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The Role of Financial Technology in Enhancing Financial Inclusion in Indonesia: A Financial Accounting Perspective

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ABSTRACT

Thisstudy analyzes the influence of crowdfunding and P2P lending, market aggregators, risk and investment management, and the adoption of a cashless society on the financial knowledge, behavior, and attitudes of MSMEs in the Benowo District, Surabaya. The research applied a quantitative approach using the PLS-SEM method with SmartPLS software. Data were collected through questionnaires distributed to MSME owners and were analyzed using validity, reliability, and hypothesis testing to examine the relationships among variables. The findings indicate that all proposed hypotheses (H1–H12) were supported. The use of crowdfunding and P2P lending was found to have a significant positive impact on improving financial knowledge and shaping more responsible financial behavior and attitudes. Market aggregators also contributed to enhanced financial literacy while influencing financial decision-making patterns. In addition, risk and investment management played an important role in encouraging more cautious and disciplined financial practices. Meanwhile, the adoption of a cashless society strengthened digital financial literacy, promoted more organized financial recording, and fostered a more modern financial mindset among MSMEs. These results contribute to the theoretical development of fintech and financial literacy research and provide practical implications for MSMEs, fintech providers, and policymakers in developing more effective financial education initiatives and regulatory frameworks.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh crowdfunding dan P2P lending, market aggregator, risk and investment management, serta cashless society terhadap pengetahuan keuangan, perilaku keuangan, dan sikap keuangan pada UMKM di Kecamatan Benowo, Kota Surabaya. Metode penelitian yang digunakan adalah kuantitatif dengan pendekatan PLS-SEM melalui aplikasi SmartPLS. Data dikumpulkan melalui kuesioner yang disebarkan kepada pelaku UMKM dan dianalisis dengan menguji validitas, reliabilitas, serta signifikansi jalur antarvariabel. Hasil penelitian menunjukkan bahwa seluruh hipotesis (H1–H12) diterima, dengan temuan utama bahwa penggunaan crowdfunding dan P2P lending berpengaruh signifikan terhadap peningkatan pengetahuan, perilaku, dan sikap keuangan UMKM. Selain itu, market aggregator terbukti mampu meningkatkan literasi keuangan dan memengaruhi perilaku serta sikap keuangan pelaku usaha. Variabel risk and investment management juga berperan penting dalam mendorong pengelolaan keuangan yang lebih hati-hati dan disiplin, baik dari sisi pengetahuan, perilaku, maupun sikap keuangan. Sementara itu, adopsi cashless society terbukti signifikan dalam meningkatkan literasi keuangan digital, menumbuhkan perilaku pencatatan yang lebih tertib, serta membentuk sikap keuangan yang lebih modern pada UMKM. Temuan ini memberikan kontribusi teoretis terhadap literatur Fintech dan literasi keuangan, sekaligus implikasi praktis bagi UMKM, penyedia layanan Fintech, serta pemerintah dalam merancang kebijakan dan program edukasi keuangan yang lebih efektif.

Kata Kunci:
Fintech, Market Aggregator, Risk and Investment Management, Cashless Society, Literasi Keuangan

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INTRODUCTION

At present, technology has become a fundamental necessity, transforming various aspects of human life, including the financial sector. This transformation has given rise to innovations known as Financial Technology (Fintech). Fintech is an innovation in the financial services industry that leverages digital technology to enhance the efficiency of financial services. According to Bank Indonesia, Fintech is defined as “the integration of financial services with technology that ultimately shifts business models from conventional to more modern practices” (Chikmah & Karsono, 2022). Fintech encompasses a wide range of services, including crowdfunding and P2P lending, market aggregators, risk and investment management, and cashless society solutions. Its presence offers more efficient, faster, and cost-effective alternatives compared to conventional financial services (Arner et al., 2015). With the advancement of digital technology, Fintech has become a solution to overcome limitations in access to traditional banking services.

In Indonesia, the development of Fintech has been remarkably rapid and plays a crucial role in accelerating economic growth. The government and regulators, such as Bank Indonesia and the Financial Services Authority (OJK), actively support this innovation through various policies and regulations. The OJK records show that hundreds of Fintech startups are now operating across the country. Fintech has expanded financial access to segments of the population previously underserved by formal financial institutions, particularly in rural areas and among MSMEs (Bank Indonesia, 2019). In the digital era, the development of financial technology has significantly impacted financial inclusion, particularly through alternative financing models such as crowdfunding and P2P lending.

Several studies have highlighted the significant relationship between Fintech and financial inclusion. Financial literacy and Fintech adoption positively influence financial behavior and MSME performance, with financial inclusion acting as a mediating variable (Najat, 2025). This line of research emphasizes that understanding and attitudes toward technology-based financial services can foster more prudent financial decision-making. However, other studies reveal insignificant outcomes, particularly among communities with low levels of financial literacy. The adoption of Fintech does not necessarily enhance financial inclusion if it is not accompanied by improvements in knowledge and changes in financial attitudes across society (Ramadhani et al., 2021).

