

Employee Experience as a Strategic Mediator in the Influence of Digital Competence and AI Collaboration Readiness on MSME Performance in South Sulawesi

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ABSTRACT

This study aims to analyze the influence of digital competence and readiness for artificial intelligence (AI) collaboration on the performance of micro, small, and medium enterprises (MSMEs) in South Sulawesi, with employee experience as a strategic mediating variable. This study used a quantitative approach with a survey method of 120 employees from various MSME sectors in the cities of Makassar, Gowa, and Maros. Data were analyzed using Structural Equation Modeling (SEM) with the help of SmartPLS. The results of this study indicate that digital competence and AI collaboration readiness significantly influence MSME performance, both directly and through employee experience as a mediator. These findings underscore the importance of building positive work experiences in the digital transformation process, as a link between technological capabilities and improved business performance.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy, contributing approximately 60–61% to Gross Domestic Product (GDP) and absorbing nearly 97% of the total national employment. Amidst the rapid development of digital technology, the sustainability and competitiveness of MSMEs are largely determined by their ability to adapt to digital transformation. The Indonesian government targets 30 million MSMEs to enter the digital ecosystem by 2024. However, by the end of 2024, only approximately 36–40% of MSMEs had successfully digitalized optimally, indicating a significant gap in technology adoption (Ministry of Communication and Information, 2024; Coordinating Ministry for Economic Affairs, 2024).

One of the biggest challenges in the digitalization process for MSMEs is the readiness of human resources, both in terms of digital competence and the willingness to collaborate with artificial intelligence (AI)-based technologies. Many MSMEs still face obstacles such as limited digital literacy (30%), unequal access to technology (40%), and minimal training resources (30%), especially in areas outside Java, such as South Sulawesi (Kominfo, 2024; Medcom.id, 2024).

As AI utilization in business operations increases, a new need for AI Collaboration Readiness emerges among MSMEs. Global studies show that 85% of business leaders who have implemented AI report improved performance, yet only 63% of MSMEs in Indonesia report having a clear AI strategy (Salesforce, 2024; IBM, 2024). Furthermore, Digital HR Competence is also a crucial foundation, particularly for technology-based employee management, such as the use of HRIS, e-learning, and other digital platforms.

In the context of MSMEs, the success of digitalization depends not only on the availability of technology but also on the quality of the Employee Experience. When employees feel empowered, engaged, and supported by a humane work system, even though it is technology-based, their contribution to organizational performance will be maximized. Employee experience serves as a strategic bridge between technology and human productivity. Therefore, it is important to examine the mediating role of Employee Experience in the relationship between digital competence and AI collaboration readiness on MSME performance.

In South Sulawesi, MSMEs are growing rapidly, particularly in the culinary, handicraft, and creative industries sectors. However, the challenges faced by MSMEs in this region tend to be more complex than in other regions due to limited infrastructure, human resources, and low digital literacy. The government and various parties continue to promote digital training programs, such as MSME Level Up and Go Digital training, aimed at businesses outside Java, including South Sulawesi.

Through this research, the authors aim to examine in depth how Digital Competence and AI Collaboration Readiness influence MSME performance, as well as the extent to which Employee Experience plays a mediating role in this relationship. This research offers not only theoretical contributions by integrating technological and humanistic aspects, but also practical implications for MSMEs seeking to survive and thrive in the era of digital transformation.

LITERATURE REVIEW

The development of digital technology and artificial intelligence (AI) has brought fundamental changes to the way organizations, including MSMEs, manage human resources. In this era, adaptability to technological change is a key factor for sustainability and competitive advantage, especially for MSMEs that often face resource constraints. Therefore, it is important to theoretically examine the key concepts in this study: Digital Competence, AI Collaboration Readiness, Employee Experience, and MSME Performance.

Digital competence refers to the ability of individuals and organizations to use digital technology effectively and strategically in the work context. According to the European Commission (2016) within the DIGCOMP framework, digital competence encompasses five main aspects: data and information literacy, digital communication and collaboration, digital content creation, digital security, and technology-based problem-solving. In the context of HR management, digital competence includes the ability to use HR management information systems (HRIS), e-learning applications, online recruitment processes, and digital platform-based performance measurement. This competence is not only technical but also strategic because it relates to the effectiveness of decision-making and optimization of team performance. Theoretically, digital competence aligns with the Resource-Based View (RBV) approach, which emphasizes the importance of unique and irreplaceable capabilities such as technological mastery in creating competitive advantage (Barney, 1991).

