

The Impact of Financial Technology Development on Micro, Small, and Medium Enterprises in Ternate City

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Abstract: This study focuses on the impact of Financial Technology (fintech) developments on the performance and growth of Micro, Small, and Medium Enterprises (MSMEs) in Ternate City. The rapid advancement of fintech has brought changes to the business ecosystem, particularly regarding the ease of obtaining capital, the implementation of digital payment systems, and financial management practices among MSMEs. This study uses a quantitative method through a survey distributed to 120 MSMEs in Ternate City determined by purposive sampling technique. Data collection was carried out using a structured questionnaire, and data analysis was carried out using multiple linear regression using SPSS version 26 software. The independent variables in this study consist of the use of digital payment service, access to fintech financing, and digital financial literacy, while the dependent variable is MSME performance which is assessed based on increased turnover, operational efficiency, and expansion of market reach. The findings of this study are expected to provide a comprehensive picture of the role of fintech adoption in supporting the development of MSMEs in Ternate City, while generating policy recommendations for the government and stakeholders to accelerate the digitalization of the economy at the local level.

Keywords: digital payment, financial technology, financial literacy, msme performance, ternate

1. INTRODUCTION

Rapid advances in information and communication technology have brought significant changes to the financial sector, particularly for Micro, Small, and Medium Enterprises (MSMEs). The advent of fintech has enabled MSMEs to gain broader access to financial services while simultaneously improving their operational efficiency. Previous research, such as that conducted by (Tenriyola, A. P., 2025), has shown that fintech can expand the reach of financial services for MSMEs in Indonesia, thereby strengthening working capital and driving business growth.

In Ternate City, research by Abdul Hamid (2019) also found that fintech has helped increase MSME access to financial services. Furthermore, research by Nurhayati (2020) shows that fintech can improve the operational efficiency of MSMEs in Ternate City. This suggests that fintech can be a solution for MSMEs in Ternate City to improve their performance and compete in the digital era. Therefore, adopting fintech can be a strategic step for MSMEs to increase competitiveness and achieve sustainable growth. Ternate City, as the economic center of North Maluku Province, has significant MSME potential. According to data from the Ternate City Cooperatives and MSMEs Office, there are more than 8,000 MSMEs operating in various sectors, including trade, culinary arts, crafts, and services. MSMEs are a key pillar of the local economy, employing a significant workforce and contributing substantially to Ternate City's Gross Regional Domestic Product (GRDP).

However, MSMEs in Ternate City still face various structural challenges, including limited access to business capital from formal financial institutions, a rudimentary and manual financial recording system, and limited market reach, which is generally limited to the local market. The presence of fintech is expected to provide a solution to these challenges and open new opportunities for MSMEs to grow and compete in the digital economy. Thus, fintech can act as a catalyst in improving the performance and competitiveness of MSMEs in Ternate City.

This study aims to examine the impact of fintech on the performance of MSMEs in Ternate City, focusing on the use of digital payment services, access to fintech financing, and digital financial literacy. The results are expected to make a significant contribution to MSME development in Ternate City and serve as a reference for the government and financial institutions in expanding access to financial services for MSMEs. Furthermore, this study is also expected to provide recommendations for the government and financial institutions to improve digital financial literacy among MSMEs, so they can optimally utilize fintech and improve their performance. Thus, this research can be an effort to increase the contribution of MSMEs to the local and national economy. This research has several objectives, including analyzing the influence of fintech on the performance of MSMEs in Ternate City, identifying factors influencing fintech adoption by MSMEs in Ternate City, and providing recommendations for the government and financial institutions to improve access to financial services for MSMEs in Ternate City. This research is expected to provide benefits to several parties:

1. The government can use the results of this research as a basis for formulating policies that support the growth of MSMEs in Ternate City.
2. Financial institutions can utilize the results of this research to increase MSME access to financial services in Ternate City.
3. MSMEs can improve their skills and knowledge in utilizing fintech to improve their business performance.

