects, including in HR management. Herawati et al. (2024) noted that the lack of understanding and skills in using digital-based HR management software can cause MSMEs to be unable to manage HR efficiently. Without adequate training, employees find it difficult to keep up with technological developments that can improve performance and productivity.

Another problem is the lack of understanding of MSME entrepreneurs about the importance of digital-based HR management. Many MSME owners are unaware that effective and technology-based HR management can increase productivity and efficiency. They still use conventional systems limited to managers involved in the employee management process without utilizing technology to improve operational efficiency. Sutanto et al. (2024) stated that most MSME owners focus more on their products' production and marketing aspects than on human resource management, which results in low attention to the importance of digital-based HR management strategies.

For most micro, small, and medium-sized enterprises (MSMEs) in Indonesia, the issue of limited access to technology is a significant obstacle. Access to the hardware and software required for digital HR management is still limited, particularly for MSMEs with insufficient digital infrastructure. According to Purnama (2021), many MSMEs still use manual-based HR management systems or simple applications that do not support scalability. For this reason, providing adequate digital infrastructure and government support regarding technology subsidies are important steps to overcome this problem.

Differences in organizational culture between MSMEs also affect implementing digital-based HR management strategies. Some MSMEs have a more traditional work culture, prioritizing personal relationships and direct supervision rather than using technology to monitor and evaluate employee performance. Alamsyah (2024) explains that an organizational culture that does not support change will hinder the implementation of digital technology in HR management. Therefore, changing organizational culture is a major challenge for MSMEs who want to implement digital technology-based HR management strategies successfully.

In this study, several studies provide a strong and relevant foundation, which will strengthen the analysis of HR management in MSMEs to face the global market through innovation and digital technology. Sutrisno (2020) in his research emphasized the importance of technology-based HR management to increase the competitiveness of MSMEs in the global market. He found that the application of digital technology in HR management not only improves operational efficiency but also supports the development of workforce competencies. Research conducted by Pratama & Dewi (2021) also highlights the use of information technology in the culinary sector in Indonesian MSMEs. Their study found that adopting information technology can increase productivity and simplify the administration of HR management in these MSMEs.

Wulandari & Mahendra (2022) add perspective with a study on the impact of digital technology innovation on MSMEs engaged in the handicraft sector in Yogyakarta. They found that digital technology plays a role in improving product quality and modernizing HR management, which allows for more efficient organization. Hendriana (2023), in her research focusing on the manufacturing sector in Surabaya, shows that although many MSMEs have used technology, optimal HR management has not yet been fully achieved. It reveals that even though digital technology has been used, there are still challenges in implementing an effective HR management system.

Nugroho & Sari's (2024) research reveals the relationship between leadership in HR management and the adoption of digital technology. They show that leaders open to technological innovation greatly influence the success of HR management and the adaptation of MSMEs to the global market. Although these studies significantly contribute to understanding the role of technology in HR management, several gaps need to be filled. Most previous studies focus on certain sectors, such as culinary and handicrafts, while other sectors, such as manufacturing and agribusiness, still receive less attention. This study aims to fill this gap by expanding the scope of the MSME sector studied, covering various industries that have great potential in facing the global market.

Although many studies have highlighted the positive impact of technology on HR productivity, there is still limited research examining the challenges and obstacles MSMEs face in using digital technology. This study seeks to identify and offer solutions to these obstacles. In addition, the relationship between effective leadership in HR management and the implementation of digital technology has not been studied in depth in an increasingly competitive global market. Thus, this study seeks to fill this gap by exploring how leadership can manage skilled HR facing global challenges.

Several gaps can be identified based on these studies and become the basis for this study. First, although many studies discuss the use of technology in managing MSME HR, most are still focused on certain sectors, such as culinary or handicrafts. Meanwhile, this study will cover various MSME sectors, including manufacturing and agribusiness, to provide a more holistic picture of HR management in multiple global market sectors. Second, although there has been research on the impact of technology on HR productivity and efficiency, there is still limited research that explores in depth the challenges MSMEs face in using digital technology in HR management. This study will identify these obstacles and provide practical solutions to overcome them. Third, although several studies have discussed the importance of leadership in managing HR and technology adoption, much research has not linked the two in the context of an increasingly competitive global market. This study will fill this gap by exploring the relationship between effective leadership in HR management and the use of technology to improve MSME competitiveness in the global market.

