



The Effect Of Managerial Competence On The Performance Of Msmes Assisted By Business Incubators Through Digital Transformation As A Mediating Variable In Palu City

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ABSTRACT

This study aims to analyze the effect of managerial competence on the performance of MSMEs fostered by the Business Incubator in Palu City, with digital transformation as a mediating variable. The research employed a quantitative approach with an explanatory design involving 45 MSMEs selected through purposive sampling. Data were collected using questionnaires and analyzed with SEM-PLS through WarpPLS 7.0. The results indicate that managerial competence has a significant positive effect on MSME performance, while digital transformation has a significant negative effect and does not mediate the relationship. This finding highlights the importance of increasing the implementation of digital transformation as an effort to strengthen the performance of MSMEs in the modern economy.

INTRODUCTION

The development of digital technology has brought changes in various sectors, including micro, small, and medium enterprises (MSMEs). Digital transformation has become a pillar of global economic progress, including in Indonesia. This transformation is not only related to the use of information technology, but also includes changes in mindset, management strategies, and more effective operational models. The use of digital technology in business can provide opportunities for MSMEs to be more competitive in an increasingly connected global market (Dasi et al., 2025; Novitasari, 2022; Risnawati et al., 2022).

Although digital transformation has become a major factor in economic development, many MSMEs still face challenges in adopting technology, such as limitations in managing managerial competencies, limited access to technology, and continued reliance on traditional methods. These factors not only hinder digital transformation, but also reduce the performance

of MSMEs because they result in slow production processes, limited marketing, and low competitiveness in the market (Supardi & Wijaya, 2023; Al et al., 2024). Data from the Central Sulawesi Provincial Statistics Agency in 2022/2023 shows that only 13.42% of MSMEs in Palu City have adopted digital technology. This figure reflects the low level of digitization among MSMEs, which can hinder their ability to compete in an increasingly competitive market. This lack of adoption also has a direct impact on the performance of MSMEs, as seen in their limited innovation, which causes MSMEs to fall behind in competition (Awaludin et al., 2025).

Along with the development of digital technology, MSMEs need to change their working methods from traditional methods to digital-based systems. The use of digital technology such as e-commerce, social media, and cloud-based management platforms must be implemented by MSMEs as part of their business strategy (Darmawati et al., 2023). If this is done consistently, the performance of MSMEs will be optimized in terms of operational efficiency, service quality, and business income growth. For this reason, business incubators need to play a role in supporting MSMEs to transform digitally and improve their managerial competencies. Business incubators are institutions engaged in providing facilities and business development, both in management and technology, for micro, small, and medium enterprises to improve and develop their business activities or new product development so that they can grow into strong entrepreneurs and/or new competitive products. Thus, the role of incubators is not only to encourage digital transformation but also to improve the performance of MSMEs through managerial assistance and digital marketing training. The adoption of digital technology, accompanied by a deep understanding of management, can be the key for MSMEs to improve efficiency, competitiveness, and long-term business performance (Zhahir et al., 2025; Syah et al., 2024; Annisa et al., 2023).

In Palu City, business incubators help improve the capacity of MSMEs by providing resources and networks that support their competitiveness in the global market, strengthening their position in increasingly fierce competition. Incubators also provide access to the technology needed to shift from traditional to more modern business models. Currently, the Palu City business incubator has fostered 65 MSMEs spread across various business categories, including the culinary and processed food sector with 41 MSMEs, the handicraft and creative industry sector with 16 MSMEs characterized by handmade products such as textiles, batik, knitting, weaving, and rattan, and the trade and other services sector with 8 MSMEs that focus on buying and selling goods and providing services. The business incubator also provides support in the form of entrepreneurship training, access to capital, and the use of digital technology needed to shift from a traditional business model to a more modern system that is adaptive to changes in the business environment.

Research (Mhayugiastiwi et al., 2024) shows that technology-based training and mentoring from business incubators can improve the competence of MSME resources, especially in digital marketing, financial management, and managerial skills. Although product diversification and branding still need to be strengthened, incubator support has proven to be important in helping MSMEs adapt to digital transformation and strengthen their competitiveness. Unlike many studies conducted in large cities with higher levels of technology adoption, this study focuses on MSMEs under the guidance of business incubators in Palu City, which still face limitations in digital literacy and infrastructure. This focus provides a new perspective by positioning business incubators not only as managerial mentors but also as facilitators of digital transformation, which are rarely studied simultaneously.

