

The Role of Knowledge Management Dimension to Improve the Performance of MSMEs in the Digital Era

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Abstract—This study aims to measure the impact of knowledge management dimensions—knowledge generation, knowledge sharing, and knowledge utilization—on the performance of Micro, Small, and Medium Enterprises (MSMEs) in the digital era. Knowledge management is increasingly recognized as a critical factor in enhancing business performance, particularly for MSMEs that face challenges in adapting to technological advancements. The research was conducted in Kerinci Regency, with a sample of 100 MSME entrepreneurs selected using a purposive sampling technique. The study employs the Structural Equation Model (SEM) with AMOS to analyze the relationships among variables and test the proposed hypotheses. The findings indicate that the dimensions of knowledge management, including knowledge generation, knowledge sharing, and knowledge utilization, have a significant and positive impact on MSME performance. Specifically, knowledge management contributes significantly to digital transformation, with an effect size of 70.7%, suggesting that MSMEs that effectively manage knowledge are more likely to adopt and integrate digital technologies into their operations. Furthermore, the combined influence of knowledge management and digital transformation on MSME performance is both substantial and statistically significant, with an effect magnitude of 56.6%. These results highlight the essential role of knowledge management in driving digital transformation and improving business outcomes for MSMEs. This study provides valuable insights for policymakers, business practitioners, and researchers by emphasizing the importance of developing knowledge management strategies tailored to MSMEs. Future research should explore other moderating variables, such as organizational culture and technological readiness, to further understand the dynamics of knowledge management in the digital transformation of MSMEs.

Keywords: Knowledge Management; Digital Transformation; Knowledge Creation; Knowledge Sharing; Knowledge Utilization

1. INTRODUCTION

MSMEs refer to Micro, Small, and Medium Enterprises in Indonesia. These businesses serve a vital function, given the significance and contribution to the country's economy, contribute to job creation, income generation, and poverty alleviation (Durst, Foli, & Edvardsson, 2024). MSMEs are often characterized by their limited resources, informal nature, and reliance on traditional practices. Despite these challenges, MSMEs have the potential to drive economic development and social progress (Widodo, 2023). This section will explore the significance of MSMEs within the framework of knowledge management and its function these enterprises play in fostering innovation and competitiveness. MSMEs in Indonesia face various obstacles include restricted access to technology, financial constraints, and a lack of formal education. However, they have shown resilience and adaptability in utilizing their knowledge and skills to overcome these challenges. By implementing effective knowledge management strategies, MSMEs can enhance their productivity, efficiency, and market competitiveness. Businesses will reap the benefits, and Indonesia's economy as a whole will gain from this as well.

An organization's decision-making can be enhanced by knowledge management, which entails collecting, organizing, and distributing relevant information, collaboration, and innovation (Sulistyo & Ayuni, 2020). It involves creating systems and processes to identify, store, and distribute knowledge assets, such as documents, databases, and expertise. Knowledge management also plays a vital role in cultivating a culture of perpetual learning and development inside an organization (Han, Zhou, Carr, & Jiang, 2024). Employees can access resources and expertise more easily, leading to improved problem-solving and productivity. Furthermore, by leveraging the collective knowledge of its employees, organizations able to respond more rapidly to shifts in the market and maintain a competitive advantage over other businesses. In the current rapid corporate landscape, efficient knowledge management is crucial for maintaining relevance and achieving long-term success. By continuously sharing and updating knowledge, organizations can ensure that they are always at the forefront of industry trends and innovations. This not only benefits the company as a whole but also empowers individual employees to take ownership of their learning and development. As a result, employees are more engaged, motivated, and committed to the success of the organization. Ultimately, effective knowledge management is not just a tool for survival, but a key driver of growth and sustainability in today's dynamic and evolving business landscape (Alharbi & Aloud, 2024; Buntoro et al., 2023).

Furthermore, Promoting a culture of knowledge management and dissemination inside a company can result to increased collaboration and innovation among team members. When employees feel encouraged to share their expertise and learn from one another, it creates a sense of community and mutual support (Siddiqui, Yusheng, Ravina-Ripoll, & Aden, 2024). This can lead to the development of new ideas and solutions that may not have been possible without the collective knowledge and experience of the entire team. In addition, promoting a culture of continuous learning can help employees Adapt to changes and maintain a competitive edge by investing in the growth and development of personnel.

By investing in the advancement and evolution of their employees, organizations can create a competitive advantage that sets them apart in the marketplace (Meldona, Soetjipto, Utaberta, Wardoyo, & Hermawan, 2023).