As a result, this study is anticipated to make new contributions to the understanding of human resource management in micro, small, and medium-sized enterprises (MSMEs) that focus on the

adoption of digital technology and innovation to improve their competitiveness in the global market and overcome the challenges that MSMEs face in this area.

## **LITERATURE REVIEW**

### **Human Resource Management (HR)**

According to Armstrong (2021), HR management is a series of activities that utilize human resources' potential to achieve organizational goals. In MSMEs, good HR management requires adjustment to global market needs, which can be achieved by optimizing workforce skills and using technology to increase efficiency. Armstrong also stressed the significance of human resources training and development in addressing the rapid changes in the market. As a result, MSMEs that want to grow and compete in the global market need effective human resource management based on technology and focusing on developing skills.

### **Innovation and Digital Technology**

According to Schilling (2020), technological innovation is the application of new ideas in products, processes, or technologies that can provide competitive advantages for organizations. In HR management in MSMEs, digital technology is important in improving operational efficiency and workforce management. Using digital technology enhances the production and marketing processes and makes human resources administration more efficient. According to Schilling, MSMEs that can incorporate innovative technology into their operations are more likely to survive and thrive in a more competitive market.

### **Leadership in Human Resource Management**

Bass (2021) proposes transformational leadership, which states that effective leaders can inspire and motivate employees to achieve greater goals. Transformational leadership is very important in HR management in MSMEs, where leaders must clearly envision how technology can improve their performance and competitiveness. Good leaders direct and empower employees to innovate and adapt to existing technology.

### **Competitiveness in the Global Market**

Porter (2020), in his theory of competitiveness, states that a company's success in the global market depends on its competitive advantage. In the context of MSMEs, competitiveness can be achieved through strategies that optimize technology and innovation in HR management. Porter

suggests that MSMEs must develop the ability to adapt to market changes, create added-value products, and utilize technology to manage HR efficiently. With high competitiveness, MSMEs can survive and thrive, even when facing fierce global competition.

## **METHOD**

This study employs a qualitative methodology to investigate human resources (HR) management in micro, small, and medium-sized enterprises (MSMEs) as they navigate the global market through digital technology and innovation. The qualitative approach was selected because it offers a comprehensive understanding of the challenges, experiences, and perceptions that MSME managers and employees encounter about digital technology during the HR management process. According to Creswell (2018), a qualitative approach is suitable for exploring complex phenomena by looking at the social context and individual experiences. This study examines how HR management strategies based on digital technology are applied in MSMEs and their influence on MSME readiness in facing global competition.

### **Population and Sample**

The population in this study consisted of managers and employees of MSMEs in large cities in Indonesia who were engaged in specific sectors of MSMEs that have high export potential, such as the creative industry, culinary, textiles, and craft products. Given the purpose of the study, which is to focus on an in-depth understanding of the experiences and views of MSME managers and employees, the sample used a purposive sampling technique. This sample was selected based on the criteria of MSMEs that already use digital technology and have experience facing the global market. A total of 10 MSMEs that meet these criteria will be used as research subjects. In each MSME, in-depth interviews will be conducted with five managers and employees directly involved in HR management and adoption of digital technology so that the total number of respondents involved in this study is 50 people.

### **Time and Place of Research**

The research was conducted in September 2024, with research locations in numerous MSMEs in major cities throughout Indonesia. The selection of this location was predicated on the high concentration of MSMEs that have implemented digital technology and the area's relevance to the research objectives, which are to investigate the integration of digital technology in MSMEs competing in the global market.

The data collection time chosen in September 2024 allows researchers to obtain actual and relevant information, considering the dynamics in the MSME market at that time. Researchers will conduct interviews and observations in each MSME, the research sample, for one full month.

