



The Antecedents of MSME Sustainability with Financial Behavior as Intervening Variable

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ABSTRACT

MSMEs are an important pillar for a country's economy through their contribution to GDP and job creation. The development of MSMEs in Sleman Regency is accompanied by technological developments considering the high economic potential and growth of MSMEs in the region as previously explained. It is very interesting to study in the context of MSMEs in Sleman Regency which have great potential in regional economic development, but are indicated to face challenges in the sustainability of MSMEs due to various factors of misused financial technology advances such as online loans. MSME actors in Sleman Regency who lack understanding of financial aspects make the MSMEs they run go bankrupt due to high interest from illegal online loans. This study aims to empirically test the effect of financial literacy, financial inclusion, and fintech on the sustainability of MSMEs with financial behavior as an intervening variable. The type of data used in this study is primary data using quantitative methods. This study was conducted on MSME actors in Sleman Regency who use fintech with a total of 233 respondents processed. The sampling method uses a purposive sampling technique and data was taken in October – November 2024. Hypothesis testing in this study uses the SmartPLS4 application as a data processing tool. The results of this study indicate that financial literacy, fintech, and financial behavior have a positive effect on the sustainability of MSMEs, while financial inclusion does not affect the sustainability of MSMEs. Financial literacy and financial inclusion have a positive effect on financial behavior, while fintech does not affect financial behavior. And financial behavior mediates the positive influence of financial literacy, financial inclusion on the sustainability of MSMEs, while financial behavior does not mediate the influence of fintech on the sustainability of MSMEs.

Keywords: Financial Literacy, Financial Inclusion, Fintech, Financial Behavior, MSME Sustainability

RESEARH BACKGROUND

Micro, Small and Medium Enterprises (MSMEs) are an important pillar of the national economy in Indonesia. Data from the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkop) in 2023 showed that MSMEs contributed 61.97% to Gross Domestic Product and were able to absorb 97% of the local workforce. The MSME sector is believed to have the ability to overcome poverty and reduce unemployment (Hilmawati & Kusumaningtias, 2021). The contribution of MSMEs to the economy has been proven and cannot be doubted

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(Azmil et al., 2024; Nurhalita & Imsar, 2022; Utari et al., 2022). The national economic development strategy must emphasize and strengthen the MSME sector to ensure sustainable and inclusive growth.

The sustainability of MSMEs in Indonesia is facing serious challenges due to a significant decline in middle-class purchasing power. Data from 2024 shows that the middle class, which has been the backbone of domestic consumption, is experiencing severe pressure due to inflation, income stagnation, and rising living costs. This condition has a direct impact on MSMEs, considering that around 60% of total domestic consumption comes from the middle class. Sectors such as trade, food and beverages, and fashion are the most affected, because they traditionally rely heavily on the purchasing power of this group.

The situation is further exacerbated by the increasing ratio of non-performing loans (NPL) in the MSME sector, which reached 2.27% in mid-2024. Although the increase seems small, this trend indicates a fundamental problem in the ability of MSMEs to maintain the sustainability of their businesses. The decline in income due to weak market demand, coupled with high interest rates and strict loan requirements, has made it difficult for many MSMEs to meet their credit obligations.

This creates a cycle of problems that threaten the sustainability of MSMEs in the long term. To maintain business sustainability amidst these challenges, MSME actors are required to develop a comprehensive adaptive strategy. Some steps that can be taken include product diversification, expanding export markets, and adjusting product prices to make them more affordable. However, the implementation of these strategies is often hampered by limited capital, production capacity, and market access. In addition, the lack of business assistance and financial literacy among MSMEs is also an inhibiting factor in optimizing financing management. Therefore, stronger support is needed from various stakeholders, including the government and financial institutions, to help MSMEs overcome these challenges and ensure the sustainability of their businesses in the future.

Table 1
Comparison of Financial Literacy and Inclusion Index 2019 and 2022

Index	Year	
	2019	2022
Literacy	38,03%	49,68%
Inclusion	76,19%	85,10%
Gap	38,16%	35,42%

Sources: SNLIK Result(2022)

Based on the results of the National Survey of Financial Literacy and Inclusion (SNLIK) in 2022, the financial literacy index of the Indonesian people was 49.68%, an increase compared to 2019 which was only 38.03%. Meanwhile, the financial inclusion index in 2022 reached 85.10%, an increase compared to the previous SNLIK period in 2019, which was 76.19%. This shows that the gap between the literacy rate and the inclusion rate is decreasing, from 38.16% in 2019 to 35.52% in 2022. This shows that Indonesians generally do not understand the characteristics of financial products and services offered by formal financial institutions.

However, financial literacy is a very important skill to improve financial inclusion, consumer protection, and public welfare (OJK, 2022). The growth of fintech in Indonesia is considered very good and has contributed IDR 25.9 trillion to the Indonesian economy. The proliferation of fintech companies such as online loans (P2P Lending) is one of the results of the progress of financial technology today. Online loans, one of the financial technology products



that meets Bank Indonesia standards, aims to make it easier for Indonesian people, both in cities and villages, to borrow money to meet their living needs, including building business capital (Cahyono et al., 2024). Small and medium enterprises (MSMEs) are interested in borrowing funds for business capital needs because of the many online loan offers that are easily accessible and can be disbursed (Wachyu & Winarto, 2020). However, the large number of online loans in Indonesia raises concerns because many of them are not registered with the OJK, which is detrimental to many people.