National Survey on Financial Literacy and Inclusion (SNLIK) in 2022, Indonesia’s financial inclusion index reached 85.10%, up from 76.19% in 2019. Nonetheless, approximately 15% of the adult population remains excluded. Meanwhile, the EV-DCI 2023 Report indicates that digital transactions increased by 32% compared to 2019. This surge was accompanied by a 17% improvement in financial literacy and a 20% rise in financial inclusion. These data suggest notable progress in awareness and access to financial services, contributing to greater economic stability and welfare. Fintech has helped bridge the limitations of conventional financial infrastructure in reaching vulnerable groups. This gap is often driven by geographical constraints, lack of understanding of financial products, and the strict requirements imposed by traditional financial institutions. Thus, Fintech emerges as a potential instrument to bridge this divide and broaden access to financial services (Nurohman et al., 2021).

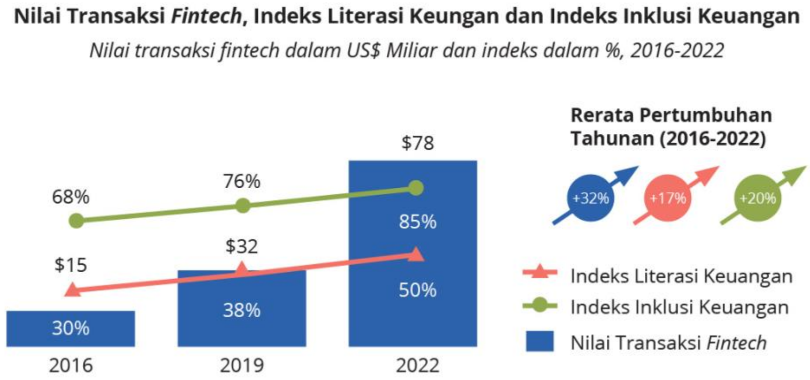


Figure 1 Fintech Transaction Value

In the context of financial technology (Fintech) and financial inclusion, financial accounting plays a central role. It is responsible for recording, classifying, and summarizing an entity's financial transactions and presenting them in the form of informative financial reports for stakeholders (Kieso et al., 2018). The rise of Fintech, with its innovative business models and transaction mechanisms, presents both challenges and opportunities for financial accounting practices. In this regard, financial accounting is essential for ensuring the transparency and credibility of digital financial data. Previous studies examining the impact of financial literacy and the use of Fintech on the financial behavior of accounting students have shown that accounting knowledge supports wiser utilization of Fintech (Sari et al., 2022).

The phenomenon underlying this study is the persistently low level of financial inclusion among micro, small, and medium enterprises (MSMEs), particularly in Surabaya, despite the rapid growth of various Fintech platforms. In Benowo District, many MSMEs still lack a full understanding of and engagement with Fintech services for both operational activities and business financing. In fact, platforms such as crowdfunding and P2P lending provide financing alternatives that are more accessible than conventional financial institutions. On the other hand, technological advancements such as the emergence of cashless payment systems and digital risk management have not yet significantly transformed the financial behavior and attitudes of MSME actors. This indicates a gap between the advancement of financial technology and the financial readiness of MSMEs as primary users.

Several studies have explored the role of Fintech in promoting financial inclusion (Muzdalifa & Rahma, 2018; Misbach & Pradiatama, 2021) and the challenges of accounting in the digital era (Prakoso & Santoso, 2021). This research gap addresses the gap in previous research by exploring the variables of Fintech and Financial Inclusion frequently used by MSMEs. This research focuses on a single region, namely Benowo District, Surabaya City.

Provinsi dengan Literasi Keuangan Terendah 2022

	Literasi 2022*	Perubahan 2019-2022	Inklusi 2022*	Perubahan 2019-2022
Bengkulu	30.4%	-3.7% ↓	88.1%	2.4% ↑
Sulawesi Tenggara	31.9%	-4.8% ↓	84.4%	9.4% ↑
Kalimantan Tengah	32.7%	-4.3% ↓	81.3%	5.9% ↑
Statistik Nasional	49.7%	11.5% ↑	85.1%	8.9% ↑

Sumber: OJK: SNLIK 2022, SNLIK 2019 | *% Province population

Figure 2. Financial Literacy Gap

THEORETICAL REVIEW

Financial Inclusion

In Indonesia, financial inclusion has become one of the national priorities aimed at reducing economic inequality and fostering inclusive economic growth. Financial inclusion is defined as the right of every individual to have access to and fully utilize financial services in order to improve societal welfare (OJK, 2020). Several factors are recognized as key drivers of financial inclusion, including financial knowledge, financial behavior, and financial attitude.

