



Print ISSN: 1738-3110 / Online ISSN 2093-7717
JDS website: <http://accesson.kr/jds>
<http://doi.org/10.15722/jds.23.11.202511.51>

Digital Capability and Distribution Readiness: Why Some E-Commerce MSMEs Excel While Others Fall Behind

Besse FARADIBA¹, Muhammad Yunus AMAR², Indrianty SUDIRMAN³

Received: June 17, 2025. Revised: August 05, 2025. Accepted: November 05, 2025.

Abstract

Purpose: Digital transformation has become a critical driver of business performance in the contemporary era. This study examines the impact of social influence and facilitating conditions on business performance and explores the mediating role of digital capability among e-commerce-based MSMEs. **Research Design, Data, and Methodology:** A quantitative explanatory approach was employed. Primary data were collected through a structured survey of 228 e-commerce based MSMEs in South Sulawesi Province, Indonesia, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS. **Results:** The findings indicate that facilitating conditions significantly influence business performance, whereas social influence affects digital capability but does not directly impact business performance. Notably, digital capability does not act as a strong mediator between external factors and business performance. These results suggest that achieving digital success depends not only on technology adoption or social pressure but also on strategic readiness, distribution preparedness, and logistics support for efficient e-commerce fulfillment. **Conclusion:** This study urges MSMEs to enhance internal digital capabilities and align them with strategies and distribution, moving beyond infrastructure investment. It challenges the assumed mediating role of digital capability and contributes to SME theory and policy formulation.

Keywords : Business Performance, Digital Capability, E-Commerce Distribution, Logistics Readiness, Distribution Channels

JEL Classification Code: D83, L25, L81, M15, R41

1. Introduction

In the context of e-commerce-based MSMEs, digital transformation goes beyond internal processes to include distribution channel capabilities, logistics infrastructure, and supply chain integration, all of which are essential for achieving a competitive advantage in digital marketplaces. Digital transformation has thus become a key driver of enhanced business performance in the modern era. (Hanelt

et al., 2021)

But many organizations, especially small and medium businesses (SMEs), still find it hard to use digital technology well in their daily work (Holl & Rama, 2024; Mubarak et al., 2019).

Many studies from different countries have shown that digital skills are important for helping businesses do better (Garzoni et al., 2019; Jing et al., 2022). Studies indicate that digital skills enhance business performance through

1 First Author. Lecturer, Faculty of Islamic Economics and Business, State Islamic Institute of Parepare (IAIN Parepare), Indonesia. Email: bessefaradiba@iainpare.ac.id

2 Second Author. Lecturer, Faculty of Economics and Business, Hasanuddin University, Indonesia. Email: myunmar@unhas.ac.id

3 Third Author. Lecturer, Faculty of Economics and Business, Hasanuddin University, Indonesia. Email: indrianty_sudirman@unhas.ac.id

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

effective use of technology. This effect is more pronounced in countries with a low Human Development Index (HDI) compared to those with a high HDI (Bai et al., 2020).

Organized studies on the digitalization of small and medium-sized enterprises (SMEs) indicate that most research is conducted in Europe, particularly in Italy, Spain, Germany, and Finland. Some studies also originate from Asian countries such as India and China (Alessia Correani et al., 2020; Matarazzo et al., 2021).

Studies from Malaysia indicate that digital skills support all aspects of digital business transformation. However, only changes related to creating, delivering, and capturing value significantly enhance the competitiveness of Malaysian small and medium-sized enterprises (SMEs) (Khin & Ho, 2020). Meanwhile, an analysis of 313 SME managers revealed that digital capabilities substantially improve performance, with opportunity capabilities as a critical mediator (Eller et al., 2020). Recent studies indicate that technologies such as analytics, mobile applications, IoT, digital platforms, and cloud systems contribute to improved performance in small and medium-sized enterprises (SMEs). (Broccardo et al., 2023).

However, views on the impact of digital capabilities on business performance still show mixed results. Several researchers such as Heredia et al. (2022) and Trung et al. (2025) found that there was no significant correlation between digital capabilities and business performance, and that the digital transformation of SMEs had no significant impact on their business performance. On the other hand, Hasbullah et al. (2025) argued that The innovative performance of companies is driven not solely by digital capabilities but by creativity and continuous efforts in research and development activities. Other studies indicate that most SMEs began adopting digital technology due to the pandemic, yet there remains a significant gap between using basic and more advanced digital tools (Chen & Kim, 2023).

Although the findings vary, most studies agree that digital business capabilities (DBC) significantly enhance performance, often more than other known factors. These capabilities can further improve business outcomes once the organization becomes sufficiently active and adaptable internally (Drnevich & Croson, 2023; Sambamurthy et al., 2003). SMEs leverage digital technology to develop new digital products and services, reach a broader customer base, and enhance their operations through fast internet connectivity (Khin & Ho, 2020). Research shows that digital change helps SMEs perform better by using three main things: digital tools, workers with digital skills, and good digital plans (Soh et al., 2023).

Social and structural factors are important for successful digital change. The Unified Theory of Acceptance and Use of Technology (UTAUT) by Trung et al. (2025) says that four main things affect the use of technology: how useful people think it is, how easy it is to use, what others think,

and the support or tools available (Hidayat & Asniwati, 2025). Social support from stakeholders, along with facilitating conditions such as technological infrastructure and training, can significantly influence an organization's adoption of digital technology (Schinagl et al., 2022). But using technology alone is not enough; organizations also need strong digital skills to use the technology well (Sewpersadh, 2023).

