

When Digital Finance Is Not Enough: Digital Capability and MSME Business Resilience

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Abstract

This study examines the impact of accounting knowledge and taxpayer attitudes on tax compliance among Small and Medium Enterprises (SMEs) in North Medan. Using a quantitative approach, data were collected through surveys distributed to SME owners and managers who are directly involved in financial decision-making. The study found that both accounting knowledge and positive taxpayer attitudes significantly influence tax compliance. Accounting knowledge enables business owners to understand tax obligations and manage financial records accurately, leading to improved compliance. Meanwhile, taxpayer attitudes, such as the perception of fairness and trust in the tax system, also play a crucial role in determining the level of compliance. The results suggest that enhancing accounting education and fostering positive attitudes toward taxation could improve tax compliance in the SME sector. This research provides valuable insights for policymakers and tax authorities aiming to promote compliance through targeted educational programs and awareness campaigns.

Keywords: Accounting Knowledge, Taxpayer Attitudes, Tax Compliance

Introduction

Digital transformation has become one of the major forces reshaping global economic activities, including within the micro, small, and medium enterprises (MSMEs) sector (Faton et al., 2025). The development of digital financial technologies, such as mobile banking, digital wallets, QRIS, marketplaces, and fintech-based lending services, has created new opportunities for MSMEs to expand market access, improve transaction efficiency, and obtain faster and more flexible financing access (Bi et al., 2025). In Indonesia, the acceleration of MSME digitalization has been increasingly promoted through various policies initiated by the government, Bank Indonesia, and Otoritas Jasa Keuangan as part of the national digital economic transformation agenda.

This development can be observed through the increasing use of digital financial services in Indonesia over the past few years. Data from Bank Indonesia indicate that by the first semester of 2025, the number of QRIS users had reached approximately 57 million users with 39.3 million merchants, of which around 93.16% were MSMEs. Furthermore, the volume of QRIS transactions exceeded 6.05 billion transactions, with a transaction value reaching IDR 579 trillion (Bank Indonesia, 2025). These figures indicate that payment digitalization has expanded massively and has become an integral part of MSME economic activities in Indonesia. On the other hand, the results of the 2025 National Survey of Financial Literacy and Inclusion (SNLIK) released by Otoritas Jasa Keuangan revealed that the national financial literacy index reached 66.46%, while the financial inclusion index increased to 80.51% (OJK & BPS, 2024). This increase demonstrates that public access to digital financial services has become increasingly widespread and more accessible to business actors, including MSMEs in rural areas (Khairani, Silaban, et al., 2025)(Khairani, Octora, et al., 2025).

Conceptually, the development of digital finance should strengthen MSME resilience and business sustainability because business actors gain more inclusive, efficient, and flexible financial access (Khairani, Tantono, et al., 2025)(Khairani, Silaban, et al., 2025). However, the reality in the field does not always follow a linear pattern. Despite the rapid increase in digital access, many MSMEs still face fundamental challenges such as weak financial management, unstable cash flow, limited technological adaptability, and increasing dependence on short-term digital financing (Khairani, Tantono, et al., 2025)(Ren et al., 2023). Many business actors have adopted digital payments, marketplaces, and



fintech services, yet they remain unable to manage these technologies as strategic instruments to strengthen long-term business sustainability (Wang & Yang, 2024; Zhou et al., 2025).

This phenomenon reflects a paradox in the digital transformation of MSMEs (Rifqiansyah & Hasrul wijaya, 2025). On the one hand, digital finance creates broader economic opportunities; however, on the other hand, not all business actors are capable of transforming digital access into sustainable business resilience. Many MSMEs have adopted digital technologies at a basic operational level, such as electronic payments and social media platforms, yet they remain unable to utilize these technologies as sources of competitive advantage and business capacity enhancement (Gulati et al., 2025). This condition becomes even more complex among rural MSMEs, which generally face limitations in digital infrastructure, low-quality human resources, and insufficient capability to integrate technology into business activities in a productive and sustainable manner (Saifurrahman & Kassim, 2024). If this condition continues, MSME digitalization may merely result in increased technology usage without being accompanied by a genuine strengthening of business resilience (Cedergren & Hassel, 2024).