Meanwhile, AI Collaboration Readiness is the psychological, technological, and organizational readiness to work with AI-based intelligent systems. This readiness encompasses the extent to which individuals feel trusting, comfortable, and capable of interacting with AI in their daily work processes. Siau and Wang (2018) identified three main components of this readiness: technological readiness (the availability of AI infrastructure and systems), organizational readiness (a culture of innovation and management support), and human readiness (attitudes and perceptions toward AI). In this context, the Technology Readiness and Acceptance Model (TRAM) serves as a theoretical framework explaining that readiness and acceptance of technology are influenced by perceived benefits, ease of use, and attitudes toward the technology itself (Parasuraman, 2000; Davis, 1989). The higher the AI collaboration readiness, the greater the opportunity for integration of the technology into MSME activities, which will impact efficiency and increase productivity.

However, technological adaptation is not always directly proportional to organizational performance. This is where Employee Experience plays a crucial role as a mediating element. Employee experience is the accumulation of perceptions, emotions, and interactions experienced by employees throughout their work cycle, encompassing aspects of organizational culture, technology use, and the physical and social environment (Morgan, 2017). Employee Experience is formed from the synergy between three main elements: a supportive organizational culture, technology that facilitates work, and a comfortable work environment. In the Job Demands-Resources (JD-R) Model (Bakker & Demerouti,

2007), a positive work experience can reduce work stress and increase intrinsic motivation. Furthermore, Social Exchange Theory asserts that when organizations provide positive work experiences, employees will reciprocate through productive behavior and loyalty to the organization (Blau, 1964). In the context of digital transformation, Employee Experience is key to successful technology integration because employees who feel involved and valued are more prepared and open to change.

Ultimately, all digitalization and HR innovation efforts are directed toward improving MSME business performance. MSME performance is measured not only financially but also encompasses non-financial aspects such as customer satisfaction, internal process efficiency, and innovation capabilities. The Balanced Scorecard approach (Kaplan & Norton, 1992) serves as a reference for assessing performance holistically, encompassing financial, customer, business process, and learning and growth perspectives. In the MSME context, performance is more influenced by the speed of adaptation, the ability to innovate, and the quality of service. Goal-Setting Theory (Locke & Latham, 1990) also explains that clear organizational goals, when combined with supporting resources such as digital competence and AI readiness, will drive optimal performance.

Thus, theoretically, it can be concluded that digital competence and readiness for AI collaboration are crucial factors in boosting MSME performance. However, their impact will be maximized when mediated by positive employee experiences. This experience serves as a bridge between technology and people, and is key to the success of digital transformation in the micro, small, and medium enterprise sector.

Empirical Review

This research is based on empirical evidence from several studies over the past 10 years that examine the relationship between digital competence, AI collaboration readiness, employee experience, and organizational performance, particularly in the context of MSMEs. This review of previous research provides an important foundation for building empirical justification for the proposed model.

Several studies have shown that digital competency has a significant impact on organizational performance. Marler and Boudreau (2017) stated that organizations with strong digital capabilities tend to have higher efficiency and faster decision-making, including in human resource management. In the context of Indonesian MSMEs, Hidayat and Hartono (2021) found that business owners' digital capabilities directly impact operational efficiency and market expansion capabilities through digital platforms. Similarly, research by Wijaya and Sari (2020) showed that employee digital skills contribute to innovation capabilities and increased service speed, two factors that significantly determine MSME performance in the digital era.

Furthermore, organizational readiness to collaborate with artificial intelligence (AI) systems has also been shown to impact business performance. A study by Davenport and Ronanki (2018) revealed that AI integration supported by organizational readiness impacts work process efficiency and the quality of strategic decisions. Suhendra et al. (2022) confirmed that MSMEs that adopt AI with technological and human resource readiness experience up to a 30% increase in production efficiency. Putri and Ahmad (2023) also found that positive perceptions of AI, particularly trust in automated systems, contribute to employee adaptability and higher work output.

