

## Financial literacy and sustainable development of microentrepreneurs in San Jose, Occidental Mindoro

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### ***Abstract***

This study was conducted purposely to improve the financial literacy of microentrepreneurs in San Jose, Occidental Mindoro, to ensure the sustainable development of their business. This study identified the areas of financial literacy of microentrepreneurs that need improvement. This study revealed the extent of microentrepreneurs' financial literacy in financial planning, cash management, and loan management. Moreover, the level of sustainable development in terms of business management decisions, effective debt repayment, and societal benefits was also revealed, as was the relationship between financial literacy and sustainable development. A validated and reliable set of questionnaires was used to gather data from two hundred fifty-five (255) microentrepreneurs in San Jose, Occidental Mindoro. The study showed a great level of financial literacy in financial planning, cash management, and loan management. A high level across the three examined dimensions of sustainable development, such as business management decision, effective debt payment, and societal benefit, was also indicated. The study further revealed that the level of financial literacy among microentrepreneurs is significantly related to their level of sustainable development. It is then concluded that stronger financial knowledge and sound financial practices can support sound business management decisions, effective debt repayment, and enhanced societal benefit. However, the findings also revealed that financial planning is not significantly related to business management decisions. The researcher proposed and recommended a financial literacy program to help microentrepreneurs improve their financial literacy and ensure the sustainable development of their businesses. The collaborative efforts of the local government unit and agencies, as well as financial and academic institutions, will likely improve microentrepreneurs' financial literacy, enabling them to manage their businesses more effectively.

**Keywords:** financial literacy, sustainable development, microentrepreneurs, financial management practices, financial planning

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### 1. Introduction

Microenterprises are vital to local communities because they typically drive economic activity by providing essential goods and services (Yparraguirre, 2025). They comprise most of the country's businesses, which is why it is safe to assume that they are also the major source of employment nationwide. Based on the 2023 List of Establishments (LE) of the Philippine Statistics Authority (PSA), micro, small, and medium enterprises (MSMEs) account for 99.63% (1,241,733) of the country's 1,246,373 operating business establishments. Out of these 1,241,733 establishments, 90.43% (1,127,058) are microenterprises (Department of Trade and Industry Philippines, 2025a). Despite their significant contribution to the Philippine economy, many microenterprises struggle to remain sustainable. Key challenges include microentrepreneurs' deficiencies in financial literacy. Each business day, microentrepreneurs manage their business's cash flow, record-keeping, spending, utilizing profits, borrowing, and even investing. However, financial literacy is still not a common term for most of them (Bancoro, 2023). Klapper et al. (2015) highlighted that financial literacy refers to a person's knowledge about basic financial concepts, the absence of which may result in the inability to make sound financial decisions.

As various global studies have concluded, financial literacy plays a vital role in improving the performance and sustainability of microenterprises. For instance, a study by Kaur and Bansal (2020) demonstrated that financial literacy, along with financial access and business growth, was positively correlated with a firm's sustainability. Likewise, research across diverse contexts has shown that enhanced financial literacy improves the capacity of micro, small, and medium enterprises to manage resources, integrate financial technologies, and promote inclusivity, all of which contribute to sustainability (Ristati et al., 2024). In addition, Klapper and Lusardi (2019) emphasized that individuals with strong financial skills are more effective at planning and saving for retirement. Moreover, financially literate investors are more likely to invest in diverse industries (Abreu & Mendes, 2010, as cited in Klapper et al., 2015).

Grounded in global evidence highlighting the impact of financial literacy on the sustainability of microenterprises, national studies have also recognized its crucial role in the sustainable development of businesses in the Philippines. Among these are Gonzalvo and Avila (2019), who found a significant relationship between microentrepreneurs' financial literacy and business longevity. On the other hand, Corpuz (2022) investigated the influence of owners' financial literacy on the financial outcomes of microenterprises in the province of Bulacan. In addition, Bancoro (2023) studied the financial literacy of MSME business owners in San Jose, Negros Oriental, and concluded that microentrepreneurs' financial literacy positively impacts the overall performance of their businesses.

While there are a few studies specifically related to the microenterprises of Occidental Mindoro such as the study of Bangisan et al. (2023) which examined the level of e-commerce application among MSMEs in San Jose, Occidental Mindoro, and the study of Correa and Galay-Limos (2024), which analyzed the effects of digital literacy on the digitalization of business name registration for microenterprises, there remains a scarcity of empirical research examining the relationship between financial literacy and the sustainable development of microentrepreneurs in the province. Recognizing this gap, this study aims to contribute to the existing body of knowledge by providing an empirical analysis of how financial literacy influences the sustainable development of microenterprises in Occidental Mindoro.

