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Financial Literacy, FinTech, Social Capital, and Locus of Control as Determinants of MSME Financial Inclusion in Surabaya

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Abstract

This study aims to analyze the influence of financial literacy, financial technology, social capital, and locus of control on financial inclusion in MSME players in Rungkut Sub-district, Surabaya City. The background of this research is the importance of financial inclusion in supporting the economic growth of MSMEs, and there remain obstacles such as low financial literacy, limited fintech adoption, weak social capital, and an unoptimal locus of control. This research uses a quantitative approach with a random sampling technique. Data were collected via questionnaires and analyzed using PLS-SEM with SmartPLS. The results showed that financial literacy and social capital have a positive and significant effect on financial inclusion. In contrast, financial technology and locus of control have no significant effect. The findings imply that improving financial literacy and strengthening social networks are key to promoting financial inclusion for MSMEs. This research is expected to serve as a reference for policy-making and empowerment programs for MSMEs, grounded in literacy and social development.

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Introduction

Efforts to build a fair and inclusive economy have become the Indonesian government's top priority for improving people's welfare. Various strategic policies have been implemented to ensure that all levels of society can access financial services. One important step is the National Strategy for Financial Inclusion (SNKI), which aims to provide easy access to financial products and services and to encourage economic and social participation without discrimination (Marcellena & Zoraya, 2024). Financial inclusion means that a person can access legal services that are good, timely, safe, affordable, and tailored to their needs and abilities (Liska et al., 2022).

According to SNLIK (2024), Indonesia still faces challenges in achieving complete financial inclusion. Currently, Indonesia's financial inclusion index is 75.02%. According to a World Bank report (2021), approximately 97.74 million adults in Indonesia are unbanked, making Indonesia the country with the fourth-largest unbanked population worldwide (CNBC, 2024). Although the government wants to achieve a 90% financial inclusion rate by 2024, there are still obstacles, such as insufficient access and limited understanding of personal finance.

Inclusive financial access is essential for micro, small, and medium-sized businesses, especially in their access to financial services. The MSME sector contributes around 59.5% to the national GDP and absorbs 97% of the workforce (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2025). Many small and medium-sized businesses still struggle to access financial services due to insufficient capital, limited understanding of finance, and limited use of financial technology. The government continues to encourage the growth and income of small and medium enterprises through various policies to strengthen the national economy.

According to data from the Surabaya City Cooperatives, MSMEs, and Trade Office in 2025, Rungkut District has 261 MSME actors. This sub-district is located in the Rungkut Industrial Estate (KIR), a strategic industrial area with great potential to support the growth of small and medium businesses. However, a preliminary survey of 10 MSME actors there showed that 50% had low financial literacy, 40% had difficulties with social capital, 30% had not used financial technology, and 20% had weak self-control. These findings show that financial inclusion among MSMEs in Rungkut remains relatively low.

Research on the determinants of financial inclusion has produced varied and sometimes contradictory findings. Several studies highlight financial literacy as a key factor that encourages financial inclusion by Geriadi et al. (2023), yet other evidence shows no significant effect (Andrean & Soejono, 2022). Likewise, financial technology has been reported to strengthen access to financial services Ainiyah and Yuliana (2022), although in certain contexts its impact is less apparent and strongly dependent on supporting infrastructure and user readiness (Kumalasari, 2022). Social capital has also been investigated, with outcomes differing across communities depending on their socio-cultural characteristics. More recently, psychological aspects such as locus of control have emerged as relevant variables; for instance, Marcellena and Zoraya (2024) demonstrated that locus of control positively influences the participation of business actors in digital financial services.

These diverse results indicate that financial inclusion is influenced not only by economic but also by technological, social, and psychological factors. However, most prior studies have focused on individual variables in isolation, limiting the overall understanding of how these factors interact to shape financial inclusion within micro, small, and medium enterprises (MSMEs). Moreover, research specifically addressing MSMEs in industrial areas such as Rungkut District, Surabaya, remains scarce, despite the district's strategic economic role and increasing exposure to financial technology.

This study aims to address these gaps by examining financial literacy (knowledge and understanding of financial concepts), financial technology (use of digital tools and platforms for financial services), social capital (the value of social networks and relationships), and locus of control (the degree to which individuals believe they have control over financial outcomes) as determinants of financial inclusion among MSMEs in Rungkut District, Surabaya. By combining these variables into a single analytical model, this research seeks to provide a more comprehensive explanation and offer new insights into the multidimensional nature of financial inclusion in MSMEs.

