

Digitalization of MSMEs Through Fintech: A Strategy for Enhancing Local Economic Growth in Parepare

Fitriani^{1,*}, Abdul Azis² and Erni Lestari Harianto³

¹Development Economics Study Program, Faculty of Economics and Business, Muhammadiyah University of Parepare, Parepare City, Indonesia

²Accounting Study Program, Faculty of Economics and Business, Muhammadiyah University of Parepare, Parepare City, Indonesia

³Development Economics Study Program, Faculty of Economics and Business, Muhammadiyah University of Parepare, Parepare City, Indonesia

* Correspondence: fitri.fa29@gmail.com

Abstract: *Micro, Small, and Medium Enterprises (MSMEs) are a key pillar of Indonesia's economy; however, the level of digital technology adoption among MSME actors, particularly in Parepare City, remains low. This study aims to analyze the level of MSME digitalization based on financial technology (fintech), identify factors influencing fintech adoption, and measure the impact of fintech implementation on MSME performance in Parepare City. This research employs a mixed-method approach with a descriptive qualitative method supported by simple quantitative data. The sample consists of 30 MSME actors selected through stratified random sampling, complemented by in-depth interviews with 30 key informants. The results indicate that the level of MSME digitalization in Parepare is still in the low to moderate category. E-wallets are the most widely used fintech service (50%), followed by QRIS (40%), mobile banking (33.3%), and P2P lending (16.7%). Fintech adoption has a positive impact on MSME performance, with 73.3% of respondents experiencing increased transaction efficiency, 53.3% reporting increased revenue, and 63.3% experiencing growth in customer numbers. The main barriers include low digital literacy (56.7%), limited internet access (26.7%), and lack of assistance (30%). This study recommends policy interventions in the form of integrated digital training, strengthening digital infrastructure, and ecosystem collaboration between government, financial institutions, and business actors.*

Keywords: MSME Digitalization; Fintech; Financial Inclusion

JEL: O33; G20; L26; O18

1. INTRODUCTION

Digital transformation has become a strategic necessity for Micro, Small, and Medium Enterprises (MSMEs) worldwide, including in Indonesia. The rapid development of information and communication technology has fundamentally changed the business landscape, pushing entrepreneurs to adapt in order to remain competitive amid increasingly intense global competition. MSMEs play a crucial role in the Indonesian economy, contributing 61.07% to the national Gross Domestic Product (GDP) and absorbing more than 97% of the national workforce (Ministry of Cooperatives and MSMEs, 2022).

Although their contribution is very significant, data from the Ministry of Cooperatives and SMEs records that out of 64.2 million MSMEs in Indonesia, only around 13% have utilized digital platforms in their business operations. This figure indicates a still low level of digital adoption among business actors, even though digitalization has significant potential in increasing operational efficiency, expanding market reach, and strengthening the competitiveness of MSMEs (Parepare City Office of Cooperatives and SMEs, 2023).

A similar condition is also seen in the city of Parepare, South Sulawesi, which has 12,847 MSME units according to data from the Cooperative and MSME Office in 2023. Although the number is quite significant, less than 8% of MSMEs have actively adopted digital technology. This is quite concerning considering that MSMEs in Parepare play a vital role in supporting the regional economy, especially in the culinary, trade, and service sectors, which are the main providers of

employment for the community (Cooperative and MSME Office of Parepare City, 2022).

Financial technology (fintech) has emerged as one of the potential solutions that can address these challenges. Financial technology innovations are capable of providing faster access to capital through Peer-to-Peer (P2P) lending platforms, facilitating business transactions with digital payment systems, and helping business actors to maintain more organized and transparent financial records (Mulyani, 2022; Fadilah, 2021). Ozili (2018) identified that fintech can increase financial inclusion by up to 34% for SMEs, while Demirgüç-Kunt et al. (2020) show a positive correlation between the adoption of digital technology and SME revenue growth of 15–20%.

However, the implementation of fintech in the context of a medium-sized city like Parepare requires a more contextual approach. Adoption models that have been successful in large cities may not necessarily be directly implemented in this area without adjustments, considering the socio-economic characteristics of the community, still simple business patterns, and the limited digital literacy possessed by MSME actors (Sari & Putra, 2021). Hadad (2020) also revealed that the implementation of fintech in MSMEs in Indonesia is still hampered by regulatory factors and low digital literacy.