The development of MSMEs in Sleman Regency is beneficial because it increases the number of workers, reduces poverty, and increases the income of the local community. Apart from the benefits brought by the existence of MSMEs, amidst the economic growth of Sleman Regency, a number of MSME actors face disturbing financial problems. Limited access to capital from official financial institutions has pushed MSME actors in Sleman Regency into the trap of illegal online loan debt (pinjol) and unlicensed cooperatives which are increasingly widespread with very high interest and burdensome daily interest rates. This shows that low financial literacy and financial inclusion are one of the main factors that cause MSME actors in Sleman Regency to easily get caught in illegal online loans (pinjol) and illegal cooperatives (Sari et al., 2024). This continuing financial pressure has triggered various mental health problems, with many MSME actors in Sleman Regency reporting depression and the situation is further exacerbated by the emergence of intimidation and threats from debt collectors who often terrorize by telephone and visit their places of business. Some MSMEs in Sleman Regency were even forced to close their businesses and sell personal assets to pay off debts, while others experienced family conflicts due to persistent financial pressures. This condition reflects the complexity of the problems faced by the MSME sector, where economic difficulties have developed into a multidimensional crisis that affects mental health, family stability, and business sustainability.

This study replicates previous research conducted by Maulana et al. (2022). The results of previous research by adding financial behavior variables as intervening variables. Strengthening the urgency and gaps of previous research in similar research models found that MSME actors still have limitations in implementing good financial aspects. So that the selection of MSME actors in Sleman Regency further strengthens the urgency, considering the high economic potential and growth of MSMEs in the region as previously explained. It is very interesting to study in the context of MSMEs in Sleman Regency which have great potential in regional economic development, but are indicated to face challenges in the sustainability of MSMEs due to various factors such as financial aspects that still need to be improved as previously explained.

LITERATURE REVIEW

Resource Based View

The Resource-based view theory was first popularized by Wernerfelt in 1984. The Resource-based view (RBV) theory is a framework that focuses on a company's internal resources, which states that a company's growth depends on the resources it has and is limited by the management of those resources. RBV emphasizes the importance of understanding and managing an organization's (company's) internal resources to gain a sustainable competitive advantage (Nenta & Astuti, 2023).

Obtaining resources that have valuable value and capabilities without plagiarism allows companies to maintain a sustainable competitive advantage. In addition, companies must have effective resource management capabilities to make the right plans to achieve competitive advantage (Huang et al., 2023). UMKM must have the ability to manage resources to maximize resource use. In research, the resource-based view (RBV) theory is used to explain how

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financial literacy, financial inclusion, financial technology (fintech) contribute to the sustainability and competitive advantage of a business.

Financial Literacy and MSME Sustainability

Financial literacy plays an important role in the performance and sustainability of MSMEs, especially in terms of finance, such as risk mitigation and decision making (Tóth et al., 2021). Based on the resource-based view (RBV) theory, financial literacy is an important component in improving human resource capabilities for MSMEs. MSME actors who have good financial literacy will find it easier to make the right decisions about the business they run and can respond strategically to changes in the financial, business, and economic situations that occur, so that they can compete well and can increase the competitive advantage and sustainability of MSMEs themselves.

This shows that financial literacy has a positive effect on the sustainability of MSMEs in line with research conducted by Hilmawati & Kusumaningtias (2021), Idawati & Pratama (2020), Kisin & Setyahuni (2024), Maulana et al. (2022), Yuliyawati & Mardiana (2023).

H1: Financial Literacy has a positive effect on the Sustainability of MSMEs.

Financial Inclusion and MSME Sustainability

Financial inclusion is an activity to eliminate all barriers that prevent people from using or utilizing financial services (Yanti, 2019). The perspective based on the resource-based view (RBV) theory, namely financial inclusion, states that the use of non-formal financial products and services tends to be more accessible than formal financial services.

This will have a positive impact on maximizing resources for MSMEs, giving them the opportunity to be more competitive, which in turn will have an impact on increasing the sustainability of MSMEs. This shows that financial inclusion has a positive effect on the sustainability of MSMEs in line with research conducted by Idawati & Pratama (2020), Kisin & Setyahuni (2024), Maulana et al. (2022), Yuliyawati & Mardiana (2023).

H2: Financial Inclusion has a positive effect on the Sustainability of MSMEs.

Fintech and MSME Sustainability

The presence of fintech plays a role in strengthening financial inclusion and the growth of MSMEs (Maulana et al., 2022). The presence of fintech can eliminate limited access to banking services, which is very helpful for MSMEs. Based on the perspective of the resource-based view (RBV) theory, having knowledge about how to utilize fintech institutional services correctly and appropriately will enable MSMEs to maximize the resources they have.

The use of fintech together with financial literacy will make MSMEs more careful in choosing services and products, and they will use appropriate financial access from fintech institutions. This will result in increased competitive advantage and sustainability of MSMEs. This shows that fintech has a positive effect on the sustainability of MSMEs in line with research conducted by Yuningsih et al. (2022) and Ulya et al. (2024).

H3: Fintech has a positive effect on the Sustainability of MSMEs.

Financial Behavior and MSME Sustainability

Financial behavior is a term that refers to the way a person manages, organizes, and uses all of their finances (Widagdo & Sa'diyah, 2023). Based on the resource-based view (RBV) theory, it explains that the competitive advantage and sustainability of a business are highly dependent on the company's ability to manage valuable, rare, difficult to imitate, and irreplaceable internal



resources. In the context of MSMEs, financial behavior is one of the crucial internal resources because it reflects the capability of business actors in managing the financial aspects of their business. Good financial behavior such as the ability to make financial plans, manage cash flow, record transactions, and make the right financial decisions are intangible assets that can create competitive advantages and sustainability of MSMEs. This shows that financial behavior has a positive effect on the sustainability of MSMEs in line with research conducted by Ningtyas & Andarsari (2021) and Sesa et al. (2024).

H4: Financial Behavior has a positive effect on the Sustainability of MSMEs.

