

# Financial Literacy, Inclusion and Digital Financial Capability on Business Sustainability: Mediating Effects of Financial Personal and Behaviour with Financial Resilience as a Moderator in Food and Beverage SMEs in Kupang City, East Nusa Tenggara

Upik Djaniar<sup>1</sup>, Mulyanto Nugroho<sup>2</sup>, Nekky Rahmiyati<sup>3</sup>

<sup>1</sup> *Doktoral Candidate, Faculty of Economics and Business, University of 17 August 1945 Surabaya, Indonesia,*

<sup>2</sup> *Professor, Faculty of Economics and Business, University of 17 August 1945 Surabaya, Indonesia<sup>2</sup>*

<sup>3</sup> *Doktoral, Faculty of Economics and Business, University of 17 August 1945 Surabaya, Indonesia<sup>3</sup>*

Corresponding Author: [udjaniar@gmail.com](mailto:udjaniar@gmail.com)

## ARTICLE INFO

## ABSTRACT

Received: 29 Dec 2024

Revised: 12 Feb 2025

Accepted: 27 Feb 2025

**Introduction:** MSMEs in Indonesia, particularly in Kupang City, face various challenges such as weak financial management, low levels of financial literacy and inclusion, and limited adoption of digital financial technology. Many business actors are unable to separate personal and business finances, lack proper financial record-keeping, and often make emotional financial decisions. Additional barriers include limited access to formal financial services due to negative perceptions of high interest rates and complex banking procedures. Unproductive financial behavior also weakens financial resilience and threatens business sustainability.

**Objectives:** This study aims to analyze the influence of financial literacy, financial inclusion, and digital financial capability on personal finance and financial behavior, as well as their impact on the business sustainability of MSMEs. Additionally, the study evaluates the mediating role of personal finance and financial behavior and the moderating role of financial resilience.

**Methods:** A quantitative approach was employed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) on a sample of 154 food and beverage MSMEs in Kupang City that have been operating for more than five years.

**Results:** The results indicate that financial literacy and financial inclusion significantly influence personal finance, while financial inclusion and digital financial capability affect financial behavior. However, only personal finance has a significant impact on business sustainability. No significant mediating or moderating effects were found.

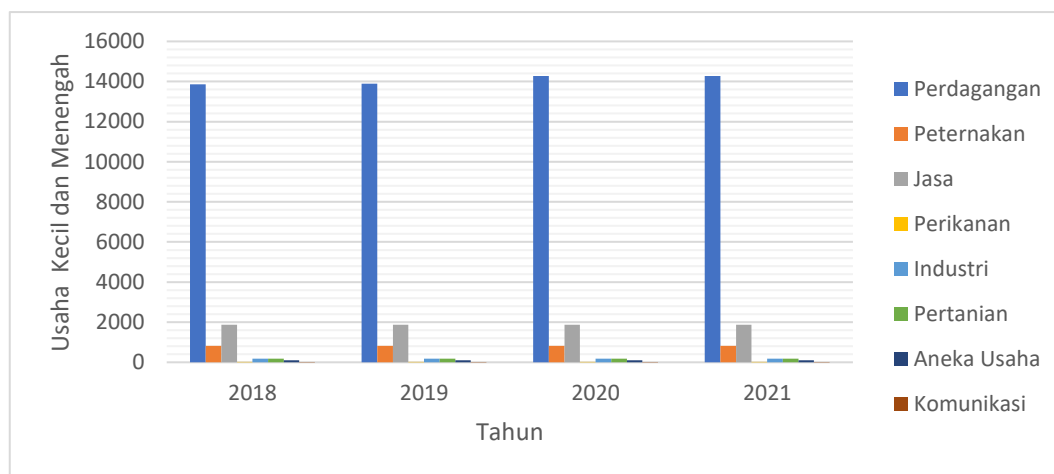
**Conclusions:** Strengthening the personal financial capacity of MSME actors is crucial to supporting business sustainability. Interventions such as financial management training, improving literacy in formal financial services, and fostering healthy financial behavior are essential. These findings offer theoretical and practical contributions to empowering MSMEs through an integrated and sustainable financial approach

**Keywords:** financial literacy, financial inclusion, digital financial capability, financial personal, financial behavior, financial Resilience, business sustainability

## INTRODUCTION

Mohammed Emad Al-Shaikh et al. (2023) state that **business sustainability** has become an increasingly strategic issue for Small and Medium Enterprises (SMEs), particularly in the food and beverage sector, which is highly vulnerable to market dynamics and resource limitations. In this context, business sustainability is not only understood as the ability to survive financially but also as an integrated effort that encompasses economic, social, and environmental dimensions. This concept is known as the **triple bottom line**, which emphasizes the importance

of balancing profit, people, and the planet in daily business practices. The competitiveness of SMEs can be enhanced when business owners are able to manage resources sustainably through an entrepreneurial approach that is innovative, proactive, and value-based. Kupang City, in the province of East Nusa Tenggara (NTT), plays a significant role in driving local economic development, particularly through the activities of Small and Medium Enterprises. The following section presents the development and growth of SMEs in Kupang City.



**Figure 1. Number of Small and Medium Enterprises in Kupang City (2018–2021)**

Based on the data presented in Table 1, it is shown that the number of Small and Medium Enterprises (SMEs) in Kupang City across eight sectors was 17,050 units in 2018, 17,085 units in 2019, and decreased to 14,475 units in both 2020 and 2021. The growth rate of SMEs in Kupang City experienced a decline, primarily due to the COVID-19 pandemic during 2020 to 2021, which forced many SMEs to temporarily cease their production and sales activities.