These issues indicate that the success of MSME digital transformation is not solely determined by the availability of access to digital financial services (Yu et al., 2025). A far more important factor lies in the internal capability of business actors to understand, manage, and strategically utilize technology. In this context, digital capability becomes a crucial factor in determining whether digitalization can strengthen business resilience or instead create new forms of dependency on digital systems (Hu et al., 2023) (Khairani, Silaban, et al., 2025; Satrio & Muhandono, 2022; Sudirman et al., 2025). Digital capability not only represents technical skills in using technology but also reflects the ability of MSMEs to adapt, make digital-based decisions, manage information, and integrate technology into business strategies in a sustainable manner (Hokmabadi & Rezvani, 2024).

Theoretically, this study is grounded in the Technology Acceptance Model, which explains that technology acceptance and usage are influenced by perceived usefulness and perceived ease of use (Benbasat & Barki, 2007) (Venkatesh & Bala, 2008). In the MSME context, the adoption of digital technology is not only influenced by the availability of digital access but also by the capability of business actors to understand the strategic benefits of technology for business development (Faruque et al., 2024). In addition, this study is reinforced by the Resource-Based View, which emphasizes that firms' internal capabilities constitute strategic resources capable of generating competitive advantage and enhancing long-term business resilience. The RBV perspective further highlights that technology does not automatically lead to improved business performance unless it is supported by adequate internal capabilities to effectively manage and utilize such technology (Komakech et al., 2025).

Although studies on digital finance and MSMEs have grown significantly, most previous research has focused primarily on access to digital financial services rather than on the strategic capability of MSMEs to utilize technology effectively (Mangawing et al., 2023). Prior studies generally position technology merely as an operational tool rather than as a business capability that can strengthen organizational resilience. Furthermore, most existing studies have concentrated on urban MSMEs, while research on rural MSMEs remains relatively limited, despite the fact that these two groups face significantly different characteristics and challenges in digital transformation (Nafisa¹ et al., 2022).

On the other hand, previous studies have also produced inconsistent findings. Some studies indicate that digital financial literacy and digital financial inclusion can enhance MSME sustainability, while others suggest that digitalization does not always generate significant impacts on business resilience, particularly when business actors possess low digital capability (Chen & Guo, 2024). These inconsistent findings reveal an existing research gap regarding how digital capability transforms digital access into sustainable business resilience (Nugroho et al., 2025; Putri et al., 2023).

Unlike previous studies, this research offers a new perspective by positioning digital capability not merely as a technological instrument but as a strategic capability that determines the ability of MSMEs to transform digital access into sustainable business resilience. Accordingly, this study attempts to shift the perspective of MSME digitalization from merely an issue of access toward strengthening business capacity through digital capability. This study is important because it does not solely view digitalization as the use of technology, but also as the adaptive capability of MSMEs in building business resilience amid increasingly complex digital economic changes.

Based on these phenomena and research gaps, this study aims to analyze the role of digital capability in strengthening MSME business resilience in the era of digital finance development. This study is expected to provide theoretical contributions to the development of digital finance and MSME research, while also offering practical implications for governments and policymakers in designing more effective, adaptive, and resilience-oriented MSME digital transformation strategies.

Theoretical Review

Technology Acceptance Model (TAM)

This study is grounded in the Technology Acceptance Model proposed by (Davis, 1989), which explains that technology adoption is influenced by perceived usefulness and perceived ease of use. TAM suggests that individuals are more likely to adopt and utilize technology when they perceive technology as beneficial and easy to operate (Davis, 1989). In the context of MSMEs, digital financial services such as mobile banking, QRIS, fintech applications, and digital payment systems are more likely to be adopted when business actors believe that these technologies can improve efficiency, facilitate transactions, and support business activities (Venkatesh et al., 2003, 2012; Venkatesh & Davis, 2000).

The relevance of TAM in this study lies in explaining how digital financial literacy and digital financial inclusion encourage MSMEs to adopt digital technologies and strengthen their digital capability. MSME owners with better understanding of digital financial systems are more likely to perceive digital technologies positively, thereby increasing their willingness to integrate technology into business processes. Previous studies have also shown that perceived usefulness and technological understanding significantly influence digital technology adoption among MSMEs (Bi et al., 2025; Ren et al., 2023).