Financial Literacy and Financial Behavior

Quality of life is influenced by financial problems and financial well-being. To achieve financial well-being, a person must have knowledge and understanding of finance. Financial literacy is the ability to manage and manage one's finances so that they can develop and live better in the future (Hijir, 2022).

Financial literacy is valuable because it provides the understanding and knowledge needed in making financial decisions. It is rare considering that not all MSME actors have an adequate level of financial understanding. It is difficult to imitate (inimitable) because it is the result of the accumulation of learning and unique individual experiences. And it is not easily replaced (non-substitutable) because it is a fundamental basis in forming good financial work patterns and behavior. Thus,

high financial literacy will encourage the formation of better financial behavior, such as the ability to make financial planning, cash management, and proper decision making. This is in line with the principle of the resource-based view (RBV) theory where mastery of superior knowledge resources will produce superior capabilities in carrying out business functions. This shows that financial literacy has a positive effect on financial behavior in line with research conducted by Dahlima et al. (2024) and Pinem & Mardiatmi (2021).

H5: Financial Literacy has a positive effect on MSME Financial Behavior.

Financial Inclusion and Financial Behavior

According to Alkhawaldeh et al. (2023) explains that financial inclusion is the access and use of financial services by individuals and companies to increase their economic opportunities and welfare. From the perspective of the resource-based view (RBV) theory, financial inclusion can be seen as an external resource that can support the financial behavior of MSME actors. Good financial inclusion, such as easy access to banking and financing services, is a valuable resource that can facilitate MSME actors in managing their business finances more effectively.

This ease of access is also relatively rare for some MSME actors, especially those in remote areas. In addition, financial inclusion facilitated by the government and financial institutions is difficult for MSME actors to imitate themselves. Thus, good financial inclusion can be a supporting factor in the formation of more disciplined and planned financial behavior in MSMEs, in accordance with the logic of the resource-based view in creating sustainable competitive advantages. This shows that financial inclusion has a positive effect on financial behavior in line with research conducted by Andriyani & Sulistyowati (2021) and Sheda (2023).

H6: Financial Inclusion has a positive effect on MSME Financial Behavior.



Fintech and Financial Behavior

Financial technology (Fintech) is a combination of technological innovations in the financial services sector that ultimately changes the business model from conventional to digital. According to Risman et al. (2023) fintech can help meet the needs of changing people's lifestyles that are dominated by the use of information technology (such as the internet and devices) and the fulfillment of fast-paced life demands. Based on the resource-based view (RBV) theory, the adoption of financial technology (fintech) can affect the financial behavior of MSMEs as a valuable, rare, difficult to imitate, and not easily replaced internal resource.

Fintech provides financial solutions that can increase the efficiency, effectiveness, and access of MSMEs to financial services. The right use of fintech can be a unique capability that encourages improvements in financial behavior, such as cash flow management, transaction recording, and better investment decision making. So that the adoption of fintech supported by adequate financial literacy can create a sustainable competitive advantage for MSMEs based on the principles of RBV. This shows that fintech has a positive effect on financial behavior in line with research conducted by Anisyah et al. (2021) and Junianto & Kohardinata (2021).

H7: Fintech has a positive effect on MSME Financial Behavior

The Mediating Role of Financial Behavior

Financial literacy is an important factor in supporting the sustainability of MSMEs because it allows business actors to analyze, manage, and regulate their financial conditions well. Based on the Resource-Based View (RBV) theory, the use of financial literacy implemented in good financial behavior can help MSMEs achieve sustainable competitive advantage. Previous studies have shown that MSMEs with high financial literacy are able to make the right management and financial decisions, thereby increasing the sustainability of their business. In addition, good financial behavior has also been shown to have a positive influence on the sustainability of MSMEs, as supported by research by Rohila et al. (2024) and Sesa et al. (2024).

Financial inclusion, which reflects the ease of public access to quality financial services, also plays a role in shaping the financial behavior of MSME owners. With access to formal financial services, MSME actors can develop better financial habits in financial planning and recording. On the other hand, financial technology (fintech) functions as an external resource that supports the sustainability of MSMEs by providing faster and easier access to financing. RBV theory explains that financial behavior as an internal capability can help MSMEs utilize fintech effectively, thereby increasing efficiency and managing financial challenges better. This finding is reinforced by previous research showing that financial behavior plays a role in mediating the relationship between fintech and MSME sustainability.

H8: Financial Behavior mediates the positive effect of Financial Literacy on MSME Sustainability.

H9: Financial Behavior mediates the positive effect of Financial Inclusion on MSME Sustainability.

H10: Financial Behavior mediates the positive effect of Fintech on MSME Sustainability.