Financial Knowledge

Financial knowledge (financial literacy) is a fundamental aspect in promoting sound and rational financial behavior, particularly in the context of advancing financial inclusion through the adoption of financial technology (Fintech). Financial literacy reflects an individual's ability to understand basic financial concepts and risks, such as debt management, saving, investment, and the use of available financial products and services (Lusardi & Mitchell, 2014b). In Indonesia, low levels of financial literacy often hinder financial inclusion, as individuals with limited understanding of digital financial products tend to be reluctant to engage with Fintech services (OJK, 2020). Adequate financial literacy enables individuals to make informed financial decisions, while also mitigating the risks of fraud and losses when utilizing technology-based financial services. Moreover, financial literacy plays a crucial role in empowering communities within increasingly complex digital ecosystems (Atkinson & Messy, 2012). Therefore, enhancing financial literacy is essential to optimize the role of Fintech as a strategic instrument for achieving financial inclusion in Indonesia.

Financial Behavior

Financial behavior refers to an individual's actions and decision-making processes in managing personal finances, including consumption, saving, investment, and the utilization of financial services. It reflects the extent to which individuals are able to wisely manage their income and make appropriate financial decisions. Within the framework of financial inclusion, financial behavior serves as a critical indicator of how individuals respond to the accessibility of financial services, including technology-based services such as Fintech (Atkinson & Messy, 2012). The effectiveness of financial management is strongly influenced by levels of financial literacy and discipline in financial practices (Lusardi & Mitchell, 2014b). In Indonesia, shifts in financial behavior have also been shaped by digital penetration, particularly Fintech, which has expanded access for populations previously underserved by formal financial institutions (OJK, 2020). Thus, an understanding of financial behavior is not only relevant within the scope of financial literacy but also essential for assessing the impact of Fintech on financial inclusion.

Financial Attitude

Financial attitude is another important factor that influences individual decision-making in financial matters, including the adoption of Fintech-based services. It can be defined as a psychological evaluation of financial concepts, manifested in the tendency of individuals to act rationally, prudently, and responsibly in managing their financial resources (Pankow, 2012). Financial attitude reflects not only an individual's perceptions, values, and beliefs about money but also long-term habits and goals in personal financial management (Xiao & Dew, 2012). In the context of financial inclusion, a positive financial attitude encourages individuals to be more open to utilizing digital financial products and services, ultimately fostering greater participation in the formal financial system (Lusardi & Mitchell, 2014b). Therefore, in examining the role of Fintech in enhancing financial inclusion, it is essential to consider how financial attitudes shape the adoption and use of digital financial technologies.

Financial Technology (Fintech)

Financial Technology (Fintech) refers to the integration of information technology and financial services aimed at enhancing efficiency, inclusion, and accessibility within the financial sector. Fintech serves as a bridge to close service gaps that conventional banking has long struggled to reach, particularly in rural areas and among low-income communities (El & Azra, 2025). Fintech encompasses various services, including crowdfunding and P2P lending, market aggregators, risk and investment management, and the promotion of a cashless society.

Crowdfunding and Peer-to-Peer (P2P) Lending

Crowdfunding and P2P lending are two innovative mechanisms within the Fintech ecosystem that have significantly transformed access to financing in Indonesia. Crowdfunding refers to collective fundraising from the public to support specific projects or ventures, typically conducted through digital platforms (Sahm et al., 2014). Meanwhile, P2P lending provides direct loan transactions between lenders and borrowers via online platforms, bypassing traditional financial institutions (Wardani & Kartini, 2021).

Both models have been recognized as effective instruments for reaching underserved communities excluded from formal financial systems, thereby supporting financial inclusion. Sharia-compliant Fintech services, including equity crowdfunding and P2P lending, play a crucial role in broadening financing access, particularly for micro, small, and medium-sized enterprises (MSMEs). Empirical evidence suggests that such services significantly enhance financial inclusion by offering fast, convenient, and digital-based financing solutions (Azizah, 2024). Similarly, Suhud and Sari (2020) found that P2P lending substantially increases microfinance availability for populations without access to conventional banking, especially in rural areas.

However, other studies report less significant impacts. Research highlights that despite widespread availability, challenges related to digital literacy and user trust continue to hinder the overall effectiveness of P2P lending in promoting financial inclusion (Firmansyah & Anwar, 2021). Consequently, the success of crowdfunding and P2P lending is highly dependent on external factors such as regulation, financial education, and technological infrastructure. The hypothesis in this study is:

H1 : Crowdfunding and P2P lending influence financial knowledge among MSMEs in Benowo District, Surabaya.

H2 : Crowdfunding and P2P lending influence financial behavior among MSMEs in Benowo District, Surabaya.

H3 : Crowdfunding and P2P lending influence financial attitudes among MSMEs in Benowo District, Surabaya.

Market Aggregators

A market aggregator is a Fintech business model that functions as an intermediary between financial service users and various digital financial providers. Such platforms consolidate multiple financial products into a single application or digital portal, allowing consumers to conveniently compare and select financial products that suit their needs (Yunita, Wahdayani, & Rais, 2024). Services include loan comparisons, insurance, credit cards, and investment products, all accessible quickly and efficiently online.

Research has shown that market aggregators significantly impact financial inclusion, particularly among MSMEs. A study of MSMEs under the guidance of Bank Indonesia in Lhokseumawe demonstrated that market aggregator platforms enhance access to finance by overcoming geographic and informational barriers (Yunita, Wahdayani, & Rais, 2024). Additionally, market aggregators contribute to improving financial literacy and expanding access to relevant digital financial services within the informal sector (Leatemia, Sitanala, & Batkunde, 2023).