Although prior studies have examined fintech adoption and financial inclusion among SMEs in general (Ozili, 2018; Demirgüç-Kunt et al., 2020) and in the Indonesian context more broadly (Hadad, 2020; Sari & Putra, 2021), none of these studies have specifically examined how a contextual, multi-pillar digitalization strategy can be developed for medium-sized cities such as Parepare, leaving a research gap regarding locally grounded models for fintech-based MSME digitalization that this study aims to fill. Based on these conditions, this study is designed to answer three main questions: (1) What is the level of digitization of fintech-based MSMEs in Parepare City? (2) What are the factors that influence the adoption of fintech in MSMEs in Parepare? (3) What is the impact of fintech implementation on the performance and competitiveness of MSMEs? This study is expected to provide both theoretical and practical contributions, particularly in the form of policy recommendations for local governments and business actors in developing an inclusive and sustainable digital ecosystem.

2. LITERATURE REVIEW

2.1. MSME Digitalization and Digital Transformation

Digitalization of MSMEs refers to the process of integrating digital technology into all aspects of business operations, ranging from production, marketing, financial management, to supply chain management. Rogers (2003) in the Diffusion of Innovations theory explains that the adoption of technological innovations is influenced by factors of relative advantage, compatibility, complexity, trialability, and observability. In the context of MSMEs, these factors are very relevant to understand why some business actors adopt digital technology faster than others.

Venkatesh et al. (2003), through the Unified Theory of Acceptance and Use of Technology (UTAUT), identified four main determinants in technology acceptance, namely: performance expectancy, effort expectancy, social influence, and facilitating conditions. This framework serves as an important foundation for analyzing the fintech adoption behavior among MSME actors who have diverse educational backgrounds and levels of digital literacy.

Ayyagari et al. (2003) provide cross-country evidence on the economic importance of SMEs, including their contribution to employment and GDP. In the context of digital transformation, this broader evidence reinforces the relevance of strengthening MSME capabilities as part of local economic development strategies.

2.2. Financial Technology (Fintech) and Financial Inclusion

Financial technology (fintech) is defined as technological innovation applied in financial services to improve efficiency and accessibility (Gomber et al., 2017). The fintech ecosystem includes various services, ranging from digital payments (e-wallets, QRIS, mobile banking), platform-based financing (P2P lending, crowdfunding), digital financial management, to technology-based insurance (insurtech).

Ozili (2018) found that fintech has great potential in promoting financial inclusion, especially for community groups that were previously unreachable by conventional banking services. In developing countries, including Indonesia, fintech serves as an important bridge connecting MSMEs with the broader formal financial ecosystem. Bank Indonesia (2022) reported that digital transactions in Indonesia continue to grow exponentially, reflecting the increasing public trust in technology-based financial services.

Demirgüç-Kunt et al. (2020) in the Global Findex Database show that the adoption of digital technology has a positive impact on SME income growth by 15–20%. The use of fintech allows SMEs to access more flexible capital, manage cash flow more efficiently, and expand market reach through digital trading platforms.

2.3. MSMEs and Local Economy

MSMEs are the backbone of Indonesia's economy with a very significant contribution to the national GDP and employment absorption (Ministry of Cooperatives and SMEs, 2022). At the regional level, MSMEs play a role as the driving force of the local economy by creating jobs, increasing community income, and promoting the growth of the real sector.

Rahman (2020), in his study on the MSME supply chain in coastal areas, identified that structural weaknesses on both the upstream and downstream sides are the main obstacles to the growth of traditional MSMEs. On the upstream side, business actors face limitations in working capital and inconsistent raw materials, while on the downstream side, the challenges relate to marketing difficulties and low adoption of digital payment systems. This situation further reinforces the need for technology-based interventions that are contextual and adaptive to local economic characteristics.

Putri and Santoso (2023) emphasized that the digitalization of MSMEs and the utilization of fintech in Indonesia are positively correlated with increased business competitiveness. Their research shows that MSMEs that have integrated fintech into their business operations have better adaptation abilities to market changes and are more capable of surviving in uncertain economic conditions.

3. METHOD

3.1. Research Type and Approach

This study uses a mixed-method approach with a descriptive qualitative approach supported by simple quantitative data. This approach is chosen to provide a comprehensive overview of the condition of SMEs in Parepare City in the process of fintech-based digitalization, while also allowing for more in-depth information gathering through qualitative interviews. The combination of these two approaches allows researchers not only to measure the phenomena that occur, but also to understand the context and meaning behind the collected data.