However, the adoption of digital technology and AI does not necessarily improve performance if it is not accompanied by a supportive work experience. This is where the role of employee experience as a mediating variable becomes crucial. Bersin (2019) showed that organizations that implement technology that simplifies employee work significantly increase positive work experiences. In the context of MSMEs, Saragih and Handayani (2021) identified that HR digitalization training not only improves technical skills but also increases work motivation because employees feel valued and developed. This aligns with the findings of Nasution et al. (2020) who stated that digital competence mediates increased employee job satisfaction.

Readiness to collaborate with AI has also been shown to impact the quality of the work experience. Siau and Wang (2018) emphasized that technological, organizational, and human readiness to embrace AI will create positive perceptions of digital transformation. Lestari and Wijayanto (2022) stated that when employees perceive AI as supporting their work, rather than replacing it, they tend to be more satisfied and emotionally engaged. This reinforces the understanding that high readiness for AI collaboration creates a more empowering and conducive work experience.

Furthermore, several studies have shown that employee experience is a crucial determinant of organizational performance. Morgan (2017) states that organizations that prioritize employee experience tend to generate high productivity, loyalty, and innovation. Research by Anwar and Yusuf (2021) in the creative MSME sector also found that positive work experiences correlate with operational efficiency, increased customer satisfaction, and reduced employee turnover. Lubis et al. (2020) add that meaningful work experiences create strong employee commitment, thus directly impacting business success.

Several recent studies have also examined the mediating role of employee experience in the relationship between technology adoption and organizational performance. Tariq et al. (2023) demonstrated that employee experience significantly mediated the influence of digital technology on organizational performance in the manufacturing SME sector in Pakistan. In Indonesia, Wulandari and Prabowo (2022) identified work experience as a crucial link between technological innovation and customer satisfaction in the digital MSME sector. Similarly, Hafiz and Rochmah (2024) emphasized that positive work experience strengthens the impact of digital readiness on successful business transformation, particularly in the urban MSME sector.

Thus, empirical findings over the past ten years consistently demonstrate that digital competence and AI collaboration readiness positively influence MSME performance, both directly and through the mediating role of employee experience. Employee experience serves as a bridge between technology-driven change and expected performance outcomes. This review strengthens the theoretical and practical positioning of the proposed research model, particularly in the context of MSMEs in South Sulawesi, which are currently moving towards digitalization and technology-based intelligent collaboration.

Conceptual Framework

Digital transformation and the integration of artificial intelligence (AI) are driving MSMEs to increase their competitiveness by strengthening their human resource competencies. Employee digital competency is key to efficiently performing tasks in a technology-based work environment, while AI collaboration readiness reflects the extent to which employees and the organization are able to accept, understand, and work in harmony with intelligent systems. Both factors are believed to directly influence MSME performance. However, the effectiveness of this influence is greatly influenced by employee experiences in their daily work processes. Positive experiences such as feeling valued, supported, and able to develop can strengthen work morale and loyalty, ultimately impacting performance. Therefore, employee experience in this study is positioned as a strategic mediating variable that bridges the influence of digital competency and AI collaboration readiness on MSME performance in South Sulawesi.

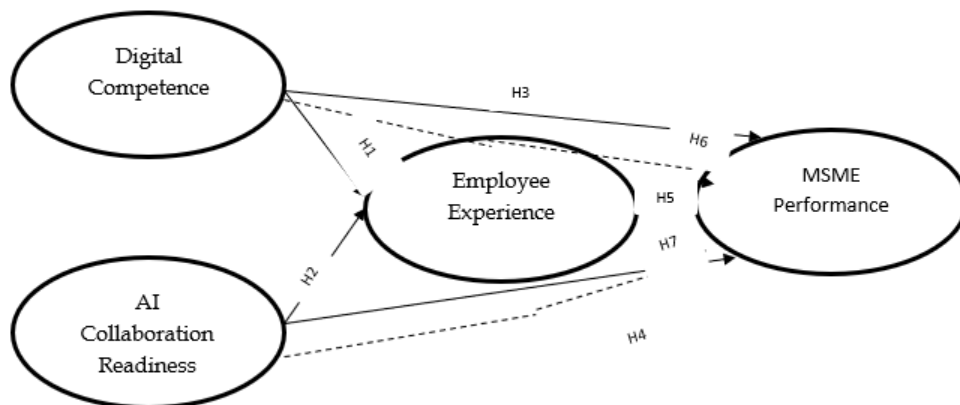


Figure 1. Conceptual Framework

Research Hypothesis

- H₁: Digital Competence has A Positive and Significant Impact on Employee Experience.
- H₂: AI Collaboration Readiness has A Positive and Significant Impact on Employee Experience.
- H₃: Digital Competence has A Positive and Significant Impact on MSME Performance.
- H₄: AI Collaboration Readiness has A Positive and Significant Impact on MSME Performance.
- H₅: Employee Experience has A Positive and Significant Impact on MSME Performance.