According to the latest data from the Department of Cooperatives and SMEs of Kupang City (2023), the number of SMEs operating in the food and beverage sector was recorded at 2,558 business actors. However, the number of SMEs officially registered with the Department and operating for more than five years amounted to only 247 units. This indicates that only around 10% of SMEs have sustained their operations long enough to progress toward business development, while the majority remain stagnant or have not yet achieved business sustainability.

Financial literacy, financial inclusion, and digital financial capability are fundamental factors that drive individuals' ability to manage finances wisely. Nevertheless, business sustainability is not solely determined by financial capacity but also by financial behavior and the resilience to withstand risks—referred to as financial resilience.

Therefore, this study aims to empirically examine how financial literacy, financial inclusion, and digital financial capability influence SME business sustainability through the mediating roles of financial personal and financial behavior, as well as the moderating role of financial resilience. The findings from this study are expected to contribute to strengthening business sustainability strategies among food and beverage SMEs in Kupang City, East Nusa Tenggara, especially in facing economic uncertainty and digital transformation.

To identify the research gap and novelty, this study employed the VOSviewer application using keywords such as *Financial Literacy*, *Financial Inclusion*, *Digital Financial Capability*, *Financial Personal*, *Financial Behavior*, *Business Sustainability*, and *Financial Resilience*. The VOSviewer analysis results display the relationships among various key concepts in financial literacy, financial inclusion, sustainability, and other related topics. Based on the network structure and inter-cluster relationships, financial literacy and financial inclusion are positioned at the center of the network, indicating that these two topics are the most frequently discussed and are highly interconnected with other themes. This description helps to identify potential **research gaps**, which researchers can explore using specific variables.

### 1. The Role of Financial Behavior and Financial Personal

The visualization shows that *financial behavior* and *financial personal* do not yet have strong or prominent connections with *business sustainability*. This indicates a research gap regarding how individual financial behavior and decision-making affect business sustainability, particularly among Small and Medium Enterprises (SMEs).

## 2. The Relationship Between Digital Financial Capability and Business Sustainability

Although *digital financial capability* is increasingly discussed, its direct relationship with *business sustainability* has not yet been thoroughly explored. This presents a research opportunity to investigate how the digitalization of financial skills can strengthen the sustainability of SMEs.

## 3. The Moderating Role of Financial Resilience

*Financial resilience* still has low density in the network, suggesting that its role as a moderating variable in the relationships among *financial literacy*, *financial inclusion*, *financial personal*, *financial behavior*, and *business sustainability* has not been widely explored. This opens an opportunity to examine how financial resilience may strengthen or weaken these interrelationships.

### Novelty Through Intervening Variables

The novelty of this study lies in testing the roles of *financial personal* and *financial behavior* as **intervening variables** between *financial literacy*, *financial inclusion*, and *digital financial capability* with *business sustainability* in the context of SMEs. This research aims to map out new pathways that have not been explored in previous studies, particularly the link between *digital financial capability* and sustainability.

The relationship between *digital financial capability* and the sustainability of SMEs remains under-researched. Therefore, further research can investigate how the adoption of digital financial technologies and the enhancement of digital financial capabilities can improve SME sustainability. This is especially relevant given that the study's object of analysis SMEs in Kupang City faces limited internet access to utilize digital payment services.

### Moderating Effect of Financial Resilience on Business Sustainability

This study introduces a new perspective by examining the role of *financial resilience* as a **moderating variable** that strengthens the relationship between *financial behavior*, *financial personal*, and *business sustainability*. It aims to highlight how financial resilience becomes a determining factor in enabling SMEs to survive during economic shocks or financial crises.

## OBJECTIVES

To analyze the influence of financial literacy, financial inclusion, and digital financial capability on financial personal and financial behavior. To analyze the influence of financial personal and financial behavior on business sustainability. To evaluate the mediating role of financial personal and financial behavior in linking financial literacy, financial inclusion, and digital financial capability to business sustainability. To investigate the moderating role of financial resilience in the relationship between financial personal and financial behavior with business sustainability.

## METHODS

### Microfinance

Microfinance has experienced significant development over the past two decades. Since the success of the Grameen Bank program introduced by Muhammad Yunus (recipient of the 2006 Nobel Peace Prize) in Bangladesh in the early 1980s, global financial institutions have increasingly paid attention to microfinance, both as a means of poverty alleviation and as a source of financial return.

According to Mathew (2006:1), microfinance refers to small-scale savings and loan institutions or programs. Microcredit is the most popular form of microfinance product, offering lending services without including savings facilities (Roberto Akyuwen & Suwandi, 2020). Many other definitions have been compiled by Tripathi (2014:1135) from various research and literature. Robinson (1998) describes microfinance as small-scale financial services,

including both credit and savings. Meanwhile, Schreiner (2001) defines it as a formal scheme designed to improve the welfare of the poor by providing better access to savings and loan services.

The implications of microfinance theory are closely related to financial literacy and financial inclusion for SME actors. The link between microfinance and financial literacy exists because microfinance institutions primarily target low-income communities, who generally lack basic financial knowledge and skills. According to Patria Adiguna et al. (2024), 25% of respondents in their study stated that low financial literacy was the main obstacle to utilizing microfinance services, while 80% said financial literacy training helped them manage their businesses better. This suggests that the success of microfinance programs is not solely dependent on access to financial services, but also on the ability of clients or entrepreneurs to understand and use these services effectively.