The novelty of this study lies in its focus on analyzing MSMEs in Rungkut District, Surabaya, an important industrial area that has received little attention in the context of financial inclusion. In addition, this study adds variables on locus of control, along with financial literacy, financial technology, and social capital, using a behavioral finance theoretical framework. This approach is expected to provide a new perspective on how rational, social, and psychological factors collectively influence MSMEs' access to financial services.

Thus, this study aims to empirically analyze the influence of financial literacy, financial technology, social capital, and locus of control on financial inclusion among MSMEs in Rungkut District, Surabaya. The contribution of this research is expected to be useful theoretically, namely by enriching the literature on MSME financial inclusion and by supporting behavioral finance theory. From a practical perspective, the results of this study can serve as a reference for MSME actors, policymakers, and stakeholders in formulating MSME empowerment strategies that increase literacy, promote technology adoption, and strengthen individual and social capacity.

Literature Review

Influence of Financial Literacy on Financial Inclusion

According to Behavioral Finance Theory, individuals' financial decisions are shaped by the information and knowledge they possess. Financial literacy is this knowledge. It allows business actors to assess the risks, benefits, and obligations of using financial services, thereby enabling more rational decision-making (Pulungan & Ndruru, 2019). A high level of financial literacy helps business actors plan finances strategically, select products that fit their needs, and avoid errors in financial management (Hamzah & Suhardi, 2019).

Financial literacy encompasses knowledge, skills, and beliefs that shape financial management behavior (Putri & Sudiyatno, 2023). When business actors possess strong literacy, they are better able to access financial services, thereby supporting greater financial inclusion. Furthermore, having an adequate understanding increases their confidence in using formal financial services (Sirait, 2023).

Previous studies have also shown that financial literacy positively affects financial inclusion. Ariefin et al. (2023) found that higher financial literacy was associated with greater individual involvement in the financial system. Similarly, Liska et al. (2022) stated that financial literacy significantly influences financial inclusion.

H1: *Financial literacy has a positive effect on financial inclusion*

The Influence of Financial Technology on Financial Inclusion

According to Behavioral Finance Theory, individual financial decisions are influenced by the information and knowledge they possess. In the modern context, this information is largely facilitated by financial technology (fintech), which makes it easier for business actors to access formal financial services with simpler procedures (Hamzah & Suhardi, 2019). Fintech not only addresses technical barriers but also expands public participation in the formal financial system by enabling access to digital payments, financing, and financial management (Marini et al., 2020).

Fintech is an innovation in applications, products, or business models in the financial services sector that integrates technology (Rashwan & Kassem, 2023). The World Bank also emphasizes that fintech plays a role

in improving the efficiency of the financial system while expanding access to financial services. Thus, fintech serves as an effective means for businesses to overcome limitations in capital access and to plan their finances better (Siregar & Pratiwi, 2024).

Empirical research results support the important role of fintech in financial inclusion. Hamdi et al. (2022) found that the use of fintech significantly improves MSME access to financial services through digital payments, financing, and transaction management. Other studies also show that financial technology expands access to formal financial services for MSME players (Hamzah & Suhardi, 2019).

H2: *Financial technology has a positive effect on financial inclusion*

The Influence of Social Capital on Financial

Behavioral Finance Theory explains that individual financial decisions are shaped by information and knowledge from the surrounding environment. For MSMEs, this information primarily flows through social capital—networks among business actors that enable the sharing of key information about access to financial services (Marini et al., 2020). Relationships within MSME communities foster values, trust, and cooperation, making it easier for business actors to access safe and accessible financial services (Nikmah & Rahmawati, 2022).

Social capital can be understood as a resource arising from interactions, communication, and cooperation among individuals in society (Putro et al., 2022). Elements such as trust, norms, and social networks contribute to greater efficiency by facilitating coordination, supervision, and the smoother flow of information between lenders and borrowers (Safira & Dewi, 2019). When MSME actors effectively leverage social capital, they gain vital support and resources to develop their businesses, simultaneously expanding access to financial services (Depina, 2024).

Empirical research shows the significant role of social capital in financial inclusion. Kumalasari (2022) found that social capital has a positive effect on expanding financial access. Similar results were reported by Pradana and Suarmanayasa (2022), who stated that social capital significantly contributes to increasing financial inclusion.