Encouraging a culture of continuous learning also helps to foster a growth mindset among employees, where they are open to taking on new challenges and expanding their skills. This may result in heightened job satisfaction and enhanced staff engagement, as individuals feel valued and supported in their professional development (Jasin et al., 2024). Additionally, Organizations that emphasize learning and development are more inclined to recruit and retain premier talent, as employees are more prone to remain with a company that invests in their growth and advancement. Overall, creating a culture of continuous learning can exert a beneficial influence on the individual employees and the organization as a whole. By fostering a culture of continuous learning, organizations can also stay ahead of industry trends and remain competitive in the market (Damiyana, Maulina, Muftiadi, Auliana, & Kurniadi, 2024). Employees who are constantly learning and growing are more adaptable and better equipped to handle changes and challenges within the company. This can ultimately lead to increased innovation and productivity, driving the organization toward success (Mauludin, Sudarmiatin, Mukhlis, & Handayati, 2023). In conclusion, investing in learning and development is not only advantageous for individual employees, but it is also crucial for the long-term success and sustainability of the organization.

In the present-day digital age, the impact of technology on knowledge management at MSMEs cannot be overstated. Digital tools and platforms have revolutionized the way knowledge is created, stored, and accessed within organizations, leading to increased efficiency and productivity (Chege & Wang, 2020). These digital advancements have enabled MSMEs to streamline their processes, improve decision-making, and stay competitive in the market (Kanaan, Alsoud, Asad, Ta'amnha, & Al-Qudah, 2024). With the ability to easily access and share information across different departments and locations, MSMEs can now leverage their knowledge more effectively to drive growth and innovation (Tu, 2024)(Meldona et al., 2023). Overall, the integration of digital tools in knowledge management has become essential for MSMEs to adapt to the dynamic and rapidly evolving business landscape.

By utilizing digital tools for knowledge management, MSMEs can better organize and centralize their information, facilitating staff collaboration and informed decision-making. This increased connectivity also allows for real-time updates and feedback, enabling MSMEs to respond quickly to market changes and customer demands. Additionally, the use of data analytics and artificial intelligence in knowledge management can provide valuable insights and predictions that help MSMEs anticipate trends and make strategic business decisions (Erdavit & Yohana, 2024). As technology continues to advance, MSMEs must continue to embrace digital tools in their knowledge management strategies to remain competitive and drive sustainable growth (Apriliani & Prakoso, 2023).

The dimensions of knowledge management in this study consist of knowledge creation, knowledge sharing, and knowledge utilization. Knowledge creation is the process of generating new knowledge inside an organization through the interchange and analysis of information possessed by its members. (Abusweilem & Abualoush, 2019; Wierzbiński, Zaborek, Wosiek, & Surmacz, 2023). Knowledge sharing refers to the exchange of information and expertise, ideas, experiences, or skills among individuals, teams, units, or organizations. Knowledge sharing constitutes a component of knowledge management. This procedure can be carried out informally or formally and can occur in a variety of settings, such as in companies, organizations, or agencies (Pacheco, Castillo, Manotas, Barrios, & Juvinao, 2022). Knowledge Utilization is a process related to the utilization of existing knowledge. success, because their skills and experience are found in the creation of organizational knowledge (Djangone & El-Gayar, 2021; Kareem et al., 2021).

For digital-based MSMEs, knowledge management is crucial in ensuring that employees have the requisite abilities and information to modify to rapidly changing technologies and market trends. Digital-based MSMEs can streamline operations and improve collaboration among team members. This may result in enhanced efficiency, innovation, and ultimately, profitability (Jasin et al., 2024). Moreover, by leveraging knowledge management tools and technologies, MSMEs can better capture and disseminate valuable insights, ultimately leading to better decision-making and strategic planning (Krivokuća et al., 2024). In conclusion, knowledge management is not just a tool for survival in the digital age, but a key driver for expansion and achievement in a progressively competitive marketplace.

By investing in knowledge management systems, MSMEs can maintain a competitive edge and adjust to evolving market conditions more efficiently. Access to real-time data and analytics enables firms to make educated decisions that enhance profitability and promote sustainable growth. Additionally, by fostering a culture of perpetual learning and knowledge dissemination, MSMEs can empower their employees to be more productive and innovative in their roles (Budiono & Bongso, 2024). Ultimately, knowledge management is a powerful tool that can transform the way MSMEs operate and thrive in today's fast-paced digital landscape. By utilizing knowledge management systems, MSMEs can also enhance their customer service by providing more personalized and efficient solutions. This can result in increased customer satisfaction and loyalty, ultimately leading to a stronger competitive advantage in the market (Hudakova, Masar, Buganova, & Mocova, 2023; Mauludin et al., 2023). Furthermore, knowledge management systems can help MSMEs streamline their processes and improve overall efficiency, reducing costs and increasing overall profitability (Hendri, Fahrana, Listiana, & Rosnani, 2024). In conclusion, investing in knowledge management is not only beneficial for the present success of MSMEs but also essential for their long-term sustainability and growth in the ever-evolving business environment.