3.2. Research Location and Time

The city of Parepare, South Sulawesi, was purposively selected as the research location because it represents the characteristics of a medium-sized city with a significant number of SMEs and the potential for strategic digitalization policy implementation. Parepare also has uniqueness as a transit city and distribution center for goods in its surrounding area, making it a relevant context for examining the adoption of fintech in SMEs based on the local economy.

3.3. Population and Sample

The research population is all MSMEs registered with the Cooperatives and SMEs Office of Parepare City, totaling 12,847 units. Sample collection was carried out using a stratified random sampling technique based on business sectors, which include culinary, trade, services, agriculture/fisheries, and manufacturing. The sample size was set at 30 MSMEs for the quantitative survey. In addition, in-depth interviews were conducted with 30 key informants, consisting of 20 MSME actors, 5 local government officials, and 5 fintech practitioners chosen using purposive sampling technique. Of the 30 survey respondents, 20 were also interviewed in

depth.

The quantitative sample size was determined with reference to Slovin's formula, as shown in Equation (1).

$$n = N / (1 + N \cdot e^2) \dots\dots\dots(1)$$

Description:

- n = sample size
- N = population size (12,847 registered MSMEs)
- e = margin of error

With N = 12,847, a 10% margin of error in Slovin's formula would yield approximately 99 respondents, while a 5% margin of error would yield approximately 388 respondents. The observed sample of 30 therefore represents a substantially smaller field sample than would be required for stronger city-level statistical generalization. The sample of 30 was retained for the quantitative component because practical constraints of time, budget, and respondent availability limited the feasible survey size during the study period. Consequently, the quantitative results should be interpreted as indicative patterns within the sampled respondents rather than statistically generalizable city-level estimates. Future studies should use a larger probability-based sample to support stronger generalization to the full population of Parepare's MSMEs.

3.4. Data Collection Techniques

Data collection is conducted through three main methods. First, quantitative surveys using questionnaires with a five-point Likert scale designed to measure the level of digitalization, fintech adoption, MSME performance, and the obstacles faced. Second, in-depth interviews with key informants to gain a more comprehensive understanding of business actors' experiences, perceptions, and expectations regarding digitalization. Third, documentation studies through the collection of secondary data from the Cooperatives and SMEs Office reports, BPS data, and regional development planning documents.

Prior to the analysis, the Likert-scale questionnaire was reviewed for face and content validity through discussion with academic experts in economics and digital finance; however, formal statistical testing of construct validity (e.g., item-total correlation) and internal-consistency reliability (Cronbach's Alpha) was not conducted for this study. This is acknowledged as a methodological limitation (see Section 4.9), and future revisions of this instrument, or subsequent studies using it, are strongly recommended to report item-total correlation and Cronbach's Alpha coefficients (with a minimum acceptable threshold of 0.70) for each construct before the quantitative findings are used for confirmatory or generalizable claims.

3.5. Data Analysis Techniques

Quantitative data were analyzed using simple descriptive statistics, including frequency, percentage, and mean with the assistance of SPSS and Microsoft Excel software. This analysis was used to describe respondents' profiles, the level of fintech adoption, and the reported changes in MSME performance. Qualitative interview data were analyzed using thematic analysis following Braun and Clarke (2006). The analysis involved familiarization with the interview material, generation of initial codes, grouping codes into candidate themes, review and refinement of themes, definition and naming of themes, and synthesis of the final thematic structure. The resulting themes were compared with the survey findings and secondary data to support triangulation. The descriptive analysis answers the first and third research questions; for the second research question, the study identifies factors influencing fintech adoption from the interview themes rather than from a formal inferential test.

4. RESULTS AND DISCUSSION

4.1. MSME Characteristics in Parepare

Based on data from the Parepare City Office of Cooperatives and SMEs, the number of MSMEs in Parepare City is recorded at 12,847 units spread across various business sectors.

Distribution by business scale shows a very high dominance in the micro business category, as shown in Table 1 below.

Table 1. Distribution of MSMEs in Parepare City Based on Business Scale

Business Scale	Quantity (Unit)	Percentage (%)
Micro Business	10,790	84%
Small Business	1,670	13%
Medium Business	387	3%
Total	12,847	100%

Source: Parepare City Cooperatives and SMEs Office (2023), processed

The data in Table 1 shows that 84% of MSMEs in Parepare are micro enterprises, while small enterprises account for 13% and medium enterprises only 3%. The dominance of micro enterprises indicates that Parepare's local economic structure still relies on small-scale businesses with limited capital, technology, and managerial capacity.