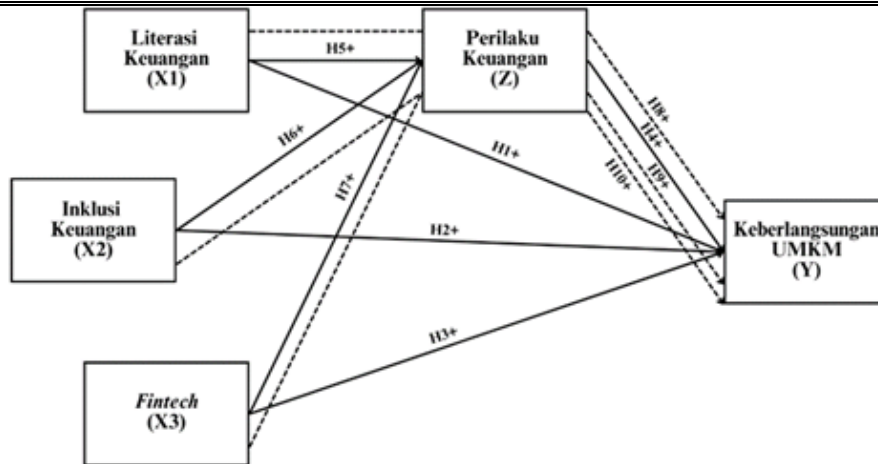


Figure 1. Research Model

RESEARCH METHODOLOGY

Population and Sample

This study focuses on active Micro, Small, and Medium Enterprises (MSMEs) in Sleman Regency, covering sectors such as fashion, accessories, crafts, food, and furniture. Primary data were obtained through respondent responses using a quantitative approach. The sampling technique used was purposive sampling, with the main criterion that respondents were MSMEs who used financial technology (fintech) services. To determine the appropriate sample size, this study applied power analysis using G*Power 3.1.9.7 software, as recommended by Memon et al. (2020). This analysis calculates the effect of exogenous variables on endogenous variables by considering the number of relevant predictors. In this study, the variables of perceived usefulness and perceived ease of use are included as exogenous and endogenous variables, with a total of six predictors. Based on this analysis, the minimum sample size required is 98 active MSMEs in Sleman Regency who use fintech services.

Data Taken Instrument

The data in this study were obtained by questionnaire. The questionnaire was distributed directly and through online means (Google form) to active MSME actors in Sleman Regency who use financial technology (fintech) services. This was done to attract more respondents and avoid bias in the study. The questionnaire was compiled in several steps. In the first stage, the journal must be sorted so that it is in accordance with the research topic. The language is adjusted to the research context in the second stage.

Furthermore, the questionnaire was created with grammar and visuals that are easy for respondents to understand. This questionnaire contains personal data such as the name of the MSME actor, gender, age, last level of education, business name, MSME/personal Instagram account, business age, business size, position in the business, choice of business type, annual sales turnover, and use of non-banking services. This research questionnaire uses the Likert Summanted Rating (LSR) scale. In this study, the questionnaire is in the form of a scale, which consists of a series of summaries, values, and levels that indicate a certain degree of variation. To make a variable into a variable indicator, the Likert scale is used to compile several instrument items, which can be questions or statements. The answers to each instrument using the Likert scale have a gradation from strongly disagree to strongly agree.



OPERATIONAL DEFINITION OF RESEARCH VARIABLE

Dependent Variable

Dependent variables are often referred to as output, criterion, or consequent variables. In Indonesian, a dependent variable is a variable that is influenced or the result of the presence of an independent variable (Sugiyono, 2019). The dependent variable in this study is the sustainability of MSMEs in Sleman Regency. MSME sustainability is defined as the ability of a company to maintain, develop, and meet the needs of running its business sustainably. This includes the ability of MSMEs to continue operating, adapt to changes in the business environment, and continue to grow over time (Maulana et al., 2022). The MSME sustainability variable questionnaire was developed from the questionnaire (Kisin & Setyahuni, 2024). Indicators in the questionnaire include Improving business performance, increasing resources, developing financial management. These indicators are measured through 9 question items. In this study, MSME sustainability was measured using a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

Independent Variables

Variables that affect or change dependent variables are called independent variables (Sugiyono, 2019). In this study, the independent variables are financial literacy, financial inclusion, and fintech.

Financial Literacy

Financial literacy is the level of knowledge and ability of a person to understand and manage finances effectively. The perception of MSME actors about the management of their business finances can have a positive or negative impact (Kisin & Setyahuni, 2024). This perception affects their ability to actually apply financial knowledge and skills in running their business. The financial literacy questionnaire was developed from the Yanti (2019) questionnaire with indicators of financial knowledge and skills, financial attitudes. From these indicators, it is measured through 17 question items. In this study, the sustainability of MSMEs was measured using a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

Financial Inclusion

Financial inclusion is the ease of access and availability of formal financial services for all economic actors. This ease of access includes efforts to eliminate price and non-price barriers to the use of services by the community (Hilmawati & Kusumaningtias, 2021). The financial inclusion questionnaire was developed from the Kisin & Setyahuni (2024) questionnaire with indicators of availability/access, use, quality, and welfare. These indicators are measured through 15 question items and one question is a negative question. In this study, the sustainability of MSMEs was measured using a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

Financial Technology

Fintech refers to innovative technological solutions used to support or enable financial services (Gunawan et al., 2023). This perception influences MSMEs to actually use and adopt fintech in their business. The fintech questionnaire was developed from the Kisin & Setyahuni (2024) questionnaire with indicators of use, ease, effectiveness, and interest. These indicators are measured through 14 question items. In this study, the sustainability of MSMEs was measured using a Likert scale of 1 (strongly disagree) to 5 (strongly agree).



Intervening Variables

Intervening variables are variables that affect the relationship between independent and dependent variables into an indirect, unobservable, and unmeasurable relationship (Sugiyono, 2019). Because of its position between the two, the intervening variable indirectly affects the change or emergence of the dependent variable. In this study, the intervening variable is financial behavior. Financial behavior in the financial ecosystem can strengthen the relationship between financial literacy, financial inclusion, and fintech adoption with MSME performance. Financial behavior is associated with the effectiveness of fund management, where the flow of funds must be directed according to a predetermined plan (Arianti, 2020). The financial attitude questionnaire was developed from the Safira questionnaire (2022). The indicators used include financial planning and budgeting, financial management monitoring, and financial management evaluation. These indicators are measured through 5 question items. In this study, the sustainability of MSMEs was measured on a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

Data Analysis Technique

The data analysis technique of this study uses Partial Least Square (PLS), a development of Structural Equation Modeling (SEM) using the SmartPLS test tool. Partial Least Square Structural Equation Modeling (PLS-SEM) and Covariance Based Structural Equation Modeling (CB-SEM) are two types of SEM that allow researchers to include variables that cannot be measured directly (indirectly) (Hair et al., 2013). PLS-SEM is used in this study because of its more exploratory context. Unlike CB-SEM, which aims to confirm the theory by testing how well the model is used, PLS-SEM aims to compare the hypothesis with previously developed theories (Hair et al., 2013). This data analysis technique allows to refute or support the results of previous research and theories. PLS-SEM can be used to solve social science problems such as anomalous data and complex models.