Knowledge management is essential in helping MSMEs address the obstacles they face and achieve sustainable growth. By effectively capturing, storing, and sharing knowledge within their organizations, MSMEs can improve decision-making processes, innovate new products and services, and build stronger relationships with customers and suppliers (Marulanda-Grisales, Herrera-Pulgarín, & Urrego-Marín, 2024). Additionally, knowledge management can help

MSMEs identify and leverage opportunities for collaboration and partnership, enabling them to expand their reach and access new markets. In this way, knowledge management serves as a powerful tool for MSMEs to build resilience, adaptability, and long-term success in the competitive business landscape of Indonesia. By utilizing knowledge management practices, MSMEs can also enhance their internal operations, streamline processes, and increase efficiency (Durst et al., 2024). This can lead to cost savings and improved productivity, ultimately contributing to higher profitability and sustainability. Furthermore, by fostering a culture of perpetual learning and knowledge dissemination, MSMEs can empower their employees to develop new skills and expertise, driving innovation and growth inside the organization. Overall, increasing in knowledge management has the potential to significantly benefit MSMEs in achieving their business goals and staying ahead in the dynamic business environment (Potjanjaruwit, 2021).

Although various studies have highlighted the importance of knowledge management in improving organizational competitiveness and efficiency, there are several research gaps that still need to be explored further in the context of MSMEs. One of the main gaps is the lack of studies that specifically examine the application of knowledge management in digital-based MSMEs. Most of the existing research focuses more on large companies, while the understanding of how MSMEs in Indonesia, with limited resources and access to technology, can adopt and optimize knowledge management is still limited. Therefore, more in-depth research is needed to understand the strategy of implementing knowledge management in accordance with the characteristics of digital MSMEs in Indonesia. In addition, there are still few studies that explore the relationship between knowledge management and innovation in MSMEs. Although theoretically knowledge management is believed to encourage innovation and competitiveness, empirical studies that directly measure its impact on the productivity and growth of MSMEs in Indonesia are still rare. More in-depth studies on how aspects of knowledge creation, knowledge sharing, and knowledge utilization can affect innovation performance in MSMEs are still needed to obtain stronger empirical evidence.

Furthermore, the integration of knowledge management with strategic decision-making in MSMEs is still an area that has not been widely researched. Most of the existing studies discuss knowledge management as a tool to improve operational efficiency, while its role in supporting strategic decision-making in MSMEs is still not widely studied. There have not been many studies that highlight how knowledge management can help MSMEs in developing long-term business strategies, especially in the face of market uncertainty and ever-changing technological developments. In addition, a knowledge management model that is suitable for MSMEs in Indonesia still needs to be developed. Most of the knowledge management approaches that are widely used today are adapted from large companies or from foreign contexts, so they are not necessarily relevant to the characteristics of MSMEs in Indonesia. Therefore, more contextual research is needed to develop a more applicable knowledge management model, both for digital-based MSMEs and those that still apply traditional practices.

By filling this research gap, it is hoped that a more effective and appropriate knowledge management strategy can be developed for MSMEs in Indonesia. Further studies on the factors influencing the adoption and success of knowledge management and how the integration of digital technologies can strengthen these systems will make a significant contribution to the development of the MSMEs sector and overall economic growth.

The purpose of this research is to analyze the impact of knowledge management dimensions—knowledge generation, knowledge sharing, and knowledge utilization—on the performance of Micro, Small, and Medium Enterprises (MSMEs) in the digital era. The study aims to examine how these knowledge management practices contribute to digital transformation and, in turn, enhance MSME performance. By employing the Structural Equation Model (SEM) with AMOS, this research seeks to provide empirical evidence on the significance of knowledge management in fostering innovation, efficiency, and competitiveness among MSMEs. The findings are expected to guide MSME entrepreneurs, policymakers, and stakeholders in developing strategies that optimize knowledge management and digital adoption to drive sustainable business growth. Additionally, this study aims to bridge the research gap by offering insights into the practical implementation of knowledge management in MSMEs, particularly in the context of technological advancements and market dynamics.

2. RESEARCH METHODS

2.1. Basic Research Framework

Quantitative research used in this method research. To obtain valid data and information, researchers use interview, observation, survey and documentation techniques. The Model Testing Technique uses the Structural Equation Model (SEM). For this research, we relied on original data collected from a questionnaire that had closed and open questions where respondents were required to fill out a questionnaire based on a predetermined measurement scale. In this research, the method used is the Structural Equation Model (SEM). The Structural Equation Model (SEM) is two distinct statistical approaches, one originating in the fields of psychology and psychometrics (factor analysis) and the other from the field of econometrics (simultaneous equation modeling) (Hidayat & Patricia Wulandari, 2022).