From the business sector perspective, as presented in Table 2, MSMEs in Parepare are dominated by the culinary sector, which reaches 42%, followed by trade at 30%, services at 18%, and other sectors at 10%.

Table 2. Distribution of MSMEs in Parepare City Based on Business Sector

Business Sector	Number (Units)	Percentage (%)
Culinary	5,395	42%
Trade	3,854	30%
Services	2,312	18%
Others (Crafts, etc.)	1,286	10%
Total	12,847	100%

Source: Parepare City Cooperatives and SMEs Office (2023), processed

The high proportion of the culinary sector reflects that the economic activities of the Parepare community are closely related to daily consumption needs as well as the potential of local culinary tourism. The significant trade sector also reflects Parepare's strategic role as a transit city and distribution center in the South Sulawesi region (Rahman, 2020).

4.2. Respondent Description

Based on a survey of 30 MSME actors, the majority of respondents are engaged in the culinary sector (46.7%), followed by trade (26.7%), services (16.7%), and other sectors (10%). In terms of business duration, most MSMEs have been operating for 3–5 years (40%), indicating that business actors are in a growth and development phase. Based on monthly revenue, the majority of respondents earn between IDR 5 million and IDR 10 million (43.3%), suggesting that most MSMEs are still operating on a small scale with limited production and market capacity.

4.3. Level of Digitalization

The research results on the level of digitalization of MSMEs in Parepare City are presented in Table 3. In general, the level of digitalization is still in the low to medium category, with quite significant variations between indicators.

Table 3. Level of Digitalization of MSMEs in Parepare City (n = 30)

Digitalization Indicator	Low	Medium	High	Total
Use of social media	8	14	8	30
Use of marketplaces	15	10	5	30
Use of financial applications	18	9	3	30
Internet & device access	10	12	8	30

Source: Processed primary data (2024)

The data in Table 3 show that the use of social media as a marketing tool is relatively

higher compared to other indicators, with 8 respondents in the high category and 14 in the medium category. This indicates that social media platforms such as WhatsApp and Instagram have been adopted as informal promotional tools by MSME actors.

On the other hand, the use of digital financial applications remains very low, with 18 out of 30 respondents (60%) falling into the low category. This condition is in line with the findings of Kusnadi (2023), which state that financial management among MSMEs in Indonesia is generally still carried out manually, becoming one of the main obstacles in implementing structured and accountable financial systems.

The use of marketplaces is also still limited, with only 5 respondents in the high category. This limitation is influenced by low digital literacy, a lack of understanding of online sales mechanisms, and concerns about increasingly intense competition on digital platforms (Sari & Putra, 2021).

4.4. Fintech Adoption Level

The adoption of fintech among MSMEs in Parepare shows quite significant variation across different types of services. Details of fintech usage by respondents are presented in Table 4.

Table 4. Fintech Usage by MSMEs in Parepare City (n = 30)

Type of Fintech	Using	Not Using	Percentage of Users
QRIS	12	18	40%
E-wallet	15	15	50%
Mobile Banking	10	20	33.3%
P2P Lending	5	25	16.7%

Source: Processed primary data (2024)

E-wallet is the most widely used fintech service among respondents (50%), followed by QRIS (40%), mobile banking (33.3%), and P2P lending (16.7%). The high usage of e-wallets and QRIS reflects the ease and familiarity of MSME actors with non-cash payment systems that have been widely promoted by the government and Bank Indonesia.

The low adoption of P2P lending (only 16.7%) is a significant finding. This indicates that MSME actors still have concerns about financial risks, a lack of understanding of digital financing mechanisms, and low levels of trust in technology-based lending platforms. This finding is consistent with the study by Mulyani (2022), which states that although P2P lending offers more flexible access to capital, its adoption among traditional MSMEs is still constrained by financial literacy and trust factors.

In-depth interview results with MSME actors reveal that most respondents began using e-wallets due to cashback promotions and transactional convenience, rather than a comprehensive understanding of fintech benefits. This indicates that fintech adoption in Parepare is still reactive in nature and has not yet been supported by a well-planned digitalization strategy.