Nevertheless, studies conducted in regions with low levels of digital literacy indicate that market aggregator platforms do not always lead to greater financial participation. This is largely due to limited public understanding of complex Fintech features and insufficient inclusive financial education (Khamdanah, 2024). Accordingly, the following hypotheses are formulated:

H4 : Market aggregators influence financial knowledge among MSMEs in Benowo District, Surabaya.

H5 : Market aggregators influence financial behavior among MSMEs in Benowo District, Surabaya.

H6 : Market aggregators influence financial attitudes among MSMEs in Benowo District, Surabaya.

Risk and Investment Management

Risk management and investment behavior are two fundamental aspects of modern financial management that are increasingly emphasized in the context of Fintech development. Risk management refers to the process of identifying, assessing, and mitigating financial risks to minimize potential losses (Jorion, 2007). Investment behavior, on the other hand, describes the decision-making patterns of individuals or institutions in allocating funds for future returns, often shaped by perceptions of risk, financial literacy, and technological progress (Lusardi & Mitchell, 2014).

Fintech platforms offer simplified access to digital investment products such as mutual funds, bonds, and digital gold, while also integrating algorithm-based risk management features. Perceptions of risk, particularly in the context of green investment, significantly influence investment planning behavior among students in Indonesia (Gani, Nata, & Hasibuan, 2025). This suggests that Fintech not only acts as a distribution channel for investments but also serves as an educational and risk-mitigation tool for younger generations.

Conversely, while Fintech increases accessibility to investments, novice investors often report uncertainty and mistrust regarding technological risks such as fraud and fund misappropriation. This indicates that Fintech adoption does not necessarily guarantee effective risk management without adequate financial literacy support (Hamdani, 2025). Therefore, the role of digital education and investment literacy is critical in optimizing Fintech utilization. Despite its potential to broaden access, particularly for millennials, awareness of financial risks remains a major challenge. Hence, the effectiveness of Fintech in risk and investment management depends heavily on user awareness and the integration of financial protection features (Prabowo & Chairunissa, 2025). The proposed hypotheses are:

H7 : Risk and investment management influence financial knowledge among MSMEs in Benowo District, Surabaya.

H8 : Risk and investment management influence financial behavior among MSMEs in

Benowo District, Surabaya.

H9 : Risk and investment management influence financial attitudes among MSMEs in Benowo District, Surabaya.

Cashless Society

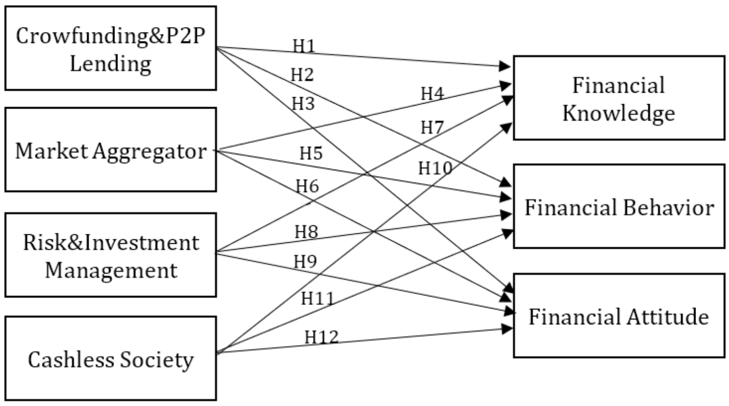
The concept of a cashless society refers to an economic system in which transactions are conducted electronically without the use of physical cash. Advances in digital technology, particularly in the financial sector, have driven the transition toward cashless economies as part of national payment system transformations. This phenomenon is closely tied to the rise of Fintech, which provides various digital payment instruments such as e-wallets, mobile banking, and QR-based payment systems. According to Sharma and Goyal (2018), a cashless society is characterized by transactions executed through electronic instruments such as debit/credit cards, internet banking, and digital wallets, thereby increasing efficiency and transparency in financial systems (Matching & Docking, 2018).

In Indonesia, the National Non-Cash Movement (Gerakan Nasional Non-Tunai, GNNT), initiated by Bank Indonesia in 2014, has been a strategic effort to encourage society to shift from cash to digital payments. The implementation of non-cash payment systems via Fintech platforms is believed to expand financial access, especially for populations excluded from conventional banking services, thereby supporting financial inclusion. Consequently, the development of a cashless society not only reflects progress in financial technology but also serves as an important indicator for assessing Fintech adoption in accounting and financial reporting systems. Based on this rationale, the following hypotheses are formulated:

H10 : A cashless society influences financial knowledge among MSMEs in Benowo District, Surabaya.

H11 : A cashless society influences financial behavior among MSMEs in Benowo District, Surabaya.

H12 : A cashless society influences financial attitudes among MSMEs in Benowo District, Surabaya.