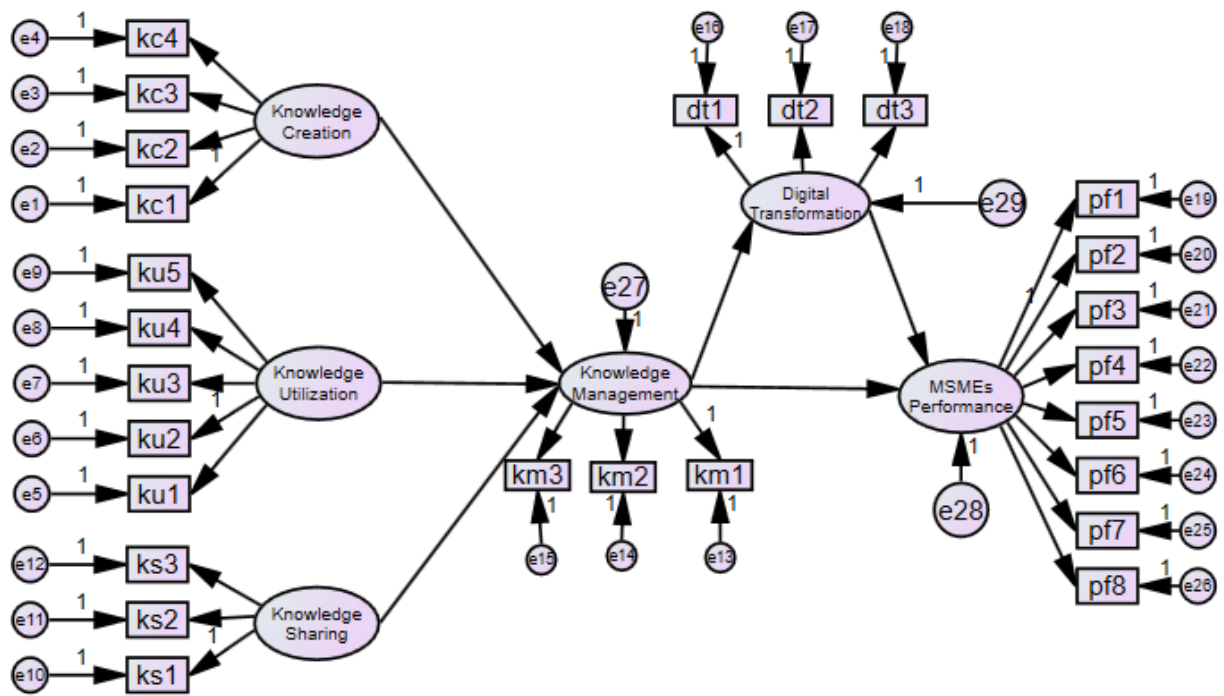


Figure 1. Research Framework

Figure 1 above is a conceptual model or structural model that is often used in research based on Structural Equation Modeling (SEM). This model shows the relationship between various variables that contribute to MSMEs Performance, with the role of Knowledge Management and Digital Transformation as influencing factors. Components in Exogenous Variables consisting of: Knowledge Creation with indicators kc1, kc2, kc3, kc4. Knowledge Utilization with indicators ku1, ku2, ku3, ku4, ku5. Knowledge Sharing with ks1, ks2, ks3 indicators. The Mediation variable consists of Knowledge Management as a result of a combination of Knowledge Creation, Knowledge Utilization, and Knowledge Sharing. These variables have indicators of km1, km2, km3. Digital Transformation which has indicators dt1, dt2, dt3. Endogenous Variables from MSMEs Performance with indicators pf1, pf2, pf3, pf4, pf5, pf6, pf7, pf8.

The Relationship Between Variables which is Knowledge Creation, Knowledge Utilization, and Knowledge Sharing contributes to Knowledge Management. Knowledge Management has a direct influence on MSMEs Performance and also indirectly through Digital Transformation. Digital Transformation also plays a role in improving MSMEs Performance. This model seeks to explain how knowledge management and digital transformation can improve the performance of MSMEs. By understanding this model, the study can evaluate how much impact each variable has in supporting the competitiveness and growth of MSMEs.

2.2. Population and Sample

Population in this research is MSMEs owner users in the Kerinci Regency area, the exact number of which is unknown. Purposive sampling using as sampling technique which is included in one of the nonprobability sampling methods. The consideration in this study is that MSME owners have used digital activities in the process of implementing their business. According to Makwana et al., (2023) the ideal sample size in SEM interpretation is a minimum of 100-200 samples. So this study uses 100 samples.

3. RESULTS AND DISCUSSION

3.1. Analysis of Structural Equation Models

3.1.1. Confirmatory Factor Analysis

The purpose of doing a confirmatory factor analysis is to determine the reliability and validity of an indicator and to assess the theoretical construct's relationship to the number of loading factors of a latent construct (Natalya & Purwanto, 2018). Exogenous constructs consist of three latent variables, namely knowledge creation, knowledge utilization, and knowledge sharing.