Although many studies examine the factors influencing technology adoption, the role of digital skills in linking social influence, facilitating conditions, and business performance remains not fully understood (Appio et al., 2024). Previous studies tend to focus on technology adoption without directly linking it to business performance outcomes (Trung et al., 2025). Research highlights that dynamic capabilities, such as identifying, utilizing, and transforming resources, play a crucial mediating role in converting digital capabilities into innovative business opportunities (Franco et al., 2021).

Most past studies have not combined social influence, supporting conditions, digital skills, and business performance into one clear model (Hidayat & Asniwati, 2025). Moreover, research remains limited on how digital capabilities link social and structural factors to business performance, particularly for small and medium-sized enterprises (SMEs) in developing countries (Perifanis & Kitsios, 2023). Most research on digital transformation has been published in journals covering computer science, business, management, accounting, and social sciences. However, further in-depth studies are needed to understand how these factors are interconnected and influence one another (Trung et al., 2025).

The location of this study is significant because most research on digital transformation has focused on European small and medium-sized enterprises (SMEs). While studies on SME resilience are primarily conducted in Europe and Asia, research on SME antifragility remains very limited (Gawer, 2022). This highlights the need for more comprehensive research across diverse contexts, including developing countries. Studies indicate that SMEs must be resilient and capable of growth through challenges to survive in today's competitive market. Resilient SMEs can manage difficulties and sustain operations even when their business is adversely affected (Misheck Musaiywa, 2024).

In the context of e-commerce (Hasbullah et al., 2025) based MSMEs, digital transformation does not only concern internal processes, but also the ability to support digital distribution channels, manage logistics infrastructure, and ensure timely customer fulfillment (Hidayat & Asniwati, 2025). Effective digital capabilities must be aligned with trade logistics, online ordering systems, and integrated platforms to optimize operational flow and delivery performance (Trung et al., 2025). These distribution-related capabilities are crucial for sustaining competitiveness in the digital marketplace, particularly in geographically diverse

regions such as South Sulawesi, Indonesia.

Based on the background and research gaps that have been described, the formulation of the problem in this study is: How do social influence and facilitating conditions affect business performance, and to what extent does digital capability mediate this relationship?

The purpose of this research is to:

1. Analyzing the influence of social influence on business performance.
2. Analyzing the impact of facilitating conditions on business performance.
3. Finding out how digital capability connects social influence and supporting conditions to business performance.

2. Literature Review

2.1. Social Influence

Social influence means how much a person or organization feels pressure from important people around them to use a certain technology system (Soh et al., 2023). In an organization, social influence refers to pressure from business partners, customers, and competitors to adopt new technology. Recent studies indicate that such pressure plays a crucial role in encouraging the use of digital tools and shaping individuals' intentions to adopt new systems. According to studies by Osland et al. (2022), social influence contributes to the success of digital transformation through external encouragement from business partners. For small and medium-sized businesses (SMEs), social pressure is also a strong reason why people plan to use AI technologies and digital management systems (Coetzer et al., 2024). For small and medium-sized businesses (SMEs), social pressure is also a strong reason why people plan to use AI technologies and digital management systems. In e-commerce contexts, social influence extends to adopting distribution management systems and logistics partnerships.

2.2. Facilitating Condition

Facilitating conditions mean people believe that the organization and technology needed to support the system are already available (Soh et al., 2023). In an organization, this refers to the availability of technology, training, technical support, and clear guidelines. Studies have shown that these facilitating conditions are crucial for enabling effective use of digital technology. Chen and Kim (2023) found that infrastructure readiness and technical support strengthened the intention and actual behavior in using information technology in the SME sector. Deng et al. (2022) emphasized that supportive technological facilities can mediate the relationship between intention and actual

performance of digitalization. emphasized that supportive technological facilities can mediate the relationship between intention and actual performance of digitalization. For e-commerce MSMEs, facilitating conditions include logistics infrastructure, warehouse facilities, and delivery service partnerships.

2.3. Digital Capability

Digital capability refers to an organization's capacity to leverage digital technologies to support core business processes, innovation, and value creation (Hidayat & Asniwati, 2025). This involves integrating systems, assisting employees in understanding digital tools, and ensuring the organization can manage and utilize new technologies effectively. Digital capability serves as a bridge between external factors and organizational performance. According to Hidayat and Asniwati (2025), digital capability significantly strengthens the relationship between technology adoption and organizational agility in facing market dynamics. Research from (Mihailova, 2023) also shows that organizations with high digital capabilities are better able to transform technological inputs. Research from Hidayat and Asniwati (2025) also shows that organizations with high digital capabilities are better able to transform technological inputs. In e-commerce, digital capability encompasses supply chain integration, inventory management, and distribution channel coordination.

2.4. Business Performance

Business performance is defined as an organization's achievement across various financial and non-financial indicators, including profitability, operational efficiency, innovation, and customer satisfaction (Hasbullah et al., 2025). Digital skills and outside factors like social pressure and support systems help improve business performance, especially for small and medium-sized businesses (SMEs). Research by Sagala and Ōri (2025) shows that the strategic use of digital technology is positively correlated with business growth and adaptability. Another study by (Keogh et al., 2024) also emphasizes that organizations that are able to integrate social, technological, and structural factors tend to achieve competitive advantage and better performance.