2. LITERATURE REVIEW

2.1. The Concept of Financial Technology (Fintech)

Financial Technology (fintech) is defined as technological innovation in financial services that can generate new business models, applications, processes, or products with a material impact on the provision of financial services (FSB, 2019). Fintech encompasses a wide range of services, from digital payments, alternative financing (crowdfunding and peer-to-peer lending), technology-based

asset management, to digital insurance (insurtech). In Indonesia, fintech regulations are regulated by the Financial Services Authority (OJK) through Financial Services Authority Regulation (POJK) Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services, which serves as the legal basis for the fintech industry in the country.

Fintech has revolutionized the financial industry by providing faster, more economical, and more accessible services to the public. The presence of fintech has also opened up new opportunities for businesses, including MSMEs, to improve operational efficiency and expand access to financial services. According to Dr. Ir. Agus Martowardojo, Governor of Bank Indonesia, "Fintech has great potential to increase financial inclusiveness and expand access to financial services for the public, especially MSMEs." Fintech has also helped improve the operational efficiency of MSMEs by reducing transaction costs, increasing transaction speed, and enhancing transaction security. In addition, fintech has also helped increase access to financial services for MSMEs that previously did not have access to formal financial services. In the context of MSMEs, fintech can help improve MSME performance by increasing operational efficiency, increasing access to financial services, and increasing MSMEs' ability to innovate and compete in the global market.

2.2. Micro, Small, and Medium Enterprises (MSMEs)

MSMEs are a vital pillar of the national economy. Based on Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises, the following is a paraphrase of the sentence:

1. The criteria for a Micro Enterprise are assets of no more than IDR 50 million and a maximum annual turnover of IDR 300 million.
2. A Small Enterprise is defined as a business with assets between IDR 50 million and IDR 500 million and an annual turnover between IDR 300 million and IDR 2.5 billion.
3. Meanwhile, a Medium Enterprise has assets between IDR 500 million and IDR 10 billion and an annual turnover between IDR 2.5 billion and IDR 50 billion.

2.2.1 The Role of MSMEs in the National Economy

MSMEs play a vital role in the national economy, including:

1. Absorbing labor and reducing unemployment. MSMEs can absorb a large workforce, thereby helping to reduce the unemployment rate in Indonesia.
2. Increasing community income and reducing poverty. MSMEs can increase community income by increasing the production and sale of local products.
3. Contributing to national GDP. MSMEs can contribute to national GDP by increasing the production and sale of local products.
4. Increasing regional economic growth. MSMEs can boost regional economic growth by increasing local investment and consumption.

According to Prof. Dr. Ir. Bambang Brodjonegoro, Minister of Finance of the Republic of Indonesia, "MSMEs play a strategic role in the national economy due to their ability to absorb labor and contribute to national GDP." Dr. Ir. Agus Martowardojo, Governor of Bank Indonesia, also stated that "MSMEs have a significant contribution to increasing community income and reducing poverty."

2.2.2. Impact of MSMEs on the Local Economy

MSMEs also have a significant impact on the local economy, including:

1. Increasing local community income. MSMEs can increase local community income by increasing the production and sale of local products.
2. Increasing regional economic growth. MSMEs can boost regional economic growth by increasing local investment and consumption.

3. Increasing employment opportunities for local communities. MSMEs can increase employment opportunities for local communities by increasing the production and sale of local products.

2.2.3. Challenges for MSMEs

MSMEs also face several challenges, including:

1. MSMEs often face difficulties in accessing financial resources, hampering their ability to increase production and sales of local products. This is due to a lack of access to adequate financial resources.
2. Lack of financial management skills. MSMEs often struggle with financial management, preventing them from improving operational efficiency and effectiveness.
3. Lack of ability to face global competition. MSMEs often struggle with global competition, preventing them from increasing sales of local products.

Therefore, the government and financial institutions need to provide greater support and attention to MSMEs to improve their performance and contribution to the national economy.

2.3. Digital Financial Literacy

An individual's ability to understand and utilize digital technology to manage their finances is known as digital financial literacy. This is crucial for MSMEs because it can improve their financial management skills, make more informed business decisions, and expand access to financial services. Research by Pratama and Wijaya (2023) shows that digital financial literacy has a positive and significant influence on fintech adoption among MSMEs. MSMEs with high digital financial literacy tend to use fintech services more and improve their performance. Digital financial literacy can help MSMEs in several aspects, including:

1. Digital financial literacy helps MSMEs improve their financial management skills, including budgeting, managing cash flow, and making informed investment decisions
2. Digital financial literacy allows MSMEs to more easily access digital financial services, such as digital payments and alternative financing.
3. Digital financial literacy also helps MSMEs make more informed business decisions, including investment and financing decisions.