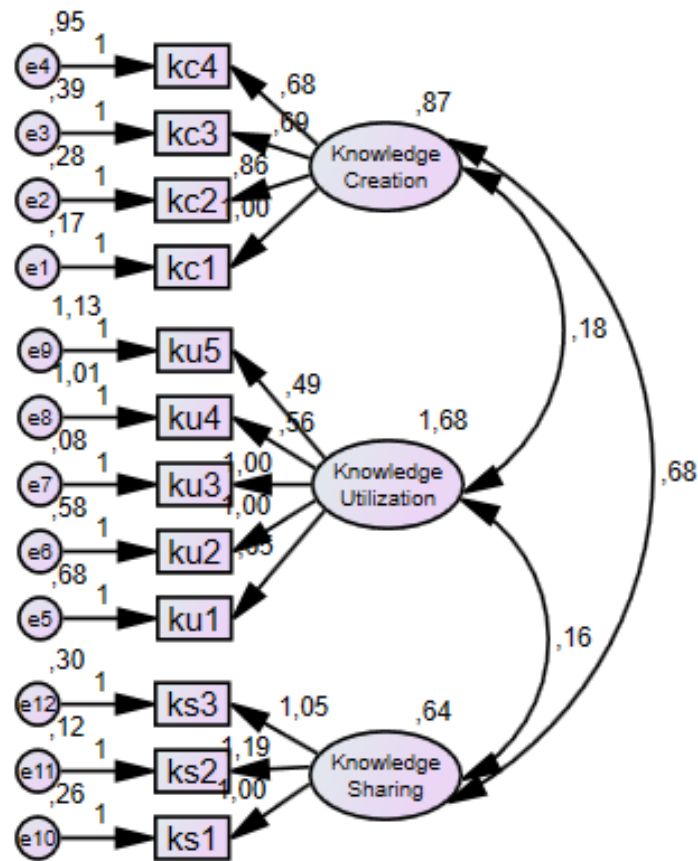


Figure 2. Confirmatory factor analysis of exogenous variable

Table 1. Exogenous construction CFA test index results

Goodness of Fit Indeks	Cut off Value	Result	Conclusion
Chi-Square	< 36,415	13,120	Suitable Match
Probability	> 0,05	0,668	Suitable Match
CMIN/DF	< 2,00	0,000	Suitable Match
AGFI	> 0,90	0,917	Suitable Match
RMSEA	< 0,08	0,000	Suitable Match
TLI	> 0,90	1,027	Suitable Match
NFI	> 0,90	0,966	Suitable Match
GFI	> 0,90	0,953	Suitable Match
CFI	> 0,90	1,000	Suitable Match
IFI	> 0,90	1,018	Suitable Match

The findings of the Confirmatory Factor Analysis (CFA) presented in Table 1 indicate that the model is robust, as all criteria for the goodness of fit index fall within the acceptable range. The statement concludes that the model is effective and viable.

Table 2. Confirmatory factor construct analysis exogenous construct variables

Indicator	Variable	Estimate
kc1	Knowledge Creation	,916
kc2	Knowledge Creation	,833
kc3	Knowledge Creation	,717
kc4	Knowledge Creation	,544
ku2	Knowledge Utilization	,861
ku3	Knowledge Utilization	,978
ku4	Knowledge Utilization	,582
ku5	Knowledge Utilization	,516
ku1	Knowledge Utilization	,715
ks1	Knowledge Sharing	,844

Indicator		Variable	Estimate
ks2	<---	Knowledge Sharing	,941
ks3	<---	Knowledge Sharing	,839

Based on Table 2, the results of the Confirmatory Factor test analysis of the exogenous construct variable structure analysis showed that the loading factor values in the estimate column were above 0.50. Thus showing that the indicators of the three variables have good convergent validity.