LITERATURE REVIEW

Managerial competence

Managerial competence refers to a leader's ability to manage resources, formulate strategies, and make the right decisions to achieve organizational goals (Fauzi et al., 2025). In the

digital era, these competencies have evolved to include digital vision, the ability to adapt to new technologies, and skills in managing organizational change. According to Wahyudi (2012:69), there are four indicators of managerial ability or managerial competence, namely: Conceptual Skills, Administrative Skills, Human Relationship Skills, and Technical Skills. Managerial competencies act as a catalyst that bridges digital transformation with improved MSME performance. Not only do they cover MSME performance, but they also focus on innovation and corporate goals in the current era of digital change with a fast-paced, technology-based collaborative approach that will make digital leadership a new tool for business continuity. These competencies cover various aspects, such as business planning, communication skills, and expertise in managing finances and human resources. Several studies show that the development of managerial competencies greatly influences the success of business strategy implementation, including in adopting and implementing digital technology. (Imran et al., 2025) prove that digital leadership significantly improves the sustainability of MSMEs through digital transformation as a mediating variable. Thus, managerial competencies are not only directly related to management effectiveness but also determine the success of MSME digitalization, which ultimately strengthens business competitiveness and performance.

Digital transformation

Digital transformation refers to the application of digital technology to modernize business processes, products, and services, with the aim of improving organizational efficiency and competitiveness (Morakanyane et al., 2020). In the context of MSMEs, digital transformation is crucial for accelerating growth, increasing market access, and improving operational efficiency. The application of technologies such as e-commerce, management information systems, and social media in MSMEs can optimize business operations and expand customer networks. The use of these technologies is also expected to improve the performance of MSMEs, which are often limited by a lack of access to technology or low levels of digital adoption (Solechan et al., 2023). Digital transformation variables have four dimensions that need to be focused on in this study, namely: social media usage, e-commerce adoption, digital payment systems, and business automation (Berman, 2012; Priyono et al., 2020; Verhoef et al., 2021). The current trend of digitalization cannot be ignored, especially for micro, small, and medium enterprises (MSMEs). This trend creates barriers, or can be an opportunity to ensure the competitiveness and sustainability of their businesses both domestically and in foreign markets. The main objective of digital transformation is to obtain new market data and to use a more data-driven approach to create opportunities to gain new competitive advantages by reorienting business models.

MSME Performance

Performance comes from the term job performance or actual performance, which is defined as the actual achievements of an individual. In general, performance shows the results of a person's tasks and responsibilities in accordance with established standards, making it an important factor in assessing the success of an organization through individual and group contributions (Winarto, 2020).

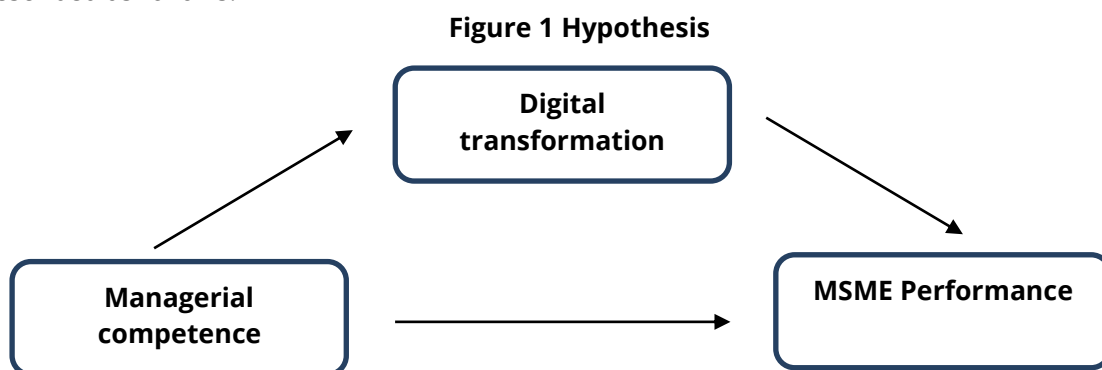
Siregar (2024:2) explains that MSME performance is a measure of an individual's success in achieving what they have set out to do, reflecting sales, capital, number of employees, market share, and growing profits. MSME performance measures the extent to which a business can achieve its set goals, in terms of operational efficiency, productivity, or finance. MSME performance is greatly influenced by various factors, including the ability to manage resources, product innovation, and the application of appropriate technology. Therefore, MSME performance is a crucial element in determining the success and sustainability of a business, so that improving MSME performance is not only in the interest of the business itself, but also supports the achievement of a country's economic development goals. All MSMEs have the same goal, which is to achieve optimal performance as an absolute requirement for the continuity of

their business. MSME performance can be seen through four main indicators: sales growth, capital growth, labor growth, and profit growth.

