Digital Financial Innovation and Digital Financial Literacy: Keys to Improving MSMEs Finance Resilience in Tasikmalaya City

Azizah Fauziyah[1], Agus Rahayu[2], Lili Adi Wibowo[3], Sulastri Sulastri[4], Alfira Sofia[5], Febri Egasmara[6]

[12345]Universitas Pendidikan Indonesia, Bandung, Indonesia
[6] PT Telekomunikasi Indonesia Internasional, Jakarta, Indonesia
azizahfauziyah@upi.edu

Abstract. Amidst the acceleration of digital transformation, this study explores the challenges and opportunities faced by Micro, Small, and Medium Enterprises (MSMEs) in adopting digital finance, with a specific focus on Tasikmalaya City, Indonesia. The study employs a mixed-method approach. Quantitative data were collected from 150 MSMEs in the trading sector using purposive sampling and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM), while qualitative data were obtained through in-depth interviews with MSME actors, fintech and banking representatives, and policy makers, analyzed using a thematic approach. The quantitative results show that financial digitalization has a significant effect on digital financial literacy ($\beta = 0.58$; $p < 0.001$), which in turn positively and significantly affects financial resilience ($\beta = 0.49$; $p < 0.01$). Financial digitalization also directly influences financial resilience, although the effect is smaller ($\beta = 0.27$; $p < 0.05$), with the model explaining 61% of the variance in financial resilience ($R^2 = 0.61$), confirming digital financial literacy as a key mediating factor. The qualitative findings reveal persistent challenges, including low digital literacy, limited infrastructure, and concerns over transaction security, alongside opportunities such as operational efficiency, government and banking support, and shifting consumer preferences toward digital payments. These findings underscore the need for community-based digital literacy programs, equitable infrastructure development, and stronger digital consumer protection to build financially resilient MSMEs.

Keywords: Financial Digitalization, Digital Financial Literacy, Financial Resilience, Msmes, Indonesia

1 Introduction

Micro, Small and Medium Enterprises (MSMEs) play a strategic role in economic development, particularly in Indonesia, where they contribute more than 60% to gross national product and absorb approximately 96.92% of the workforce [1]. In Tasikmalaya City, as a key business hub in East Priangan, MSMEs exceed 17,000 units;

© The Author(s) 2026
R. Hurriyati et al. (eds.), *Proceedings of the 10th Global Conference on Business, Management, and Entrepreneurship (GCBME 2025)*, Advances in Economics, Business and Management Research 407,
https://doi.org/10.2991/978-94-6239-819-1_2

however, most remain at the micro and small scale, with limited progression to medium and large enterprises due to structural and financial constraints [2], also have a critical challenge about financial resilience, which is defined as the ability to withstand and recover from financial shocks [3]. This capability is reflected in effective financial management, access to external financing, and adaptive business strategies [4,5]. Despite their general resilience to economic disruptions, MSMEs in Indonesia continue to face significant limitations related to financial access, managerial capability, and financial literacy [6,7,8].

Digitalization has emerged as a key mechanism to address these challenges, particularly following the COVID-19 pandemic, which accelerated the adoption of digital technologies, including digital financial services [9,10,11]. However, adoption remains limited, with only 13–15% of MSMEs utilizing digital financial platforms [11]. This gap is driven by low digital literacy, limited infrastructure, and inadequate financial support [12,13]. Nevertheless, digital financial services offer substantial potential to improve financial inclusion and efficiency, thereby strengthening financial resilience [13,14].

The effectiveness of digitalization in enhancing financial resilience is closely linked to digital financial literacy. MSMEs with higher levels of digital financial literacy are better positioned to utilize financial technologies, manage risks, and optimize decision-making. Previous studies highlight that digital transformation and capability development contribute to MSME resilience through improved access to resources, expanded networks, and enhanced risk management [15,16]. However, existing studies largely examine these factors in isolation and provide limited insight into their integrated role in shaping financial resilience, particularly in specific local contexts.

Therefore, this study aims to analyze the integrated role of digital financial literacy and financial digitalization in enhancing MSME financial resilience, with a focus on Tasikmalaya City. This research contributes by offering a more structured and contextualized understanding of how digital capabilities support sustainable financial performance.

2. Methods

The research method used is a mixed method research method by combining quantitative research methods are used to test the relationship between financial digitalization variables, digital financial literacy and financial resilience; and qualitative research methods are used to determine the challenges and opportunities regarding financial digitalization. The research population was 17,234 MSMEs in Tasikmalaya City with various business fields. The sampling techniques used were as follows:

1) Quantitative research method: using purposive sampling techniques with the criteria a) MSMEs from the trade sector, b) have used or plan to use financial digitalization, and 3) have been operating for more than 5 years, was conducted on

150 respondents of MSMEs in the trade sector in Tasikmalaya City

2) Qualitative research method: using snowball sampling with three main informants, consisting of MSME actors, fintech or banking representatives, and MSME digitalization policy makers.

