The Role of Financial Literacy, Behavior, and Technology in Enhancing Business Sustainability Among Women-Owned MSMEs in Pekanbaru City

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Abstract

Business sustainability refers to a firm's ability to maintain operations and survive over the long term. This study investigates the influence of financial literacy, financial behavior, and financial technology on business sustainability among female MSME entrepreneurs in Pekanbaru City. Using a sample of 77 respondents, data were analyzed through Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4.0 software. The results reveal that financial literacy and financial technology have a positive and significant effect on business sustainability, whereas financial behavior shows no significant effect. Overall, the three variables explain 42.2% of the variance in business sustainability, while the remaining 57.8% is attributed to other factors not examined in this study. These findings highlight the importance of enhancing financial literacy and technology adoption to strengthen the sustainability of female-led MSMEs.

Keywords: Financial Literacy, Behavior, Technology, Business Sustainability, MSMEs.

INTRODUCTION

The entrepreneurial sector contributes significantly to the stability of developing countries and has proven to be a key factor in expanding economies and increasing incomes. Business continuity is crucial for MSMEs, as it enables entrepreneurs to operate and grow their businesses. However, many women-owned MSMEs face difficulties in obtaining adequate financial resources, both from formal and informal financial institutions. Irresponsible financial management can lead individuals to become more consumptive. This consumptive behavior is often more pronounced in women, due to their materialistic nature and strong desire to own unnecessary items. Therefore, it is crucial for women to have responsible financial management and management practices. Women are less likely to be independent and are often raised with stricter parental supervision than men, especially when it comes to financial management.

According to data from the Central Statistics Agency (BPS), in 2021, 37 million or 64.5% of all Micro, Small, and Medium Enterprises (MSMEs) were women. Since then, according to a survey by the Sasakawa Peace Foundation and Dalberg, the proportion of female MSMEs in Indonesia is very high, at 21%. Many successful female MSMEs not only make their businesses successful but also have a positive impact on society. Empowering women in entrepreneurship contributes to increasing family income, which helps improve overall economic well-being. MSMEs run by women often create new jobs, both for family members and the surrounding community. Owning their own business helps women become more independent and confident, and gives them greater control over their lives and finances. The success of female

MSMEs can trigger social change, changing society's views on the role of women in the economy and leadership.

Financial literacy is a factor that influences personal financial management (Norfadila & Damayanti, 2025). Financial literacy can support the long-term sustainability of MSMEs. Sustainable Micro, Small, and Medium Enterprises (MSMEs) are a crucial topic for driving economic growth in Indonesia. Many women-led MSMEs have survived and continued operating due to their ability to adapt. For example, by shifting to online marketing, changing their business model, learning better financial management, and diversifying their product offerings, information technology has enabled businesses to survive the pandemic. Many female MSME owners in Pekanbaru City struggle to maintain discipline in financial management, such as saving and avoiding unnecessary debt. Some owners may become trapped in debt due to poor management, which can threaten business continuity. Unexpected changes in economic conditions can affect MSME owners' financial behavior, often leading to impulsive decisions. On the other hand, financial technology is a crucial aspect. Many female MSME owners have begun adopting digital technologies, such as financial applications and e-commerce, to promote and manage their businesses. Some financial technology services may be expensive or unaffordable for female MSME owners, limiting their ability to access them. There is a tendency to stick to traditional methods, which can hinder the adoption of new, more efficient technologies.

Therefore, a deeper study of financial literacy, financial behavior, and financial technology are crucial factors for the business sustainability of female MSMEs in Pekanbaru City. Developing these three aspects will help female MSMEs manage their finances more effectively, enabling them to plan for the future of their businesses, including growth and development strategies. This will help female MSMEs face potential challenges and risks, such as market fluctuations or liquidity difficulties, and increase their confidence in making strategic financial decisions. They will also improve their understanding of the responsibilities of managing debt and investments, enabling them to avoid future financial problems.

This study aims to analyze the influence of financial literacy, financial behavior, and financial technology on business sustainability among female MSMEs. By understanding these factors, it is hoped that more effective strategies can be developed to support female MSMEs in developing their businesses and contributing to local economic growth.

METHODOLOGY
Population and Sample

Based on data from the Pekanbaru City sectoral statistics book, the number of female entrepreneurs in Pekanbaru City is 26,648. Based on these data and information, the researcher concluded that the population in this study was 26,648. Based on the g-power application calculation, the minimum sample size to be studied was 77 female MSME actors. The sampling technique used in this study was non-probability sampling, which is a sampling technique that does not provide equal opportunities for each element or member of the population to be selected as part

of the sample (Sugiyono, 2019). This technique will provide researchers with flexibility in selecting respondents based on certain criteria, allowing researchers to focus on groups relevant to their research.