3.1.2. Analysis Confirmatory Factors of Endogenous Variable

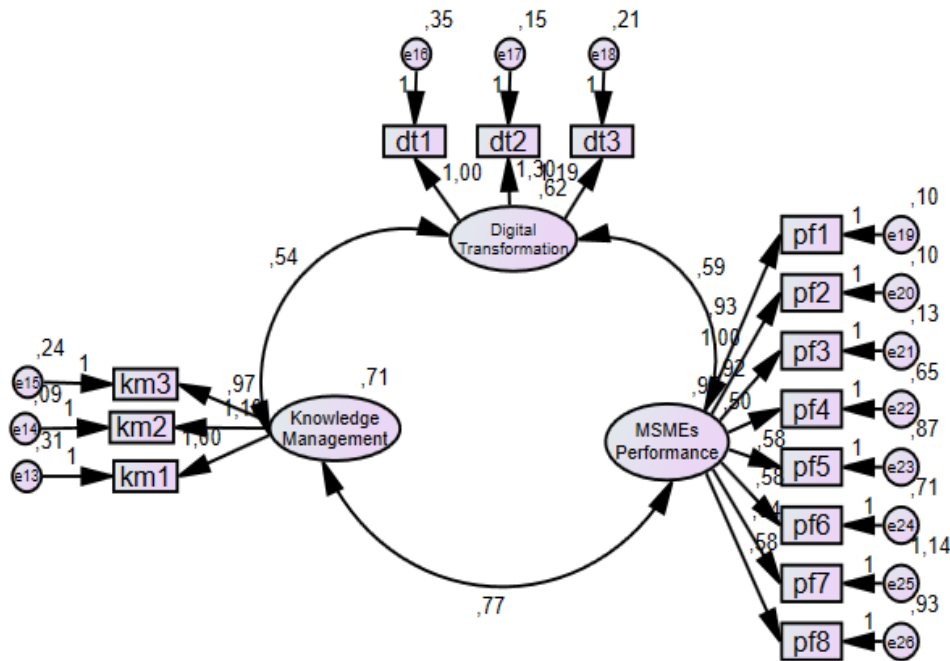


Figure 3. Confirmatory factor analysis of endogenous variable

Table 3. Endogenous construction CFA test index results

Goodness of Fit Indeks	Cut off Value	Result	Conclusion
Chi-Square	< 36,415	15,305	Suitable Match
Probability	> 0,05	1,335	Suitable Match
CMIN/DF	< 2,00	0,000	Suitable Match
AGFI	> 0,90	0,827	Marginal
RMSEA	< 0,08	0,058	Suitable Match
TLI	> 0,90	0,977	Suitable Match
NFI	> 0,90	0,942	Suitable Match
GFI	> 0,90	0,900	Suitable Match
CFI	> 0,90	0,984	Suitable Match
IFI	> 0,90	0,985	Suitable Match

The findings of the Confirmatory Factor Analysis (CFA) presented in Table 3 indicate that the model is satisfactory, as the overall goodness of fit index criteria predominantly fall within the acceptable range, despite one criterion being classified as marginal. The statement concludes that the model is effective and viable.

Table 4. Confirmatory factor construct analysis endogenous construct variables

Indicator		Variable	Estimate
km1	<---	Knowledge_Management	,834
km2	<---	Knowledge_Management	,952
km3	<---	Knowledge_Management	,860
pf2	<---	MSMEs_Performance	,951
pf3	<---	MSMEs_Performance	,928
pf4	<---	MSMEs_Performance	,522
pf5	<---	MSMEs_Performance	,521
pf1	<---	MSMEs_Performance	,945

Indicator	Variable	Estimate
dt1	<--- Digital_Transformation	,798
dt2	<--- Digital_Transformation	,935
dt3	<--- Digital_Transformation	,900
pf6	<--- MSMEs_Performance	,558
pf7	<--- MSMEs_Performance	,505
pf8	<--- MSMEs_Performance	,506

Based on Table 6, the results of the Confirmatory Factor Analysis test endogenous construct variable construct indicates that the loading factor values in the estimate are above 0.50. Thus showing that the indicators of both variables have good convergent validity.

3.1.3. Analysis Structural Equation Modeling (SEM)

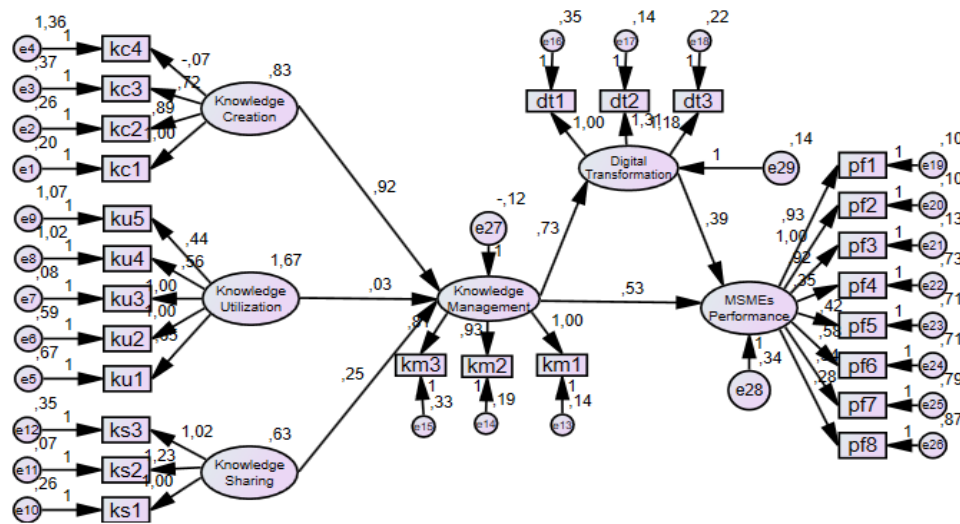


Figure 4. Analysis Structural Equation Modeling (SEM)

Table 5. Endogenous construction CFA test index results

Goodness of Fit Indeks	Cut off Value	Result	Conclusion
Chi-Square	< 36,415	11,152	Good Fit
Probability	> 0,05	1,699	Good Fit
CMIN/DF	< 2,00	0,000	Good Fit
AGFI	> 0,90	0,688	Marginal
RMSEA	< 0,08	0,070	Good Fit
TLI	> 0,90	0,931	Good Fit
NFI	> 0,90	0,879	Marginal
GFI	> 0,90	0,771	Marginal
CFI	> 0,90	0,945	Good Fit
IFI	> 0,90	0,946	Good Fit