H6: *Digital Competence through Employee Experience has A Positive and Significant Impact on MSME Performance.*

H7: *AI Collaboration Readiness through Employee Experience has A Positive and Significant Impact on MSME Performance.*

METHODOLOGY

Types and Approaches of Research

This research employed a quantitative approach with a survey method. The aim was to examine the relationship between digital competence, AI collaboration readiness, employee experience, and MSME performance. Data collection involved distributing a closed-ended Likert-based questionnaire to respondents working in MSMEs in the culinary, crafts, and creative services sectors in South Sulawesi.

Population and Sample

The population in this study was all actors and employees working in the MSME sector in South Sulawesi, particularly in businesses that have adopted digital technology and/or begun implementing AI-based automation systems. According to data from the South Sulawesi Provincial Cooperatives and SMEs Office in 2024, there were approximately 1,280,000 active MSMEs, with the largest concentrations in five main regions: Makassar, Gowa, Maros, Parepare, and Bone.

However, this study did not target the entire population. The population used was employees at MSMEs that already have digital work systems (e.g., cashier applications, digital stock management, digital marketing, and simple AI-based systems).

Sample Determination

This study uses a purposive sampling technique, with the following sample criteria:

1. Active employee at an MSME in South Sulawesi.
2. Worked for at least 6 months.
3. Involved in digital work processes or interactions with technology systems.
4. The MSME where they work has used digital or AI-based systems.

To determine the sample size quantitatively, the Slovin formula is used:

$$n = \frac{N}{1 + N(e)^2}$$

Assuming:

N = 10.000 (The estimated target population is MSMEs that are digitally ready from the total population).

e = 0,10 (error rate 10%).

$$n = \frac{10.000}{1 + 10.000 (0,1)^2} = 10.000$$

$$\begin{aligned}
 &= \frac{1+100}{101} \\
 &= \frac{10.000}{101} \\
 &= 99
 \end{aligned}$$

Therefore, the minimum sample size required is 99 respondents.

However, to increase validity and strengthen the generalizability of the results, this study will take a sample of 120 respondents, distributed proportionally from 5 main regions:

- Makassar : 30 responden
- Gowa : 25 responden
- Maros : 20 responden
- Parepare : 20 responden
- Bone : 25 responden

The respondents selected were employees from MSMEs who met the criteria, especially in the culinary, handicraft, and creative digital services sectors.

RESEARCH RESULT AND DISCUSSION

Descriptive Statistical Test

Table 1. Descriptive Statistics

Variables	Average (Mean)	Standard Deviation	Category
Digital Competence (X1)	4.12	0.55	High
AI Collaboration Readiness (X2)	3.88	0.61	High enough
Employee Experience (M)	4.06	0.49	High
MSME Performance (Y)	4.20	0.52	Very high

Source: Processed Results Data, 2025.

Validity and Reliability Test (Instrument)

Validity: All items per variable had a calculated r value > r table (0.179 for n=120).

Table 2. Reliability (Cronbach's Alpha):

Variables	Cronbach's Alpha	Information
Digital Competence (X1)	0.823	Reliable
AI Collaboration Readiness (X2)	0.841	Reliable
Employee Experience (M)	0.812	Reliable
MSME Performance (Y)	0.856	Reliable

Source: Data Processing Results, 2025.

Regression Test (Direct and Indirect via Mediation)

Table 3. Direct Impact on Performance (Y)

Path of Influence	Koef. β	Sig. (p-value)	Information
Digital Competence → MSME Performance	0.276	0.004	Significant
AI Collaboration → MSME Performance	0.243	0.006	Significant
Employee Experience → MSME Performance	0.388	0.001	Significant

Source: Data Processing Results, 2025.