Data collection

The data collection methods in this study combined both qualitative and quantitative approaches to gain a more holistic understanding. For example, qualitative approaches, such as interviews, and quantitative approaches, such as questionnaires, were used to collect data. The goal was to collect data through open-ended questions from informants and utilize existing data from other sources, such as reports, government statistics, or previous research. Closed-ended questions were used to collect numerical data from respondents.

In this study, researchers conducted interviews with several female MSME owners in Pekanbaru City who are active in the MSME sector to gain deeper insights into their experiences, motivations, and views on MSMEs. They used questionnaires distributed via email or the internet to collect data on MSME owners' understanding of their knowledge, experience, and preferences regarding financial management. They also collected and analyzed existing data, such as data from the Central Statistics Agency (BPS).

Measurement

The data processing method used in this study is the Structural Equation Model (SEM) modeling equation. SEM modeling is a further development of path analysis, where the causal relationship between exogenous and endogenous variables can be defined more completely. By using SEM not only the causal relationship (direct and indirect) between the observed variables or constructs, but also the elements that contribute to the formation of the construct can be determined. Thus, the causal relationship between variables or constructs becomes more informative, complete, and accurate

RESULTS AND DISCUSSION
Characteristics of Respondents

Table 1. Respondent Characteristics

Characteristics	Amount	Percentage
AGE		
<20 YEARS	8	10%
20 - 29 YEARS	65	84%
30 - 39 YEARS	3	4%
≥ 40 Years	1	1%
TOTAL	77	100%
DOMICILE		
ONE-FOOT UMBRELLA	16	21%
PEACEFUL MARPOYAN	25	32%
MADANI TUAH	36	47%
TOTAL	77	100%

Characteristics	Amount	Percentage
LAST EDUCATION		
High School/Vocational School/Islamic High School	45	58%
S1	26	34%
S2	5	6%
S3	0	0%
OTHER	1	1%
TOTAL	77	100%
SALES TURNOVER		
< Rp. 10,000,000	54	70%
Rp. 10,000,000 - Rp. 20,000,000	17	22%
Rp. 20,000,000 - Rp. 30,000,000	5	6%
> Rp. 30,000,000	1	1%
TOTAL	77	100%
BUSINESS AGE		
< 5 Years	50	65%
5 - 10 Years	22	29%
> 10 Years	5	6%
TOTAL	77	100%

Source: Processed Primary Data Output, 2025

Based on the table above, it is obtained that female MSME actors are aged 20-29 years as many as 65 respondents (84%), while respondents based on age > 40 years with a total of 1 respondent (1%). Female MSME actors domiciled in Payung Sekaki District are 16 respondents (21%), respondents domiciled in Marpoyan Damai District are 25 respondents (32%), and respondents domiciled in Tuah Madani District are 6 respondents (47%).
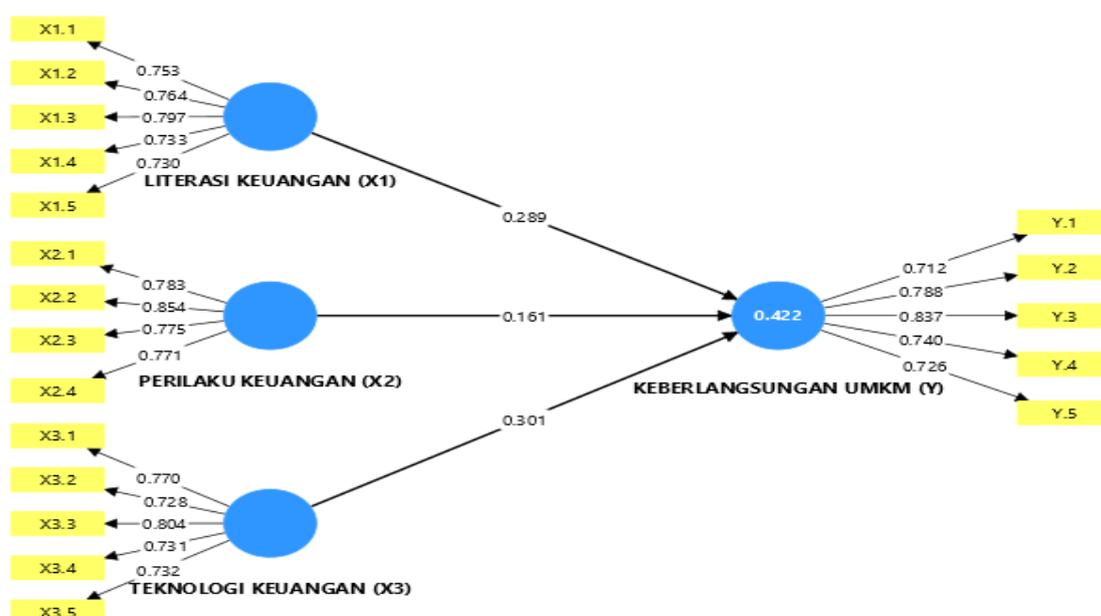