According to Table 5, the chi-square value is 11.152, which is less than the chi-square table value of 36.415 at a significance level of 1.699, exceeding the probability threshold of 0.05, so suggesting that the employed structural model is well accepted. The goodness of fit analysis revealed that seven criteria indicated a strong fit: Chi-square, Probability, CMIN/DF, RMSEA, TLI, CFI, and TFI. Additionally, three criteria shown marginal fit: AGFI, NFI, and GFI. In conclusion, the Confirmatory Factor Analysis (CFA) indicates that the model is robust, as it satisfies all criteria for the goodness of fit index.

3.2. Hypothesis Results

Table 5. Regression Weight Structural Equation

	Estimate	S.E.	C.R.	P	Label
Knowledge_Management <--- Knowledge_Creation	,923	,051	18,017	***	Par 18
Knowledge_Management <--- Knowledge_Sharing	,248	,027	9,323	***	Par 19
Knowledge_Management <--- Knowledge_Utilization	,030	,012	2,409	,016	Par 20
Digital_Transformation <--- Knowledge_Management	,733	,088	8,350	***	Par 22

			Estimate	S.E.	C.R.	P	Label
MSMEs_Performance	<---	Digital_Transformation	,387	,184	2,109	,035	Par 21
MSMEs_Performance	<---	Knowledge_Management	,531	,147	3,600	***	Par 26

The findings from Table 5 indicate that all coefficients have positive results, which is able to support the hypothesized direction of testing.

- Knowledge creation to knowledge management shows that the critical ratio (C.R) is greater than or equal to 1.96, specifically 18.017, and the resulting P value is less than or equal to 0.05, represented as ***(less than 0.000). Consequently, the knowledge creation variable exerts a positive and strong influence on knowledge management..
- Knowledge sharing to knowledge management shows that the critical ratio (C.R) is greater than or equal to 1.96, specifically 9.323, and the P value generated < 0.05, represented as ***(less than 0.000). The variable of information sharing exerts a favorable and significant influence on knowledge management.
- Knowledge utilization for knowledge management shows that The C.R. is greater than or equal to 1.96, namely 2.409, and the P value is less than or equal to 0.05, specifically 0.016. The variable of knowledge utilisation exerts a positive and significant influence on knowledge management.
- Knowledge management for digital transformation shows a C.R. of 1.96, equating to 8.350, yields a P value of < 0.05, represented as ***(less than 0.000). Consequently, knowledge management factors exert a favourable and substantial influence on digital transformation.
- Digital transformation of MSMEs performance shows the critical ratio (C.R.) of 1.96, specifically 2.109, yields a P value of < 0.05, equating to 0.035. Consequently, the variable of digital transformation exerts a favourable and considerable influence on the performance of MSMEs.
- Knowledge management of MSMEs performance shows the critical ratio (C.R.) is greater than or equal to 1.96, specifically 3.600, and the P value is less than or equal to 0.05, represented as ***(less than 0.000). Consequently, the knowledge management variable exerts a favourable and considerable influence on the performance of MSMEs.

3.3. Direct and Indirect Effect

To determine if an independent variable exerts a direct or indirect influence on the dependent variable, one must compare the direct value in the standardised direct effect table with that in the standardised indirect effects table. An independent variable exerts a direct influence on the dependent variable if the direct value in the standardised direct effect table exceeds the value in the standardised indirect effects table. To ascertain the direct and indirect relationships between variables according to the hypothesis of this study, the subsequent analysis was conducted:

Table 6. Direct and indirect effect result

	Direct effect	Indirect effect	Total effect
Knowledge_Management → MSMEs_Performance	0,531	0,284	0,815
Knowledge_Management → Digital_Transformation	0,733		0,733
Digital_Transformation → MSMEs_Performance	0,387		0,387

In table 6, the results are obtained that the value of direct > indirect is obtained, so it can be concluded that digital transformation is not an intervening variable in the study.

3.4. Structural Equations and Coefficient Values

Table 7. Squared Multiple Correlations

	Estimate
Digital Transformation	,707
MSMEs Performance	,566

Based on the following Table 7, The structural equation and coefficient values can be categorised into two substructures; the findings are as follows:

Substructure Equations 1:

$$\text{Digital Transformation} = 0,841 \text{ KM} + 0,035 \text{ SE} \cdot R^2 = 0,707$$

Digital transformation is positively and significantly influenced by knowledge management. The variables contribute 70.7% to the digital transformation variable, leaving 29.3% attributable to additional factors not examined in this study.

Substructure Equations 2:

$$\text{MSMEs Performance} = 0,478 \text{ KM} + 0,304 \text{ DT} \cdot R^2 = 0,566$$

The performance of MSMEs is positively and considerably affected by knowledge management and digital transformation. The two factors accounted for 56.6% of the MSMEs Performance variable. Thus, 43.4% of other determinants influence MSME performance; however, these were not examined in this study.