The data collection instruments used by the author in this study consisted of 1) Questionnaires regarding the level of financial digitalization, digital financial literacy and financial resilience and 2) Interviews regarding challenges and strategies for financial digitalization. In connection with the use of mixed methods, the following are the data analysis techniques used the Partial Least Square - Structure Equation Modeling (PLS-SEM) method to see the relationship between financial digitalization, digital financial literacy and financial resilience and used thematic analysis methods to identify patterns of findings derived from interview results.

3. Results And Discussion

The results of the inner model show of the inner model show the following data interpretations:

1. Financial digitalization has a significant effect on digital financial literacy ($\beta = 0.58$; $p < 0.001$).
2. Digital financial literacy has a positive and significant effect on financial resilience ($\beta = 0.49$; $p < 0.01$).
3. Financial digitalization also has a direct effect on financial resilience, although the effect is smaller ($\beta = 0.27$; $p < 0.05$).
4. The R^2 value for the financial resilience construct is 0.61, which indicates that the model has a fairly strong explanatory power on the dependent variable.

These results indicate that the ability of MSMEs to adapt to financial digitalization contributes to increasing digital financial literacy, which in turn strengthens the financial resilience of their businesses. Based on the results of the interview, there were findings of the main opportunities and challenges faced by MSMEs in Tasikmalaya City which are described in the following thematic analytical table:

Table 1. Thematic Analysis of Challenges and Opportunities for MSMEs in Tasikmalaya City

No	Aspect	Sub-Theme	Description of Findings
1	Challenge	Low financial literacy	MSME actors with advanced age (45 to 60 years) have difficulty using digital financial applications and are vulnerable to scams.
		Limited infrastructure	Several areas in Tasikmalaya city that are far from the city center experience difficulties with signals and internet access.
		Transaction security	Business actors still experience fear of the risk of fraud or misuse of personal information.
2	Opportunity	Operational Efficiency	Using financial applications can save time and operational costs.
		Government and banking support	There are training and incentive programs for MSMEs in adopting digital payment systems.

No	Aspect	Sub-Theme	Description of Findings
		Changes in consumer preferences	Post-pandemic accelerates the shift from non-cash payments to digital payments

Source: interview results, processed (2025)

The results of this study indicate that financial digitalization contributes significantly to digital financial literacy, which ultimately increases the financial resilience of MSMEs. The results show that digital financial literacy is not only a result of digitalization, but also a major mediator in strengthening the financial resilience of MSMEs.

This finding is consistent with the study of Feyen et al. [9], which states that access to financial technology strengthens the capabilities of small entrepreneurs in risk mitigation and business continuity. Digital financial literacy, as evidenced by Purwoto et al. [15], is an important determinant in strengthening resilience, especially among women entrepreneurs. Research by Gosal & Nainggolan [16] also confirms that digital understanding and skills encourage the active use of digital financial services such as mobile payments and peer-to-peer lending. This suggests that increasing digital financial literacy not only strengthens financial resilience but also encourages wider adoption of digital financial services.

From a qualitative perspective, in-depth insights into the challenges and opportunities of financial digitalization enrich the understanding of the local context of Tasikmalaya MSMEs. The finding that some business actors still face technological difficulties or concerns about security is an important reminder that the digital transformation process must be accompanied by ongoing assistance and increased trust. Overall, the integration of quantitative and qualitative data in this study provides a complete picture of the importance of the role of digitalization and literacy in creating financially resilient MSMEs in the digital economy era. Qualitative findings from in-depth interviews reveal several key challenges faced by MSMEs in adopting financial digitalization, including 1) low digital literacy, 2) limited digital infrastructure, and 3) concerns about the security of digital transactions.

Low digital literacy, especially among senior business actors, which hinders the optimal use of digital financial technology. This is reinforced by research showing that the lack of digital literacy is a significant obstacle to the adoption of digital technology by MSMEs [17,18]. Limited digital infrastructure, such as uneven internet access in suburban areas, which hinders accessibility to digital financial services. A study by ERIA [18] highlighted that low internet access limits the ability of MSMEs to expand their markets and adopt digital technology effectively. Concerns about transaction security, which causes hesitation in using digital financial platforms. Nurjannah et al. [19] noted that data and information security is a major concern for MSMEs in adopting digital finance.

Other interview results revealed opportunities that could be utilized related to 1) increasing operational efficiency, 2) government and financial institution support (banking), and 3) changes in consumer preferences. Increasing operational efficiency

through the use of digital financial applications that can save time and costs. A study by Abdillah [20] shows that digital transformation increases operational efficiency and market access for MSMEs in Indonesia. Support from the government and financial institutions in the form of training and incentives to encourage the adoption of financial digitalization. The Indonesian government has launched various programs to support the digitalization of MSMEs, including digital literacy training and access to digital financing [21]. Changes in consumer preferences towards non-cash transactions post-pandemic, which opens up market opportunities for MSMEs that adopt digital financial technology. The COVID-19 pandemic has accelerated the adoption of digital payments, creating opportunities for MSMEs to reach a wider market through digital platforms [22].