Resource-Based View (RBV)

This study is also supported by the Resource-Based View developed by Jay Barney (1991). RBV emphasizes that organizational resources and internal capabilities are strategic assets capable of creating sustainable competitive advantage (Barney, 1991; Barney & Hesterly, 2014; Komakech et al., 2025). According to RBV, firms achieve superior performance when they possess valuable, rare, inimitable, and non-substitutable resources.

In the context of MSMEs, digital capability can be viewed as a strategic organizational capability that enables firms to adapt to digital transformation and market uncertainty. Digital capability allows MSMEs to integrate technology into business operations, improve decision-making processes, enhance operational efficiency, and respond adaptively to environmental changes. Previous studies have emphasized that digital capability strengthens organizational resilience and improves business sustainability in dynamic business environments (Conz & Magnani, 2020; Warner & Wäger, 2019).

Digital Financial Literacy

Digital financial literacy refers to the ability of individuals or business actors to understand, evaluate, and utilize digital financial information and services effectively in financial decision-making (Morgan et al., 2019). In the digital economy era, financial literacy is no longer limited to traditional financial knowledge but also includes understanding digital transactions, fintech services, online financial platforms, and digital financial risk management (OECD, 2021).

For MSMEs, digital financial literacy plays an important role in improving financial decision quality, enhancing access to financial services, and supporting technology adoption. MSME owners with higher digital financial literacy are more capable of utilizing digital financial platforms strategically and managing digital financial resources efficiently. Previous studies have reported that digital financial literacy positively affects technological adaptability and business sustainability among MSMEs (Khairani, Tantonono, et al., 2025; Wang & Yang, 2024).

Digital Financial Inclusion

Digital financial inclusion refers to the accessibility and usage of digital financial services by individuals and business actors through digital platforms and financial technologies (Demirgüç-Kunt et al., 2022; Demirguc et al., 2021) (Demirgüç-Kunt et al., 2022). Digital financial inclusion enables MSMEs to access financial products and services more efficiently, including digital payments, online financing, mobile banking, and fintech platforms.

The development of digital financial inclusion has become an important driver of MSME growth and sustainability, particularly in developing countries. Broader financial inclusion allows MSMEs to overcome financing constraints, improve transaction efficiency, and participate more actively in the digital economy (Ozili, 2021). Previous studies have shown that digital financial inclusion significantly improves business flexibility, operational performance, and resilience among MSMEs (Ren et al., 2023; Zhou et al., 2025).

Digital Capability

Digital capability refers to the ability of firms to integrate, manage, and strategically utilize digital technologies within business processes and organizational activities. Digital capability includes technological skills, digital adaptability, information management, and the ability to respond effectively to digital transformation (Khin & Ho, 2018)(Vial, 2019).

For MSMEs, digital capability represents a strategic capability that enables firms to survive and compete in dynamic business environments. MSMEs with stronger digital capability are more capable of utilizing digital technologies to improve operational efficiency, strengthen customer relationships, and adapt to market changes. Previous studies have emphasized that digital capability plays a crucial role in enhancing organizational resilience and long-term business sustainability (Bi et al., 2025; Warner & Wäger, 2019).

Business Resilience

Business resilience refers to the ability of firms to adapt, survive, recover, and maintain business continuity amid economic uncertainty, environmental disruptions, and market changes (Conz & Magnani, 2020) (Conz & Magnani, 2020). Business resilience reflects organizational flexibility and adaptive capability in responding to crises and external pressures (Satrio & Muhardono, 2022)(Gosal & Nainggolan, 2023)(Khairani, Silaban, et al., 2025).

In the MSME context, business resilience has become increasingly important in the era of digital transformation and economic uncertainty. MSMEs with stronger resilience are more capable of maintaining operational stability, managing risks, and recovering from disruptions. Previous studies have shown that digital capability, financial literacy, and financial inclusion contribute significantly to strengthening MSME business resilience in the digital economy era(Wang & Yang, 2024)(Zhou et al., 2025).

Methodology

This study employed a quantitative approach with a causal research design to examine the relationships among digital financial literacy, digital financial inclusion, digital capability, and business resilience of MSMEs. The quantitative approach was selected to analyze the causal relationships among the proposed variables and to provide empirical evidence regarding the role of digital capability in strengthening business resilience in the digital finance era.

The population of this study consisted of MSME owners who have utilized digital financial services, such as mobile banking, digital wallets, QRIS, marketplaces, and fintech services, in their business activities. The sampling technique used was purposive sampling, with the criteria that respondents must be active MSME owners and have experience using digital financial services in their business operations. Data were collected through a structured questionnaire distributed directly to respondents.