H3: *Social capital has a positive effect on financial inclusion*

The Effect of Locus of Control on Financial Inclusion

According to Behavioral Finance Theory, locus of control shapes how individuals perceive their control over financial decisions. MSME actors with an internal locus of control believe financial success depends on their own efforts. This makes them more active in seeking information, understanding risks, and using formal financial services, including financial technology. As a result, financial inclusion increases (Afriani & Kartika, 2021). On the other hand, those with an external locus of control rely more on outside factors. They are less proactive in managing finances and more reluctant to use formal financial services (Rasyidah et al., 2024).

Locus of control is an individual's belief about how much they can control life events (Arumaningtyas et al., 2022). Those with an internal locus believe their actions influence outcomes, while those with an external locus credit external factors such as fate, opportunity, or luck (Soleh et al., 2020). This belief shapes financial behavior, including the use of formal financial services.

Research supports this link. Novianti (2019) found that an internal locus of control is associated with better financial literacy and greater use of digital financial services. Marcellena and Zoraya (2024) also found that financial literacy and locus of control promote financial inclusion, especially among users of digital payment services.

H4: *Locus of control has a positive effect on financial inclusion*

Method

This study uses a deductive approach based on previous research on variable associations. It is also causal, aiming to test hypotheses about the influence of variables. The study uses a quantitative approach grounded in the positivist paradigm, allowing researchers to analyze a specific population or sample with statistical techniques. Data were collected directly from respondents through questionnaires.

The number of samples was determined using the Slovin formula, with an error rate of 10%, yielding a minimum of 73 respondents. Once the sample size is determined, the sampling technique is random sampling, in which every individual in the population has an equal chance of being selected. The selection of this method is intended to ensure the sample is proportionally representative of the population and consistent with the study's purpose.

Financial literacy is measured by financial knowledge, skills, and behavior. Financial technology is measured by accessibility, ease of use, and user trust. Social capital relies on social networks, trust, and business social norms. Locus of control includes internal control, belief in one's abilities, and external control, which is the influence of external factors. Financial inclusion is measured by access, use, and quality of MSME financial services.

Data analysis in this study was conducted using Partial Least Squares – Structural Equation Modeling (PLS-SEM) in SmartPLS. The analysis involved several stages: testing construct validity and reliability, evaluating R² values, and testing hypotheses by examining t-statistics and p-values.

Result and Discussion

Description of Respondent Characteristics

Table 1. Respondent Characteristics

Kriteria	Kategori	Jumlah (n)	Persentase (%)
Usia	< 22 Tahun	1	1%
	23 – 27 Tahun	13	16%
	28 – 32 Tahun	27	33%
	33 – 37 Tahun	37	45%
	> 38 Tahun	4	5%
Total		82	100%
Jenis Kelamin	Laki-laki	33	40%
	Perempuan	49	60%
Total		82	100%
Lama Usaha	< 1 Tahun	7	9%
	1 – 5 Tahun	43	52%
	6 – 10 Tahun	31	38%
	> 10 Tahun	1	1%
Total		82	100

Source: Questionnaire data processing results (2025)

Based on Table 1, most MSME respondents in Rungkut District, Surabaya, are aged 33–37 (45%), showing that business owners are of productive and stable age. Female respondents make up 60%, compared to 40% males, demonstrating women's key role in MSMEs, especially in household-based and creative sectors. Over half (52%) have run businesses for 1–5 years, indicating early-stage MSME development, while 38% have operated for 6–10 years, reflecting a core of sustainable, resilient businesses.

Description of Research Variables

Financial Inclusion

Inclusive financial access means individuals and business actors equally access and use formal financial services, such as savings, loans, insurance, and payment systems. This includes not only having services available but also using them effectively to support economic activities. For MSMEs, affordable financial services ease access to capital, help manage business finances, expand opportunities, and promote sustainability. The table below details respondents' answers related to financial inclusion variables:

Table 4. Financial Inclusion Variable Answer Tabulation

Statement	N	Min	Max	Mean	Std. Dev
Y1.1	82	3	5	4.04	0.71
Y1.2	82	2	5	4.04	0.79
Y1.3	82	3	5	4.39	0.58
Y1.4	82	3	5	3.88	0.76
Y1.5	82	1	5	3.54	1.02
Y1.6	82	3	5	4.30	0.60
Y1.7	82	3	5	4.23	0.71
Y1.8	82	3	5	4.40	0.65

Source: Questionnaire data processing results (2025)

Furthermore, regarding business duration, the majority of respondents (43 people, 52%) have been operating their businesses for 1–5 years. This is followed by 31 people (38%) whose businesses have run for 6–10 years, and only 1 person (1%) whose business has operated for more than 10 years. The business duration refers to the length of time respondents have continuously managed their MSMEs.