**Statement of the Problem** - The purpose of this study was to explore aspects of microentrepreneurs' financial literacy to support sustainable development. Specifically, the study sought to answer the following questions: (1) What aspects of financial literacy of the microentrepreneurs may be improved to ensure the sustainable

development of their business? (2) What is the extent of financial literacy of the microentrepreneurs in terms of financial planning, cash management, and loan management? (3) What is the level of sustainable development of the microentrepreneurs in terms of business management decisions, effective debt payment, and societal benefits? (4) Is there a significant relationship between the extent of financial literacy and the level of sustainable development of microentrepreneurs? (5) What financial literacy program may be formulated to enhance the financial literacy of the microentrepreneurs to support the sustainable development of their business?

**Significance of the Study** - The results of this study will be of great benefit to the following: entrepreneurs and owners of existing microenterprises will likely gain insight into their own level of financial literacy. They may use the results of this study to bridge the gaps in various financial literacy concepts. They may also use the results as guides to formulate strategies that will promote business sustainability. The community will benefit from improved business performance by microenterprises, as these businesses may create employment and stability in the local economy. Existing business establishments will also benefit from this study because improved microenterprises will become more reliable partners, suppliers, and distributors. The LGU will benefit because this may serve as an evidence-based resource material in formulating future policies, programs, and initiatives for local microentrepreneurs. As with the LGU, this study will also serve the DTI as a resource for creating future policies, programs, and initiatives for microentrepreneurs. Also, for financial institutions, banks are the next possible beneficiaries of this study, as this will emphasize the financial literacy needs of microentrepreneurs. This will enable banks and other financial institutions to develop financial products and services that improve access to loans and payment capacity. For the Academe, the results of this study will contribute to the literature on financial literacy and the sustainable development of microentrepreneurs at academic institutions offering business and management programs. Lastly, this study will provide significant information for future researchers undertaking studies on financial literacy, covering aspects not included in this study.

**Scope and Delimitation of the Study** - The study focused on the relationship between financial literacy and the sustainable development of microentrepreneurs in San Jose, Occidental Mindoro. It also assessed the extent of microentrepreneurs' financial literacy in key areas, including financial planning, cash management, and loan management. In addition, the study also evaluated the level of sustainable development of microentrepreneurs in terms of business management decisions, effective debt management, and societal benefits. The scope of microentrepreneurs in this study was based on the definition stated in Section 3 of the Republic Act 9501, otherwise known as the "Magna Carta for Small Enterprises", which states that any business activity or enterprise engaged in industry, agribusiness, and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plant, and equipment are situated, must have value falling under ₱3,000,000.00 and below. Moreover, this study was limited to the list of registered and operating microenterprises provided by the Business and Licensing Office of the Municipality of San Jose, Occidental Mindoro, as of January 31 of 2025. The study was conducted from August 2025 to March 2026.

## 2. Methodology

**Research Design** - The study employed an exploratory sequential research design that began with a qualitative phase to interpret participants' responses and identify the variables. It enabled an exploration of the complexity surrounding financial literacy on the sustainable development of microenterprises in Occidental Mindoro. Furthermore, Gerzso and Reidl (2024) pointed out that the mixed-method approach intensifies the findings by combining different data sources. In addition, Fraenkel et al. (2013) and Creswell and Creswell (2018) emphasized that the results of the qualitative phase will inform the quantitative method, and quantitative results will be used to validate the qualitative findings. For the qualitative phase, data were gathered using an interview schedule; for the quantitative phase, a validated and reliable questionnaire was used. Descriptive research was used to measure the extent of financial literacy and the level of sustainable development. A descriptive correlational design was employed to measure the relationship between the independent and the dependent variables.

**Respondents of the Study** - To gather qualitative data, the proponent used simple random sampling to select the twenty (20) microentrepreneurs who participated in the face-to-face interview to discover the aspects of their financial literacy that may be improved. The participants comprised diverse businesses. These participants had been carefully selected for their significant contributions to the locality's business. On the other hand, from a total population of seven hundred fifty-six (756) microentrepreneurs, a sample size of two hundred fifty-five (255) respondents for the quantitative phase were included, using Raosoft computation, with 5% margin of error and a 95% confidence level. The proponent used stratified random sampling (SRS) for respondent selection in the quantitative part, wherein the population was grouped into eighteen (18) industry classifications, and respondents were randomly drawn from each group to ensure that each industry was properly represented. Bell et al. (2022) emphasized that the sampling technique enables the selection of the target group or individual with particular experiences, thereby enhancing the depth of the data collected. Their knowledge and experience could produce credible and trustworthy findings.