Microfinance also plays a strategic role in promoting financial inclusion—ensuring that all segments of society, including vulnerable groups such as micro-entrepreneurs, rural communities, and low-income households, have access to formal financial services. According to Patria Adiguna et al. (2024), microfinance institutions provide microcredit, microsavings, and business consulting services, which have been proven to increase business capacity and community welfare, with 70% of respondents reporting improved business outcomes thanks to microcredit assistance. These services help bridge the gap between the unbanked population and the formal financial system. Therefore, the broader the reach of microfinance institutions, the higher the level of financial inclusion.

#### Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) posits that, in addition to attitude and subjective norms, individuals also consider perceived behavioral control—that is, their ability to perform certain actions. This theory explains that behavioral intention leads to actual behavior (Ajzen, 2005). Ajzen identifies three factors influencing individual actions: attitude, subjective norms, and perceived behavioral control.

In the context of this study, TPB serves as the theoretical foundation to explain how financial decisions and actions of SME actors can influence their business sustainability.

#### Attitude

In this context, attitude is reflected through financial literacy, financial inclusion, and digital financial capability, which shape a positive perception among SME actors regarding the importance of sound financial management. The greater the financial understanding and skills, the more likely they are to adopt responsible financial behaviors.

#### Subjective Norms

These arise from social influences, including community norms and support from financial institutions or local governments. In Kupang City, the push to engage with formal financial systems and adopt digital financial technologies may become a social norm that drives behavior change.

#### Perceived Behavioral Control

This is closely linked to personal financial capability and actual financial behavior. When individuals feel they have control over financial decisions that affect business continuity, their likelihood to act sustainably increases. In this research, **financial resilience** is viewed as a **moderator** that strengthens or weakens the relationship between intention and actual behavior toward business sustainability—aligning with the advanced applications of TPB.

Thus, this study expands TPB's application in microfinance and small business contexts by integrating financial and digital factors as determinants of attitude and behavioral control, while emphasizing the personalization of financial behavior to achieve SME sustainability.

#### Business Sustainability

In this study, business sustainability refers to an enterprise's ability to manage and align economic, social, and environmental aspects to maintain its growth and long-term survival. Sustainability is achieved when businesses balance internal and external objectives with socially and environmentally acceptable practices, while continuing to generate value and reduce business risks (Mohammed Emad Al-Shaikh et al., 2023).

**Indicators of business sustainability** include: Reduction of operational costs, Profit growth rate, Market share expansion, Customer satisfaction, Quick order confirmation, Rapid market response, Reduced product/service delivery cycles, Profit as a percentage of sales, Return on Investment (ROI) (Yulfan Arif Nurohman, 2021).

#### Financial Literacy

According to the 2014 circular by Indonesia's Financial Services Authority (OJK), financial literacy is a series of processes or activities aimed at increasing consumer and public knowledge, skills, and confidence, enabling them to manage finances better.

**Indicators of financial literacy** include: General financial knowledge, Savings and deposits, Insurance, Investment (Wayan Sugita & Ni Kadek Sinarwati, 2022).

#### Financial Inclusion

Financial inclusion refers to access to various financial institutions, products, and services that meet individuals' needs and capacities to improve their welfare. In simple terms, it means that every member of society can access formal financial services (SNKLI, 2022). **Indicators include:** Access dimension, Usage dimension, Quality dimension, Welfare dimension (Wayan Sugita, 2021).

#### Financial Personal

Personal financial management involves budgeting, savings, investment, debt management, and other money-related activities. It includes five aspects: consumption, cash-flow management, savings and investment, credit management, and insurance.

According to Thung et al. (2012) and Stephanie Lie et al. (2022), the indicators include: The act of saving, Decision to save, Saving for future needs.

#### Digital Financial Capability

Digital financial capability is a combination of awareness, knowledge, skills, attitudes, and behaviors necessary for making sound financial decisions (OECD, 2011; Gosal et al., 2022). Vitt (2000) defines it as the ability to understand, analyze, manage, and communicate about personal economic conditions that affect financial well-being.

**Indicators (World Food Programme, 2022):** Increased financial knowledge, Financial skills, Change in financial attitudes, Change in financial behavior.

#### Financial Behavior

Financial behavior is one of the most crucial concepts in finance. According to Dai (2016) and Jeneva Augustin et al. (2020), it refers to a person's cognitive factors influencing financial decisions. Yohana (2018) describes it as decision-making or responsibility in finance. Peter Kristofik (2018) links it to effective fund management.

**Indicators include** (OECD, 2016; Augustin et al., 2020): Cash flow management, Credit management, Savings management.

#### Financial Resilience

Schoon and Bynner (in Salignac, A.F. Wijaya et al., 2023) define resilience as the ability to survive extreme hardship and adapt positively to difficult conditions. Financial resilience refers to the preparedness to face financial shocks caused by unexpected events such as job loss, health issues, family changes, or other financial emergencies. It depends on having the right resources and the ability to manage them effectively.

**Indicators include:** Risk management, Saving behavior, Budgeting behavior, Investment behavior, Borrowing behavior, Financial knowledge.