Financial Literacy

Financial literacy refers to the combination of knowledge, skills, and beliefs that directly influence a person's attitudes and behaviors in financial decision-making and management. Among MSME actors, higher financial literacy strengthens their ability to manage business capital, avoid excessive debt burdens, and enhance the sustainability of their enterprises. These capacities become particularly relevant when considering the respondents' demographic characteristics.

Table 5. Tabulation of Financial Literacy Variable Answers

Statement	N	Min	Max	Mean	Std. Dev
X1.1	82	2	5	4.10	0.82
X1.2	82	2	5	4.03	0.88
X1.3	82	2	5	4.04	0.80
X1.4	82	2	5	4.15	0.81
X1.5	82	2	5	4.20	0.88
X1.6	82	1	5	4.23	0.78
X1.7	82	2	5	4.36	0.71
X1.8	82	3	5	4.28	0.64
X1.9	82	2	5	4.26	0.68
X1.10	82	2	5	4.05	0.83
X1.11	82	3	5	4.34	0.63

Source: Questionnaire data processing results (2025)

The results of the descriptive analysis show that the financial literacy of MSMEs in Rungkut District is in the high category, as evidenced by most indicators having averages above 4. The highest indicators are X1.7 (mean 4.36) and X1.11 (mean 4.34), which reflect the respondents' understanding of the benefits of financial products and their ability to manage business finances. Conversely, the indicators with the lowest averages are X1.2 (mean 4.03) and X1.3 (mean 4.04), indicating that there are still limitations in understanding certain

financial products. With a relatively small standard deviation, it can be concluded that the level of financial literacy among MSME players is quite good and relatively even, although a deeper understanding of financial products is still needed.

Financial Technology

Financial technology (fintech) is the use of digital technology to provide faster, easier, and more efficient financial services to the public and business actors. For MSMEs, fintech plays an important role in facilitating access to capital, facilitating non-cash transactions, and expanding market reach through digital platforms. The use of fintech can increase the effectiveness of business financial management, reduce barriers to access to formal financial institutions, and encourage broader financial inclusion.

Table 6. Tabulation of Financial Technology Variable Answers

Statement	N	Min	Max	Mean	Std. Dev
X2.1	82	1	5	3.85	1.09
X2.2	82	1	5	3.76	1.04
X2.3	82	1	5	3.72	1.06
X2.4	82	1	5	3.91	0.89
X2.5	82	1	5	3.98	0.95
X2.6	82	1	5	3.85	0.99
X2.7	82	1	5	3.70	1.04
X2.8	82	2	5	3.95	0.89

Source: Questionnaire data processing results (2025)

The descriptive analysis of the Financial Technology variable (X2) indicates that the average score ranges from 3.70 to 3.98. The indicator with the highest score is X2.5 (3.98), which confirms the benefits of fintech in facilitating financial transactions, while the lowest score is in X2.7 (3.70), which relates to security and trust. The relatively small standard deviation indicates that the respondents' answers were fairly homogeneous.

Social Capital

Social capital is a network of relationships, norms, and trust among individuals and groups that can encourage cooperation to achieve common goals. In the context of MSMEs, social capital plays an important role in strengthening trust between business actors, expanding access to information and market opportunities, and increasing support from the surrounding environment. A high level of social capital can help MSMEs build reputations, establish sustainable business relationships, and increase the chances of business success.

Table 6. Tabulation of Social Capital Variable Answers

Statement	N	Min	Max	Mean	Std. Dev
X3.1	82	1	5	4.15	0.92
X3.2	82	2	5	4.05	0.78
X3.3	82	2	5	3.93	0.89
X3.4	82	2	5	3.78	0.83
X3.5	82	2	5	3.77	0.99
X3.6	82	2	5	3.46	0.92
X3.7	82	2	5	3.57	1.02
X3.8	82	1	5	3.74	0.99

Source: Questionnaire data processing results (2025)

The results show that MSME actors in Rungkut District possess fairly good social capital. Trust among community members (X3.1, mean 4.15) is notably strong, but social norms (X3.6, mean 3.46) score lower. The varying standard deviation values, such as X3.7 (1.02) and X3.8 (0.99), reflect diverse perceptions of social network support and social norms. These findings imply that while MSME social capital is well-

established, addressing weaker social norms and fostering greater mutual support could further strengthen the community.