This descriptive pattern of adoption is discussed further in Section 4.7 in relation to the driving factors identified through the interviews; however, as noted in Section 3.5, this study did not run a formal inferential test (Chi-square or regression) linking respondent characteristics to fintech-adoption category, which is acknowledged as a limitation and left as a direction for future research using the existing dataset.

4.5. The Impact of Fintech on MSME Performance

The impact of fintech usage on MSME performance shows a positive trend, as presented in Table 5.

Table 5. The Impact of Fintech on MSME Performance (n = 30)

Performance Indicator	Decreased	Unchanged	Increased	Total
Business revenue	2	12	16	30
Number of customers	1	10	19	30
Transaction efficiency	0	8	22	30
Business profit	3	11	16	30

Source: Processed primary data (2024)

The data in Table 5 show a consistent positive impact of fintech adoption on various aspects of MSME performance. A total of 22 respondents (73.3%) reported an improvement in transaction efficiency after using fintech services. This is in line with the main function of fintech in simplifying payment processes, reducing transaction time, and lowering operational costs related to transactions (Fadilah, 2021).

An increase in the number of customers was experienced by 19 respondents (63.3%), indicating that fintech adoption opens up broader market access opportunities. MSME actors who use digital payment services such as QRIS and e-wallets tend to more easily reach consumers who are already accustomed to cashless transactions, especially among younger, digitally connected segments.

The increase in revenue and profit was each experienced by 16 respondents (53.3%), indicating reported improvements in MSME income-related outcomes. This finding is consistent with the study by Demirgüç-Kunt et al. (2020), which found a positive correlation between the adoption of digital technology and MSME income growth of 15–20%.

Interestingly, no respondents experienced a decline in transaction efficiency after using fintech, indicating that currently available fintech services are sufficiently user-friendly, despite the relatively low level of digital literacy among MSME actors. This also suggests that increasingly user-friendly fintech application interfaces contribute to a positive user experience.

4.6. Barriers to Digitalization and Fintech Adoption

Although fintech provides positive impacts, there are various structural barriers that slow down the adoption process among MSMEs in Parepare. Details of the identified barriers are presented in Table 6.

Table 6. Barriers Faced by MSMEs in Digitalization and Fintech Adoption (n = 30)

Type of Barrier	Number of Respondents	Percentage (%)
Lack of technological understanding	17	56.7%
Limited internet access	8	26.7%
Lack of trust in fintech	5	16.7%
Cost of technology usage	6	20%
Lack of assistance/training	9	30%

Source: Processed primary data (2024)

Note: This was a multiple-response question; therefore, percentages do not sum to 100%.

Low technological understanding is the most frequently reported barrier, identified by 17 respondents (56.7%). This finding is consistent with the study by Hadad (2020), which identifies digital literacy as a critical factor in fintech adoption in Indonesia. A lack of understanding of how to use applications, digital security mechanisms, and the long-term benefits of fintech are key factors that make MSME actors reluctant to shift from conventional systems.

Other significant barriers include the lack of assistance and training (30%), limited internet access (26.7%), and the cost of technology usage (20%). In-depth interviews revealed that MSME actors need practical guidance and direct assistance rather than general socialization or seminar-based approaches. A lack of trust in fintech (16.7%) is also a barrier that requires attention, particularly related to data security and the risk of digital fraud.

4.7. Driving Factors of Fintech Adoption

In addition to barriers, this study also identifies several driving factors that support fintech adoption among MSMEs in Parepare. Based on in-depth interview results, the main driving factors include: (1) the increasing ease of use of fintech applications, which are becoming more intuitive; (2) rising consumer demand for cashless payment methods, especially after the COVID-19 pandemic; (3) incentives such as cashback and promotions from fintech service providers; (4) government policies that encourage the implementation of QRIS; and (5) social influence from fellow MSME actors who have successfully adopted fintech.

These findings are consistent with the UTAUT framework developed by Venkatesh et al. (2003), in which performance expectancy, effort expectancy, social influence, and facilitating conditions are key determinants of technology acceptance. In the context of MSMEs in Parepare, social influence and facilitating conditions are the most relevant factors, considering the close-knit nature of business communities that tend to influence one another.

4.8. Fintech-Based MSME Digitalization Model for the Local Economy of Parepare

Based on a comprehensive analysis of the research data, this study proposes a Fintech-Based MSME Digitalization Model that is adaptive to the characteristics of the local economy in Parepare. This model consists of three main pillars that support one another.