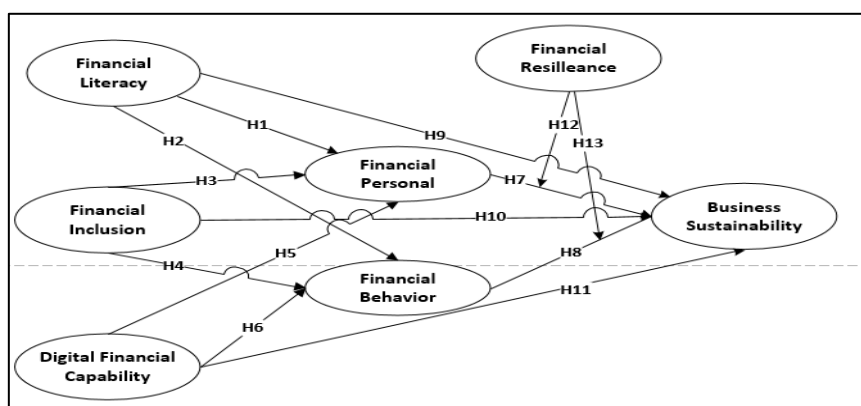


Figure 2 conceptual framework (output visio)

## RESULTS

In this study, a conceptual model was tested to evaluate the relationships between financial literacy, financial inclusion, and digital financial capability, as well as the mediating roles of financial personal and financial behavior, with financial resilience serving as a moderating variable on business sustainability among food and beverage SMEs in Kupang City. The model was tested using the **Structural Equation Modeling (SEM)** approach based on **Partial Least Squares (PLS-SEM)**, which is considered appropriate for complex models and non-normal data. The analysis was conducted using the SmartPLS software, which displays the path relationships among latent variables and their observed indicators.

The following figure presents the **structural model (including both the inner and outer models)**, which illustrates the relationships among the research constructs along with the estimated path coefficients:

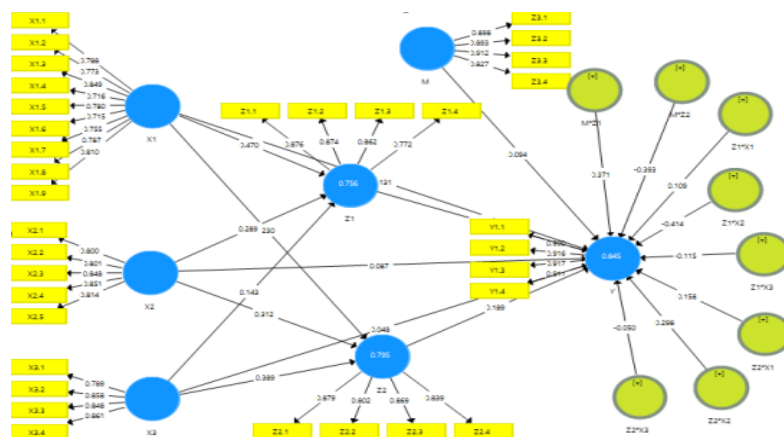


Figure 3 Results of the Outer Model Test

Data processed using SmartPLS 3, 2024

### Hypothesis Testing

To determine whether a hypothesis is accepted or rejected, it is assessed based on the **t-statistic** and **p-value**. If the **t-statistic** > **1.96** and the **p-value** < **0.05**, the hypothesis is accepted. Conversely, if the **t-statistic** < **1.96** and the **p-value** > **0.05**, the hypothesis is rejected.

**Table 1** Results of Significance Testing for Direct Effects

No	Variable Relationship	Original Sample	Sample Mean	Standar Deviasi	T Statistik	P Values	Result
1.	Financial literacy → Financial Personal	0,470	0,479	0,111	4,216	0,000	H1 : Accepted
2.	Financial Literacy → financial Behavior	0,230	0,239	0,117	1,963	0,050	H2 : Rejected
3.	Financial Inclusion → Financial Personal	0,289	0,278	0,105	2,761	0,006	H3 : Accepted
4.	Financial Inclusion → Financial Behavior	0,312	0,308	0,120	2,594	0,010	H4 : Accepted
5.	Digital Financial Capability → Financial Personal	0,143	0,139	0,116	1,235	0,217	H5 ; Rejected
6.	Digital Financial Capability → Financial Behavior	0,389	0,381	0,107	3,623	0,000	H6 : Accepted
7.	Financial Personal → Business Sustainability	0,318	0,271	0,107	2,974	0,003	H7 : Accepted
8.	Financial Behavior → Business Sustainability	0,189	0,158	0,116	1,629	0,104	H8 : Rejected
9.	Financial literacy → Business sustainability	0,131	0,193	0,135	0,966	0,334	H9; Rejected
10.	Financial Inclusion → Business Sustainability	0,087	0,095	0,122	0,712	0,477	H10; Rejected
11.	Digital Financial Capability → Business Sustainability	0,048	0,027	0,097	0,494	0,622	H11: Rejected

The following are the results of the indirect effect testing:

**Table 2** Results of Significance Testing for Indirect Effects

No	Variable Relationship	Original Sample	Sample Mean	Standar Deviasi	T Statistik	P Values	Result
1.	Financial personal → Business sustainability → Financial Resilliance	0,371	0,252	0,202	1,831	0,068	H12 : Rejected
2.	Financial behavior → Business sustainability → Financial Resilliance	-0,393	-0,333	0,211	1,864	0,063	H13 : Rejected
3.	Financial literacy → Business sustainability → Financial personal	0,109	0,154	0,211	0,520	0,603	H14 : Rejected
4.	Financial literacy → Business sustainability → Financial behavior	0,158	0,103	0,237	0,669	0,504	H15 : Rejected
5.	Financial Inclusion → Business sustainability → Financial personal	-0,414	-0,405	0,259	1,599	0,110	H16 ; Rejected
6.	Financial Inclusion → Business sustainability → Financial behavior	0,298	0,253	0,300	0,995	0,320	H17 : Rejected
7.	Digital financial capability → Business sustainability → Financial personal	-0,115	-0,046	0,211	0,543	0,587	H18 : Rejected
8.	Digital financial capability → Business sustainability → Financial behavior	-0,050	-0,037	0,216	0,233	0,816	H19 : Rejected

**H1:** Financial Literacy has a significant effect on Financial Personal in food and beverage SMEs in Kupang City.

The test results indicate that financial literacy has a positive and significant effect on personal finance, with a t-statistic value of 4.216 ( $>1.96$ ) and a p-value of 0.000 ( $<0.05$ ). This means that the higher a person's financial understanding, the better their ability and responsibility in managing personal finances.

- H2:** Financial Literacy does not have a significant effect on Financial Behavior in food and beverage SMEs in Kupang City.

The test results show that Financial Literacy does not have a significant effect on Financial Behavior, with a t-statistic of 1.936 ( $<1.96$ ) and a p-value of 0.050 ( $=0.05$ ). This suggests that a person's level of financial literacy does not necessarily have a direct impact on their financial behavior, as other factors such as motivation, attitude, social environment, or experience may play a more dominant role.

- H3:** Financial Inclusion has a significant effect on Financial Personal in food and beverage SMEs in Kupang City.

The test results indicate that Financial Inclusion has a positive and significant effect on Financial Personal, with a t-statistic of 2.761 ( $>1.96$ ) and a p-value of 0.006 ( $<0.05$ ). This means that the higher a person's access to and participation in formal financial services, the better their ability and management of personal finances.

- H4:** Financial Inclusion has a significant effect on Financial Behavior in food and beverage SMEs in Kupang City.

The test results show that Financial Inclusion has a positive and significant effect on Financial Behavior, with a t-statistic of 2.594 ( $>1.96$ ) and a p-value of 0.010 ( $<0.05$ ). This means that the higher a person's access to and participation in formal financial services, the better their financial behavior, such as saving, managing expenses, paying obligations on time, and investing.

- H5:** Digital Financial Capability does not have a significant effect on Financial Personal in food and beverage SMEs in Kupang City.

The test results show that Digital Financial Capability does not have a significant effect on Financial Personal, with a t-statistic of 1.235 ( $<1.96$ ) and a p-value of 0.217 ( $>0.05$ ). This means that although a person may be able to use digital financial services, it does not necessarily reflect their ability or responsibility in managing daily personal finances. Mastery of digital financial technology alone is not enough without an understanding of finance, discipline, and motivation.

- H6:** Digital Financial Capability has a significant effect on Financial Behavior in food and beverage SMEs in Kupang City.

The test results show that Digital Financial Capability has a positive and significant effect on Financial Behavior, with a t-statistic of 3.623 ( $>1.96$ ) and a p-value of 0.000 ( $<0.05$ ). This means that the higher an individual's ability to utilize digital financial services, the better their financial behavior, including budget management and consistent saving habits.

- H7:** Financial Personal has a significant effect on Business Sustainability in food and beverage SMEs in Kupang City.

The test results show that Financial Personal has a positive and significant effect on Business Sustainability, with a t-statistic of 2.974 ( $>1.96$ ) and a p-value of 0.003 ( $<0.05$ ). This means that the better a person manages their personal finances, the greater their ability to achieve long-term business sustainability, including operational, social, and economic aspects.

- H8:** Financial Behavior does not have a significant effect on Business Sustainability in food and beverage SMEs in Kupang City.

t-statistic value  $> 1.96$  and a p-value  $< 0.05$  indicate that Financial Personal has a positive and significant effect on Business Sustainability. This means that the better a person manages their personal finances, the



greater their ability to achieve long-term business sustainability, both operationally, socially, and economically.

- H9:** Financial Literacy does not have a significant effect on Business Sustainability in food and beverage SMEs in Kupang City.

The test results show that Financial Behavior does not have a significant effect on Business Sustainability, with a t-statistic of 1.629 ( $<1.96$ ) and a p-value of 0.104 ( $>0.05$ ). This means that good financial behavior does not necessarily have a direct impact on business sustainability, as external factors such as market access, capital, government policies, and business competition have a greater influence on business continuity.

- H10:** Financial Inclusion does not have a significant effect on Business Sustainability in food and beverage SMEs in Kupang City.

The test results indicate that Financial Inclusion does not have a significant effect on Business Sustainability, with a t-statistic of 0.712 ( $<1.96$ ) and a p-value of 0.477 ( $>0.05$ ). This means that although access to financial services is increasing, it does not necessarily directly support business sustainability, as other factors such as financial literacy, digital capability, and financial behavior may play a more dominant role.

- H11:** Digital Financial Capability does not have a significant effect on Business Sustainability in food and beverage SMEs in Kupang City.