Locus of Control

Locus of control is an individual's belief about how much they can control events or outcomes in their life. Those with an internal locus of control believe that their personal effort, ability, and decisions determine success or failure. In contrast, those with an external locus attribute outcomes to factors beyond their control, such as luck, fate, or others' actions. For MSME actors, having a strong internal locus of control can lead to greater confidence in decision-making, a proactive approach to business risks, and enhance both business independence and long-term sustainability by fostering ownership of outcomes.

Table 7. Tabulation of Locus of Control Variable Answers

Statment	N	Min	Max	Mean	Std. Dev
X4.1	82	1	5	3.88	0.95
X4.2	82	1	5	4.04	0.97
X4.3	82	1	5	3.90	1.06
X4.4	82	1	5	3.96	0.93
X4.5	82	2	5	3.99	0.99
X4.6	82	2	5	3.94	0.88
X4.7	82	2	5	3.95	0.84
X4.8	82	2	5	3.91	0.89

Source: Questionnaire data processing results (2025)

The results of the descriptive analysis of the Locus of Control variable (X4) indicate that the average respondent response was in the high category, with a mean of 3.88-4.04. Indicator X4.2 had the highest average (4.04), indicating that most respondents felt they could control internal factors in running their businesses. Meanwhile, the indicator with the lowest average was X4.1 (3.88), although it was still in the good category. The standard deviation values range from 0.84 to 1.06, indicating that the respondents' perceptions are relatively consistent, although there are slight differences of opinion on indicator X4.3, which has the widest distribution of responses. Overall, these findings show that MSME actors in Rungkut Subdistrict have a fairly strong locus of control over their businesses.

Data Analytics Description

Outer Model

This outer model explains the relationship between latent variables and the indicators that measure them (Ghozali, 2023). The evaluation of this model aims to ensure that the research instrument has adequate validity and reliability. The following tests were performed on the outer model:

Validity Test

Convergent validity was assessed to determine the extent to which the indicators represent the latent constructs, using the criteria of outer loadings ≥ 0.70 and AVEs > 0.50 (Ghozali & Kusumadewi, 2023). Meanwhile, discriminant validity aims to ensure that a construct is better at describing its own indicators than other constructs, as shown by cross-loadings.

Table 8. Validity Test

Variable	Kode	Loading Factor	AVE
Financial Literacy	Y.7	0,795	0,688
	X1.1	0,751	
	X1.2	0,892	
	X1.4	0,902	
	X1.8	0,792	
	X1.9	0,74	

Variable	Kode	Loading Factor	AVE
Financial Technology	X1.10	0,882	0,724
	X2.1	0,896	
	X2.2	0,837	
	X2.3	0,803	
	X2.4	0,856	
	X2.5	0,905	
	X2.6	0,803	
Social Capital	X3.2	0,740	0,654
	X3.3	0,822	
	X3.4	0,856	
	X3.6	0,722	
Locus of Control	X3.7	0,89	0,597
	X4.1	0,807	
	X4.2	0,752	
	X4.3	0,77	
	X4.4	0,823	
	X4.5	0,736	
	X4.6	0,755	
	X4.8	0,76	

Source: Results of the questionnaire processed by SmartPLS (2025)

The validity test results showed that all indicators in the research variables had loadings above 0.70 and AVEs greater than 0.50. This confirms that all constructs, both access to formal finance, financial competence, fintech adoption, and social networks, and locus of control, have met the criteria of convergent validity so that they are suitable for use in the next analysis.

Reliability Test

Reliability tests are conducted to ensure the instrument's consistency and accuracy in measuring constructs. Reliability is assessed using Cronbach's alpha and composite reliability; both must exceed 0.70 for the construct to be considered reliable (Ghozali & Kusumadewi, 2023).

Table 9. Reliability Test

Variable	Composite Reliability	Cronbach's Alpha
Financial Inclusion	0,882	0,834
Financial Literacy	0,929	0,908
Financial Technology	0,94	0,93
Social Capital	0,904	0,869
Locus of Control	0,912	0,888

Source: Results of the questionnaire processed by SmartPLS (2025)

The results of the reliability test in [Table 9](#) show that all research variables, namely integration into the financial sector, financial knowledge, fintech adoption, community networks, and locus of control, have Cronbach's Alpha and Composite Reliability values above 0.70. This confirms that every construct in this study is reliable, as the instrument consistently and accurately measures.

Inner Model

The inner model describes the relationship between latent variables and tests the proposed hypotheses. Internal model testing is carried out using several methods, such as the determination coefficient (R-square) for dependent variables and path coefficients.