3.5. Discussions

3.5.1. The influence of knowledge management on digital transformation

The study's results indicate a C.R value of 8.350, which exceeds 1.96, and a P value of 0.000, which is less than 0.05. Consequently, H₀ is rejected and H₁ is accepted, signifying a positive and significant impact of knowledge management on digital transformation. This shows that the stronger the knowledge management, the higher the level of digital transformation. The results of this study support the research conducted by Risnawati, Wirastuti, & Islianty (2024). The results of the study state that the four dimensions of knowledge have a simultaneous effect on digital transformation. Studies show that good knowledge management helps MSMEs in Palu maintain a competitive advantage, accelerate the adaptation of new technologies, and avoid risks such as data leakage or technology adoption failures. Knowledge management can be used to accelerate digital transformation. The results of this study are all independent variables that can predict digital transformation. The research by Khilji, Nolic, & Ikram-ur-Rehman (2024) examining the function of knowledge management and its impact on digital transformation, while evaluating how businesses manage change and innovation to improve their business performance, and offers insights into the new technology advancements and their impact on the evolving knowledge management perspective, while the collaborative framework is designed to establish a logical foundation for future research aimed at improving corporate performance. And also research by Hadi & Marpaung (2023) with the result The impact of transformational management on overall organisational performance.

3.5.2. The influence of knowledge management on MSMEs Performance

The study's results indicate that the C.R value of 3.600 exceeds 1.96 and P is less than 0.05, leading to the rejection of H₀ and acceptance of H₁, signifying a favourable and significant impact of knowledge management on MSME performance. This indicates that enhanced knowledge management correlates with an elevated degree of digital transformation. The findings of this study corroborate the completed research by Anugrah, Hamdani, & Sari (2024). The study's results indicated that knowledge management positively influences organisational performance. This study highlights the importance of knowledge management, learning orientation, and innovation in improving batik performance. It emphasises the significance of competitive advantage in creating unique batik products and diversifying the product range to outpace competitors

4. CONCLUSION

The results of this study confirm that knowledge management plays a crucial role in enhancing the performance of MSMEs in the digital era. The findings indicate that the three dimensions of knowledge management—knowledge generation, knowledge sharing, and knowledge utilization—significantly contribute to overall business performance. Knowledge management also has a substantial positive impact on digital transformation, which further strengthens MSMEs' ability to compete in an increasingly digital business environment. Specifically, the study reveals that knowledge management contributes 70.7% to digital transformation, while the combined effect of knowledge management and digital transformation on MSME performance is 56.6%. These findings highlight the importance of developing strong knowledge management practices within MSMEs to drive innovation, improve decision-making, and optimize business operations. By leveraging digital transformation, MSMEs can enhance their adaptability and sustainability in the face of rapidly evolving market conditions. The study also underscores the need for MSMEs to actively engage in knowledge-sharing practices and embrace digital tools to maximize the benefits of knowledge management. Further research is recommended to develop variables and add more specific indicators so that the results obtained are more in-depth and comprehensive. In addition, expanding the scope of the research area and increasing the number of samples will help in obtaining more representative and better generalizable findings. The use of different research methods, such as qualitative methods or mixed approaches, can also provide a richer perspective in understanding the phenomenon being studied. Comparative studies between different regions or sectors are also recommended to look at the differences and similarities of influencing factors. In addition, the use of technology and secondary data, such as the use of big data or more sophisticated statistical analysis software, can increase accuracy and efficiency in data processing. Future research is also expected to focus more on policy analysis and practical recommendations for stakeholders so that the research results are not only academic but also applicable in the decision-making and development of related sectors. While this study provides valuable insights into the impact of knowledge management on the performance of MSMEs in the digital era, several limitations must be acknowledged. Firstly, the study sample comprises only 100 MSME entrepreneurs in Kerinci Regency, which may limit the generalizability of the findings to other regions with different economic and technological conditions. A larger and more diverse sample would enhance the robustness of the results. Secondly, the study relies on a quantitative approach using Structural Equation Modeling (SEM) with AMOS, which, while effective for testing relationships between variables, does not capture in-depth qualitative insights. Future research could incorporate qualitative methods, such as interviews or case studies, to gain a deeper understanding of the challenges and best practices in knowledge management implementation. Additionally, the study focuses primarily on knowledge management dimensions—knowledge generation, knowledge sharing, and knowledge utilization—without considering other potential moderating factors such as organizational culture, leadership style, or digital literacy. These factors may influence how MSMEs adopt and benefit from knowledge management practices. Another limitation is the reliance on self-reported data from MSME entrepreneurs, which may introduce biases such as social desirability or misinterpretation of survey

questions. Employing multiple data collection methods, such as triangulation with secondary data or expert evaluations, could help improve data accuracy.

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