The test results show that Digital Financial Capability does not have a significant effect on Business Sustainability, with a t-statistic of 0.494 ( $<1.96$ ) and a p-value of 0.622 ( $>0.05$ ). This means that the ability of business actors to use digital financial technology has not directly driven business sustainability, possibly because its utilization is not yet optimal or not integrated into business strategies.

- H12:** Financial Personal does not have a significant effect on Business Sustainability with Financial Resilience as a moderating variable in food and beverage SMEs in Kupang City.

The moderation coefficient of Financial Resilience on the effect of Financial Personal on Business Sustainability is 0.371, with a t-statistic of 1.831 ( $<1.96$ ) and a p-value of 0.068 ( $>0.05$ ). This indicates that although the direction of the effect is positive, the moderating effect of Financial Resilience is not significant at the 5% level, meaning Financial Resilience does not significantly alter the relationship between Financial Personal and Business Sustainability.

- H13:** Financial Behavior does not have a significant effect on Business Sustainability with Financial Resilience as a moderating variable in food and beverage SMEs in Kupang City.

The moderation coefficient of Financial Resilience on the effect of Financial Behavior on Business Sustainability is -0.371, indicating that Financial Resilience tends to weaken the influence of Financial Behavior on Business Sustainability. However, with a t-statistic of 1.864 ( $<1.96$ ) and a p-value of 0.063 ( $>0.05$ ), this moderating effect is not significant at the 5% level. Therefore, it can be concluded that Financial Resilience does not significantly alter the relationship between Financial Behavior and Business Sustainability.

- H14:** Financial Literacy does not have a significant effect on Business Sustainability with Financial Personal as a mediating variable.

The t-statistic value for this interaction is 0.520 ( $<1.96$ ) and the p-value is 0.063 ( $>0.05$ ), indicating that the mediating effect of Financial Personal is not significant at the 5% level. In other words, Financial Personal does not play a significant role in mediating the relationship between Financial Literacy and Business Sustainability.

- H15:** Financial Literacy does not have a significant effect on Business Sustainability with Financial Behavior as a mediating variable. The mediation coefficient value of Financial Behavior from Financial Literacy on Business Sustainability

is **0.158**, indicating a positive relationship between Financial Literacy and Business Sustainability through the mediating role of Financial Behavior. However, with a **t-statistic of 0.669** ( $<1.96$ ) and a **p-value of 0.504** ( $>0.05$ ), this mediating effect is **not statistically significant** at the 5% level. mediating variable.

**H16:** Financial Inclusion does not have a significant effect on Business Sustainability with Financial Personal as a mediating variable.

The mediation coefficient of Financial Personal in the relationship between Financial Inclusion and Business Sustainability is  $-0.414$ , indicating a negative relationship. This means that an increase in Financial Inclusion tends to decrease Business Sustainability through Financial Personal. However, the statistical test results show a t-statistic value of  $0.669$  (less than  $1.96$ ) and a p-value of  $0.504$  (greater than  $0.05$ ), so the mediation effect is not statistically significant at the 5% level. In other words, Financial Personal does not significantly mediate the influence of Financial Inclusion on Business Sustainability.

**H17:** Financial Inclusion does not have a significant effect on Business Sustainability with Financial Behavior as a mediating variable.

The mediation coefficient of Financial Behavior in the relationship between Financial Inclusion and Sustainability is  $0.298$ , indicating a positive relationship. This means that an increase in Financial Inclusion can enhance Sustainability through Financial Behavior. However, the t-statistic value of  $0.995$  (less than  $1.96$ ) and p-value of  $0.320$  (greater than  $0.05$ ) indicate that this mediation effect is not statistically significant at the 5% level. Therefore, Financial Behavior does not significantly mediate the influence of Financial Inclusion on Sustainability.

**H18:** Digital Financial Capability does not have a significant effect on Business Sustainability with Financial Personal as a mediating variable.

The mediation coefficient of Financial Personal in the relationship between Digital Financial Capability and Business Sustainability is  $-0.115$ , indicating a negative relationship. This means that an increase in Digital Financial Capability tends to have a negative impact on Business Sustainability through Financial Personal. However, the t-statistic value of  $0.995$  (less than  $1.96$ ) and p-value of  $0.543$  (greater than  $0.05$ ) indicate that this mediation effect is not statistically significant at the 5% level. Therefore, Financial Personal does not significantly mediate the influence of Digital Financial Capability on Business Sustainability.

**H19:** Digital Financial Capability does not have a significant effect on Business Sustainability with Financial Behavior as a mediating variable.

The mediation coefficient of Financial Behavior in the relationship between Digital Financial Capability and Business Sustainability is  $-0.050$ , indicating a negative relationship. This means that an increase in Digital Financial Capability tends to decrease Business Sustainability through Financial Behavior. However, the t-statistic value of  $0.233$  (less than  $1.96$ ) and p-value of  $0.816$  (greater than  $0.05$ ) indicate that this mediation effect is not statistically significant at the 5% level. Therefore, Financial Behavior does not significantly mediate the influence of Digital Financial Capability on Business Sustainability.

## DISCUSSION

### Financial Literacy → Financial Personal

The results of the study show that **Financial Literacy has a positive and significant effect on Financial Personal**. This finding indicates that the higher the financial literacy of SME actors, the better their personal financial management. This is reflected in the indicators **Basic financial knowledge** and **Budgeting skills**, which had high factor loadings. SME actors who understand fundamental financial concepts such as distinguishing between needs and wants and being able to prepare a budget are proven to have better personal financial management, as seen in the indicators **ability to separate personal and business finances** and **setting aside emergency funds** in the Financial Personal construct. This suggests that financial literacy is not merely about

knowledge, but also enhances one's capability to plan and manage personal finances more responsibly, which is crucial for SME resilience and business continuity.