2.5. GAP Research

An examination of the variables above indicates that social influence, facilitating conditions, digital capabilities, and business performance are interrelated and mutually reinforcing. Previous studies have not thoroughly investigated the mediating role of digital capability in linking social influence and facilitating conditions to business performance, particularly within the SME sector in developing countries. Thus, this study aims to bridge this

gap through an integrated conceptual and empirical model approach.

2.6. Conceptual Framework

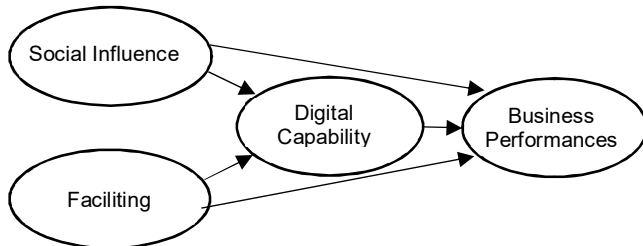


Figure 1: Business Performance Model Moderated by Digital Capabilities

2.7. Hypothesis

This study is grounded in the UTAUT theory and the Resource-Based View (RBV) (Barney, 1991), which together explain how social factors and organizational conditions interact with internal capabilities to influence business performance.

2.7.1. Relationship between Social Influence and Business Performance

Social influence promotes the use of digital technology through peer pressure, industry standards, or customer demands. In the SME context, support from colleagues and business partners can enhance the adoption of digital systems, thereby improving efficiency and overall business performance (Thu et al., 2025).

H1: Social influence has a positive effect on business performance.

2.7.2. Relationship between Facilitating Conditions and Business Performance

Facilitating conditions, such as IT infrastructure, training, and technical support, help organizations utilize technology more effectively. When these resources are well-established, companies can overcome technological challenges, thereby supporting the achievement of their business goals (Chen & Kim, 2023).

H2: Facilitating conditions have a positive effect on business performance.

2.7.3. The Role of Digital Mediation Capability

Digital capability refers to an organization's ability to utilize and apply digital technology in its business activities. While social pressure does not directly enhance business performance, it encourages organizations to develop digital capabilities first, which can subsequently lead to improved performance (Osland et al., 2022). Studying this mediation

is important to understand how social pressure can turn into a competitive advantage through digital capabilities.

Support facilities do not directly enhance business performance, but they help the company develop digital capabilities. These capabilities serve as a key strength, enabling the company to respond to the market, operate more efficiently, and create new value (Gawer, 2022). This relationship is important to study so that companies focus not only on infrastructure but also on developing internal digital capabilities. Digital capability acts as a mediating mechanism, translating social influence and facilitating conditions into improved business performance.

H3: Digital capability mediates the effect of social influence on business performance.

H4: Digital capability mediates the effect of facilitating conditions on business performance.

Many small businesses in developing countries, such as Indonesia, face challenges in effectively utilizing technology. Understanding the social and structural factors that influence business performance is crucial for enhancing the competitiveness of this sector.

3. Research Methods and Materials

This study employs a quantitative explanatory approach to examine how social influence and facilitating conditions affect MSME business performance, with digital capability serving as a mediator. This approach allows researchers to test the relationships between variables using numerical data and structured statistical analysis (Creswell & Creswell, 2023).

3.1. Data Collection Methods

The data for this study were collected using a structured survey administered to MSMEs in South Sulawesi Province, Indonesia, that have been actively using e-commerce platforms for at least the past three years. The questionnaire was developed based on validated constructs from relevant previous studies. (Soh et al., 2023), covering four main variables, namely social influence, facilitating conditions, digital capability, and business performance. Each item in the questionnaire was measured using a 5-point Likert scale.

3.2. Sampling Techniques and Respondent Selection

The population of this study comprised all MSMEs in South Sulawesi that actively use e-commerce. The sample was selected through purposive sampling based on specific criteria, including operating an online business for at least three years. A total of 228 MSMEs met these criteria and were included in the analysis.

3.3. Data Analysis Procedures

The collected data were analyzed using a quantitative approach with the latest version of SmartPLS. The analysis involved several steps. First, the validity and reliability of the constructs were assessed using the outer model, including factor loadings, Cronbach's Alpha, AVE, and CR. Second, the structural model (inner model) was analyzed to examine the direct and indirect effects among the variables (Hair et al., 2021). Third, doing a mediation test to see if digital capability acts as a link between social influence and facilitating conditions on business performance. Lastly, checking the significance of the paths using the bootstrapping technique (Hair et al., 2021). The results of this analysis are expected to provide clear evidence of how digitalization enhances the performance of MSMEs in today's digital economy, particularly by leveraging social factors and technological support.

4. Results and Discussion

4.1. Construct Validity and Reliability Test (Outer Model)

Convergent validity is assessed using the outer loading values and the Average Variance Extracted (AVE). An indicator is considered to have convergent validity if its loading factor is ≥ 0.7 (Kawung et al., 2025). In addition, the AVE value must be ≥ 0.5 to indicate that the construct is able to explain more than 50% of the variance of its indicators (Kumar et al., 2024).