Coefficient of Determination Test (R-Square)

R-squared is used to assess the magnitude of exogenous variables' influence on endogenous variables. A value of ≥ 0.67 indicates a strong influence, 0.33–0.67 indicates a moderate influence, while 0.19–0.33 indicates a weak influence (Ghozali & Kusumadewi, 2023).

Table 10. R-Square Test

Variable	R-square	R-square adjusted
Financial Inclusion	0,630	0,610

Source: Results of the questionnaire processed by SmartPLS (2025)

The results of the determination coefficient test showed an R-square value of 0.630, indicating that 63% of the dependent variables were explained by the independent variables in the research model, while the remaining 37% were influenced by other factors outside the study. The adjusted R-square value of 0.610 also shows that, after adjusting for the number of variables and samples, the model still explains about 61% of the variation in the dependent variables. Thus, this model has quite good predictive capabilities.

Hypothesis Test

The hypothesis test was carried out using the bootstrap method, which resamples the entire sample to assess the direction and significance of the relationship between latent variables. This study set the significance level at 5%, with the criteria: the relationship is significant if the t-statistic > 1.96 and the p-value < 0.05; otherwise, it is declared insignificant.

Tabel 11. Hypothesis Testing

Hypothesis	t-statistic	P-Values	Conclusion
Financial Literacy -> Financial Inclusion	6,224	0,000	Hypotheses accepted
Financial Technology -> Financial Inclusion	0,049	0,481	Hypotheses rejected
Social Capital -> Financial Inclusion	2,225	0,013	Hypotheses accepted
Locus of Control -> Financial Inclusion	0,879	0,190	Hypotheses rejected

Source: Results of the questionnaire processed by SmartPLS (2025)

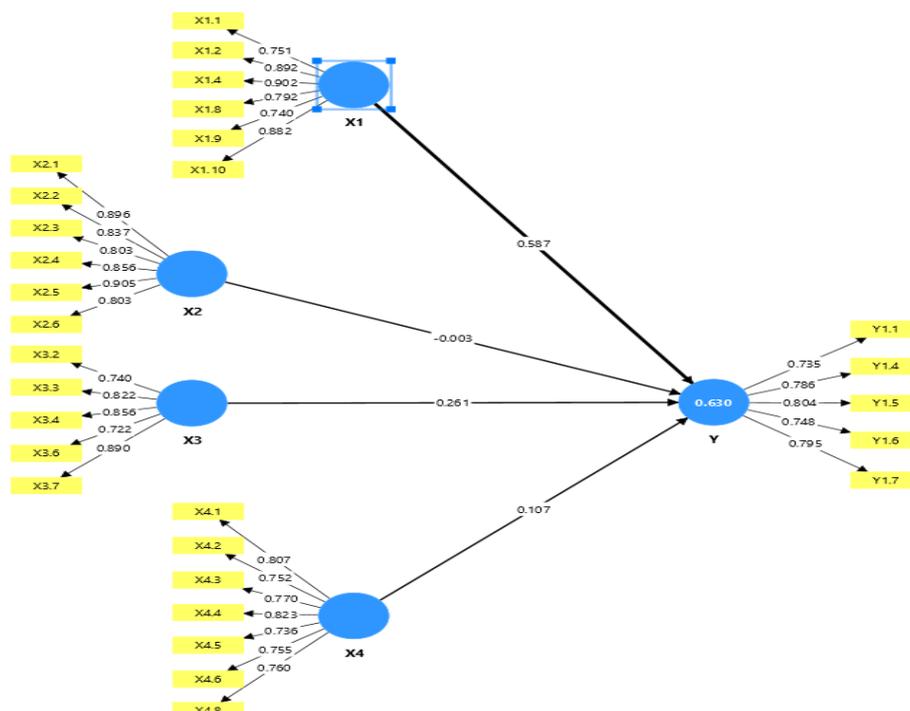


Figure 1. SmartPLS Algorithm Results

The results of the pathway analysis showed that Financial Literacy (X1) had the strongest influence on Financial Inclusion, with a pathway coefficient of 0.587. Furthermore, Social Capital (X3) also contributes positively, with a coefficient of 0.261, indicating that the greater the social capital held by business actors, the higher the level of financial inclusion achieved. Meanwhile, the Locus of Control (X4) showed a positive but relatively small influence with a coefficient value of 0.107. In contrast, Financial Technology (X2) had a coefficient of -0.003, indicating no significant influence on financial inclusion in this study. Overall, the R-Square value of 0.630 indicates that about 63% of the variation in the dependent variables is explained by all four independent variables.