Financial Literacy → Financial Behavior

**Although the SME actors possess good financial literacy, statistical test results indicate that Financial Literacy does not have a significant effect on Financial Behavior. In other words, having a high level of financial understanding does not necessarily encourage SMEs to act wisely in financial matters.**

For example, even though the score for indicator **FL3 (Understanding investment risks)** is high, it is not followed by a high score in **FB3 (Making regular investments)**. This reveals a gap between knowledge and actual behavior, which may be attributed to factors such as habits, lack of motivation, or limited financial resources.

Financial Inclusion → Financial Personal

The relationship between **Financial Inclusion and Financial Personal** is proven to be positive and significant. SME actors who have access to formal and informal financial services, such as owning a bank account or using fintech platforms, tend to have better personal financial management. For example, SME owners who have bank accounts and are accustomed to using digital payment applications tend to score higher in managing personal cash flow and in setting both short- and long-term financial goals.

Financial Inclusion → Financial Behavior

The study also found that **Financial Inclusion has a significant effect on Financial Behavior**. Broader access to financial products and services enables business actors to more easily develop healthy financial habits. For instance, ease of access to financial services contributes to practices such as saving regularly and managing expenditures effectively. This suggests that the more accessible financial services become, the more disciplined SME owners are in managing their business finances.

Digital Financial Capability → Financial Personal

Although digital transformation has reached SME actors, the results show that **Digital Financial Capability does not have a significant effect on Financial Personal**. This indicates that the ability to use financial technology, such as mobile banking, is not yet sufficient to influence personal financial management behavior, particularly in areas such as preparing emergency funds or separating personal and business finances. This limitation may stem from low trust in digital security and infrastructure constraints in Kupang City.

Digital Financial Capability → Financial Behavior

Conversely, the results of the study indicate that **Digital Financial Capability has a positive and significant effect on Financial Behavior**. This finding suggests that SME actors who possess the ability to utilize digital financial tools and services such as e-wallets, QRIS, or other financial applications tend to manage their finances in a more structured and disciplined manner. SMEs that are accustomed to using features in financial applications, such as payment reminders, expense tracking, and transaction recording, generally demonstrate good financial behavior. They are more careful in budgeting their expenses and more consistent in fulfilling their financial obligations, such as paying bills on time. Thus, proficiency in using digital financial technology is proven to promote the development of healthy financial behavior in business management.

Financial Personal → Business Sustainability

The results of the study indicate that **Financial Personal has a significant influence on business sustainability**. This finding reinforces that SME actors who possess the ability to manage personal finances wisely—such as separating personal and business finances and planning budgets strategically have a greater chance of maintaining the continuity of their business. This capability serves as a crucial asset in facing various business challenges, both internal and external. During times of crisis, such as the pandemic or spikes in raw material prices, SMEs with sound personal financial management have proven to be more resilient to economic pressure. This is reflected in the indicator of business resilience, which highlights how personal financial literacy and discipline can strengthen the overall foundation of the business. In other words, healthy personal financial management not only

impacts individual well-being but also contributes directly to the long-term sustainability and resilience of the enterprise.

Financial Behavior → Business Sustainability

The results of the study indicate that the **relationship between Financial Behavior and Business Sustainability is not significant**. This finding suggests that even though business actors may exhibit positive financial behaviors such as saving, managing expenses, or practicing frugality these actions do not directly drive business sustainability. It is likely that individual financial behavior alone does not have a significant impact due to various external factors, such as fluctuations in raw material prices, intense market competition, or limited business scale. In the context of SMEs, good financial habits are indeed important, but they are not sufficient to ensure business continuity without systemic support and a stable business environment.

### The Results of Mediation and Moderation

This study found that all mediation and moderation hypotheses were not significant. The variables Financial Personal and Financial Behavior did not mediate the relationship between Financial Literacy, Financial Inclusion, and Digital Financial Capability with Business Sustainability. Likewise, Financial Resilience did not moderate the influence of Financial Personal and Financial Behavior on business sustainability.

This indicates that although business actors possess financial knowledge, access to financial services, digital capabilities, and sound financial behavior, these factors alone are insufficient to guarantee the continuity of their businesses. The likely cause is the lack of thorough implementation of long-term financial planning and resilience to crises. External factors such as unstable markets, price fluctuations, limited capital, and policies also strongly affect the sustainability of SMEs. Therefore, beyond individual prudence, support from the business environment is crucial.

### LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study has several limitations that should be acknowledged. First, the approach used is quantitative and cross-sectional in nature, which limits the ability to capture the dynamic changes in behavior and business conditions over time. Furthermore, the study's scope is limited to MSME actors in the food and beverage sector in Kupang City, which restricts the generalizability of the findings to other regions or business sectors. The measurement of variables is also based solely on respondents' perceptions through questionnaires, which may introduce subjective bias and may not fully reflect actual conditions. For future research, it is recommended to adopt a mixed-method approach to explore deeper contextual dimensions related to financial behavior and business sustainability. Researchers are also encouraged to expand the study area and include various business sectors to obtain more representative results. Additionally, it is important to incorporate external variables such as policy support, market conditions, and access to technology as additional factors that may more comprehensively influence the sustainability of MSMEs.