METHOD

This study was conducted among micro, small, and medium enterprises (MSMEs) in Benowo District, Surabaya City. The research instrument employed was a questionnaire, which served as a data collection tool consisting of a structured list of questions provided to respondents to obtain the necessary data and information. The sample size was determined using Slovin’s formula, resulting in 69 respondents. Data analysis was carried out using SmartPLS 4 software. The indicators employed in this study are presented in Table 1 below.

Table 1 Research Indicators

Variable		Indicators
Financial Technology (Fintech)	Crowdfunding Dan Peer To Peer Lending	Crowdfunding and Peer To Peer (P2P) Lending system and In terms of capital or financing ((OJK), 2020)
	Market Aggregator	This fintech provides product comparisons with indicators: Price, Features, and Benefits (Arner, D. W., Barberis, J., & Buckley, 2016)
	Risk and investment management	Lagging indicator and Leading indicator (OECD, 2020)
	Cashless society	users of payment cards, electronic money, and digital money for financial transactions (Bank Indonesia, 2022).
Inklusi Keuangan	Financial Knowledge	1. Knowledge about current product and services 2. Educational of financial 3. Basic knowledge 4. Money management 5. Savings & investment 6. Risk management 7. Perception & opinion
	Financial behavior	1. Basic Money Management 2. Savings Behavior 3. Investment behaviour 4. Portfolio and diversification 5. Financial participation (bonds, bills, repo, stocks, hedge funds, gold, foreign currency, term deposit and none).
	Financial attitudes	Attitude towards money and Financial responsibility

RESULTS AND DISCUSSION

Based on the Outer Model test presented in Figure 3, the research constructs have met the validity criteria. As shown in Figure 3, the loading factor values of the indicators are greater than 0.6, for instance: X1.2 = 0.876; X2.4 = 0.805; X3.4 = 0.743; X4.5 = 0.771; Y1.3 = 0.850; Y2.4 = 0.809; and Y3.4 = 0.800. These values indicate that the indicators adequately represent the constructs being measured.

Table 2 presents the results of the Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha tests, where Cronbach's Alpha exceeds 0.70. This demonstrates that the research instrument possesses satisfactory internal reliability.

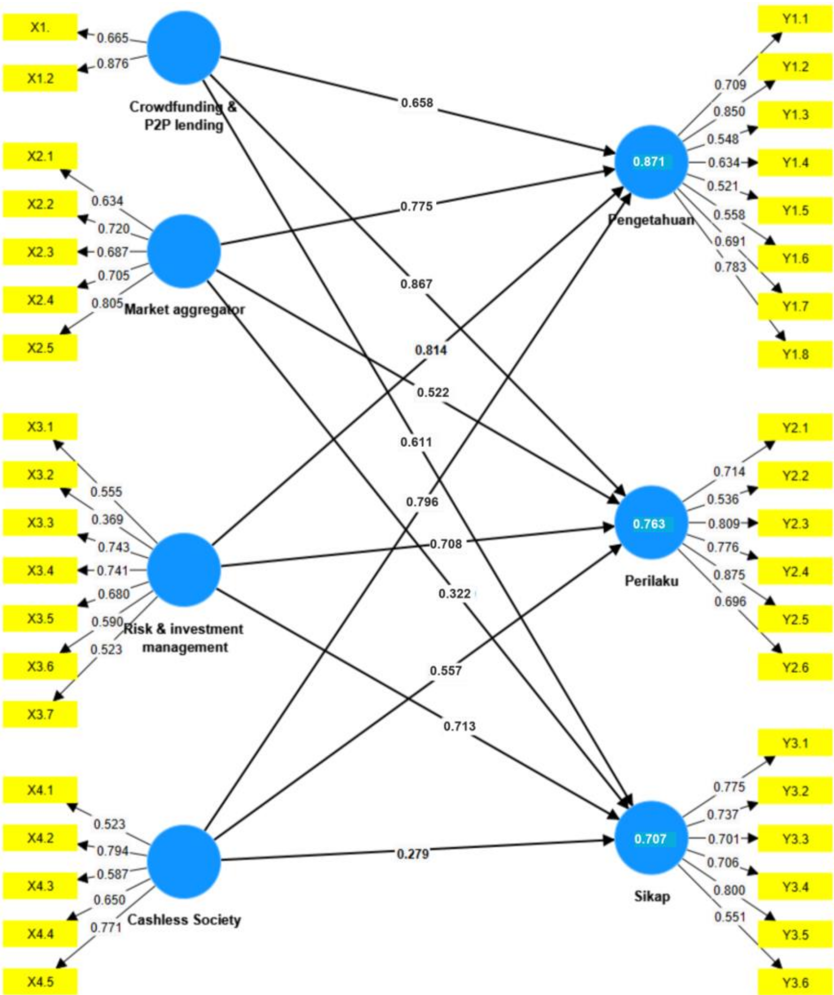


Figure 3 Outer Model

Furthermore, the Composite Reliability (CR) value exceeds 0.70, indicating that the indicators are reliable and demonstrate internal consistency. The Average Variance Extracted (AVE) also meets the requirement for convergent validity, with a value greater than 0.50, signifying that the variance of the indicators can be adequately explained by their respective latent constructs. These results confirm that the variables exhibit convergent validity.