Discussion

The Influence of Financial Literacy on Financial Inclusion

The results of this study indicate that financial literacy has a positive and significant effect on financial inclusion. This means that the better MSME players understand finance, the greater their ability to access, assess, and optimally use financial products and services. Adequate knowledge helps them plan cash flow, assess risks, and make rational decisions, thereby minimizing their dependence on informal financial institutions. Based on Behavioral Finance Theory, individual financial decisions are strongly influenced by knowledge levels and perceptions of available information. Good literacy can also reduce psychological biases such as overconfidence and herding, thereby encouraging MSME players to be more confident in using formal financial services.

These findings are in line with a number of previous studies. [Ariefin et al. \(2023\)](#) emphasize that financial literacy plays an important role in increasing financial inclusion by strengthening individuals' ability to utilize financial services. Similar results were reported by [Siregar and Pratiwi \(2024\)](#), who found that MSMEs with higher literacy levels were more likely to use formal banking services than those with lower literacy levels. Furthermore, [Astuti and Rahman \(2022\)](#) highlight that literacy not only expands financial access but also increases trust in financial institutions, which is a determining factor for inclusion. Meanwhile, [Geradi et al. \(2023\)](#) argue that literacy encourages small business owners to switch from informal savings and loans to formal services, thereby strengthening financial resilience. In line with this, [Safira and Dewi \(2019\)](#) explain that literacy directly improves MSMEs' ability to manage business finances, ultimately expanding inclusion through access to credit and digital services. Overall, these studies confirm that literacy is a key driver of inclusion by building financial confidence and reducing financial exclusion.

However, the research results differ. [Hidayatullah and Rachmansyah \(2023\)](#) report that financial literacy does not have a significant effect on financial behavior, thus limiting its impact on inclusion. They assess that contextual factors, such as respondents' educational backgrounds, digital readiness, and the low penetration of financial technology at that time, weakened this relationship. [Sari and Kautsar \(2020\)](#) found similar results, stating that in rural areas, literacy has little influence because geographical barriers make access to financial institutions more dependent on infrastructure than knowledge. Differences in research location, respondent characteristics, and technological ecosystem conditions may explain these differing results. In comparison, this study, conducted in the Rungkut industrial area with a higher level of fintech adoption, shows that literacy has a significant influence on inclusion. This indicates that the financial ecosystem strengthens the relationship between literacy and inclusion.

Overall, this study confirms that financial literacy is an important factor in promoting financial inclusion. Good knowledge enables MSME players to assess risks, manage debt, and utilize both digital and conventional financial services more effectively. In addition, strong literacy supports business sustainability by enabling rational decision-making and reducing informal financial practices. Therefore, improving financial literacy should be a strategic priority to expand financial access and strengthen MSME competitiveness, especially in Surabaya's dynamic industrial environment.

The Influence of Financial Technology on Financial Inclusion

Test results show that financial technology does not have a significant effect on financial inclusion. This indicates that the mere existence of fintech platforms is not enough to improve financial access, as other factors, such as limited digital literacy, infrastructure readiness, service costs, and the preferences of business actors, especially the older generation, who are still accustomed to conventional services, are more dominant. This condition aligns with Behavioral Finance Theory, which holds that individual financial decisions are not always rational but are influenced by limited understanding, risk perception, and behavioral biases. Low digital literacy and distrust of fintech system security make MSME players hesitant to switch from traditional services.

A number of studies have also shown mixed results. [Hamzah and Suhardi \(2019\)](#) found that fintech can expand access to financial services by providing ease of transaction and alternative financing. However, other studies highlight barriers to adoption. [Santoso and Firmansyah \(2022\)](#), for example, show that limited digital literacy limits the effectiveness of fintech in promoting inclusion, while [Aulia \(2021\)](#) finds that high service costs and a lack of trust in security systems reduce MSMEs' interest in using fintech. These findings reinforce that the impact of fintech on inclusion is not automatic, but is greatly influenced by user readiness and the supporting ecosystem.

Compared with previous studies, this study finds that in the Rungkut industrial area, fintech's presence has not significantly increased financial inclusion. This is most likely due to limited digital literacy and the habit of some MSME players who still rely on conventional services. Thus, the role of fintech will be optimal only if it is accompanied by financial education strategies, infrastructure strengthening, and simple, user-friendly application innovations. This means that financial inclusion does not only depend on the availability of technology, but also on behavioral readiness and accompanying ecosystem support.