In this study, the PLS model is used to identify the causal relationship between manifest variables and latent variables. Latent variables are variables that cannot be measured directly, while manifest variables or variables that form latent variables are variables that can be measured directly. The external test of the PLS model can be used to determine the size of each of the manifest variables and latent variables.

RESEARCH RESULT

This study conducted an online questionnaire distribution (g-from). The online questionnaire distribution was carried out in Sleman Regency and assisted in distributing the questionnaires by the Sleman Regency Cooperative and SME Service. The total number of questionnaires distributed in this study was 260 questionnaires, but only 233 questionnaires were returned and could be processed.

Descriptive Statistics

Table 2
Descriptive Statistic Analysis

Variable	N	Actual			Std. Deviation
		Min	Max	Mean	
Financial Literacy	233	17	85	64,05	13,683
Financial Inclusion	233	16	74	58,18	11,623

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Fintech	233	14	70	54,67	12,635
MSME Sustainability	233	11	45	33,06	7,294
Financial behavior	233	6	25	18,78	4,087

Sources: Output SPSS v22

Based on Table 2, the results show that the average actual value of all variables has a moderate average, which indicates that the level of influence of all variables on MSME actors in Sleman Regency can be considered good. Based on the Common Method Variance (CMV) Test, the cumulative percentage result is 39.905% or less than 50%, it can be concluded that the research data is free from bias.

Based on the convergent validity test, the results show that all indicators after modification have a value of > 0.7 , and have an AVE value of > 0.5 , so it can be concluded that all indicators are valid (have good convergent validity). Based on the Fornell-Lacker discriminant validity test, the AVE root value of all variables in the study has a higher value for the construct compared to other constructs. Based on the fornell lacker criterion, the fintech AVE root is 0.846 higher than its correlation with financial inclusion, MSME sustainability, financial literacy, and financial behavior. Therefore, it can be concluded that all variables are valid.

Based on the cross loading results, it is known that the cross loading criteria have been met, namely with a value of > 0.7 . Therefore, it can be concluded that the discriminant validity of the data can be said to be good. As for the HTMT test, it was obtained that all variables had an HTMT value < 0.90 , so that overall the discriminant validity with HTMT was met. As for the Cronbach's alpha and Composite Reliability reliability tests, it is known that each construct has met the reliability test requirements, namely with a value of more than 0.7 for both Cronbach's alpha and Composite Reliability. Therefore, it can be concluded that each item is reliable. Meanwhile, in the R-square test results, the Adjusted R-Square value of the MSME sustainability variable was obtained at 0.365. This means that the variables of financial literacy, financial inclusion, fintech and financial behavior are able to explain the variance of the MSME sustainability variable by 36.5%, while the remaining 63.5% is explained by other variables outside the research model.

Tabl3 3
Path Coefficient Test Result and Specific Indirect effects

	Original sample (O)	T statistics (O/STDEV)	P values	Result
LK -> KU	0.286	2.739	0.003	Yes
IK -> KU	0.057	0.786	0.216	No
FT -> KU	0.202	2.799	0.003	Yes
PK -> KU	0.212	2.284	0.011	Yes
LK -> PK	0.384	4.381	0.000	Yes
IK -> PK	0.326	4.325	0.000	Yes
FT -> PK	0.039	0.623	0.267	No
LK -> PK -> KU	0.082	1.976	0.024	Yes
IK -> PK -> KU	0.069	1.883	0.030	Yes
FT -> PK -> KU	0.008	0.559	0.288	No

Sources: Output SmartPLS v4.0

Based on the results of hypothesis testing in Table 3, financial literacy (H1) and fintech (H3) have a positive influence on the sustainability of MSMEs, as indicated by the t-statistic value which is greater than the t-table and the p-value which is smaller than alpha 0.05.



Likewise with financial behavior (H4), which is proven to contribute positively to the sustainability of MSMEs. On the other hand, financial inclusion (H2) does not affect the sustainability of MSMEs because the t-statistic value is smaller than the t-table and the p-value is greater than alpha 0.05. In addition, financial literacy (H5) and financial inclusion (H6) are proven to have a positive effect on financial behavior, while fintech (H7) does not show any effect on financial behavior.

In terms of mediation, financial behavior is proven to play a role in mediating the relationship between financial literacy and MSME sustainability (H8) and financial inclusion and MSME sustainability (H9). This is indicated by the t-statistic value which is greater than the t-table and the p-value which is smaller than alpha 0.05. However, financial behavior does not mediate the relationship between fintech and MSME sustainability (H10), because the t-statistic value is smaller than the t-table and the p-value is greater than alpha 0.05. Thus, financial literacy and financial behavior factors are key aspects in improving MSME sustainability, while financial inclusion and fintech require further study to understand their impacts in more depth.

DISCUSSION

The influence of financial literacy on the sustainability of MSMEs

Based on the results of the hypothesis testing, it shows that H1 in this study is accepted. It can be concluded that financial literacy has a positive effect on the sustainability of MSMEs. Thus, it can be concluded that the higher the financial literacy possessed by MSME actors, the greater their chances of achieving sustainability in their business. According to the RBV theory, the success and sustainability of a business are largely determined by the ability to manage unique and valuable resources, such as the knowledge and skills possessed by business actors. Financial literacy is a form of intellectual resource that plays a crucial role in managing business finances effectively and efficiently.