The measurement items for each construct were adapted from previous studies related to digital finance, digital capability, and business resilience. All variables were measured using a five-point

Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Digital financial literacy refers to the ability of MSME owners to understand and utilize digital financial information effectively (Morgan et al., 2019). Digital financial inclusion reflects the accessibility and usage of digital financial services. Digital capability represents the ability of MSMEs to integrate and utilize digital technology strategically within business processes. Meanwhile, business resilience refers to the capability of MSMEs to adapt, survive, and recover amid economic and digital disruptions .

Data analysis was conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS) with SmartPLS software. SEM-PLS was selected because it is suitable for predictive research models involving multiple latent constructs and mediation analysis (Hair et al., 2021). The analysis consisted of two stages: measurement model evaluation and structural model evaluation. The measurement model was assessed through convergent validity, discriminant validity, Composite Reliability, and Cronbach's Alpha. The structural model evaluation included R-square, Variance Inflation Factor (VIF), path coefficient analysis, and hypothesis testing using the bootstrapping procedure. Hypotheses were considered significant when the t-statistic exceeded 1.96 and the p-value was below 0.05.

Furthermore, mediation analysis was conducted to examine the role of digital capability in mediating the relationships between digital financial literacy, digital financial inclusion, and business resilience. This approach was expected to provide empirical evidence regarding the strategic importance of digital capability in transforming digital financial access into sustainable MSME resilience.

Result and Discussions

Result

Measurement Model

The measurement model was evaluated using convergent validity, discriminant validity, and internal consistency reliability. The results showed that all indicator outer loading values exceeded 0.70, indicating satisfactory convergent validity. In addition, all constructs achieved Average Variance Extracted (AVE) values above 0.50, confirming that the indicators adequately explained their respective latent variables. Composite Reliability (CR) and Cronbach's Alpha (CA) values were also above the recommended threshold of 0.70, indicating strong internal consistency reliability.

Table 1. Convergent Validity and Reliability

Variables	Outer Loading	AVE	CR	CA
Digital Financial Literacy	0.742–0.881	0.671	0.910	0.884
Digital Financial Inclusion	0.735–0.873	0.658	0.903	0.871
Digital Capability	0.768–0.891	0.701	0.921	0.897
Business Resilience	0.754–0.884	0.688	0.915	0.889

The discriminant validity assessment using the Fornell-Larcker criterion indicated that the square root of AVE for each construct was greater than the correlation values among constructs, confirming adequate discriminant validity. These findings demonstrate that all constructs in the model were valid and reliable for further structural model analysis.

Structural Model

The structural model was evaluated using Variance Inflation Factor (VIF), coefficient of determination (R^2), and path coefficient analysis through the bootstrapping procedure. The VIF values ranged from 1.823 to 3.964, indicating that multicollinearity was not a serious issue in the model.

Table 2. R-Square Values

Variables	Outer Loading
Digital Capability	0.482
Business Resilience	0.694

The R-square value for Digital Capability was 0.482, indicating that Digital Financial Literacy and Digital Financial Inclusion explained 48.2% of the variance in Digital Capability. Meanwhile, the R-square value for Business Resilience was 0.694, suggesting that Digital Financial Literacy, Digital

Financial Inclusion, and Digital Capability jointly explained 69.4% of the variance in MSME Business Resilience. These results indicate that the proposed model has substantial explanatory power.

The bootstrapping results revealed that all direct relationships were positive and statistically significant.

Table 3. Path Coefficients

Relationship	Coefficient	T-Statistic	P-Value
Digital Financial Literacy → Digital Capability	0.352	5.281	0.000
Digital Financial Inclusion → Digital Capability	0.418	6.104	0.000
Digital Capability → Business Resilience	0.437	7.213	0.000
Digital Financial Literacy → Business Resilience	0.211	3.415	0.001
Digital Financial Inclusion → Business Resilience	0.284	4.126	0.000

The findings indicate that Digital Financial Literacy significantly enhances Digital Capability. This suggests that MSME owners with better understanding and utilization of digital financial information tend to possess stronger capability in integrating digital technology into business activities. Similarly, Digital Financial Inclusion positively affects Digital Capability, indicating that broader access to digital financial services encourages MSMEs to strengthen their digital competencies.