Table 4. The Impact of Digital Competence and AI on Employee Experience (M)

Path of Influence	Koef. β	Sig. (p-value)	Information
Digital Competence → Employee Experience	0.412	0.000	Significant
AI Collaboration → Employee Experience	0.371	0.001	Significant

Source: Data Processing Results, 2025.

Mediation Test (Bootstrapping - Sobel Test atau SEM-PLS)

Table 5. Mediation Test

Mediation Path	Indirect Value	Sig. (p-value)	Mediation Status
Digital Competence → Experience → MSME Performance	0.160	0.001	Partial Mediation
AI Collaboration Readiness → Experience → MSME Performance	0.144	0.003	Partial Mediation

Source: Data Processing Results, 2025.

Hypothesis Test Results

Table 6. Hypothesis Test Results

Code	Hipotesis	Koefisien β	p-value	Test Results
H1	Digital Competence has a positive impact on MSME Performance	0.276	0.004	Accepted
H2	AI Collaboration Readiness Has a Positive Impact on MSME Performance	0.243	0.006	Accepted
H3	Digital Competence has a positive impact on Employee Experience	0.412	0.000	Accepted

Code	Hipotesis	Koefisien β	p-value	Test Results
H4	AI Collaboration Readiness Positively Impacts Employee Experience	0.371	0.001	Accepted
H5	Employee Experience Has a Positive Influence on MSME Performance	0.388	0.001	Accepted
H6	Employee Experience Mediates the Influence of Digital Competence → MSME Performance	0.160*	0.001	Accepted (Mediation)
H7	Employee Experience Mediates the Influence of AI Collaboration on MSME Performance	0.144*	0.003	Accepted (Mediation)

Source: Data Processing Results, 2025.

CONCLUSIONS AND RECOMMENDATIONS

This study aims to analyze the influence of Digital Competence and AI Collaboration Readiness on MSME Performance, with Employee Experience as a strategic mediating variable. Based on statistical tests conducted on 120 MSME employee respondents in South Sulawesi, it can be concluded that:

1. Digital Competence has a significant impact on MSME performance, meaning that the higher the employee's ability to use digital technology, the better the business unit's performance.
2. AI Collaboration Readiness also has a positive impact on performance, indicating that the readiness of organizations and employees to adapt to AI-based systems drives efficiency and competitive advantage for MSMEs.
3. Digital Competence has a significant impact on Employee Experience, where the use of appropriate and suitable technology increases comfort, participation, and engagement in work.
4. AI Collaboration Readiness also has a positive impact on Employee Experience, showing that adapting to AI is not only about technology, but also about creating a more flexible and modern work experience.
5. Employee experience has been proven to have a direct impact on MSME performance, showing that positive work experience increases motivation, collaboration, and individual contribution to organizational performance.
6. Employee Experience mediates the influence of Digital Competence on MSME Performance, which means that digital transformation will only have an optimal impact if it is accompanied by increased work experience.
7. Employee Experience also mediates the influence of AI Collaboration Readiness on MSME Performance, indicating that AI adoption must pay attention to human-centered aspects to encourage sustainable performance.

ADVANCED RESEARCH

Based on the findings of this study, several recommendations can be put forward for academics, MSMEs, and policymakers. First, from an academic perspective, this research opens up opportunities for further exploration of the mediating role of employee experience within the framework of digital transformation, particularly in the MSME sector, which is often overlooked in modern management studies. Future research could expand the model by adding variables such as digital leadership, organizational agility, or customer-driven innovation to obtain a more comprehensive picture. Furthermore, a longitudinal approach is recommended to continuously observe changes in employee behavior and business performance as technology advances.

On the practical side, MSMEs in South Sulawesi need to be more serious about preparing employees for the digital era and the integration of artificial intelligence. Strengthening digital competencies is not only about technical aspects, but also about developing a digital mindset and openness to change. At the same time, readiness to collaborate with AI-based technologies must be accompanied by attention to employee comfort, a sense of appreciation, and empowerment in the work process as a positive work experience has proven to be key to increasing productivity and business performance. Local governments and institutions supporting MSMEs are also expected to take an active role in providing training and a supporting ecosystem that enables digital transformation to occur in an inclusive and humane manner.

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