With adequate financial literacy, MSMEs can make more appropriate financial decisions to support business sustainability. Someone who has a higher level of financial literacy will tend to have planning and be more successful (Dewi & Setiyono, 2022). Financial literacy possessed by MSMEs in Sleman can support the creation of sustainable competitive advantages because it allows them to be more adaptive to changes in the business environment, including in dealing with economic shocks or crises. A good understanding of financial aspects also helps MSMEs to identify growth opportunities, access the right sources of funding, and manage financial risks better. Thus, financial literacy is a strategic asset that supports the sustainability of MSMEs in Sleman Regency in the long term. Based on the results of this study, it is proven that financial literacy has a positive effect on the sustainability of MSMEs. The results of this study are in line with the research of Hilmawati & Kusumaningtias (2021), Idawati & Pratama (2020), Kisin & Setyahuni (2024), Maulana et al. (2022), Yuliyawati & Mardiana (2023) who stated that financial literacy has a significant positive effect on the sustainability of MSMEs.

The influence of financial inclusion on the sustainability of MSMEs

Based on the results of the hypothesis testing, it shows that H2 in this study is rejected. It can be concluded that financial inclusion has not been proven to have a significant positive effect on the sustainability of MSMEs. Thus, the aspect of financial inclusion is not strong enough to be the main factor driving the sustainability of MSMEs in the context of this study.

Based on the findings of this study, it shows that the complexity of the flow of financial products and services faced by MSME actors in Sleman Regency reflects a gap in organizational capabilities to optimize available resources. RBV theory emphasizes that the strategic value of a resource lies not only in its availability, but also in the organization's ability

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to understand and utilize it effectively. In this context, although financial products and services are available as potential resources, the complexity in their use actually creates obstacles for MSME actors to integrate them into their business operations optimally.

This phenomenon is further strengthened by the reality in the field where MSMEs in Sleman Regency have not fully utilized financial products and services in their business activities. In accordance with the RBV principle, business sustainability is more determined by how MSMEs develop internal capabilities such as the ability to adapt to market changes, product innovation, and operational efficiency, rather than simply access to financial services. This explains why the presence or absence of financial inclusion does not have a significant effect on business sustainability, because MSMEs in Sleman Regency have developed alternative mechanisms and business strategies that do not depend entirely on the formal financial system. In a broader perspective, this finding indicates that efforts to develop MSMEs in Sleman Regency need to be focused not only on increasing financial access, but also on strengthening the fundamental capabilities of business actors in understanding and utilizing various available resources.

In accordance with the RBV theory, the long-term success of MSMEs is more determined by their ability to build and develop unique core competencies, which can create sustainable added value regardless of the level of financial inclusion. Based on the results of this study, it is proven that financial inclusion has no effect on the sustainability of MSMEs. The results of this study are in line with the research of Hilmawati & Kusumaningtias (2021) which states that financial inclusion has no effect on the sustainability of MSMEs.

The influence of fintech on the sustainability of MSMEs

Based on the results of the hypothesis testing, it shows that H3 in this study is accepted. It can be concluded that fintech has been proven to have a positive effect on the sustainability of MSMEs. Thus, it can be concluded that the use of fintech services significantly contributes to supporting the sustainability of MSMEs. According to the RBV theory, as a sophisticated technological resource, fintech gives MSMEs a competitive advantage by accelerating access to financing, accelerating the transaction process, and increasing operational efficiency. In the results of this study, MSME actors in Sleman Regency have been able to utilize the use of fintech well and effectively. One form of this utilization is the use of QRIS to support non-bank financial management, which includes various digital payment services such as Dana, Gopay, ShopeePay, OVO, and others (Kisin & Setyahuni, 2024). With QRIS, MSME actors can receive payments practically and quickly, which not only facilitates the transaction process but also increases security and transparency in financial records. The use of this payment technology helps MSMEs in Sleman Regency to manage their finances in a more structured and efficient manner, thereby strengthening their competitiveness amidst increasingly fierce market competition. The results of this study prove that fintech has a positive effect on the sustainability of MSMEs. The results of this study are in line with the research of Yuningsih et al. (2022) and Kisin & Setyahuni (2024) which state that fintech has a significant positive effect on the sustainability of MSMEs.

The influence of financial behavior on the sustainability of MSMEs

Based on the results of the hypothesis testing, it shows that H4 in this study is accepted. It can be concluded that financial behavior has a positive effect on the sustainability of MSMEs. Thus, it can be concluded that good financial management by MSME actors contributes to the sustainability of their businesses.



According to the RBV theory, good financial behavior shows the ability of MSME actors to control and optimize their financial resources. According to Pratiwi & Budhi (2021), the success and sustainability of MSMEs are greatly influenced by the ability to manage finances as shown by good financial behavior.

This is in line with MSME actors in Sleman Regency, these results have important implications considering the characteristics of the Sleman area as one of the centers of MSMEs in Yogyakarta with various business sectors, ranging from culinary, crafts, to creative industries. MSME actors in Sleman who demonstrate good financial behavior, such as routinely recording finances, separating personal finances from business, and carrying out financial planning, are proven to have better business sustainability prospects. Research proves that financial behavior has a positive effect on the sustainability of MSMEs. This is in line with research conducted by Ningtyas & Andarsari (2021) and Sesa et al. (2024) which shows that financial behavior has a significant positive effect on the sustainability of MSMEs.

The influence of financial literacy on financial behavior

Based on the results of the hypothesis testing, it shows that H5 in this study is accepted. It can be concluded that financial literacy has been proven to have a positive effect on financial behavior. Thus, the higher the level of financial literacy of a person, the better the financial behavior shown.