These combined quantitative and qualitative results confirm the importance of strengthening digital financial literacy as a primary agenda in MSME development. From a Capability-Based View (CBV) perspective, new technologies will only create advantages if accompanied by organizational capabilities, including cognitive capabilities and digital literacy. Thus, policy interventions should be directed at three main priorities: (1) expanding community-based digital financial literacy programs, (2) developing equitable digital infrastructure, and (3) strengthening digital consumer protection regulations. Collaboration between local governments, technology providers, and financial institutions is crucial to creating an inclusive and sustainable MSME digital ecosystem [18-22].

4. Conclusion

This study concludes that financial digitalization plays an important role in encouraging digital financial literacy, which ultimately increases the financial resilience of MSMEs in Tasikmalaya City. The results show also revealed that despite significant challenges such as low digital literacy, limited infrastructure, and concerns about the security of digital transactions, MSMEs also see opportunities from increased efficiency, government support, and changes in consumer behavior that are more digital-savvy.

References

1. Kementerian Koperasi dan UKM: Roadmap UMKM Go Digital 2021–2024. Kemenkop UKM, Jakarta (2021)
2. Badan Pusat Statistik: Statistik UMKM Indonesia 2023. BPS, Jakarta (2023)
3. Alaghbari, M.: Impact of SMEs on economic development: A systematic review of literature. Int. J. Green Manag. Bus. Stud. (2022)
4. Klapper, L., Lusardi, A.: Financial literacy and financial resilience: Evidence from around the world. Financ. Manag. (2019)
5. Gibson, C.H.: Financial Reporting and Analysis. Cengage Learning (2012)
6. Fatoki, O.: The financial management practices of micro-enterprises. Mediterr. J. Soc. Sci. 5(3), 55–62 (2014)

7. Xu, L., Zia, B.: Financial literacy around the world. World Bank Policy Research Working Paper No. 6107 (2012)
8. Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., Saal, M.: Fintech and the digital transformation of financial services. BIS Papers No. 117 (2021)
9. Wicaksono, T.Y., Simangunsong, A.: Digital technology adoption and Indonesia's MSMEs during COVID-19. ERIA (2022)
10. Hartono, A., Roostika, R., Darmawan, B.A.: Digital transformation during the pandemic performed by SMEs in ASEAN countries. In: International Conference on Business and Technology, pp. 751–755. Springer, Heidelberg (2022)
11. Hanafizadeh, P., Bidgoli, M.S.: The barriers of e-banking development: A systematic review. Internet Res. 30(1), 40–66 (2020)
12. Muthukrishnan, S., Mathew, M.: Digital literacy and the digital divide: Challenges in SME transformation. Int. J. Bus. Innov. Res. 26(3), 289–308 (2022)
13. Hinson, R., Lensink, R., Mueller, A.: Infrastructure deficits and SME competitiveness: Evidence from developing economies. Small Bus. Econ. 57(2), 569–583 (2021)
14. Amin, S., Isa, Z.: Digital financial inclusion: Opportunities and challenges for SMEs. J. Econ. Bus. 72(3), 115–134 (2021)
15. Purwoto, H., Siregar, M.E., Rahmawati, I.: Digital financial literacy and women's resilience in entrepreneurship. J. Women Entrep. Educ. 1(1), 23–41 (2025)
16. Gosal, C.H., Nainggolan, D.: Financial literacy and adoption of digital financial services among MSMEs. J. Bus. Rev. 17(2), 122–136 (2023)
17. Wijayanti, A., Nugroho, Y.: The digital transformation challenges for traditional MSMEs in Indonesia. Indones. J. Dev. Plan. 4(1), 45–57 (2020)
18. Economic Research Institute for ASEAN and East Asia (ERIA): Digital technology adoption and Indonesia's MSMEs during COVID-19. ERIA, Jakarta (2021)
19. Nurjannah, I., Setyawan, A.D., Fitriani, R.: Digital finance influence for MSMEs in Indonesia. Int. J. Econ. Bus. 5(3), 118–127 (2022)
20. Abdillah, M.R.: Digital transformation and operational efficiency in Indonesian MSMEs. Asia Soc. J. 18(1), 55–67 (2024)
21. Sari, P., Hardiyanto, A., Mulyani, S.: Consumer behavior shift post-pandemic and MSME adaptation. J. Mark. Trends. 14(2), 78–90 (2022)
22. Mulyaningsih, T., Darmawan, F., Hermawan, D.: Building a sustainable digital ecosystem for Indonesian MSMEs. J. Econ. Sustain. 9(1), 33–49 (2021)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