Methodologically, the three pillars of the model were derived from thematic coding of the in-depth interview material involving 30 informants (20 MSME actors, 5 local government officials, and 5 fintech practitioners). Following Braun and Clarke's (2006) thematic-analysis procedure, recurring codes were identified, grouped into candidate themes, reviewed, and refined into three higher-order pillars: Digital Capacity Strengthening, Digital Ecosystem Strengthening, and Stakeholder Collaboration Strengthening. Table 7 summarizes the coding path from reported interview evidence to the three pillars. Because the source manuscript does not reproduce verbatim interview transcripts, the evidence column presents paraphrased interview findings rather than fabricated quotations.

Table 7. Thematic Coding Structure Underpinning the Three-Pillar Model

Reported interview evidence (paraphrased)	Initial codes	Higher-order theme	Model pillar
Low technological understanding; need for practical guidance; limited knowledge of digital security and fintech benefits.	Digital literacy; hands-on assistance; security awareness.	Digital capability	Digital Capacity Strengthening
Limited internet access; need for simple and locally relevant digital tools; need for supportive local regulation.	Connectivity; platform usability; local policy support.	Enabling environment	Digital Ecosystem Strengthening
QRIS promotion; incentives; influence of peers; need for links with financial institutions and fintech providers.	Policy facilitation; incentives; peer influence; institutional linkage.	Coordinated support	Stakeholder Collaboration Strengthening
E-wallet adoption driven by transaction convenience and promotions, while broader strategic digitalization remains limited.	Convenience; incentives; reactive adoption.	Need for coordinated transition	Cross-pillar integration

Note: The evidence column paraphrases interview findings already reported in Sections 4.4, 4.6, and 4.7; it is not

presented as verbatim quotation.

The first pillar is Digital Capacity Strengthening, which includes structured digital literacy training programs, technical assistance in fintech adoption, and the development of contextual learning modules that are easy to understand for MSME actors from diverse educational backgrounds. The second pillar is Digital Ecosystem Strengthening, which includes improving internet infrastructure in business areas, developing digital platforms tailored to local MSME needs, and strengthening regional regulations that support inclusive MSME digitalization.

The third pillar is Stakeholder Collaboration Strengthening, which emphasizes the importance of synergy among local governments, financial institutions, fintech service providers, and MSME associations in building an integrated digital ecosystem. This collaboration includes co-investment programs in digital infrastructure, facilitating access to fintech-based financing, and the establishment of digital MSME communities that support each other and share experiences.

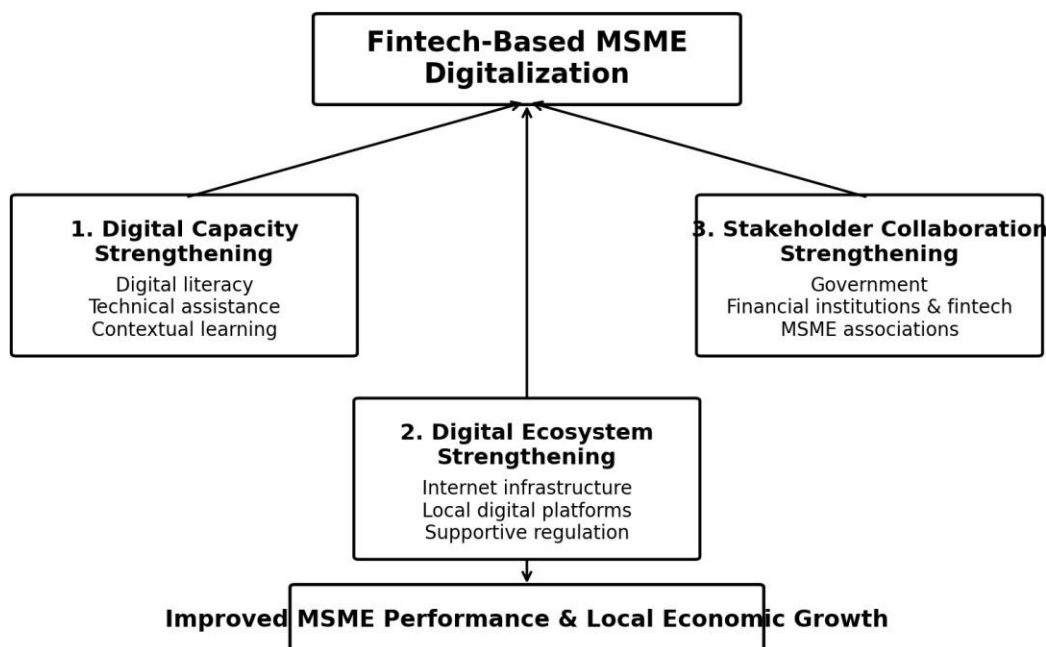


Figure 1. Fintech-Based MSME Digitalization Model for the Local Economy of Parepare