According to RBV theory, financial literacy is a valuable intangible resource that is difficult to imitate because it is an accumulation of knowledge, understanding, and skills related to financial management. MSMEs who have good financial literacy will have a strong cognitive foundation to implement healthy financial behavior and make the right financial decisions. This shows that a high level of financial literacy encourages MSMEs to behave financially better (Arianti, 2020). The combination of financial literacy and good financial behavior creates capabilities that are difficult for competitors to imitate. Small and medium enterprises (MSMEs) in Sleman that have both of these elements show better abilities in making strategic financial decisions such as choosing the right funding sources, setting competitive product prices, and managing working capital well.

This is in line with research by Firmansyah & Susetyo (2022) which shows that high financial literacy encourages more rational and long-term oriented financial behavior. Based on research, it has been proven that financial literacy has a positive effect on financial behavior. This is in line with research conducted by Dahlima et al. (2024) and Pinem & Mardiatmi (2021) which show that financial literacy has a significant positive effect on financial behavior.

The effect of financial inclusion on financial behavior

Based on the results of the hypothesis testing, it shows that H6 in this study is accepted. It can be concluded that financial inclusion has a positive effect on financial behavior. Thus, increasing financial inclusion can directly encourage improvements in the financial behavior of individuals or MSME actors.

According to RBV theory, financial inclusion helps MSMEs gain access and convenience to various formal financial services, such as bank accounts, credit, and insurance. This can lead to better financial behavior. According to Djakaria et al. (2023) better financial inclusion encourages MSME actors to implement more responsible and disciplined financial behavior. This study shows that MSME actors in Sleman Regency who can utilize formal financial services and implement disciplined financial behavior will have a sustainable competitive advantage in terms of operational efficiency, access to capital, and the ability to adapt to changes in the business environment.

Ridwan Nur Alamsyah¹, Rizal Yaya²

The Antecedents of MSME Sustainability
with Financial Behavior
as Intervening Variable



Based on research, it is proven that financial inclusion has a positive effect on financial behavior. This is in line with research conducted by Andriyani & Sulistyowati (2021) and Sheda (2023) which shows that financial inclusion has a significant positive effect on financial behavior.

The influence of fintech on financial behavior

Based on the results of the hypothesis test, it shows that H7 in this study is rejected. It can be concluded that fintech has not been proven to have a positive effect on financial behavior. This indicates that other factors outside of fintech may be more dominant in influencing financial behavior. Based on the findings in this study, it shows that fintech has not been able to become a useful resource for creating good financial behavior. One of the reasons may be because MSME actors in Sleman Regency do not understand and use fintech properly. According to Wati & Panggiarti (2021), it shows that although the level of financial inclusion is quite good, the use of fintech is still relatively low. Most MSME actors still rely on conventional financial services, such as bank accounts and credit. Fintech has not been fully integrated into their operational activities and financial management.

According to the RBV theory, fintech has not been able to become a valuable resource for most MSMEs in Sleman Regency. In fact, fintech has great potential to increase efficiency and effectiveness in MSME financial management. However, various obstacles faced, such as limited digital literacy and technological accessibility, hinder the optimization of fintech utilization. As a result, the benefits of fintech as a tool to support business sustainability have not been fully felt by MSMEs.

In order for fintech to become a valuable resource and encourage better financial behavior, efforts are needed to improve digital and financial literacy among MSMEs in Sleman. These efforts can be carried out through educational programs that are tailored to the needs and level of understanding of MSMEs. In addition, the active role of local governments and financial institutions is very important in providing infrastructure that supports access to fintech services. The government and financial institutions also need to provide appropriate assistance so that MSMEs can make maximum use of financial technology and improve the sustainability of their businesses.

Based on the results of this study, it is proven that fintech has no effect on financial behavior. The results of this study are in line with the research of Haqiqi & Pertiwi (2022) and Wati & Panggiarti (2021) which state that fintech has no effect on financial behavior.

Financial behavior mediates the effect of financial literacy on MSME sustainability

Based on the results of hypothesis testing, it shows that H8 in this study is accepted. It can be concluded that financial behavior mediates the positive effect of financial literacy on MSME sustainability. Thus, good financial behavior can increase the positive impact of financial literacy on MSME sustainability.

According to RBV theory, financial literacy is valuable knowledge and understanding, while financial behavior is an operational manifestation that translates this knowledge into real actions that support MSME sustainability. This finding is in line with Aribawa's research (2016) which found that the effect of financial literacy on MSME performance and sustainability is stronger when mediated by good financial behavior. This shows that understanding financial concepts alone is not enough without being implemented in the form of proper financial behavior, such as regular financial records, separation of personal and business finances, and mature financial planning.



In the context of MSMEs in Sleman Regency, the mediating role of financial behavior is clearly seen in business actors who not only have good financial knowledge but are also able to apply it in daily business management.

The financial knowledge possessed by MSME actors is an important factor in managing resources efficiently and avoiding financial mistakes that can harm the business. This study confirms that MSME actors in Sleman who have high financial literacy and translate it into good financial behavior tend to be better able to face challenges and seize opportunities. As a result, they show a higher level of business sustainability, which is the key to long-term success. Based on research, it has been proven that financial behavior mediates the positive influence of financial literacy on MSME sustainability. This is in line with research conducted by Andriyani & Sulistyowati (2021), Rohila et al. (2024), Sesa et al. (2024), and Sheda (2023) which explain that financial literacy has a positive influence on financial behavior.

Financial behavior mediates the effect of financial inclusion on MSME sustainability

Based on the results of hypothesis testing, it shows that H9 in this study is accepted. It can be concluded that financial behavior has a positive effect in mediating the relationship between financial inclusion and MSME sustainability. This finding provides a new understanding of the importance of managing financial behavior in supporting MSME sustainability amidst increasingly growing financial inclusion.