Based on the results of data processing in table 1: Social Influence (X1) has a loading factor between 0.761 to 0.863 $\geq 0,7$ and an AVE of $0.677 \geq 0,5$. Facilitating Condition (X2) has a loading factor between 0.872 to 0.907 $\geq 0,7$, and an AVE of $0.661 \geq 0,5$. Digital Capability (Z) has a loading factor between 0.831 to 0.881 $\geq 0,7$, and an AVE of $0.597 \geq 0,5$, then the Business Performance (Y) value has a loading factor between 0.931 to 0.951 $\geq 0,7$, and an AVE of $0.829 \geq 0,5$. All constructs have AVE > 0.5, and the indicator loading factors are generally above 0.7, thus meeting the convergent validity criteria.

Table 1: Validity and Realibility Test

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Business Performance (Y)	0.931	0.951	0.829
Digital Capability (Z)	0.831	0.881	0.597
Facilitating Condition (X2)	0.872	0.907	0.661
Social Influence (X1)	0.761	0.863	0.677

Source: Archived by author (2025)

All constructs have Cronbach's Alpha and CR values

above 0.7, which means they all have very good reliability.

4.2. Structural Model Analysis (Inner Model)

Table 2: Structural Model Evaluation

Path Relationship	Path Coefficient	T-statistic	P-values	R-square (D ependent Variable)	F-square
Digital Capability Z -> Business Performances Y	0.191	1,003	0.316	0.571	0.854
Facilitating Conditions X2 -> Business Performances Y	0.574	6,204	0		2,598
Facilitating Conditions X2 -> Digital Capability Z	0.038	0.19	0.849	0.839	0.283
Social Influence X1 -> Business Performances Y	-0.014	0.085	0.932		0.005
Social Influence X1 -> Digital Capability Z	0.844	39,854	0		8,294
Digital Capability Z -> Social Influence X2 -> Business Performances Y	0.009	0.091	0.928		0.001
Digital Capability Z -> Business Performances Y (Total Effect)	0.077	0.909	0.365		0.405

Source: Archived by author (2025)

The results of the structural model analysis reveal several important findings regarding the direct relationships between the variables studied. Facilitating Conditions exert the most dominant and statistically significant influence on Business Performance, with a path coefficient of 0.574, a t-statistic of 6.204, and $p < 0.001$. This indicates that factors such as robust technology, technical support, and adequate resources play a critical role in enhancing organizational performance. It also suggests that external support may be more crucial for business success than merely possessing internal digital skills.

In contrast, Social Influence presents a different pattern in the model. While it does not have a significant direct effect on Business Performance ($\beta = -0.014$, $t = 0.085$, $p = 0.932$), it exhibits a very strong and highly significant effect on Digital Capability ($\beta = 0.844$, $t = 39.854$, $p < 0.001$). This means that social influences—like pressure from peers, competitors, and industry rules—do help organizations build their digital skills, but these pressures do not directly lead to better business performance.

The mediating variable, Digital Capability, surprisingly does not exert a strong direct effect on Business Performance. The path coefficient is 0.191, with a t-statistic of 1.003 and a p-value of 0.316. This finding contrasts with many prior studies emphasizing the strategic role of digital capabilities in enhancing firm performance in the digital era. One possible explanation is a lag effect, whereby the

benefits of investments in digital capabilities may not be immediately reflected in short-term performance outcomes.

Furthermore, the correlation between Facilitating Conditions and Digital Capability is statistically insignificant ($\beta = 0.038$, $t = 0.190$, $p = 0.849$). This suggests that merely providing infrastructure or technical support does not automatically enhance internal digital capabilities. The development of digital competencies may depend more on internal organizational dynamics and external social pressures than on infrastructural readiness alone.

4.3. Model Quality Evaluation

Table 3: Model Fit Summary Table

Fit Model	Original Sample	Sample Mean	STDEV
SRMR (Saturated)	0.085	0.052	0.067
SRMR (Estimated)	0.086	0.051	0.078
NFI (Estimated)	0.99	0.989	0

Source: Archived by author (2025)

The overall model fit was assessed using the Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI). The SRMR values were 0.085 for the saturated model and 0.086 for the estimated model, both below the recommended threshold of 0.10. This indicates a good model fit, with only a small difference between the observed and predicted values. Additionally, the NFI was 0.99, well above the common minimum of 0.90, suggesting that the model fits the data substantially better than a model with no relationships. Overall, these results indicate that the model fits well and support the idea that the theoretical framework adequately explains the relationships among the main factors.

4.4. Mediation Test

Examining the mediation effect of Digital Capability in the relationship between Social Influence and Facilitating Condition on Business Performance reveals mixed results that do not align with the mediation hypothesis. The mediation effect of digital capability on the relationship between social influence and business performance has a path coefficient of 0.18, a t-statistic of 1.005, and a p-value of 0.315, indicating that the mediation effect is not

statistically significant. Similarly, the indirect effect of digital capability between facilitating conditions and business performance is also not significant, with a path coefficient of 0.007, a t-statistic of 0.006, and a p-value of 0.608.