Figure 1. Outer Model

Source: Processed Primary Data Output, 2025

To test convergent validity, the outer loading or loading factor value is used. An indicator is considered to meet convergent validity in the good category if the outer loading value is >0.7 (Ghazali & Latan, 2017). The following are the outer loading values for each research variable.

Table 2. Average Variance Extracted (AVE) Value

Variables	Average Variance Extracted (AVE)
Financial Literacy (X1)	0.572
Financial Behavior (X2)	0.634
Financial Technology (X3)	0.568
Business Continuity (Y)	0.580

Source: Processed Primary Data Output, 2025

The output of the AVE above shows that the AVE value of the variables Financial Literacy (X1), Financial Behavior (X2), Financial Technology (X3), and Business Sustainability (Y1) is greater than 0.5, thus it can be stated that each variable has good discriminant validity.

Table 3. Cronbach Alpha & Composite Reliability

Variables	Cronbach Alpha	Composite Reliability
Financial Literacy (X1)	0.818	0.822
Financial Behavior (X2)	0.812	0.814
Financial Technology (X3)	0.809	0.830
Sustainability Of MSMEs (Y)	0.809	0.810

Source: Processed Primary Data Output, 2025

Based on the data presented above, it can be seen that the composite reliability and Cronbach's alpha values for each research variable are > 0.70. Thus, the research results have met the requirements for composite reliability and Cronbach's alpha values

Structural Model Testing (Inner Model)

Structural model testing can be conducted in two stages: model feasibility testing and path significance testing. Structural models describe the relationships between latent variables.

Figure 2. Inner Model

Source: Processed Primary Data Output, 2025

In assessing a structural model using PLS, we begin by examining the R-Square value for each endogenous latent variable to determine the predictive power of the structural model. Changes in the R-Square value can be used to determine whether a particular exogenous latent variable has a substantial influence on the endogenous latent variable. R-Square values of 0.67, 0.33, and 0.19 indicate a strong, moderate, and weak model, respectively (Ghozali & Latan, 2015). The R-Square values can be seen in Table 8.

Table 4. R-Square

Variables	R-Square
Business continuity (Y)	0.422

Source: Processed Primary Data Output, 2025

Based on the data presentation above, it is known that the construct of business sustainability (Y) can be explained by the variables of financial literacy (X1), financial behavior (X2), and financial technology (X3) as much as 42.2%, while the remaining 57.8% is explained by other variables outside the research model.

The F-Square (F2) value is used to determine the influence of the predictor variable (X) on the dependent variable (Y). The F-Square value ranges from $0.02 \leq F2 < 0.15$ indicating that the variable has a weak influence, $0.15 \leq F2 < 0.35$ indicating that the variable has a moderate influence, and $F2 \geq 0.35$ indicating that the variable has a high influence.

Table 5. F-Square

Variables	f-Square
Financial Literacy (X1) -> Business Sustainability (Y)	0.070
Financial Behavior (X2) -> Business Sustainability (Y)	0.028
Financial Technology (X3) -> Business continuity (Y)	0.085

Source: Processed Primary Data Output, 2025

Hypothesis Testing

To determine whether a proposed hypothesis is accepted or not, hypothesis testing is necessary using the bootstrapping function in SmartPLS 4.0. A hypothesis is considered accepted if the significance level is less than 0.05 or the p-value exceeds the criterion value.

Table 6. Hypothesis Test Results

Variables	Original Samples (O)	T Statistics	P Values	Results
Financial Literacy (X1) -> Business continuity (Y)	0.289	2,365	0.018	Accepted
Financial Behavior (X2) -> Business continuity (Y)	0.161	0.018	0.169	Rejected
Financial Technology (X3) -> Business continuity (Y)	0.301	1,375	0.007	Accepted

Source: Processed Primary Data Output, 2025

DISCUSSION

The Influence of Financial Literacy on Business Sustainability

Financial Literacy candefined as an individual's ability to make appropriate and effective decisions in managing their money (Idris A & Surwanti A 2023). Descriptively, 88% of respondents responded to the Financial Literacy variable (X1) and were categorized as satisfactory or strongly agree. Therefore, the financial literacy variable (X1) has been able to influence business sustainability (Y1). This means that financial literacy has enabled women-owned MSMEs to successfully run their businesses.