According to RBV theory, access to formal financial services, which is part of financial inclusion, can be a strategic resource for MSMEs. This resource, if utilized properly, can support MSME sustainability through optimal financial management. Therefore, it is important for MSMEs not only to have access to financial services, but also to have the ability to manage and utilize these services effectively. Good financial behavior is the key to creating added value and ensuring long-term sustainability for MSMEs.

In the context of MSMEs in Sleman Regency, they face unique challenges, such as local market dynamics and the need to adapt to evolving financial technology. Financial inclusion in Sleman not only increases access to formal financial services but also improves the financial understanding and skills of business actors. This research is relevant, considering that with improved financial behavior, MSMEs in Sleman Regency can be more responsive in facing changes and manage their resources more effectively. In a situation where MSMEs in Sleman must adapt to economic changes and intense competition, the role of wise financial behavior becomes increasingly crucial. Based on research, it has been proven that financial behavior mediates the positive influence of financial inclusion on the sustainability of MSMEs. This is in line with research conducted by Ningtyas & Andarsari (2021), Rohila et al. (2024) and Sesa et al. (2024) which explains that financial inclusion has a positive influence on financial behavior.

Financial behavior mediates the influence of fintech on MSME sustainability

Based on the results of hypothesis testing, it shows that H10 in this study is rejected. It can be concluded that financial behavior does not mediate the influence of fintech on MSME sustainability. This finding provides new insights for further research in identifying more relevant variables to explain MSME sustainability through fintech technology.

According to RBV theory, it focuses on how competitive advantage can be created and maintained through the management of resources and unique capabilities of the company. In the context of MSMEs, RBV emphasizes the importance of resources such as financial capabilities and technology to support business sustainability. However, the results of this study indicate



that financial behavior does not mediate the relationship between the use of fintech services and MSME sustainability. This means that although fintech offers various conveniences of financial access, good financial behavior does not automatically strengthen this relationship, as previously suspected.

Based on the findings in this study, it can be concluded that financial behavior is not yet strong enough or adequate to maximize the benefits of fintech services. This suggests that MSMEs may not have fully utilized the potential of financial technology due to limitations in the financial behavior applied. However, in some cases, financial technology can directly affect the sustainability of MSMEs without the need for significant changes in financial behavior. Thus, although financial behavior plays an important role, financial technology itself also has the potential to directly improve the sustainability of MSMEs.

For MSME actors in Sleman Regency, the implications of these results are important to consider. Although fintech has grown rapidly and is widely used by MSME actors in Sleman to support business activities, it seems that the benefits of fintech do not always depend on specific financial capabilities or behaviors. For example, if MSME actors in Sleman use fintech services primarily for payment efficiency and fund management, the direct influence can be strong enough to support business sustainability, regardless of the level of financial behavior possessed by the business actor.

Based on research, it is proven that financial behavior has no effect in mediating the relationship between fintech and MSME sustainability. This is in line with research conducted by Haqiqi & Pertiwi (2022) and Wati & Panggiarti (2021) which explains that fintech has no effect on financial behavior.

CONCLUSIONS

This study makes a significant contribution to the development of the Resource Based View (RBV) theory by highlighting the role of financial literacy, fintech, and financial behavior in the sustainability of MSMEs in Sleman Regency. The results of the study indicate that financial literacy, fintech, and financial behavior have a positive influence on the sustainability of MSMEs, which strengthens the understanding that the resources owned by MSMEs, both in the form of financial knowledge and technology, can increase the competitiveness and sustainability of their businesses.

However, financial inclusion does not show a significant effect on the sustainability of MSMEs, which may indicate that access to financial services alone is not enough to drive sustainability without being accompanied by proper management. In addition, financial literacy and financial inclusion are proven to have a positive influence on financial behavior, which emphasizes the importance of understanding and access to finance in forming good financial management habits.

However, fintech did not show a significant effect on financial behavior, possibly because MSMEs have not fully integrated fintech services into their financial practices. Financial behavior also serves as a mediator that mediates the relationship between financial literacy, financial inclusion, and MSME sustainability, indicating that good financial management can be a key factor in maximizing the benefits of financial literacy and inclusion. In contrast, financial behavior did not mediate the relationship between fintech and MSME sustainability, indicating that other factors, such as technology acceptance or adaptation to fintech, also influence the impact of fintech on MSME sustainability. Thus, these findings add insight into the RBV theory, especially in understanding how financial resources and technology can contribute to the sustainability of MSMEs in Sleman Regency.

This study provides a significant new reference in the literature on MSME sustainability, especially in the financial aspect for MSME actors in Sleman Regency. The results of the study indicate that financial literacy and financial inclusion have a positive effect



on financial behavior, which in turn has a positive impact on MSME sustainability. This provides a new understanding that increasing financial literacy is very important in forming better financial behavior, which contributes to the sustainability of micro, small, and medium enterprises. Although fintech does not directly affect financial behavior, this study provides insight into the importance of creating a stronger relationship between financial technology and changes in financial behavior. This study also reveals that financial inclusion, although it affects financial behavior, does not directly affect MSME sustainability. Therefore, these findings can be used as a reference for MSME development strategies in the future, by emphasizing the importance of financial literacy and changes in financial behavior as key factors in MSME sustainability.

In this study, of course, the author realizes that there are still limitations, namely, first, the limited research sample which is only distributed in Sleman Regency. Second, the independent research variable that explains the sustainability of MSMEs is low as seen from the R square results. Based on the results of this study, suggestions were obtained that can be used as considerations for the future for several related parties. Further research suggestions are expected to expand the research object both in terms of scale size and research area so that the number of samples will be larger. Second, further research is expected to focus on other variables that are not studied in this study to better understand what factors influence business sustainability for MSME actors.

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