The significance of this mediation effect provides important theoretical implications. These results suggest that digital capability does not function as a mechanism linking social influence and facilitating conditions to business performance. In essence, social influence and facilitating conditions affect business performance through distinct pathways, rather than primarily involving the development of digital capability. This finding contrasts with the common theoretical assumption that digital capability plays a crucial mediating role in the relationship between external factors and business performance.

The primary focus is on the indirect effect of facilitating conditions (X2) on business performance (Y), mediated by digital capability. The Total Indirect Effects T equals show an indirect coefficient estimate from the original sample of 0.007. However, the low t-statistic of 0.006 corresponds to a high p-value of 0.608. Since this exceeds 0.05, the indirect effect is not statistically significant. Further confirmation comes from the bias-corrected confidence intervals for this path, which range from -0.008 to 0.064. Because the interval includes zero, digital capability does not appear to significantly mediate the relationship between facilitating conditions and business performance.

Next, the study examines the indirect effect of social influence (X1) on business performance (Y) through digital capability. The results indicate that the estimated indirect effect for this path is 0.18. Similar to the previous case, the calculated t-statistic of 1.005 yields a p-value of 0.315. Since this p-value exceeds 0.05, it again indicates that the indirect effect is not statistically significant.

Supporting this, the bias-corrected confidence intervals for the indirect effect of social influence through digital capability on business performance range from -0.197 to 0.499. Since this range includes zero, it is consistent with the p-value results, indicating that there is no significant or meaningful indirect effect. Based on the results of this bootstrapping test, it can be concluded that digital capability does not serve as a significant mediator in the relationship between facilitating conditions and social influence on business performance in the analyzed model.

Table 4: Specific Indirect Effects

Mediation Path (Specific Indirect Path)	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P-Values	Bias	Lower Limit CI (2.5%)	Upper Limit CI (97.5%)	Information
Facilitating Conditions -> Digital Capability -> Business Performance	0.007	0.006	0.014	0.515	0.608	-0	-0.008	0.064	Not Significant
Social Influence -> Digital Capability -> Business Performance	0.18	0.166	0.179	1,005	0.315	-0.01	-0.197	0.499	Not Significant

Source: Archived by author (2025)

4.5. Discussion

This study examines how social influence and facilitating conditions affect business performance, and also investigates whether digital capability plays a mediating role in this relationship. The analysis gave useful results. These findings suggest that MSMEs must strengthen their distribution networks, improve delivery service efficiency, and develop robust online-to-offline distribution strategies to fully leverage digital capabilities. From a distribution science perspective, these results highlight that e-commerce success depends not only on digital infrastructure but also on logistics readiness, supply chain coordination, and multi-channel fulfillment capabilities.

4.5.1. Theoretical Implications

These results offer new insights for management and IT research. First, they indicate that there is no strong or clear relationship between social influence and business performance. Compared to UTAUT and other theoretical frameworks of technology adoption, this can appear to be rather different. (Khin & Ho, 2020) which in their model extension still emphasize the importance of subjective norms and social identification in shaping technology adoption behavior and intention. However, regarding direct business performance, these results suggest that social influence may have smaller or indirect effects that the model does not fully capture. It may also play a more prominent role in the early stages of adopting new practices, rather than in later stages of routine business operations.

Moreover, the results of this study confirm the importance of facilitating conditions in enhancing business performance. This finding aligns closely with theories emphasizing that adequate technical resources, infrastructure, and organizational support are essential prerequisites for individuals and organizations to effectively leverage technology and achieve optimal performance (Moore & Benbasat, 1991), for example, in developing their instrument to measure innovation characteristics, highlighted that enabling factors (such as compatibility and testability) are crucial for system adoption and success. The strong connection shows that providing a supportive environment including logistics infrastructure, warehouse management systems, and distribution networks is always linked to better business performance in e-commerce operations.

Third, the noteworthy finding is the insignificant mediating role of digital capability in the relationship between social influence or facilitating conditions and business performance. This challenges the common assumption that digital skills alone can link external factors to improved performance. Even though many studies, like the one by Sambamurthy et al. (2003), say that Digital

Capability is an important strength for staying ahead of competitors, this result shows that in this case, Social Influence and Facilitating Conditions may have a more direct effect on Business Performance. This raises theoretical questions about when and how digital capability functions as a mediator versus a moderating variable, or whether its role is more pronounced at certain levels of performance or innovation rather than in the direct linear relationship tested. This divergence between theoretical expectations and empirical findings may be explained by what scholars describe as a temporal lag effect. Drnevich and Croson (2023) say that the benefits of investing in digital skills often emerge gradually, particularly when companies integrate them into long-term plans rather than expecting immediate results. In the same way, Hidayat and Asniwati (2025) say that digital skills are part of a bigger system that helps companies stay flexible and make smart changes. But these effects might not show up clearly in short-term data. In countries like Indonesia, this delay can be even bigger because of problems like low digital knowledge, poor infrastructure, or weak government support (Bai et al., 2020). Therefore, the insignificant mediating role observed in this study does not necessarily invalidate the theoretical role of digital capability; rather, it highlights the need for longitudinal studies to fully capture its impact on performance outcomes.

Moreover, the mediating role of digital capability may be contingent upon the maturity of distribution channels, logistics partnerships, and supply chain integration, which require time to develop and optimize in emerging market contexts.