Source: Authors' analysis

4.9. Research Limitations

This study has several limitations that should be considered when interpreting its findings. First, the quantitative sample size ($n = 30$, or approximately 0.23% of the 12,847 registered MSMEs in Parepare) was determined based on practical field constraints rather than a formal probability-based sample-size formula, which limits the statistical representativeness and generalizability of the quantitative findings at the city level. Second, this research was conducted as a single case study in one medium-sized city (Parepare), so the resulting model and findings may not be directly transferable to MSMEs in other cities with different socio-economic characteristics without further contextual adjustment and validation. Third, as the quantitative data were collected through self-administered questionnaires, the findings may be subject to self-report bias, including social-desirability bias and inaccuracies in respondents' recall of their business performance. Fourth, formal statistical testing of the questionnaire's validity and reliability (e.g., item-total correlation and Cronbach's Alpha) was not conducted, so the psychometric quality of the instrument has not been independently confirmed. Fifth, the analysis of factors influencing fintech adoption (the second research question) relies on descriptive statistics and qualitative interview findings rather than a formal inferential test (e.g., Chi-square or regression analysis), which limits the strength of causal or associative claims that can be drawn. Future research is encouraged to employ a larger, probability-based sample, formally test instrument validity and reliability, apply inferential statistical analysis to the existing or an expanded dataset, and use multi-city comparative designs to strengthen the external validity of the proposed model.

5. CONCLUSION AND SUGGESTION

CONCLUSION

This study successfully reveals a comprehensive overview of the condition of MSME digitalization through fintech in Parepare City. First, the level of MSME digitalization in Parepare remains in the low to medium category, with the use of social media as a marketing instrument being relatively higher compared to the use of marketplaces and digital financial applications. This indicates that MSME digital transformation in Parepare is still in its early stages and has not yet reached more strategic aspects of business digitalization.

Second, fintech adoption among MSMEs in Parepare is dominated by digital payment services, particularly e-wallets (50%) and QRIS (40%), while fintech-based financing services such as P2P lending remain very low (16.7%). This imbalance indicates that fintech utilization is not yet optimal and has not addressed financing needs, which are one of the fundamental requirements of MSMEs.

Third, although the level of adoption is still relatively low, fintech use was associated with reported improvements in several MSME performance indicators. Improvements in transaction efficiency (73.3%), number of customers (63.3%), revenue (53.3%), and profit (53.3%) indicate that fintech has strong transformative potential in enhancing MSME competitiveness in the digital era.

Fourth, the main barriers to fintech adoption include low digital literacy (56.7%), lack of assistance and training (30%), limited internet access (26.7%), cost of technology (20%), and low trust in fintech (16.7%). These barriers are structural in nature and require comprehensive and sustainable policy interventions.

SUGGESTION

Based on the research findings, several strategic recommendations are proposed for stakeholders. For the local government of Parepare City, it is recommended to develop integrated and sustainable digital literacy training programs for MSME actors, using contextual approaches based on real needs in the field. The government also needs to strengthen digital infrastructure in MSME centers and design regional regulations that support an inclusive and secure fintech ecosystem.

For financial institutions and fintech service providers, it is recommended to develop products and services that better align with the characteristics and needs of MSMEs in medium-sized cities, including simple user interfaces, easy-to-understand processes, and affordable costs. Educational programs and direct assistance should also be expanded to build trust and digital financial literacy among MSMEs.

For future research, it is recommended to develop a comprehensive MSME Digitalization Index as a standardized measurement instrument, expand the sample coverage, and examine the long-term impact of fintech adoption on local economic growth. Comparative studies across medium-sized cities in Indonesia would also provide significant theoretical contributions to the development of MSME digitalization policies at the national level.

ACKNOWLEDGMENTS

The authors would like to express their gratitude to the Department of Cooperatives and MSMEs of Parepare City for the data support and research access provided. Appreciation is also extended to all MSME actors, local government officials, and fintech practitioners who were willing to participate as respondents and informants in this study. This research is part of a Fundamental Research Program supported by the relevant research institution.

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