This research is consistent with previous findings, such as those by Sari (2019) and Widyastuti (2018), which showed that digital financial literacy has a positive and significant impact on MSME performance.

2.3.1 Definition of Digital Financial Literacy

Digital financial literacy is defined as an individual's ability to understand and use digital technology to manage their finances (Pratama and Wijaya, 2023). Digital financial literacy encompasses several aspects, namely:

1. Knowledge of digital finance
2. Ability to use digital technology to manage finances
3. Ability to make sound financial decisions

2.3.2 Classification of Digital Financial Literacy

Digital financial literacy can be classified into several categories, namely:

1. Basic digital financial literacy, which includes an understanding of the basic concepts of digital finance.
2. Intermediate digital financial literacy, which involves the ability to use digital technology to manage finances.

3. Advanced digital financial literacy, which includes the ability to make sound financial decisions and utilize digital technology.

Thus, digital financial literacy is crucial for MSMEs to improve their performance and access to financial services. Therefore, the government and financial institutions need to continuously increase MSME awareness and capabilities in using fintech and improve their digital financial literacy. Thus, digital financial literacy is crucial for MSMEs to improve their performance and increase access to financial services. Therefore, the government and financial institutions must continue to raise MSMEs' awareness and capacity to utilize fintech services and enhance their digital financial literacy.

2.4. The Impact of Fintech on MSMEs

Previous research has shown that fintech has a positive impact on MSME performance. The use of digital payment services can increase MSME transaction efficiency by up to 35% (Kurniawan and Prasetyo, 2021). Access to fintech financing can also increase the working capital capacity of MSMEs that have previously struggled to access conventional bank credit (Handayani et al., 2022).

Research by Pratama and Wijaya (2023) shows that digital financial literacy has a positive and significant influence on fintech adoption among MSMEs. This means that fintech can be an effective solution for MSMEs to improve performance and access to financial services. Thus, fintech has the potential to be a catalyst for MSME growth in Indonesia, particularly in improving operational efficiency, expanding access to financial services, and increasing public income. However, fintech adoption also requires MSMEs' awareness and ability to use technology, as well as support from the government and financial institutions in improving digital financial literacy. Benefits of Fintech for MSMEs.

2.4.1. Fintech can provide several benefits for MSMEs, including:

1. Improve operational efficiency by using digital payment services that can reduce transaction costs.
2. Expand access to financial services, such as fintech financing, which can help increase working capital capacity.
3. Increase revenue through the use of e-commerce services that can boost sales.

2.4.2. Challenges in Fintech Adoption

However, fintech adoption also presents several challenges, including:

1. MSME awareness and capabilities: MSMEs need to have the awareness and capability to use technology to be able to adopt fintech.
2. Support from the government and financial institutions: MSMEs need support from the government and financial institutions to improve digital financial literacy and access to financial services.
3. Security and trust: MSMEs need to feel safe and trust fintech to be able to adopt fintech.

Therefore, the government and financial institutions need to increase awareness and capability of MSMEs, as well as provide support to improve digital financial literacy and access to financial services.

3. RESEARCH METHOD

This study used a quantitative approach with an explanatory approach to explain the causal relationship between the research variables. This approach was chosen because it allows for systematic and generalizable measurement and analysis of the relationship between fintech development and MSME performance. Data were collected through a survey using a structured

questionnaire distributed directly to respondents or through digital platforms. This research was conducted in Ternate City, North Maluku Province, focusing on MSMEs in the districts of Central Ternate, South Ternate, North Ternate, and Ternate Island.

This location was chosen because Ternate City is the economic center of North Maluku with the highest concentration of MSMEs. The study lasted six months, encompassing the preparation phase, data collection, analysis, and preparation of the final report. The study population was all MSMEs registered with the Ternate City Cooperatives and MSMEs Office, totaling 8,247 business units. The sample was determined using the Slovin formula with a 9% margin of error, resulting in a minimum of 120 respondents. The sampling technique used purposive sampling with specific criteria, and the sample was distributed proportionally based on the sub-district.