Framework

In this era of rapidly developing digital economy, Micro, Small, and Medium Enterprises (MSMEs) face both challenges and opportunities in maintaining their existence and increasing their competitiveness. MSMEs play an important role not only in creating jobs in the formal and informal sectors, but also in driving overall economic growth (Halwiyah Nur et al., 2025). The significant contribution of the MSME sector to the national economy has been proven to drive positive and sustainable economic performance (W. Adda et al., 2020; Manginda et al., 2025). Digital transformation is considered the key to maintaining the competitiveness of MSMEs, as it has a major influence on certain factors such as leadership, marketing capabilities, and digital literacy. These factors demonstrate the importance of digitalization in supporting the sustainability of MSME businesses. In order to improve the performance of MSMEs in a sustainable manner, systematic efforts are needed to improve managerial competence and implement digital transformation.

This research uses direct and indirect influence analysis through the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach. The independent variable in this study is managerial competence, which is tested for its impact on the dependent variable, namely MSME performance. In addition, this study also places digital transformation as a mediating variable, which is a variable that serves to explain how and through what process managerial competence can affect MSME performance. According to Baron and Kenny (1986), a mediating variable is a variable that acts as an intermediary in the relationship between the independent variable and the dependent variable, so that the effect of the independent variable on the dependent variable occurs through the mediating variable. Therefore, the research framework model can be described as follows:



Hypothesis:

H1: Managerial competence has a positive effect on MSME performance.

H2: Digital transformation has a positive effect on MSME performance.

H3: Digital transformation acts as a mediating variable that connects managerial competence and MSME performance.

METHODS

This study adopts a quantitative approach to examine the direct and indirect effects of digital transformation and managerial competence on the performance of MSMEs mentored by business incubators in Palu City. The type of research used is explanatory research, which aims to systematically explain the relationship between the variables studied. Data collection in this study was conducted by distributing a 1-5 Likert scale questionnaire to MSMEs that had

participated in mentoring programs under the guidance of the Palu City Business Incubator, such as the Incubation program.

Based on the data obtained, the population in this study consisted of all MSMEs under the guidance of the Palu City Business Incubator, totaling 65 MSMEs. WarpPLS version 7.0 was used as the analysis tool to analyze the research data. WarpPLS was chosen because it is capable of testing the relationship between variables through the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. In addition, WarpPLS also supports mediation effect testing and is capable of accommodating research data with a relatively small sample size.

The sampling technique used in this study was purposive sampling, which is the selection of samples based on specific criteria for research purposes. The main criterion for this study was that the MSMEs had participated in the incubation program, namely a 6-month training and mentoring program held by the Palu City Business Incubator from the beginning to the end of the program. Based on these criteria, 45 MSMEs met the sample selection requirements. Therefore, the sample size used in this study was 45 MSMEs, selected from a total population of 65 MSMEs registered with the Palu City Business Incubator.

RESULTS

Respondent characteristics

The respondents in this study consisted of 45 MSME entrepreneurs who were mentored by the Palu City Business Incubator. Most of the respondents were aged 30–39 years and had a high school/vocational school education level. Most of the business owners had been running their businesses for 2–5 years. Based on business type, the respondents were dominated by the culinary and processed food products sector with 29 businesses, followed by the handicraft and creative industry sector with 12 businesses, and the trade and services sector with 4 businesses. Based on Table 1, it can be seen that the food and beverage (culinary) sector is the most dominant business field, accounting for 64.4%. This shows that most of the MSMEs under the guidance of the Palu City Business Incubator are engaged in the culinary field and local processed products, such as cakes, chips, and herbal drinks. The crafts and creative industries sector ranks second with a proportion of 26.7%, which includes various skill-based businesses such as weaving, batik, rattan, and knitted products. Meanwhile, the trade and services sector has the smallest proportion, namely 8.9%, which focuses on buying and selling goods and providing business services.