4.5.2. Practical Implications

From a practical perspective, these findings offer guidance for managers and decision-makers. Although social influence does not exhibit a significant direct effect on business performance, its role should not be dismissed entirely. Managers should still consider how social norms and organizational culture shape the adoption of new ideas or technologies, which can indirectly or complexly influence performance. Fostering a supportive social environment remains important for early adoption, as highlighted by Rogers (2003) in his Diffusion of Innovations Theory.

On the other hand, the strong link between Facilitating Conditions and Business Performance shows that it's important to keep investing in technology and support. Companies should ensure that workers have the right digital tools, logistics infrastructure, warehouse facilities, and delivery service partnerships to enable efficient e-commerce operations and order fulfillment. This aligns with the principles proposed by DeLone and McLean (2004) in their updated Information Systems Success Model, which

suggests that high system quality, information quality, and service quality directly influence user usage and satisfaction, ultimately leading to a positive impact on performance. Therefore, investing resources to enhance facilitating conditions is an effective strategy for improving performance.

In conclusion, the results indicate that digital capability does not clearly mediate the relationship between social influence or facilitating conditions and improved business performance. This suggests that companies cannot rely solely on digital tools to enhance outcomes. Managers should consider other factors that may better explain these relationships or identify more effective ways to leverage digital capability to support business growth. This could mean that digital capabilities need to be managed proactively, rather than simply as passive drivers, to effectively influence business outcomes, as research on the importance of strategic alignment and effective implementation of IT capabilities suggests (Chen & Kim, 2023). Specifically, managers should focus on integrating digital capabilities with distribution channel strategies, optimizing inventory management systems, and strengthening last-mile delivery networks to enhance overall e-commerce performance and customer satisfaction.

4.6. Research Limitations and Future Research

This study provides valuable insights into the relationships among social influence, facilitating conditions, digital capability, and business performance in MSMEs. Nevertheless, several limitations must be acknowledged to contextualize the findings and guide future research.

Firstly, this study employs a cross-sectional research design, collecting data at a single point in time. As a result, definitive cause-and-effect relationships among the variables cannot be established. Although the structural model suggests directional associations, these should be interpreted as correlational rather than causal. To strengthen causal inferences, particularly regarding mediation, future research should adopt longitudinal or panel designs to track the evolution and interaction of variables over time.

Secondly, there is a potential for omitted variable bias, as the model focuses solely on three core constructs. Additional contextual or organizational factors—such as firm size, age, leadership style, digital maturity, or market dynamics—could also significantly influence business performance but were not considered in this study. Future research should consider expanding the model by incorporating these additional variables to enhance its explanatory power.

Third, the use of perception-based, self-reported survey data introduces the possibility of response bias, which may affect measurement accuracy and distort the strength of

observed relationships. Employing triangulated methods—such as interviews, archival records, or objective performance indicators—would enhance the robustness and validity of future research.

Fourth, the sample is geographically and sectorally limited to e-commerce-based MSMEs in South Sulawesi, Indonesia. While this focus provides valuable insights into digital adoption in a specific context, it also limits the generalizability of the findings. MSMEs in other regions may differ significantly in digital readiness, access to technology, and social or cultural practices, which could introduce sample bias. Future research should replicate this study across diverse provinces, industrial sectors (e.g., manufacturing, services, tourism), and stages of digital transformation to enhance the external validity of the model.

Fifth, given the insignificant mediating role of digital capability observed in this study, future research could explore alternative model structures. For instance, digital capability could be examined as a moderating factor that influences the strength of relationships between other variables. It could also be integrated with concepts such as dynamic capabilities, an innovation mindset, or organizational flexibility. These combinations may provide deeper insights into how digital tools impact business performance.

Finally, the current model examines relatively simple, linear pathways with an emphasis on mediation. However, digital transformation in MSMEs is often complex and influenced by multiple interrelated factors. Future studies should examine how factors such as company age, business type, and the sophistication of digital systems may influence the results. Additionally, applying multi-group analysis (MGA) would allow researchers to explore whether the structural relationships differ across various MSME subgroups, thereby enhancing the model's explanatory power and contextual relevance.

5. Conclusions

This study reveals that, although digitalization has become a crucial catalyst for enhancing business performance, not all MSMEs are able to fully benefit from it, highlighting the existence of a digital paradox. The analysis further indicates that facilitating conditions significantly impact business performance, whereas social influence strongly affects digital capability but does not directly contribute to performance outcomes. Moreover, digital capability, often theoretically assumed to bridge external factors and business performance, does not exhibit a significant mediating role within the tested model. These findings emphasize that business success in the digital era is determined not only by technology adoption or social

pressure but also by strategic integration, internal readiness, and a more complex organizational context.

For MSME practitioners and policymakers, it is important not only to provide digital infrastructure or create social incentives for technology adoption but also to adopt a comprehensive approach that strengthens internal organizational readiness for using digital technologies. Efforts to enhance digital capability should be aligned with clear business strategies, ongoing training, and long-term performance monitoring to ensure that digitalization effectively strengthens sustainable competitive advantage. Future research should examine the role of digital capability as a moderating variable or test the model across different sectoral contexts to gain a deeper understanding of the conditions under which digitalization significantly impacts business success.