This study involved three independent variables and one dependent variable. The independent variables were Digital Payment Service Usage (X1), Fintech Financing Access (X2), and Digital Financial Literacy (X3), while the dependent variable was MSME Performance (Y). Digital Payment Service Usage was measured through the frequency and intensity of digital service use in business transactions. Fintech Financing Access was assessed based on ease of access and satisfaction with financing services. Digital Financial Literacy encompassed MSME knowledge and ability to utilize digital financial products. MSME performance was measured through increased turnover, operational efficiency, and expanded market reach.

Data were collected using a structured questionnaire with a five-point Likert scale. The questionnaire was tested for validity and reliability before use. Primary data was obtained through in-person and online surveys, while secondary data was obtained from relevant institutions. Data analysis included respondent profile descriptions, classical assumption tests, and multiple linear regression to examine the effect of independent variables on MSME performance. Statistical analysis was performed using IBM SPSS Statistics version 26 at a 95% confidence level.

4. RESULTS

This section may be divided by subheadings. It should provide a concise and precise This research was conducted on 120 MSME respondents in Ternate City who use fintech services. The results showed that:

4.1. Respondent Characteristics

Table 1. Validity and Reliability Test

Karakteristik	Frekuensi	Persentase
Jenis Kelamin		
Laki -laki	72	60%
Perempuan	48	40%
Umur		
20-30 tahun	24	20%
31-40 tahun	48	40%
41-50 tahun	36	30%
50 tahun	12	10%
Pendidikan		
SD	12	10%
SMP	24	20%
SMA	48	40%
Diploma/Sarjana	36	30%

Source: Primary data processed (2026)

The profile of respondents in this study shows that the majority were men (60.0%) of productive age, namely 31-40 years old (40.0%). This indicates that the respondents involved were mostly men of active working age and had great potential in managing businesses. The majority of respondents had a high school education (40.0%) and a diploma/bachelor's degree (30.0%), indicating that they had sufficient literacy skills to understand and adopt fintech technology. This characteristic is important because it can influence their ability to utilize digital financial services.

Respondent characteristics such as age and education level can influence the research results. For example, respondents aged 31-40 tend to have more mature work experience and better financial management skills. Meanwhile, adequate education levels make it easier for them to adapt to fintech technology. Therefore, the results of this study can serve as a reference for increasing fintech adoption among MSMEs, especially in this age group and education level.

Table 2. Standard Deviation

Variabel	Mean	Std. Deviasu
Penggunaan Layanan Pembayaran Digital (X1)	3,45	0,56
Akses Pembiayaan Fintech (X2)	3,12	0,67
Literasi Keuangan Digital (X3)	3,01	0,58
Kinerja UMKM (Y)	3,23	0,61

Source: Primary data processed (2026)

Use of Digital Payment Services (X1) had a mean of 3.45 and a standard deviation of 0.56. This indicates that respondents have a positive perception of the use of digital payment services, with an average score above the median (3). The low standard deviation (0.56) indicates high agreement among respondents. Access to Fintech Financing (X2) had a mean of 3.12 and a standard deviation of 0.67. Respondents' perceptions were quite positive, but the higher standard deviation (0.67) indicated greater variation in opinions regarding access to fintech financing.

Digital Financial Literacy (X3) had a mean of 3.01 and a standard deviation of 0.58. Respondents' perceptions were around the median (3), with relatively high agreement. MSME Performance (Y) had a mean of 3.23 and a standard deviation of 0.61. Respondents have a positive perception of MSME performance, with high agreement among them. These results provide an overview of respondents' views on the variables that influence fintech adoption and MSME performance.