Furthermore, Digital Capability showed a positive and significant effect on Business Resilience. This finding confirms that MSMEs with stronger digital capability are more adaptive, responsive, and resilient in facing economic uncertainty and digital transformation challenges. In addition, both Digital Financial Literacy and Digital Financial Inclusion directly contributed to strengthening MSME Business Resilience.

Mediation Analysis

The mediation analysis was conducted to examine the indirect role of Digital Capability in the relationship between Digital Financial Literacy, Digital Financial Inclusion, and Business Resilience. The results demonstrated that Digital Capability significantly mediated both relationships.

Table 4. Indirect Effects

Relationship	Coefficient	T-Statistic	P-Value
Digital Financial Literacy → Digital Capability → Business Resilience	0.154	4.017	0.000
Digital Financial Inclusion → Digital Capability → Business Resilience	0.183	4.533	0.000

These findings indicate that Digital Financial Literacy and Digital Financial Inclusion not only directly improve Business Resilience but also indirectly strengthen resilience through the enhancement of Digital Capability. This result highlights the strategic importance of Digital Capability in transforming digital financial access into sustainable MSME resilience.

Overall, the results support the proposed conceptual framework and confirm that Digital Capability plays a critical role in strengthening MSME resilience in the digital finance era.

Discussions

The findings of this study demonstrate that Digital Financial Literacy has a positive and significant effect on Digital Capability among MSMEs. This result indicates that MSME owners who possess better understanding and knowledge of digital financial services tend to have stronger capability in utilizing and integrating digital technologies into their business operations. Financial literacy in the digital era is no longer limited to understanding financial concepts but also includes the ability to utilize digital platforms, manage digital transactions, and make strategic financial decisions through technology (Morgan et al., 2019). This finding supports the perspective of Technology Acceptance Model, which explains that individuals are more likely to adopt technology when they perceive it as useful and easy to use (Davis, 1989). MSME owners with higher digital financial literacy are more capable of recognizing the benefits of digital technology and integrating it into business processes

effectively. This finding is consistent with previous studies reporting that digital financial literacy improves technological adaptability and business capability among MSMEs (Bi et al., 2025; Khairani, Tantonio, et al., 2025).

The study also found that Digital Financial Inclusion positively affects Digital Capability. This finding suggests that broader access to digital financial services encourages MSMEs to become more adaptive to digital transformation. Access to fintech services, digital payments, mobile banking, and online financial platforms exposes MSMEs to wider digital ecosystems, which subsequently enhances their digital capability. This result aligns with the findings of (Demirgüç-Kunt et al., 2022), who emphasized that financial inclusion enhances not only financial accessibility but also digital participation in economic activities. Previous studies have also shown that MSMEs with broader access to digital finance tend to adopt technology more effectively and improve their business flexibility (Ren et al., 2023; Zhou et al., 2025).

Furthermore, Digital Capability was found to have a strong positive effect on Business Resilience. This finding confirms that MSMEs with stronger digital capability are better able to adapt, survive, and recover amid economic uncertainty and rapid digital transformation. Digital capability enables MSMEs to respond more effectively to market changes, manage digital information, improve operational efficiency, and maintain business continuity during disruptions. This result strengthens the Resource-Based View perspective, which emphasizes that internal capabilities represent strategic resources capable of creating sustainable competitive advantage and organizational resilience (Barney, 1991). The finding is also supported by (Warner & Wäger, 2019), who argued that digital capability plays a critical role in enabling firms to respond adaptively to technological changes and market uncertainty.

The direct effects of Digital Financial Literacy and Digital Financial Inclusion on Business Resilience also indicate that financial knowledge and access to digital financial services are important determinants of MSME resilience. MSMEs with better digital financial understanding are more capable of managing financial risks, maintaining cash flow stability, and making adaptive business decisions. Similarly, broader financial inclusion allows MSMEs to obtain more flexible financing access and conduct transactions more efficiently, which contributes to business sustainability. These findings are consistent with previous studies highlighting that financial inclusion and financial literacy improve business sustainability and resilience among MSMEs (Khairani, Silaban, et al., 2025; Wang & Yang, 2024).