Furthermore, from a distribution science perspective, the findings underscore the importance of aligning digital capabilities with broader trade and logistics infrastructures. MSMEs should not only focus on acquiring digital tools but also ensure their integration with supply chain strategies, inventory systems, and e-commerce logistics operations. Policymakers and support institutions should work toward establishing integrated digital–distribution environments to ensure that digital adoption leads to measurable improvements in business and trade performance.

References

- Alessia Correani, Alfredo De Massis, Federico Frattini, Antonio Messeni Petruzzelli, A. N. (2020). Implementing a Digital Strategy: Learning from the Experience of Three Digital Transformation Projects. *California Management Review Manuscript*, 21(1). <https://doi.org/10.1177/0008125620934864>
- Appio, F. P., Cacciatori, E., Cesaroni, F., Crupi, A., & Marozzo, V. (2024). Open innovation at the digital frontier : unraveling the paradoxes and roadmaps for SMEs ' successful digital transformation. *European Journal of Innovation Management*, 27(9), 223–247. <https://doi.org/10.1108/EJIM-04-2023-0343>
- Bai, C., Dallasega, P., Orzes, G., & Sarkis, J. (2020). Industry 4.0 technologies assessment: A sustainability perspective Chunguang. *International Journal of Production Economics*, 229, 107776. <https://doi.org/10.1016/j.ijpe.2020.107776>
- Broccardo, L., Vola, P., Zicari, A., & Alshibani, S. M. (2023). Contingency-based analysis of the drivers and obstacles to a successful sustainable business model: Seeking the uncaptured value. *Technological Forecasting and Social Change*, 191, 122513. <https://doi.org/10.1016/j.techfore.2023.122513>
- Chen, P., & Kim, S. (2023). The impact of digital transformation on innovation performance - The mediating role of innovation factors. *Heliyon*, 9(3), e13916. <https://doi.org/10.1016/j.heliyon.2023.e13916>
- Coetzer, J. A., Loukili, I., Goedhart, N. S., Ket, J. C. F., Schuitmaker-warnaar, J., Zuiderent-jerak, T., & Dedding, C. (2024). Social Science & Medicine The potential and paradoxes of eHealth research for digitally marginalised groups : A qualitative meta-review. *Social Science & Medicine*, 350(1), 116895. <https://doi.org/10.1016/j.socscimed.2024.116895>
- Creswell, J. W., & Creswell, J. D. (2023). Research Design : Qualitative, Quantitative, and A Mixed-Method Approach. In *SAGE Publication*. <https://doi.org/10.4324/9780429469237-3>
- Deng, T., Qiao, L., Yao, X., & Chen, S. (2022). A Profit Framework Model for Digital Platforms Based on Value Sharing and Resource Complementarity. *Sustainability Article*, 2(1), 1–18. <https://doi.org/10.3390/su141911954>
- Drnevich, P. L., & Croson, D. C. (2023). Information Technology and Business-Level Strategy: Toward an Integrated Theoretical Perspective. *Miss Quarterly*, 37(2), 483–509. <https://doi.org/10.25300/MISQ/2013/37.2.08>
- Eller, R., Alford, P., Kallmünzer, A., & Peters, M. (2020). Antecedents, consequences, and challenges of small and medium-sized enterprise digitalization. *Journal of Business Research*, 112, 119–127. <https://doi.org/10.1016/j.jbusres.2020.03.004>
- Franco, M., Minatogawa, V., Batocchio, A., & Quadros, R. U. Y. (2021). Opening the Dynamic Capability Black Box : An Approach to Business Model Innovation Management in the Digital Era. *IEEE Access*, 9(2), 69189–69209. <https://doi.org/10.1109/ACCESS.2021.3077849>
- Garzoni, A., Turi, I. De, Secundo, G., & Vecchio, P. Del. (2019). Fostering digital transformation of SMEs : a four levels approach. *Emerald Publishing*, 2(1). <https://doi.org/10.1108/MD-07-2019-0939>
- Gawer, A. (2022). Digital platforms and ecosystems : remarks on the dominant organizational forms of the digital age. *Innovation*, 24(1), 110–124. <https://doi.org/10.1080/14479338.2021.1965888>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer.
- Hanelt, A., Bohnsack, R., & Marz, D. (2021). A Systematic Review of the Literature on Digital Transformation : Insights and Implications for Strategy and Organizational Change. *Journal of Management Studies*, 58(5). <https://doi.org/10.1111/joms.12639>
- Hasbullah, N. N., Kaifah, A., Kiflee, R., Arham, A. F., Anwar, S., & Ramachandran, K. K. (2025). Leveraging Mobile Distribution Platforms to Drive E-Waste Recycling Satisfaction of Gen Z in Malaysia *. *The Journal of Distribution Science*, 6, 1–11.
- Heredia, J., Castillo-vergara, M., Geldes, C., Gamarra, F. M. C., Flores, A., & Heredia, W. (2022). How do digital capabilities affect firm performance? The mediating role of technological capabilities in the “new normal” Jorge. *Journal of Innovation & Knowledge*, 7(2), 100171. <https://doi.org/10.1016/j.jik.2022.100171>
- Hidayat, M., & Asniwati, A. (2025). The Mediating Role of Distribution Efficiency in the Relationship Between Multi-Channel Strategy , Business Capabilities , and Business Performance. *The Journal of Distribution Science*, 6, 53–65.
- Holl, A., & Rama, R. (2024). SME digital transformation and the COVID-19 pandemic : a case study of a hard-hit metropolitan