Table 2 AVE, CR and CA Test

Variabel	Cronbach's alpha	Keandalan komposit (rho_a)	Keandalan komposit (rho_c)	Rata-rata varians diekstraksi (AVE)
Crowdfunding & P2P lending	0.664	0.506	0.750	0.605
Market aggregator	0.771	0.794	0.837	0.507
Risk & investment management	0.718	0.756	0.801	0.375
Cashless Society	0.703	0.752	0.802	0.553
Pengetahuan	0.820	0.840	0.864	0.550
Perilaku	0.833	0.870	0.878	0.551
Sikap	0.821	0.849	0.862	0.513

Based on the Bootstrapping test results presented in Table 3, the influence of each independent variable on the dependent variable can be analyzed through the T-statistic and p-value. A relationship is considered statistically significant when the T-statistic exceeds 1,667 and the p-value is less than 0,05.

Table 3 Bootstrapping Test

	Sampel asli (O)	Rata-rata sampel (M)	Standar deviasi (STDEV)	T statistik (|O/STDEV|)	Nilai P (P values)
Crowdfunding & P2P lending -> Pengetahuan	0.074	-0.052	0.112	2.663	0.009
Crowdfunding & P2P lending -> Perilaku	0.050	0.032	0.098	5.513	0.009
Crowdfunding & P2P lending -> Sikap	0.069	-0.091	0.115	2.602	0.049
Market aggregator -> Pengetahuan	0.000	-0.019	0.096	4.701	0.009
Market aggregator -> Perilaku	0.028	-0.052	0.128	6.420	0.026
Market aggregator -> Sikap	0.199	-0.191	0.137	2.452	0.015
Risk and investment management -> Pengetahuan	0.814	0.792	0.182	4.474	0.000
Risk and investment management -> Perilaku	0.700	0.671	0.243	2.885	0.005
Risk and investment management -> Sikap	0.215	0.175	0.217	7.987	0.026
Cashless Society -> Pengetahuan	0.139	-0.095	0.113	5.235	0.020
Cashless Society -> Perilaku	-0.168	-0.171	0.092	1.821	0.042
Cashless Society -> Sikap	0.279	0.294	0.209	1.337	0.014

H1 : The Effect of Crowdfunding and P2P Lending on Financial Knowledge of MSMEs in Benowo District, Surabaya City

Table 3 shows that variable Crowdfunding and P2P Lending has a significant effect on financial knowledge (H1 accepted), with a coefficient value of 0,074, a t-statistic of 2.663 (> 1,667), and a p-value of 0,009 (< 0,05). According to the theory of financial inclusion, access to non-conventional financing sources can enhance financial literacy, as MSME actors are encouraged to understand financing schemes, interest rates, risks, and the benefits offered (Demirgüç-Kunt et al., 2018). Thus, MSMEs are practically required to comprehend Fintech mechanisms before deciding to use them. Previous research by Wardhana and Wibowo (2021) revealed that the use of Fintech lending positively contributes to the improvement of financial literacy among MSMEs, as they are encouraged to better understand risk aspects and financial governance before applying for loans.

H2 : The Effect of Crowdfunding and P2P Lending on Financial Behavior of MSMEs in Benowo District, Surabaya City

Table 3 shows that results show a t-statistic value of 5.513, which is greater than 1,667 , and a p-value of 0,009 (< 0,05), indicating that H2 is accepted. This finding can be attributed to the fact that crowdfunding and P2P lending platforms provide more flexible, faster, and more accessible financing alternatives compared to traditional funding sources. Edward et al. (2023) demonstrated that the success of P2P lending for MSMEs in Indonesia is influenced by information transparency and investor trust, which in turn promote better financial management. Similarly, Widarwati et al. (2024) found that Fintech lending, particularly P2P, directly influences financial behavior by encouraging improvements in financial literacy and discipline in cash flow management. These results are consistent with Wuisan et al. (2023), who emphasized that P2P lending not only facilitates MSMEs' access to capital but also influences their financial decision-making processes through more rational mental accounting.

H3 : The Effect of Crowdfunding and P2P Lending on Financial Attitudes of MSMEs in Benowo District, Surabaya City

Table 3 shows that variable Crowdfunding and P2P Lending shows a t-statistic of 2.602 with a p-value of 0,049 in relation to financial attitudes of MSMEs in Benowo District, Surabaya City. This indicates that the hypothesis is significant since the p-value < 0,05, and therefore H3 is accepted. The significance of this result can be explained by the fact that MSMEs in urban areas such as Surabaya are relatively more adaptive to the development of financial technologies. The ease of accessing digital financing motivates MSMEs to enhance their financial literacy and attitudes. Previous studies by Block et al. (2018) showed that crowdfunding significantly affects the financial decision-making patterns of small business actors, particularly in enhancing financial independence. Likewise, Gleasure and Feller (2016) emphasized that P2P lending influences financial behavior and attitudes due to the transparency and collective participation offered by digital platforms. Supporting evidence also comes from Butticè et al. (2017), who found that MSME involvement in crowdfunding platforms not only increases the chances of obtaining funding but also shapes financial behavior through more transparent and accountable capital management experiences. These findings reinforce the conclusion that crowdfunding and P2P lending play a crucial role in shaping MSMEs' financial attitudes.