An important finding of this study is the mediating role of Digital Capability in the relationship between Digital Financial Literacy, Digital Financial Inclusion, and Business Resilience. The mediation results indicate that digital financial access alone is insufficient to strengthen MSME resilience unless business actors possess adequate digital capability. This finding highlights that the success of digital transformation depends not only on technology adoption but also on the capability of MSMEs to strategically utilize digital technology within their business activities. This result supports previous studies emphasizing that technology becomes valuable only when supported by organizational capability and adaptive business competence (Conz & Magnani, 2020; Warner & Wäger, 2019).

This study offers a new perspective by positioning Digital Capability as a strategic capability rather than merely a technological instrument. Previous studies have primarily focused on digital access and technology usage, whereas this study emphasizes the importance of internal digital capability in transforming digital finance into sustainable business resilience (GPMI, 2021; Hokmabadi & Rezvani, 2024). Therefore, this study contributes to the growing literature on digital finance and MSME resilience, particularly in the context of rural MSMEs and emerging economies.

From a practical perspective, the findings imply that government institutions and policymakers should not only focus on expanding digital financial access but also strengthen MSME digital capability through training programs, digital education, and technology assistance initiatives. Improving digital capability is essential to ensure that MSMEs can utilize digital finance strategically and sustainably. Without adequate capability, digital transformation may only increase technology usage without significantly strengthening MSME resilience (Hu et al., 2023; Junarsin et al., 2023).

Conclusions

This study examines the relationships among digital financial literacy, digital financial inclusion, digital capability, and business resilience of MSMEs in the digital finance era. The findings reveal that digital financial literacy and digital financial inclusion positively and significantly influence digital capability and business resilience. Furthermore, digital capability was proven to play a significant role in strengthening MSME business resilience amid economic uncertainty and rapid digital transformation. The results also confirm the mediating role of digital capability in the relationships between digital financial literacy, digital financial inclusion, and business resilience. This finding indicates that access to digital financial services alone is insufficient to strengthen MSME resilience unless business actors possess adequate digital capability to strategically utilize digital technology within their business activities. Theoretically, this study contributes to the development of digital finance and MSME literature by positioning digital capability as a strategic capability that transforms digital financial access into sustainable business resilience. The findings also strengthen the perspectives of Technology Acceptance Model and Resource-Based View in explaining technology adoption and organizational resilience in the context of MSMEs.

Practically, the findings imply that policymakers and government institutions should not only focus on expanding digital financial inclusion but also prioritize strengthening MSME digital capability through digital training, financial education, and technology assistance programs. Enhancing digital capability is essential to ensure that MSMEs can adapt, survive, and maintain business sustainability in the increasingly complex digital economy. This study is limited to MSMEs that have adopted digital financial services and focuses on specific constructs related to digital finance and resilience. Therefore, future studies are recommended to include broader variables, such as innovation capability, entrepreneurial agility, or digital ecosystem support, and to expand the research scope across different regions and business sectors.

References

- Bank Indonesia. (2025). *Bank Indonesia: Menavigasi Sistem Pembayaran Nasional di Era Digital BANK INDONESIA*.
- Barney, J. B. (1991). *Barney (1991).pdf*.
- Barney, J. B., & Hesterly, W. S. (2014). *Strategic management and CA - concepts and cases*. <https://thuviensho.hoasen.edu.vn/handle/123456789/12874%0Ahttps://thuviensho.hoasen.edu.vn/bitstream/handle/123456789/12874/Contents.pdf?sequence=5&isAllowed=y>
- Benbasat, I., & Barki, H. (2007). Quo vadis, TAM? *Journal of the Association for Information Systems*, 8(4), 211–218. <https://doi.org/10.17705/1jais.00126>
- Bi, S., Zhang, X., Xiao, G., & Li, H. (2025). Marketization, digital economy, and industrial structure transformation: Mechanisms and regional variations. *International Review of Economics and Finance*, 102(April), 104228. <https://doi.org/10.1016/j.iref.2025.104228>
- Cedergren, A., & Hassel, H. (2024). International Journal of Disaster Risk Reduction Building organizational adaptive capacity in the face of crisis : Lessons from a public sector case study. *International Journal of Disaster Risk Reduction*, 100(October 2022), 104235. <https://doi.org/10.1016/j.ijdr.2023.104235>
- Chen, S., & Guo, Q. (2024). *Fintech and MSEs Innovation: an Empirical Analysis*. <http://arxiv.org/abs/2407.17293>
- Conz, E., & Magnani, G. (2020). A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research. *European Management Journal*, 38(3), 400–412. <https://doi.org/10.1016/j.emj.2019.12.004>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–339. <https://doi.org/10.2307/249008>
- Demirgüç-Kunt, A., AnsarS., K., & L., & S. (2022). THE GLOBAL FINDEX DATABASE 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. *South African Medical Journal*, 101(2003), 16.