- area. *Science and Public Policy*, 01(02). <https://doi.org/10.1093/scipol/scae023>
- Jing, J., Wang, J., & Wu, Q. (2022). Litigation Risk and Corporate Social Responsibility — Evidence from a Poverty Alleviation Campaign in China. *Sustainability Article*, 6(5), 1–21. <https://doi.org/10.3390/su142214849>
- Kawung, G. M. V., Mintardjo, C. M. O., Rompas, W. F. I., Rogi, M. H., Turel, O., Gil-Or, O., Davenport, T. H., Westerman, G., Venkatesh, V., Davis, F. D., Teece, D. J., Gefen, D., Straub, D. W., Leong, L. Y., Hew, T. S., Tan, G. W. H., Ooi, K. B., Lee, V. H., Matarazzo, M., ... Thuy, L. T. T. (2025). Digital Capabilities and Competitive Advantage: A Case Study of Indonesian SMEs. *Int. J. Anal. Appl.*, 23(1), 101869. <https://doi.org/10.1108/JSTPM-04-2014-0012>
- Keogh, A., Argent, R., Doherty, C., Duignan, C., Fennelly, O., Purcell, C., Johnston, W., & Caulfield, B. (2024). Breaking down the Digital Fortress : The Unseen Challenges of Research. *Sensors Perspective*, 24(1). <https://doi.org/10.3390/s24123780>
- Khin, S., & Ho, T. C. F. (2020). Digital technology, digital capability and organizational performance A mediating role of digital innovation. *International Journal of Innovation Science*, 2(1). <https://doi.org/10.1108/IJIS-08-2018-0083>
- Kumar, S., Goel, U., Joshi, P., & Johri, A. (2024). Journal of Open Innovation : Technology , Market , and Complexity Factors affecting Information & Communication Technology (ICT) adoption among MSMEs. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100205. <https://doi.org/10.1016/j.joitmc.2023.100205>
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123(1), 642–656. <https://doi.org/https://doi.org/10.1016/j.jbusres.2020.10.033>
- Mihailova, I. (2023). Business model adaptation for realized international scaling of born-digitals. *Journal of World Business*, 58(2), 101418. <https://doi.org/10.1016/j.jwb.2022.101418>
- Misheck Musaigwa, V. K. (2024). Effective leadership in the digital era : an exploration of change management. *Technology Audit and Production Reserves*, 1(4). <https://doi.org/10.15587/2706-5448.2024.297374>
- Mubarak, M. F., Shaikh, F. A., Mubarik, M., Samo, K. A., & Mastoi, S. (2019). The Impact of Digital Transformation on Business Performance. *Engineering, Technology & Applied Science Research*, 9(6), 5056–5061. <https://doi.org/10.48084/etasr.3201>
- Osland, H., David, S., Brekke, T., & Parida, V. (2022). Inherent paradoxes in the shift to autonomous solutions provision : a multilevel investigation of the shipping industry. *Service Business*, 16(2), 227–255. <https://doi.org/10.1007/s11628-021-00458-5>
- Perifanis, N. A., & Kitsios, F. (2023). Investigating the Influence of Artificial Intelligence on Business Value in the Digital Era of Strategy: A Literature Review. *Information (Switzerland)*, 14(2). <https://doi.org/10.3390/info14020085>
- Sagala, G. H., & Öri, D. (2025). Exploring digital transformation strategy to achieve SMEs resilience and antifragility : a systematic literature review Exploring digital transformation strategy to achieve SMEs resilience and antifragility : a systematic literature review. *Journal of Small Business & Entrepreneurship*, 37(3), 495–524. <https://doi.org/10.1080/08276331.2024.2392080>
- Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping Agility through Digital Options: Reconceptualizing the Role of Information Technology in Contemporary Firms. *MIS Quarterly*, 27(2), 237–263. <https://doi.org/10.2307/30036530>
- Schinagl, S., Shahim, A., & Khapova, S. (2022). Computers & Security Paradoxical tensions in the implementation of digital security governance : Toward an ambidextrous approach to governing digital security. *Computers & Security*, 122(1), 102903. <https://doi.org/10.1016/j.cose.2022.102903>
- Sewpersadh, N. S. (2023). Disruptive business value models in the digital era. *Journal of Innovation and Entrepreneurship*, 12(2), 1–27. <https://doi.org/10.1186/s13731-022-00252-1>
- Soh, C., Yeow, A., & Goh, Q. W. (2023). Shaping Digital Transformation Pathways : Dynamics of Paradoxical Tensions and Responses. *Journal of the Association for Information Systems*, 24(1), 1594–1617. <https://doi.org/10.17705/1jais.00852>
- Thu, H. D. T., Dey, S. K., & Hoang, S. D. (2025). Embracing Intelligent Insights: Unveiling Investor Adoption of AI Advice and Risk Appetite. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 33(1), 2136. <https://doi.org/10.46585/sp33012136>
- Trung, T. T., Vinh, V. X., Thi, T., & Lan, N. (2025). Exploring Consumer Behavior in Cross-Border E-Commerce in Vietnam : The Role of Psychosocial Factors , Platform Quality , Perceived Benefits ., *The Journal of Distribution Science*, 5, 67–80.