Table 1. Responden characteristics

Business sector	Number (People)	Percentage (%)
Food and Beverages (Culinary)	29	64.4
Crafts and Creative Industries	12	26.7
Trade and Services	4	8.9
Total	45	100

Source: Primary Data, 2025

Outer Loading Testing

The calculation of the Outer Loading value for each variable is presented in the figure. The outer loading values (numbers in parentheses) show that all indicators from the three variables have values above 0.7. Based on these results, it can be stated that all indicators have met the feasibility standard (Gio et al., 2022). KM is the managerial competence variable, TD is the digital transformation variable, and the last variable is MSME performance.

Table 2. Outer Loading Testing

Statement	KM	TD	Performance
PR 1	(0.758)	-0.098	-0.065
PR 2	(0.843)	-0.018	-0.093
PR 3	(0.870)	-0.031	0.145
PR 4	(0.798)	0.079	0.078
PR 5	(0.890)	-0.135	0.049
PR 6	(0.764)	0.227	-0.054
PR 7	0.110	(0.703)	0.029
PR 8	-0.015	(0.712)	0.184
PR 9	0.014	(0.878)	-0.064
PR 10	-0.021	(0.722)	0.045
PR 11	-0.085	(0.746)	-0.171
PR 12	0.042	0.001	(0.806)
PR 13	0.083	-0.030	(0.896)
PR 14	0.044	-0.124	(0.716)
PR 15	-0.053	0.087	(0.760)
PR 16	-0.177	-0.069	(0.732)
PR 17	0.037	0.122	(0.808)

Source: WarpPLS Data Processing, 2025

Average Variance Extracted (AVE)

Average variance extracted (AVE) is a value (on average) that explains how much a latent variable or construct can explain the variance of its indicators. As explained in Table 3, based on the calculations performed, the AVE values for all variables, such as managerial competence, digital transformation, and MSME performance, exceeded the minimum limit of 0.5. This finding shows the ability of the three variables to accommodate the variance of each indicator by more than 50 percent. This indicates that the three constructs have met the convergent validity requirements, where the indicators used are able to represent the constructs consistently and reliably (Gio et al., 2022).

Table 3. Average variance extracted (AVE) Testing

	KM	TD	Performance
R-squared		0.082	0.275
Adj. R-squared		0.061	0.240
Composite reliab	0.926	0.868	0.907
Cronbach's alpha	0.903	0.809	0.877
Avg.var.extrac.	0.676	0.570	0.622

Source: WarpPLS Data Processing, 2025

Composite Reliability

Composite reliability for each variable was categorized as satisfactory. The managerial competence variable achieved a value of 0.926, while the other two variables, namely digital transformation at 0.868 and MSME performance at 0.907. All composite reliability values exceeded the minimum threshold of 0.7, indicating that the research data met the established reliability measurement standards. The highest value in managerial competence shows that this variable has the strongest reliability among the three variables tested (Gio et al., 2022).

Table 4. Composite reliability Testing

	KM	TD	Performance
Composite reliab	0.926	0.868	0.907

Source: WarpPLS Data Processing, 2025

Fornell-Larcker Discriminant Validity

Table 5 explains that the level of difference between constructs can be measured through a discriminant validity test that applies the Fornell-Larcker approach. This method stipulates that the AVE value must exceed the correlation between the latent variables being studied. The table shows that the AVE square root value of each latent variable (shown in parentheses) is more significant than its correlation with other latent variables, indicating that the instrument or questionnaire used has adequate discriminant validity (Gio et al., 2022).

Table 5. Fornell-Larcker Discriminant Validity Testing

	KM	TD	Performance
KM	(0.822)	-0.023	0.081
TD	-0.023	(0.755)	0.165
Performance	0.081	0.165	(0.788)

Source: WarpPLS Data Processing, 2025

Model Fit and Quality Indices

Model fit with the data can be evaluated using several indicators, as shown in Table 6, P-values for APC, ARS, and AARS less than 0.05, AVIF and AFVIF values ≤ 5 , and GoF values ≥ 0.36 (Gio et al., 2022). The measurement results indicate that the model fit evaluation shows that the APC value (0.300; $p < 0.001$), ARS (0.179; $p < 0.001$), AARS (0.151; $p < 0.001$), AVIF (1.174), and AFVIF (1.024) all meet the required criteria, so the model can be declared to fit the data. However, the GoF value (0.001) did not reach the minimum limit of 0.1, so the model strength was classified as very low.