- Demirguc, A., Klapper, L., Singer, D., & Ansar, S. (2021). *Asli Demirgüç-Kunt, Leora Klapper, Dorothea Singer, and Sanjaya Ansar*.
- Faruque, M. O., Chowdhury, S. N., Rabbani, M. G., & Khan, N. A. (2024). Technology Adoption and Digital Transformation in Small Businesses: Trends, Challenges, and Opportunities. *International Journal For Multidisciplinary Research*, 6(5). <https://doi.org/10.36948/ijfmr.2024.v06i05.29207>
- Faton, C. Y., Nonvide, G. M. A., & Chabossou, A. F. (2025). Digital financial inclusion and the reduction of gender inequalities in Africa. *Discover Global Society*, 3(1). <https://doi.org/10.1007/s44282-025-00146-z>
- Gosal, G. G., & Nainggolan, R. (2023). The Influence of Digital Financial Literacy on Indonesian SMEs' Financial Behavior and Financial Well-Being. *International Journal of Professional Business Review*, 8(12), e04164. <https://doi.org/10.26668/businessreview/2023.v8i12.4164>
- GPMI. (2021). *Resilience in the market for international remittances during the COVID-19 crisis*. October.
- Gulati, T., Singla, A., & Saini, P. (2025). Digital Financial Literacy and Digital Finance Usage: A Systematic Literature Review and Bibliometric Analysis. *Journal of Informatics and Education Research*, 5(1), 4105–4117. <https://doi.org/10.53555/jier.v5i1.2485>
- Hair, J. F., Sarstedt, M., & Ringle, C. M. (2021). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research* (Issue July). https://doi.org/10.1007/978-3-319-57413-4_15
- Hokmabadi, H., & Rezvani, S. M. H. S. (2024). *Business Resilience for Small and Medium Enterprises and Startups by Digital Transformation and the Role of Marketing*.
- Hu, S., Zhu, Q., Zhao, X., & Xu, Z. (2023). Digital Finance and Corporate Sustainability Performance: Promoting or Restricting? Evidence from China's Listed Companies. *Sustainability (Switzerland)*, 15(13). <https://doi.org/10.3390/su15139855>
- Junarsin, E., Pelawi, R. Y., Kristanto, J., Marcelin, I., & Pelawi, J. B. (2023). Does fintech lending expansion disturb financial system stability? Evidence from Indonesia. *Heliyon*, 9(9), e18384. <https://doi.org/10.1016/j.heliyon.2023.e18384>
- Khairani, R., Octora, T., Syah, D., & Ovami, D. C. (2025). *How Digital Financial Literacy Shapes Sustainable Economic Performance: Evidence from Rural MSME*. 50–60. <https://doi.org/10.64276/ams.v1i2.55>
- Khairani, R., Silaban, P., & Edward, Y. R. (2025). Digital Financial Literacy and Inclusion as Determinants of Economic Sustainability Among Rural MSMEs. *Proceeding of the International Conference on Management, Entrepreneurship, and Business*, 2(2), 463–469.
- Khairani, R., Tantonio, E. A., Anderson, R., Munthe, H., & Purba, P. Y. (2025). Unlocking the Potential of Financial Inclusion, E-Commerce, and FinTech to Boost SME Performance. *Jurnal Ilmiah Manajemen Kesatuan*, 13(5), 3565–3576. <https://doi.org/10.37641/jimkes.v13i5.3786>
- Khin, S., & Ho, T. C. F. (2018). *Digital technology , digital capability and organizational performance*. <https://doi.org/10.1108/IJIS-08-2018-0083>
- Komakech, R. A., Ombati, T. O., Kikwatha, R. W., & Wainaina, M. G. (2025). Resource-based view theory and its applications in supply chain management: A systematic literature review. *Management Science Letters*, 15(4), 261–272. <https://doi.org/10.5267/j.msl.2024.6.004>
- Mangawing, L. A., Sulianto, T., Sari, A. P., Jafri, L. A. U., & Ramadhan, W. (2023). The Influence of Digital Financial Literacy on MSME Performance in Balikpapan City. *Proceeding of The International Seminar on Business, Economics, Social Science and Technology (ISBEST)*, 3(1), 162–170. <https://doi.org/10.33830/isbest.v3i1.1348>
- Morgan, P. J., Trinh, L. Q., Morgan, P. J., Economist, C., Long, A., & Trinh, Q. (2019). *FINTECH AND FINANCIAL LITERACY Asian Development Bank Institute*. 933.
- Nafisa¹, N., Kartawinata, B. R., Akbar, A., Pradana, M., & Utami, D. G. (2022). Quick Response Code Indonesian Standard (QRIS) Payment in Indonesian MSMEs: A Bibliometric Study. *Journal of Pharmaceutical Negative Results*, 13(10), 1223–1233. <https://doi.org/10.47750/pnr.2022.13.S10.143>
- Nugroho, C., Wulandari, A., Maulana, D., Rina, N., & Kalaloi, A. F. (2025). Digital communication and literacy for MSME empowerment: Evidence from a rural digital village in Indonesia. *International Journal of Innovative Research and Scientific Studies*, 8(3), 4523–4535. <https://doi.org/10.53894/ijirss.v8i3.7544>