### **Data collection technique**

The data collection techniques used in this study were in-depth interviews and participant observation. In-depth interviews were chosen because they allow researchers to explore the experiences, views, and challenges MSME managers and employees face in implementing digital technology for HR management. These semi-structured interviews allow flexibility in exploring further information based on respondents' responses. According to the guidelines explained by Rubin and Rubin (2012), semi-structured interviews allow researchers to explore topics more broadly and in-depth. In addition to interviews, participant observation will be conducted to directly record the interaction between digital technology and HR management in the daily activities of MSMEs. This observation will provide a clearer context regarding how technology is applied in the daily work environment.

### **Data analysis**

The data collected from interviews and observations will be analyzed using thematic analysis to identify the main themes that emerge from conversations with respondents and field notes. Thematic analysis is an approach that is widely used in qualitative research because it can organize and describe relevant patterns to answer research questions (Braun & Clarke, 2006). The first step is the transcription of interviews, which will then be analyzed to find central themes related to HR management and digital technology. Next, the researcher will compare these themes with relevant literature to conclude the impact of innovation and digital technology on HR management in MSMEs.

### **Data Validity and Research Ethics**

The validity of the data in this qualitative research will be maintained by using source and method triangulation techniques. Source triangulation will be carried out by comparing the results of interviews with various respondents (managers and employees) and field observations. In contrast, method triangulation will involve using interviews and observations to confirm the data obtained. Flick (2018) explains that triangulation helps ensure the data collected is valid and reliable. In addition, member checking will also be carried out by returning the interview results to respondents to ensure the accuracy of the data interpretation. This investigation will adhere to stringent research ethics regulations. Each respondent will be provided with an explanation of the research's purpose and their rights, including the right to provide voluntary consent (informed consent) before becoming a participant. All respondents will be assured of the confidentiality of their identities and the

information they submit. Based on the established principles of research ethics, the data collected will be exclusively utilized for academic and research purposes (Babbie, 2019).

## **RESEARCH RESULTS AND DISCUSSION**

### **1. Adoption of Digital Technology by MSMEs**

Based on interviews with MSME managers who were the research samples, most MSMEs have used digital technology in various aspects of their HR management. Digital technology has been proven to provide convenience in employee management, such as in the payroll process, attendance, and training. For example, many MSMEs use cloud-based software to store and manage employee data. It increases efficiency and allows for faster and more accurate data access. These results align with the findings of Rahman (2022), which show that using digital technology in HR can increase transparency and operational efficiency.

### **2. Challenges in Implementing Digital Technology**

Although digital technology provides benefits, MSME managers also face several challenges. One of the main problems is the inability of some employees to adapt to the newly implemented technology system. Several MSME managers stated that not all employees have sufficient digital skills, so they often have difficulty using the new system. In addition, the high cost of training and implementing digital systems is also a significant obstacle. It reminds us of the findings of Hasan (2021), who noted that many MSMEs face difficulties in adopting technology due to limited resources and knowledge.

### **3. The Role of Leadership in Digital HR Management**

The results of this investigation indicate that MSME leaders who comprehend the significance of digital technology play a critical role in the successful implementation of digital systems in the workplace. Leaders proficient in technology are more likely to inspire their employees to adapt rapidly and comprehend the advantages of utilizing digital systems. It emphasizes the conclusions of Surya (2023), who asserted that leaders with a comprehensive comprehension of technology are more adept at facilitating organizational change.

### **4. Product Innovation and Digital Marketing**

In addition to HR management, this study shows that many MSMEs have utilized digital technology for product innovation and marketing. They use e-commerce platforms and social media to promote their products, allowing them to reach a wider market, even internationally. This finding is in line with research by Haryanto (2023), which found that digital technology in marketing can accelerate market penetration and increase the competitiveness of MSME products.

Based on the results of research conducted on several MSMEs that have implemented digital technology in HR management and product marketing, various findings were found relevant to the research topic. One important finding is the influence of digital technology on operational efficiency

and improving the quality of HR management. Most MSMEs experienced improvements in employee data management, payroll, and attendance after using cloud-based applications and HR management software. Therefore, employee training and mentoring are important factors so technology can be implemented effectively.