The Influence of Social Capital on Financial Inclusion

The study finds that social capital has a positive and significant effect on financial inclusion. This means that the stronger the trust, networks, and support among business actors, the greater their chances of obtaining information, assistance, and access to formal financial services. Social capital serves as an important link that can overcome barriers to using financial products, such as limited information or hesitation to interact with financial institutions.

From the perspective of Behavioral Finance Theory, individual financial decisions are not solely determined by rational information but also by social factors and environmental influences. The presence of a strong social network makes business actors more confident in their financial decisions, thanks to the support, shared experiences, and social norms that form within the community. Thus, social capital helps reduce uncertainty and build trust, encouraging the use of formal financial services.

These results are consistent with several previous studies. [Pradana and Suarmanayasa \(2022\)](#) found that social capital significantly influences the expansion of financial access through trust and community networks. [Setiawan \(2023\)](#) also found that strong social relationships among MSME actors can facilitate access to financial institutions, especially in obtaining information related to loans and savings. In fact, [Dewi and Nugroho \(2020\)](#) emphasize that trust among community members serves as a “social guarantee,” increasing MSME actors' confidence to engage with banks or fintech companies.

However, there are studies with different results. [Handayani \(2023\)](#) shows that social capital does not always have a significant impact on financial inclusion, especially in communities with weak networks or low levels of trust. This shows that the influence of social capital depends heavily on the quality of social relationships and the culture of cooperation that develops within a particular community.

Overall, this study confirms that social capital is an important factor in strengthening financial inclusion, particularly in the Rungkut industrial area. Trust, networks, and community support have proven able to expand access for MSME players to formal financial services. By strengthening social capital, barriers such as limited information and reluctance to engage with financial institutions can be minimized, thereby increasing financial inclusion.

The Effect of Locus of Control on Financial Inclusion

The test results showed that locus of control had no significant effect on financial inclusion. This suggests that belief in self-control alone is not enough to encourage the use of formal financial services. External factors, such as financial literacy, infrastructure, economic conditions, and social support, play a more dominant role in determining financial access.

According to Behavioral Finance Theory, financial decision-making is shaped not only by internal psychological factors, such as locus of control, but also by experiences, risk perceptions, and environmental influences. Individuals with a strong internal locus of control may have confidence in their financial decisions; however, without adequate support systems, such as financial literacy programs or reliable access to financial institutions, this belief is not translated into actual financial inclusion behavior. This suggests that internal factors alone cannot drive inclusive finance without external enablers.

The findings of this study differ from those of [Marcellena and Zoraya \(2024\)](#), who found a positive association between locus of control and financial inclusion. Their results highlight that when financial ecosystems are strong and institutions are trusted, an internal locus of control can significantly boost financial participation. Similarly, [Sari and Firmansyah \(2022\)](#) emphasized that individuals with high internal control tend to be more disciplined in financial management and more proactive in accessing formal financial services. On the other hand, [Utami \(2023\)](#) discovered that locus of control had no significant effect on financial inclusion in rural areas due to limited infrastructure and weak institutional support. These mixed findings underline that the effect of locus of control is highly context-dependent.

Thus, this study reinforces the notion that locus of control is not yet a major determinant of financial inclusion in the research setting. Instead, the interaction between internal psychological factors and external enabling conditions is more crucial. Strengthening financial literacy, improving trust in institutions, and expanding access to infrastructure may enhance the role of locus of control in encouraging inclusive financial behavior in the future.

Conclusions and Recommendations

This study examines the effects of financial literacy, financial technology, social capital, and locus of control on financial inclusion among MSMEs in Rungkut District, Surabaya. The analysis finds that financial literacy significantly increases MSME access to formal financial services. Social capital also shows a significant positive impact by facilitating information sharing and connections. However, financial technology and locus of control do not significantly affect financial inclusion, with technology use limited by digital literacy, cost, and infrastructure, and personal financial confidence insufficient to boost participation without external support.

This study advances behavioral finance theory for MSMEs by showing how improved financial literacy, achieved through targeted training and mentoring, directly enhances their adaptability to formal financial services. The findings demonstrate that robust social networks among MSMEs are crucial for expanding access to financial information. For policymakers and financial institutions, the study provides clear guidance to tailor financial inclusion programs and financial technology services that integrate digital literacy and infrastructure support.

However, this study has limitations. Some respondents misunderstood questionnaire terms, particularly those related to financial technology and locus of control, which may have affected the consistency of their answers. The research was conducted within a specific period and region, so findings may not represent broader or long-term conditions. Future studies should broaden coverage, add variables, and account for temporal factors to yield more comprehensive results on MSME financial inclusion.

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