Based on the results of the hypothesis test conducted, hypothesis 1 (H1) which states that financial literacy has an influence on business continuity can be accepted (H1 is accepted). The value (original sample/original sample of the Influence of Financial Literacy on Business Continuity is 0.289. Then the resulting t-statistic value is 2.365 which means that the result is said to be SIGNIFICANT because the t-statistic value is greater than ttable (2.365>1.96) and the P-Value value is 0.018 which means it is smaller than 0.05 (0.018<0.05). So it states that financial literacy has a positive influence on the business continuity of female MSMEs in Pekanbaru City. The better the financial literacy, the better the business continuity of MSMEs in Pekanbaru City.

The results of this study are consistent with research conducted by Asmoro et al., (2025), which showed that financial literacy variables influence business sustainability. Furthermore, researchEliza et al (2023) statedThis study concludes that financial literacy significantly influences business sustainability, where Hα is accepted and H0 is rejected. This suggests that financial literacy has a positive influence on business sustainability among female MSMEs in Pekanbaru City.

The Influence of Financial Behavior on Business Sustainability

Based on the results of the hypothesis test conducted, hypothesis 2 (H2) which states that financial behavior has no influence on business sustainability among female MSMEs in Pekanbaru City cannot be accepted (H2 is rejected). The value (original sample) of the Influence of Financial Behavior on Business Sustainability is -0.161.

Then the resulting t-statistic value is 1.375 which means the result is said to be NOT SIGNIFICANT because the t-statistic value is greater than the t-table (1.375>1.96) and the P-Value value is 0.169 which means it is smaller than 0.05 (0.0169<0.05). So Hypothesis 2 is rejected.

The results of this study align with research conducted by Fitria et al. (2021) that found that financial behavior does not positively impact MSME performance. Therefore, financial behavior does not significantly impact business sustainability among female MSMEs in Pekanbaru City. This indicates challenges that must be addressed. Improving education on appropriate financial behavior is crucial to improving business sustainability among female MSMEs in Pekanbaru City.

The Influence of Financial Technology On Business Continuity

Based on the results of the hypothesis test conducted, hypothesis 3 (H3) which states that Financial Technology has an influence on business continuity can be

accepted (H3 accepted). Descriptively, the respondent's response to the Financial Technology variable (X2) was 88%. The value (original sample/original sample of the Influence of Financial Literacy on Business Sustainability) was 2,689.

Then the resulting t-statistic value is 2.689 which means the result is said to be SIGNIFICANT because the t-statistic value is greater than the t-table (2.689>1.96) and the P-Value value is 0.007 which means it is smaller than 0.05 (0.007<0.05). So it states that financial technology has a positive influence on the business sustainability of female MSMEs in Pekanbaru City. The better the financial technology, the better the business sustainability of MSMEs in Pekanbaru City.

The results of this study are in accordance with research conducted byWidagdo B & Sa'diyah C (2023) andAsmoro et al., (2025) The results of the study showed that financial technology variables influence business continuity both partially and simultaneously. Thus, it states that financial technology has a positive influence on business continuity for female MSMEs in Pekanbaru City.

CONCLUSION

Business sustainability can be defined as the ability of a business to continue operating and survive over the long term. The results of this study indicate that financial literacy and financial technology have a positive and significant influence on business sustainability. Meanwhile, financial behavior does not have a positive and significant influence on business sustainability. The magnitude of the influence of financial literacy, financial behavior, and financial technology on business sustainability among female MSMEs in Pekanbaru City is 42.2%, while the remaining 57.8% is influenced by additional variables not examined.

This means that female MSMEs in Pekanbaru City who have a good understanding of financial concepts, such as budget management, investment, and the use of financial products, tend to be able to manage their businesses more effectively. The better their financial literacy, the better their business sustainability. This study shows that female MSMEs who adopt financial technology tend to be better able to adapt to market changes and increase their business competitiveness. Therefore, it is important to encourage MSMEs to utilize financial technology optimally, as well as provide the necessary training and support to overcome barriers to technology use.

Although financial literacy and financial technology have significantly impacted the financial performance of female MSMEs, the financial behavior of female MSMEs has not significantly impacted the sustainability of their businesses. This suggests that while sound financial behavior is important, other factors such as access to information and more in-depth financial education are also necessary to improve business sustainability. Therefore, efforts are needed to increase awareness and understanding of the importance of sound financial behavior among MSMEs.

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