Table 6. Results of Model Fit and Quality Indices testing

Average path coefficient	(APC) = 0,300 P < 0,001
Average R-square	(ARS) = 0,179 P < 0,001
Average adjusted R-squared	(AARS) = 0,151
Average block VIF	VIF (AVIF) = 1,174 acceptabel. if ≤ 5 , ideally $\leq 3,3$
Average full collinearity VIF	VIF (AFVIF) = 1,024 acceptabel. if ≤ 5 , ideally $\leq 3,3$
Value of Tenenhaus GoF	GoF (GoF) = 0,01 small $\geq 0,025$ medium $\geq 0,25$, large $\geq 0,36$

Source: WarpPLS Data Processing, 2025

Direct Effects Test Results

Direct Effect is the effect that occurs directly between the independent variable and the dependent variable without going through an intermediate variable. In WarpPLS analysis, this effect is indicated by the path coefficient value between the two measured variables along with the p-value to determine significance. If the p-value is < 0.05 , the effect is considered significant. The greater the path coefficient value, the stronger the direct effect of the independent variable on the dependent variable. (Gio et al., 2022).

Table 7. Path coefficient

	KM	TD	Performance
KM			
TD	-0.287		
Performance	0.413	0.202	

Source: WarpPLS Data Processing, 2025

Table 8. P Value

	KM	TD	Performance
KM			
TD	0.018		
Performance	0.001	0.075	

Source: WarpPLS Data Processing, 2025

Based on the values in Tables 7 and 8, the results of the direct effect test of each variable can be explained as follows:

1. H1 = Managerial competence has a direct effect on performance. The path coefficient of the managerial competence variable on performance is positive, namely 0.413, with a P value of $0.001 < 0.05$. This means that managerial competence has a positive effect on performance. Thus, Hypothesis 1 is accepted.
2. H2 = Digital transformation does not have a direct effect on Performance. The path coefficient of the Digital Transformation variable on the Performance variable is negative, namely -0.287, with a P value of $0.018 < 0.05$. This means that Digital Transformation has a negative effect on Performance. Thus, Hypothesis 2 is rejected.

Indirect and Total Effects

Indirect Effect shows the magnitude of the influence of an independent variable on a dependent variable through a mediating variable. If the p-value is < 0.05 , then the indirect effect is significant, which means that the mediating variable plays an important role in explaining the relationship between variables. Total Effect is a combination of direct effect and indirect effect. The total effect value shows the overall effect of the independent variable on the dependent variable, both directly and through the mediator (Gio et al., 2022).

Table 9. Indirect and Total Effects Test Results

Indirect Effects

	KM	TD	Performance
KM			
TD			
Performance	-0.058		

Table 10 Total Effects

	KM	TD	Performance
KM			
TD			
Performance	0.288		

Source: WarpPLS Data Processing, 2025

Based on the values in Table 9, the results of the indirect directional test between managerial competence and performance mediated by digital transformation is -0.058 , with a P-value of $0.288 > 0.05$. This means that the digital transformation variable does not influence the relationship between managerial competence and MSME performance. Based on this explanation, Hypothesis H3 is rejected.

DISCUSSION

The Effect of Managerial Competence on MSME Performance

The results of this study indicate that managerial competence has a positive and significant effect on the performance of MSMEs under the guidance of business incubators in Palu City, based on the path coefficient value of the managerial competence variable on performance, which has a positive value of 0.413 , with a P value of $0.001 < 0.05$. This finding indicates that the better the ability of MSME actors to manage resources, plan strategies, and make decisions, the higher the business performance that can be achieved, thus accepting hypothesis 1. This is in line with the research by Imran et al. (2025), which emphasizes the importance of leadership and managerial competence in maintaining business sustainability, so that improving managerial competence can have a real impact on achieving business objectives, both in terms of operational efficiency, increased productivity, and profit growth. This finding is also reinforced by an analysis of managerial competency indicators, which shows that conceptual, administrative, interpersonal, and technical skills contribute to improving performance. Conceptual skills help MSME players understand the direction of the business and formulate the right strategies, administrative skills support orderly operational management and business record keeping, interpersonal skills strengthen communication and working relationships, thereby creating business stability, while technical skills ensure that the production process runs consistently and with high quality.