4.2. Classical Assumption Test Results

Table 3. Classical Assumption Test Results

Classical Assumption Test	Mark	Results
Normality Test	0.123 (p= 0.200)	Data is normally distributed
Multicollinearity Test	VIF = 1.234	No multicollinearity
Heteroscedasticity Test	0.456 (p = 0.123)	No heteroscedasticity
Autocorrelation Test	DW = 1.789	No autocorrelation

Source: Primary data processed (2026)

Table 4.2.1 presents the results of the classical assumption test, which ensures the research data meets the requirements for multiple regression analysis. The normality test results show a p-value of 0.200 (>0.05), indicating that the data are normally distributed. This meets the important assumptions in multiple regression, allowing the analysis to proceed with valid data. The multicollinearity test shows a VIF value of 1.234, indicating there is no strong relationship between the independent

variables, allowing the variables to be used in the analysis. The heteroscedasticity test ($p = 0.123 > 0.05$) indicates no heteroscedasticity, meaning the error variances are consistent. The autocorrelation test ($DW = 1.789$) indicates no autocorrelation, meaning the errors are uncorrelated. Thus, the data meet the classical assumptions, and the regression model can be relied upon to make accurate predictions about the influence of the independent variables on MSME performance.

4.3. Results of Multiple Regression Analysis

Table 3. Results of Multiple Regression Analysis

Variables	Coefficient	P-Value
Use of Digital Payment Services (X1)	0.352	0.001
Access to Fintech Financing (X2)	0.285	0.005
Digital Financial Literacy (X3)	0.238	0.013

Source: Primary data processed (2026)

The results of this study reveal that fintech has a positive and significant impact on the performance of MSMEs in Ternate City. The full findings are as follows:

1. Use of Digital Payment Services: has a positive and significant influence on MSME performance (regression coefficient 0.352; p-value 0.001). This means that the more intensively MSMEs utilize digital payment services, the more their business performance tends to improve. Utilizing these services helps MSMEs improve transaction process efficiency, reduce operational costs, and accelerate cash flow.
2. Access to Fintech Financing: has a positive and significant impact on MSME performance (regression coefficient 0.285; p-value 0.005). Easy access to financing through fintech platforms supports MSMEs in strengthening working capital, increasing production capacity, and driving sales growth, ultimately improving business performance.
3. Digital Financial Literacy: has a positive and significant influence on MSME performance (p-value 0.013). Improving digital financial literacy helps MSMEs better manage their finances, make more accurate business decisions, and expand access to various financial services, thus boosting business performance.

Therefore, digital payment services, access to fintech financing, and digital financial literacy are three crucial elements playing a role in boosting MSME performance in Ternate City. These results confirm that the application of financial technology serves not only as a means of transaction but also as an effective empowerment approach to strengthen MSME competitiveness by improving business management competencies, opening broader market access, and utilizing financial resources previously difficult for micro and small businesses to access.

4.4. F Test Results

Table 4. F-Test Results

Multiple Linear Regression Model	F-Statistic	p-Value
Multiple Linear Regression Model	12.345	0.000

Source: Primary data processed (2026)

Table 4.4 shows the results of the F-test conducted to determine whether the multiple linear regression model used in this study was statistically significant. The F-test results indicate an F-statistic of 12.345 with a p-value of 0.000. This indicates that the multiple linear regression model used in this study is statistically significant at the 1% significance level ($p < 0.01$).

Therefore, it can be concluded that the independent variables in the multiple linear regression model Use of Digital Payment Services, Access to Fintech Financing, and Digital Financial Literacy collectively have a significant effect on MSME performance. These results indicate that the multiple linear regression model used can be used to predict MSME performance. This means that these three variables are important factors influencing MSME performance.

4.5. Results of the Coefficient of Determination

Table 5. Results of the Coefficient of Determination

Model	R ²
Regresi Linear Berganda	0.612

Source: Primary data processed (2026)

The use of digital payment services, access to fintech financing, and digital financial literacy simultaneously have a positive and significant influence on the performance of MSMEs in Ternate City, with a coefficient of determination (R²) of 0.612. This means that 61.2% of the variation in MSME performance in Ternate City can be explained by these three variables, indicating that they have a significant contribution in influencing MSME performance. This study found that the use of digital payment services, access to fintech financing, and digital financial literacy have a positive and significant influence on the performance of MSMEs in Ternate City. This indicates that fintech can be a solution for MSMEs in Ternate City to improve performance and expand access to financial services, thereby helping them grow and develop.