H4 : The Effect of Market Aggregators on Financial Knowledge of MSMEs in Benowo District, Surabaya City

Table 3 shows that relationship between Market Aggregators and financial knowledge shows a t-statistic of 4.701 with a p-value of 0,009. Since this value is lower than the significance threshold of 0,05, it can be concluded that H4 is significant. This finding reflects the increasing reliance of MSMEs in the digital era on technological platforms for accessing financial information. Market aggregators enable MSMEs in Benowo District to obtain more credible, comprehensive, and up-to-date information regarding digital financial services. This finding is consistent with Suryono et al. (2021), who demonstrated that Fintech, including market aggregators, enhances information transparency and assists MSMEs in financial decision-making. Similarly, Ofori-Sasu et al. (2019) found that access to digital financial platforms contributes positively to the improvement of MSMEs' financial literacy. Prior research also supports this conclusion: Bongomin et al. (2016) found that access to digital financial services is positively associated with improved financial literacy among MSMEs in Uganda, while Adomako et al. (2016) reported that the use of financial technologies significantly influences managerial capabilities of MSMEs, including aspects of financial literacy.

H5 : The Effect of Market Aggregators on Financial Behavior of MSMEs in Benowo District, Surabaya

Based on Table 3, Hypothesis 5 is found to be significant, as indicated by the p-value of 0,026 < 0,05. This finding suggests that the presence of market aggregators plays an important role in influencing the financial behavior of MSMEs. The significance of this relationship can be explained by the ability of market aggregators to reduce the information asymmetry frequently encountered by MSMEs. According to De Graaf (2021), MSME actors and financial advisors often rely on heuristics or simplified rules in decision-making; thus, the presence of a market aggregator strengthens their informational basis. Similarly, Holmes, Schaper, and Wong (2018) found that better access to information through digital platforms positively affects the financial behavior of MSMEs. This implies that the broader the access MSMEs have to market aggregators, the better their ability to manage cash flow, plan investments, and control financial risks. These findings are consistent with Antonelli, Caroleo, and Villa (2009), who emphasized the importance of clustering and integrating MSMEs into markets to improve efficiency and competitiveness, which in turn has a direct impact on financial management.

H6 : The Effect of Market Aggregators on Financial Attitude of MSMEs in Benowo District, Surabaya

Table 3 shows that relationship between market aggregators and financial attitudes shows significant results, indicating that Hypothesis 6 is accepted. This is evidenced by the p-value < 0,05. The significance of this result can be attributed to the role of market aggregators not only as service providers but also as catalysts in enhancing financial literacy and attitudes among MSMEs. Surenggono and Djamilah (2022) argue that positive financial attitudes in MSMEs are largely determined by the availability of financial information and technological support, in which aggregators serve as a key supporting factor in shaping such attitudes. Furthermore, the findings of Kusumawati, Irawan, and Sari (2024) reinforce this result, showing that the financial attitudes of MSMEs are influenced by external factors such as financial literacy, financial skills, and environmental influences, including peer effects and digital platform support.

H7 : The Effect of Risk and Investment Management on Financial Knowledge of MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient is 0,389, with a T-statistic of 4.474 (> 1,667) and a p-value of 0,000 (-<.0,05). These results demonstrate that risk and investment management has a significantly positive effect on financial knowledge, thereby supporting Hypothesis 7. This significance can be explained by the fact that MSMEs accustomed to conducting risk assessments—such as managing fluctuations in raw material prices or market demand—are more likely to deepen their financial knowledge. Nguyen et al. (2020) found that risk management capability is positively correlated with the financial literacy of small business owners. Similarly, Rasyid et al. (2022) reported that risk management practices enhance MSMEs' awareness of financial planning and investment strategies.

H8 : The Effect of Risk and Investment Management on Financial Behavior of MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient is 0,289, with a T-statistic of 2.885 (> 1,667) and a p-value of 0,005 (< 0,05). These results indicate that risk and investment management has a significantly positive effect on financial behavior, supporting Hypothesis 8. This relationship can be explained by the tendency of MSMEs that regularly assess business risks (e.g., liquidity, credit, or operational risks) to be more prudent in managing cash flow, budgeting, and formulating investment strategies. Herdjiono and Damanik (2016) found that risk management positively influences the financial behavior of both students and entrepreneurs. Similarly, Mutegi et al. (2020) confirmed that investment management practices foster more disciplined financial management behaviors among small business owners.

H9 : The Effect of Risk and Investment Management on Financial Attitude of MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient is 0,622, with a T-statistic of 7.987 (> 1,667) and a p-value of 0,026 (< 0,05), thereby supporting Hypothesis 9. This significant relationship can be explained by the tendency of MSMEs that are accustomed to identifying risks and planning investments to develop a more positive outlook on the importance of financial management. This is consistent with the findings of Putri and Lestari (2020), who showed that risk management directly influences the formation of financial attitudes among business students. Moreover, Dewi et al. (2022) demonstrated that sound investment strategies promote more disciplined financial attitudes among MSMEs in the trade sector.