The managerial competencies possessed by MSME entrepreneurs under the guidance of the Palu City Business Incubator have been proven to improve their performance in managing their businesses. This is because most MSME entrepreneurs have a secondary education level, giving them a fairly good level of managerial knowledge. In addition, with an average age of 30-39 years, MSME entrepreneurs are classified as a productive age group with adequate maturity of thought and work experience. These factors give entrepreneurs high motivation and enthusiasm to manage their businesses more professionally.

The effect of digital transformation on MSME performance

Contrary to initial assumptions, the second hypothesis in this study was not proven. Instead, this study shows that digital transformation has an impact on MSME performance based on the Direct Effect Test with a negative value of -0.287 and a P value of $0.018 < 0.05$. These results indicate that increased implementation of digital transformation correlates with a decline in MSME performance, while the negative direction means that the relationship between the two variables moves in opposite directions; the higher the level of digital transformation, the more likely it is to decrease MSME performance. Although digital transformation brings changes in operational and managerial systems, its impact does not fully support the improvement of MSME performance. This can be explained by the fact that not all MSME players are fully prepared to adopt digital technology. Factors such as limited understanding, lack of digital skills, and implementation cost constraints can cause digital transformation to become a new burden rather than a factor supporting performance. This finding is also reinforced by an analysis of each digital transformation indicator, which shows that social media use is still simple and not integrated with marketing strategies, e-commerce adoption has not been managed consistently, digital payment systems have not been utilized to improve transaction recording efficiency, and business automation is the indicator with the lowest level of implementation. so that the

immature implementation of these four indicators means that digital transformation does not provide significant added value to the performance of MSMEs.

This reinforces the view that digital transformation is not the only factor that guarantees improved performance, but rather depends on the level of organizational readiness, the adaptability of human resources, and the clarity of the implementation strategy. In the context of MSMEs, the negative impact found can be interpreted as meaning that the digitization process without the support of training, guidance, and appropriate managerial strategies can create new pressures for business actors. In addition, a digitization process that is not accompanied by a mature business strategy can create an imbalance between technological innovation and the managerial capabilities of business actors. This is in line with the research by Bahtiar et al (2025), which found that digital transformation for MSMEs is not only related to the application of technology, but also includes overall readiness in terms of access to literacy and technological competence. Limitations in these aspects can hinder the achievement of optimal benefits from digital transformation itself. Although digitization is a key element in increasing the productivity and sustainability of MSMEs, a lack of understanding of digital technology remains a major obstacle, resulting in low technology adoption rates among MSMEs.

Contrary to the results of research conducted by Firadausi and Sujatmiko (2025), which found that the adoption of digital technology actually has a positive impact on increasing the productivity and operational efficiency of MSMEs in Malang City, digitization is not only a technical tool but also drives comprehensive business model transformation. The transformation experienced by Healthy Jus, particularly in terms of the use of social media, online markets, and digital cashier applications, proves that digitization can improve operational efficiency and expand market reach. This difference in the direction of influence may be due to differences in the level of readiness of human resources and digital infrastructure in each region. Although digitization provides many benefits, business actors still face challenges in adapting to technology, especially in understanding digital devices and optimizing their use.

Digital transformation as a mediating variable linking managerial competence and MSME performance

The third hypothesis in this study states that digital transformation acts as a mediating variable that connects managerial competence and MSME performance. However, this study found that digital transformation does not act as a mediating variable in this relationship. This means that the influence of digital transformation on performance is more dominant directly than indirectly. This is because MSME actors under the guidance of the Palu City business incubator have not been fully able to implement digitalization in managing their businesses. Although MSME actors have fairly good managerial competence, as indicated by their ability to manage resources, plan strategies, and make decisions, this competence has not been accompanied by adequate digital readiness. Business actors still use digital technology at a basic level, so digital transformation has not had a strategic effect on business operations or management processes. An analysis of digital transformation indicators reinforces these findings. The use of social media is still limited to basic promotion without the integration of digital marketing strategies, e-commerce adoption has not been consistently utilized as a sales channel, digital payment systems have not been optimally used to improve transaction recording efficiency, and business automation is the indicator with the lowest level of implementation. The shallow implementation of these four indicators shows that digital transformation has not provided the strategic value needed to mediate the relationship between managerial competence and MSME performance.