Table 2 Digital Technology for HR Management in MSMEs

Managed Aspects	Before Technology Implementation	After Technology Implementation	Percentage Increase
Payroll	Manual, error-prone	Automatic, more accurate	40%
Attendance Management	Manual takes time	Digital attendance system, efficient	35%
Employee Training	Limited, face-to-face only	Online training and digital modules	50%
Employee Performance Management	Not integrated	Digital monitoring system, more structured	45%

The table above compares HR management in MSMEs before and after the implementation of digital technology. There is a significant improvement in all aspects of HR management, such as payroll, attendance, training, and employee performance management. Implementing HR management software and cloud-based systems has improved operational efficiency and decreased the number of mistakes made in administrative processes. Furthermore, employee training that was previously limited can now be conducted online using digital materials, which increases the reach and accessibility of training. These findings suggest that using digital technology in human resources management can improve the quality of HR management in micro, small, and medium-sized enterprises (MSMEs). However, there are still challenges that need to be addressed.

## Discussion

### 1. The Relationship between Digital Technology and HR Performance

This study's findings indicate that using digital technology in human resources management considerably affects the operational efficiency of micro, small, and medium-sized enterprises (MSMEs). Software for employee data management, payroll, and attendance reduces the administrative burden and increases work productivity. It aligns with Rahman's findings (2022), which show that digital technology helps reduce administrative errors and speeds up decision-making.

### 2. Challenges in Digital HR Management

Although digital technology offers many advantages, the biggest challenge for MSMEs is the level of readiness of human resources to face it. The study results show that many employees are not fully ready to adapt to the new digital system. Hasan's findings (2021) show that the lack of digital skills is a major obstacle for many MSMEs in implementing digital technology in their HR

management. Therefore, continuous training is an important factor in maximizing the potential of technology.

### 3. Leaders as a Key Factor in Technology Implementation

MSME leaders who understand the importance of digital technology have a very important role in the success of technology implementation. Leaders committed to developing employee digital capabilities can facilitate the transition to digital systems more easily. It supports the findings of Surya (2023), who stated that effective leadership based on technological knowledge can improve organizational readiness and adaptation to technological change.

### 4. Innovation Through Digital Technology

Product innovation and digital marketing found in this study indicate that digital technology affects HR management and accelerates the innovation process in products and marketing. Social media and e-commerce allow MSMEs to reach global markets more easily and efficiently, increasing their competitiveness. This finding strengthens Haryanto's research (2023), which emphasizes that e-commerce and digital marketing are effective ways to expand the MSME market at the global level.

### 5. Cost and Access to Technology Challenges

One significant obstacle is the relatively high cost of implementing digital technology for hardware and software. According to Aditama's research (2020), many MSMEs have difficulty accessing new technology due to high costs. Therefore, government policies are needed to provide easier and more affordable access to digital technology, especially for MSMEs with limited resources.

## CONCLUSION

This study examines how MSMEs use innovation and digital technology to deal with the global market in their human resource management strategy. Qualitative research methods, including in-depth interviews and case studies, have concluded that using digital technology in human resource management in micro, small, and medium-sized enterprises considerably affects operational efficiency. Many MSMEs have adopted technology to manage HR aspects such as payroll, attendance, and employee training. Cloud-based software and other HR management applications have been shown to speed up administrative processes and improve employee data accuracy.

Although many MSMEs have started to adopt technology, the main challenges faced are the low digital skills of most employees and the high cost of implementing technology. It demonstrates the significance of ongoing HR training to optimize digital technology's utilization. Leadership that comprehends digital technology has also been shown to be effective in expediting the adoption and successful implementation of the technology. Leaders who are competent in technology can provide the motivation and facilitation needed for easier adaptation.

Using digital technology in marketing and product innovation allows MSMEs to compete globally. E-commerce platforms and social media help expand their market to the international level. Thus, this study shows that adopting digital technology in HR management and marketing is important for MSMEs to survive and thrive in the global market.

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