H10 : The Influence of a Cashless Society on Financial Knowledge among MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient value is 0,315, with a T-statistic of 5.235 (> 1,667) and a p-value of 0,020 (< 0,05). These results indicate that the influence of a cashless society on financial knowledge is significantly positive, thus supporting Hypothesis H10, This significance can be explained by the fact that MSMEs engaging in cashless transactions are more frequently exposed to digital financial systems, thereby encouraging them to enhance their knowledge regarding transaction security, digital bookkeeping, and technology-based cash flow management. Prasetyo et al. (2020) found that the use of digital payments is closely associated with improved financial literacy among small business actors. Similarly, Rahmawati and Hidayat (2021) emphasized that the adoption of cashless payments contributes to a better understanding of financial products and business planning among MSMEs.

H11 : The Influence of a Cashless Society on Financial Behavior among MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient value is 0,207, with a T-statistic of 1.821 (> 1.64 at a 10% significance level) and a p-value of 0,042 (< 0,05). These findings suggest that the influence of a cashless society on financial behavior is significantly positive, thus supporting Hypothesis H11. This significance can be explained by the tendency of MSMEs accustomed to digital payments to be more disciplined in recording transactions and managing cash flow, as well as more accustomed to comparing costs across platforms. Dewi and Sari (2021) reported that the use of e-wallets is positively associated with financial behavior among millennial entrepreneurs. Likewise, Yeo and Fisher (2018) highlighted that digital payments enhance business actors' awareness of responsible spending and income management.

H12 : The Influence of a Cashless Society on Financial Attitudes among MSMEs in Benowo District, Surabaya

Table 3 shows that path coefficient value is 0,173, with a T-statistic of 1.337 (> 1.64 at a 10% significance level) and a p-value of 0,014 (< 0,05). These results demonstrate that the influence of a cashless society on financial attitudes is significantly positive, thereby supporting Hypothesis H12. This significance can be explained by the tendency of MSME actors using cashless systems to develop more positive financial attitudes, including greater confidence in financial management and stronger discipline in business financial planning. Nugroho and Purwanti (2021) found that the use of cashless payments is closely linked to the development of financial attitudes among young entrepreneurs. In line with this, Prabowo et al. (2022) emphasized that payment digitalization fosters more open financial attitudes toward innovation and modern financial management.

CONCLUSION AND SUGGESTIONS

Based on the results of the SmartPLS analysis conducted on MSMEs in Benowo District, Surabaya City, all hypotheses (H1–H12) were accepted, indicating significant relationships between Fintech variables (crowdfunding and P2P lending, market aggregators, risk and investment management, and the cashless society) and the financial knowledge, behavior, and attitudes of MSME actors.

First, crowdfunding and P2P lending were found to have a significant influence on financial knowledge (H1), financial behavior (H2), and financial attitudes (H3). This finding demonstrates that MSME participation in alternative financing platforms encourages the enhancement of financial literacy, improvements in cash flow management practices, and the development of more positive attitudes toward financial management.

Second, market aggregators were shown to significantly affect financial knowledge (H4), financial behavior (H5), and financial attitudes (H6). These results underscore that access to more credible, transparent, and comprehensive information through aggregator platforms reduces information asymmetry, strengthens financial understanding, and shapes MSMEs' financial decision-making patterns.

Third, risk and investment management had a significant effect on financial knowledge (H7), financial behavior (H8), and financial attitudes (H9). This indicates that the ability of MSMEs to manage risks and plan investments fosters greater caution, structure, and discipline in financial management, while simultaneously reinforcing positive attitudes toward the importance of financial literacy for business sustainability.

Fourth, the cashless society variable significantly influenced financial knowledge (H10), financial behavior (H11), and financial attitudes (H12). The adoption of non-cash transactions encourages MSMEs to deepen their understanding of digital financial systems, engage in more orderly financial record-keeping, and cultivate modern financial attitudes characterized by openness to innovation and confidence in managing finances.

This study provides a conceptual contribution to academics by strengthening the understanding of the relationship between ESG disclosure and firm value through the lens of stakeholder theory. The findings open avenues for future research to examine potential mediating or moderating variables, such as corporate reputation, cost of capital, or ownership structure, and to extend the analysis to different sectors or time periods. Future studies may also consider employing more comprehensive ESG measurement approaches, including text-based analysis or automated data extraction, to enhance measurement accuracy and academic relevance.

Research Suggestions

This study focuses on MSMEs in Benowo District, Surabaya City. Future research is expected to expand the geographical scope in order to provide a more comprehensive understanding of the role of Fintech in enhancing the financial literacy of MSMEs in Indonesia. In addition, subsequent studies may incorporate other variables such as digital literacy, access to formal financing, or cultural financial factors, which may also exert a significant influence on the financial behavior of MSMEs.

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