In line with the research by Santi et al. (2024), which shows that limited digital literacy, lack of infrastructure, and implementation costs are the main obstacles for business actors to optimally utilize digital technology. This supports the findings of this study that digital transformation has not been properly implemented by MSME actors guided by the Palu City

business incubator. Ramadhanty (2022) found in her research that some MSMEs are still reluctant to switch to digital systems due to unfamiliarity and concerns about digital security risks. Therefore, the success of digital transformation as a bridge between managerial competence and performance is highly dependent on a supportive ecosystem that includes access to financing, technology training, and educational programs that can increase MSME actors' awareness of the real benefits of digitization.

Digital transformation does have great potential to support performance, but in this case it has had a negative impact because it still faces internal and external obstacles. Therefore, improving managerial competence must remain a top priority, accompanied by ongoing assistance from business incubators so that MSME players can adopt digital technology in a more mature, focused manner that is in line with their business capacity. Overall, this study confirms that managerial competence is a crucial factor in improving the performance of SMEs under the guidance of business incubators in Palu City. Meanwhile, digital transformation has not been able to strengthen this relationship. One of the reasons for this is that the implementation of digitalization is still limited to simple marketing aspects, such as the use of social media, but has not been fully integrated into business operations and management systems.

CONCLUSION

Based on the results of the study, it can be concluded that managerial competence has a positive effect on the performance of MSMEs under the guidance of business incubators in Palu City. These findings show that the higher the ability of MSME actors to plan, organize, direct, and control business activities, the better the performance achieved. This shows that managerial competence is a key factor in determining business success, especially in improving the operational efficiency, productivity, and profitability of MSMEs. This condition is also supported by the characteristics of the assisted MSME actors, who are of productive age and have a medium to high level of education, enabling them to manage their businesses more professionally. Thus, improving managerial capacity is the main key to strengthening competitiveness and encouraging the sustainability of their businesses.

This study also found that digital transformation has not had a positive impact on MSME performance. This indicates that most MSME players are not yet fully prepared to adopt digital technology due to limitations in literacy, infrastructure, and adequate implementation support. As a result, digitization has not been able to optimally improve business performance and has even become an additional burden for MSME players who are not yet ready in terms of resources and implementation strategies. Digital transformation that is not balanced with human resource readiness and a clear strategy can actually create a new burden for business actors. Therefore, collaborative efforts through mentoring, training, and strengthening the digital ecosystem are needed so that digital transformation in the future can play an optimal role in improving the performance of MSMEs in Palu City.

Furthermore, digital transformation does not act as a mediating variable between managerial competence and MSME performance. This shows that improving managerial competence does not automatically encourage digital transformation that has an impact on performance. Thus, digitalization efforts need to be accompanied by improvements in technological literacy, training, and continuous mentoring so that digital transformation can run effectively and provide real benefits for MSME performance. Overall, digital transformation has indeed had a positive impact on performance, but its role as a mediator has not been optimal. Therefore, strengthening managerial capacity remains a priority, while continuing to encourage the implementation of digital transformation so that in the future it can play a more significant role in improving the performance and competitiveness of MSMEs under the guidance of the Palu City business incubator.

LIMITATION

This study has several limitations that need to be acknowledged. First, the scope of this study is limited to MSMEs assisted by Business Incubators in Palu City, so these findings may not be fully applicable to MSMEs in other regions with different levels of digital literacy or business environments. Second, the sample size consisted of only 45 MSMEs, which, although sufficient for SEM-PLS analysis, may not comprehensively represent the entire population of MSMEs assisted by business incubators in Palu City. Third, the measurement of variables relied solely on self-reported data through questionnaires, which may have introduced respondent bias or subjective interpretation of items.

In addition, this study analyzed digital transformation as a mediating variable but did not explore other potential mediators such as innovation capability, digital literacy, or financial access that may also affect MSME performance. Finally, this study was conducted over a limited period of time, so it did not capture longitudinal changes in managerial competence and performance over time. Future research is recommended to use a larger sample size and include comparative studies between regions to provide a more comprehensive understanding of how managerial competence and digital transformation affect MSME performance.

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