### REFERENCES

- [1] Akande, J. O., et al. (2023). Financial literacy and inclusion for rural agrarian change and sustainable livelihood in the Eastern Cape, South Africa. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e14618>
- [2] Ahmed, S., & Ahmed, I. (2021). Financial inclusion and sustainability nexus: The moderating role of financial resilience. *Journal of Sustainable Finance & Investment*, 7(2), 123–140. <https://doi.org/10.1080/20430795.2021.1874212>
- [3] Ajibike, T., & Richard, M. (2020). Financial behavior and SMEs' sustainability: The role of external financing. *International Journal of Small Business and Entrepreneurship*, 10(3). <https://doi.org/10.12345/ijbsbe.v10i3.100>
- [6] Chen, F., Du, X., & Wang, W. (2023). Can FinTech applied to payments improve consumer financial satisfaction? Evidence from the USA. *Mathematics*, 11(2). <https://doi.org/10.3390/math11020329>
- [7] Elahi, K. (2004). Microfinance and third world development: A critical analysis. *Journal of Political and Military Sociology*, 32(1).
- [8] Guandalini, I. (2022). Sustainability through digital transformation: A systematic literature review for research guidance. *Journal of Business Research*, 148, 456–471. <https://doi.org/10.1016/j.jbusres.2022.04.043>

- [9] Guo, B., & Huang, J. (2023). Financial well-being and financial capability among low-income entrepreneurs. *Journal of Risk and Financial Management*, 16(3). <https://doi.org/10.3390/jrfm16030164>
- [10] Hamid, F. S., Loke, Y. J., & Chin, P. N. (2023). Determinants of financial resilience: Insights from an emerging economy. *Journal of Social and Economic Development*. <https://doi.org/10.1007/s40847-023-00272-6>
- [11] Hasan, M., Le, T., & Hoque, A. (2021). How does financial literacy impact inclusive finance? *Financial Innovation*, 7(1). <https://doi.org/10.1186/s40854-020-00214-4>
- [12] Hagawe, H. M., Mobarek, A., Hanuk, A., & Jamal, A. (2023). A unique business model for microfinance Institution: The case of Assadaqaat Community Finance (ACF). *Cogent Business & Management*, 10(1), 2135202. <https://doi.org/10.1080/23311975.2022.2135202>
- [13] Hsu, C. Y., et al. (2023). Exploring the interplay of digital financial literacy and sustainability among youth entrepreneurs. *Sustainability*, 15(8). <https://doi.org/10.3390/su15086667>
- [14] Kwesley, Erica E. P., Njo, Anastasia, & Basana, Sautma Ronni. (2022). "The Effect of Financial Literacy on Financial Management Behavior in the Community of Kupang." *Global Conference on Business and Management Proceedings*, Goodwood Conferences, 111–122. <https://proceedings.goodwoodconferences.com/index.php/gcbm/article/view/15>
- [15] La Torre, M., & Vento, G. A. (2006). *Microfinance*. Palgrave Macmillan Studies in Banking and Financial Institutions Series. ISBN: 1–4039–4872–0.
- [16] Lyons, A. C., et al. (2020). *Building Financial Resilience through Financial and Digital Literacy in South Asia and Sub-Saharan Africa*. Asian Development Bank. [https://www.adb.org/publications/building-](https://www.adb.org/publications/building-financial-resilience-through-financial-digital-)
- [17] Martins, A., Castelo-Branco, M., Melo, P. N., & Machado, C. (2022). "Sustainability in Small and Medium-Sized Enterprises: A Systematic Literature Review and Future Research Agenda." *Sustainability*, 14(11), 6493. <https://doi.org/10.3390/su14116493>
- [18] Martono, S., & Febriyanti, R. (2023). "Pengaruh Inklusi Keuangan, Literasi Keuangan dan Pengelolaan Keuangan terhadap Kinerja UMKM di Kota Salatiga." *Jurnal Ekonomi Pendidikan dan Kewirausahaan*, 11(2), 153–168. <https://journal.unesa.ac.id/index.php/jepk/article/view/23028>
- [19] Maulana, R., Murniningsih, R., & Prasetya, W. A. (2022). "The Influence of Financial Literacy, Financial Inclusion, and Fintech toward Business Sustainability in SMEs." *Jurnal Ilmiah Manajemen*, 440. <http://ejournal.pelitaindonesia.ac.id/ojs32/index.php/PROCURATIO/index>
- [20] Melki, B. V., & Marsono, A. D. (2023). "Analysis of the Influence of Financial Literacy on Financial Behavior Using Financial Technology as an Intervening Factor for Mekaar PNM Customers." *Formosa Journal of Sustainable Research*, 2(8), 2133–2146.
- [21] Mirza, H. Y., & Christian, M. F. (2023). "The Role of Digital Finance, Financial Literacy, and Lifestyle on Financial Behaviour." *HOLISTICA – Journal of Business and Public Administration*, 14(2), 97–115. <https://doi.org/10.2478/hjbpa-2023-0018>
- [22] Mohammed Emad Al-Shaikh, et al. (2022). "A Conceptual Review on Entrepreneurial Marketing and Business Sustainability in Small and Medium Enterprises." *World Development Sustainability*, 2, 100039. <https://www.elsevier.com/locate/wds>