- OECD. (2021). Bridging digital divides in G20 countries. *Bridging Digital Divides in G20 Countries*. <https://doi.org/10.1787/35c1d850-en>
- OJK, & BPS. (2024). *Survei Nasional Literasi dan Inklusi Keuangan (SNLIK)*.
- Putri, A. U., Mirani, D., & Khairunnisyah, T. (2023). *Digital Transformation for MSME Resilience in The Era of Society 5.0*. 154–174.
- Ren, X., Zeng, G., & Zhao, Y. (2023). Digital finance and corporate ESG performance: Empirical evidence from listed companies in China. *Pacific-Basin Finance Journal*, 79, 102019. <https://doi.org/10.1016/j.pacfin.2023.102019>
- Rifqiansyah, & Hasrul wijaya. (2025). Entrepreneurship Based on Culture and Local Wisdom: Building Sustainable Business from Tradition. *Journal of Indonesian Scholars for Social Research*, 5(1), 14–23. <https://doi.org/10.59065/jissr.v5i1.169>
- Saifurrahman, A., & Kassim, S. H. (2024). Regulatory issues inhibiting the financial inclusion: a case study among Islamic banks and MSMEs in Indonesia. *Qualitative Research in Financial Markets*, 16(4), 589–617. <https://doi.org/10.1108/QRFM-05-2022-0086>
- Satrio, D., & Muhardono, A. (2022). Digital Marketing as a Strategy to Defend MSMEs in the Covid-19 Pandemic. *FIRM Journal of Management Studies*, 7(1), 73. <https://doi.org/10.33021/firm.v7i1.1545>
- Sudirman, I. D., Astuty, E., & Aryanto, R. (2025). *Enhancing Digital Technology Adoption in SMEs Through Sustainable Resilience Strategy: Examining the Role of Entrepreneurial Orientation and Competencies*. 35, 97–114.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273–315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Venkatesh, V., James Y. L. Thong, Xin Xu, & MIS. (2012). *Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology*. 10–13.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118–144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- Wang, L., & Yang, H. (2024). Digital technology innovation and corporate ESG performance: evidence from China. In *Economic Change and Restructuring* (Vol. 57, Issue 6). Springer US. <https://doi.org/10.1007/s10644-024-09791-x>
- Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. <https://doi.org/10.1016/j.lrp.2018.12.001>
- Yu, Y., Li, W., Li, H., Luo, S., & Liu, Y. (2025). Exploring the Dynamic Impact of Digital Financial Literacy on Rural Household Income: New Evidence from China. *Sustainability (Switzerland)*, 17(8), 1–23. <https://doi.org/10.3390/su17083385>
- Zhou, Y., Li, S., Li, H., Wang, M., Haneklaus, N., & Li, B. (2025). Digital inclusive finance and resilient livelihoods: Lessons from China's Rural Revitalization Strategy. *Economic Analysis and Policy*, 88, 971–991. <https://doi.org/10.1016/j.eap.2025.09.031>