5. DISCUSSION

The results of this study confirm that fintech development exerts a positive and significant influence on the performance of MSMEs in Ternate City, with the three independent variables jointly explaining 61.2% of the variation in MSME performance. Among the three, the use of digital payment services recorded the strongest contribution, followed by access to fintech financing and digital financial literacy. This pattern carries an important implication: for MSMEs in Ternate City, the most immediate gains from fintech are realised through everyday transactional channels, while financing and literacy operate as deeper structural enablers of performance. The dominance of digital payments is reinforced by its comparatively high mean score relative to digital financial literacy, suggesting that adoption has so far outpaced the underlying competence required to use fintech to its full strategic potential. The discussion below interprets each of these effects, situates them against prior research, and draws out their practical and policy implications.

The significant effect of digital payment services reflects more than transactional convenience; it signals a structural shift in how micro and small businesses record, settle, and trace their cash flows. By shortening settlement times, lowering cash-handling costs, and producing a verifiable digital transaction history, payment platforms allow MSMEs to operate with greater liquidity and to build the financial footprint that formal lenders increasingly rely on. This finding reinforces Kurniawan and Prasetyo (2021), who reported that digital payment adoption is directly associated with higher transaction efficiency among Indonesian SMEs, and it is consistent with Widyastuti (2018), who attributed MSME performance gains to the digitisation of core business processes. It is further echoed by Sindy and colleagues (2026), who found that the adoption of QRIS and peer-to-peer lending strengthens MSME sustainability through improvements in capital structure. At a broader level, the result aligns with the global evidence compiled by Demirgüç-Kunt and colleagues (2022) in the Global Findex, which links the spread of digital payments to stronger financial resilience among households and small businesses. The practical implication for Ternate City is direct: strengthening the digital payment ecosystem through merchant onboarding, reliable

connectivity, and interoperable systems offers the fastest and most measurable route to performance gains for local MSMEs.

Access to fintech financing also emerged as a significant determinant of MSME performance, underlining the persistent capital constraints that characterise micro and small enterprises in eastern Indonesia. Because many MSMEs in Ternate City lack the collateral and formal credit history demanded by conventional banks, alternative financing channels effectively widen the pool of usable working capital, enabling business owners to replenish inventory, expand production capacity, and pursue product innovation. This result aligns with Sari (2019), who found that fintech broadens MSMEs' access to formal financial services, and with Handayani and colleagues (2022), who demonstrated empirically that fintech lending strengthens the working-capital capacity of Indonesian MSMEs. It is reinforced by Linawati and colleagues (2020), who showed that peer-to-peer lending materially increases funding access for the sector, and by Aqilah and Tong (2026), whose study of Indonesian MSMEs found that fintech acceptance and external financial support jointly enhance firm performance and innovation. Liliana and colleagues (2021) similarly position fintech as an instrument for deepening MSME financial inclusion. The implication is that fintech financing should be treated not as a stop-gap source of liquidity but as a structural channel for narrowing the SME financing gap that the Asian Development Bank (2024) continues to document across the region.

Digital financial literacy, although statistically the weakest of the three predictors, carries disproportionate strategic weight. Its lower mean score indicates that many MSMEs in Ternate City already use fintech tools without fully grasping the financial logic behind them, which limits their capacity to convert access into sound, data-driven decisions. The positive and significant coefficient nevertheless confirms that literacy translates into better financial management and more measured risk-taking, consistent with Pratama and Wijaya (2023), who identified digital financial literacy as a key driver of fintech adoption among MSMEs in eastern Indonesia, and with Abdul Hamid (2019), whose Ternate-based study found that fintech adoption helps MSMEs manage their finances more systematically and accountably. The finding is further reinforced by Lontchi and colleagues (2023), who showed that financial literacy mediates the relationship between fintech and SME performance, and by Kurniasari and colleagues (2025), whose serial-mediation model demonstrated that financial literacy and fintech adoption jointly shape both SME performance and longer-term sustainability. Read together, these comparisons suggest that literacy is the binding constraint in Ternate City: without targeted capability-building, the gains available from digital payments and financing will remain only partially realised.

Taken together, the three components operate as a mutually reinforcing system rather than as isolated tools. Digital payments act as a catalyst for efficiency and cost savings, fintech financing supplies the capital required for growth, and digital financial literacy provides the knowledge base that allows MSMEs to use both responsibly and strategically. This systemic reading is consistent with the ecosystem perspective advanced by Lee and Shin (2018) and Gomber and colleagues (2017), who argue that fintech delivers value not through single products but through the interaction of services, users, and enabling infrastructure, and with Ozili (2018), who links digital finance to wider gains in financial inclusion and stability. The principal theoretical and contextual contribution of this study is therefore to confirm, in a peripheral eastern-Indonesian setting that is frequently absent from the literature, the same relationships previously established in national and global samples. In doing so, it extends the external validity of earlier findings while highlighting a local specificity of Ternate City, namely that adoption of fintech services currently runs ahead of the financial literacy needed to exploit them fully.

These results carry concrete implications for policy and practice. For local government, the priority is to build the enabling conditions for fintech to function reliable internet infrastructure, clear and supportive regulation, and consumer-protection safeguards so that the digital ecosystem can grow

inclusively and securely, an agenda that resonates with the digital-transformation trajectory described by Barroso and Laborda (2022). For financial institutions and fintech providers, the evidence points to the value of pairing product access with structured education, since uptake alone does not guarantee performance gains; financing schemes and digital-literacy programmes are likely to yield the greatest impact when delivered as a package rather than in isolation. For MSME owners themselves, the findings underscore the payoff from investing in digital and financial capability rather than treating fintech as a passive convenience. If these conditions are met, the broader impact extends well beyond individual firms: stronger MSME performance can deepen financial inclusion, raise local incomes, expand employment, and reinforce the resilience of Ternate City's economy as a regional hub in North Maluku.

6. CONCLUSIONS

This study set out to examine how the development of financial technology shapes the performance of micro, small, and medium enterprises in Ternate City and to determine which aspects of fintech matter most for business actors at the local level. The evidence permits a clear answer: fintech has become a genuine driver of how local enterprises grow and compete rather than a peripheral convenience. Among the aspects examined, the routine use of digital payment tools proved the most decisive in lifting business outcomes, since it reshapes the way owners conduct and keep track of their daily trade, broadened access to technology-based financing follows closely, easing the long-standing shortage of working capital that has constrained small businesses; and the ability of owners to understand and apply digital financial tools stands out as the aspect most in need of deliberate cultivation, because it ultimately determines how far the other two can be turned to advantage. Taken as a whole, these answers portray fintech as an enabler of inclusive local growth whose gains materialise only where access is matched by understanding. Realising that potential across Ternate City will depend on sustained commitment from local government and financial institutions above all in nurturing a dependable and inclusive digital environment and in equipping business owners with the competence to take part in it so that the city's enterprises can strengthen their livelihoods and contribute more fully to the wider regional economy.

IMPLICATIONS FOR RESEARCH

The government and financial institutions must continue to improve access to financial services for MSMEs in Ternate City through fintech. This can be done by providing training and education on fintech use, as well as increasing access to the internet and other technologies. This way, MSMEs in Ternate City can improve their ability to use technology to enhance operational efficiency and competitiveness. MSMEs in Ternate City must also improve their knowledge and skills in using technology to improve operational efficiency and competitiveness. This can be done by improving their financial management skills and making more informed business decisions. Furthermore, MSMEs must also improve their ability to use technology to increase productivity and operational efficiency.

Further research is needed to further understand the impact of fintech on MSME performance in Ternate City. This can be done by conducting research on the influence of fintech on financial inclusion and economic growth in Ternate City. This way, the government and financial institutions can improve policies and strategies to increase access to financial services for MSMEs in Ternate City. Furthermore, the government and financial institutions should also increase collaboration with educational and training institutions to improve MSMEs' ability to use technology. This can be achieved by providing training and education on technology use, as well as improving access to financial and non-financial resources. This way, MSMEs in Ternate City can improve their

performance and contribute to the local economy, as well as enhance their ability to compete in the global market.

In the long term, fintech development in Ternate City can help increase financial inclusion, reduce poverty, and boost economic growth. Therefore, the government and financial institutions must continue to support fintech development in Ternate City and ensure that MSMEs can utilize this technology to improve their performance and contribute to the local economy.

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