**Research Instrument** - For the qualitative phase, an open-ended question was utilized in this study. For the quantitative phase, the research instrument was a researcher-made questionnaire. The first part was used to measure the extent of financial literacy, as per the survey results, including financial planning, cash management, and loan management. The second part concerned the level of sustainable development among microentrepreneurs, as reflected in business management decisions, effective debt repayment, and societal benefits. In responding to Part I of the questionnaire, the respondent was asked to rate each statement by checking the box corresponding to their level of agreement on a 4-point Likert scale. On the other hand, in responding to Part II of the questionnaire, the respondent was asked to rate each statement by checking the box corresponding to the frequency level using the Likert scale: 4-Often; 3-Sometimes; 2-Rarely; 1-Never. Expert validity was used to assess the questionnaire's validity. The researcher sought assistance from five experts: three (3) are graduate school professors at the Divine Word College of San Jose, and two (2) are professors at Occidental Mindoro State College, to evaluate the appropriateness of the questionnaire items with respect to the variables and topics under investigation. The experts' comments and suggestions were incorporated into the final copy of the researcher-developed instrument.

A group of thirty (30) microentrepreneurs served as respondents to the 54-item researcher-made questionnaire. The questionnaire consisted of six distinct characteristics, namely: Financial Planning, Cash Management, Loan Management, Business Management Decision, Effective Debt Payment, and Societal Benefits. The reliability of the research instrument was tested using Cronbach's Alpha, a standard measure of internal consistency. This coefficient determines how closely related a set of items is as a group.

**Table 1**  
*Result of Reliability Analysis*

Items	Number of Items	Reliability Coefficients*	Analysis
I. Financial Literacy (8 items each)			
1. Financial Planning	8	0.955	Very High Reliability
2. Cash Management	8	0.954	Very High Reliability
3. Loan Management	8	0.927	Very High Reliability
II. Sustainable Development of Microenterprises (10 items each)			
1. Business Management Decision	10	0.947	Very High Reliability
2. Effective Debt Payment	10	0.872	High Reliability
3. Societal Benefit	10	0.782	High Reliability

\*Based on standardized items

Values above 0.70 generally indicate high reliability, and values above 0.90 indicate very high reliability. Table 1 summarizes the consistency across all measured constructs based on standardized items. All constructs within financial literacy yielded very high reliability coefficients ranging from 0.927 to 0.955, indicating excellent consistency and that the items are closely aligned in measuring these constructs. Under sustainable development, the societal benefit scale registered the lowest Alpha of 0.782 but remains above the acceptable threshold of 0.70 (Hair et al., 2019). Overall, the research questionnaire demonstrates strong internal reliability, suggesting that the items are well understood by respondents and consistently measure the intended variables.

**Data Gathering Procedure** - For both the qualitative and quantitative phases, a request letter, signed by the proponent's adviser and addressed to the Business and Licensing Office of the Municipality of San Jose, Occidental Mindoro, was prepared to obtain the list of microenterprises in San Jose, Occidental Mindoro. For the qualitative part, an interview guide was prepared, and interviews were conducted face-to-face. The qualitative data gathering was completed within seven (7) days. For the quantitative part, printed questionnaires were distributed to respondents face-to-face. Then, the data collected were tabulated, analyzed, and interpreted by the researcher, with guidance from the statistician and the adviser. Statistical analyses were done using the appropriate statistical software. The quantitative data collection process was completed within fifteen (15) days.

**Statistical Treatment of the Data** - For the qualitative phase, thematic analysis was done. It was coded to identify the initial and final themes and to determine the independent variables for the quantitative phase. The weighted mean, generated in SPSS Version 26, was used to describe the extent of financial literacy and the level of sustainable development among the respondents. To establish the significant relationship between the independent variable (IV) and the dependent variable (DV), the statistical software Warp PLS Version 7.0 was used.

**Ethical Considerations** - Ethical considerations were taken seriously to maintain the integrity of the research and protect the respondents in compliance with the Data Privacy Act of 2012 (RA10173). First, an informed consent form was provided, clearly explaining the purpose of the study and how the data would be used. This study strictly observed the ethical standards in conducting the research. The respondents' participation was voluntary, and they were informed of their right to withdraw at any time without consequence. All gathered information was treated with confidentiality and anonymity, and the data was used solely for academic purposes. Moreover, it was disposed of properly in accordance with privacy protocols. No deceptive practices or coercive methods were employed during data collection.

### 3. Results and Discussions

The researcher prepared one open-ended question about the financial literacy of microenterprise owners: "As a microentrepreneur, in what areas of financial literacy do you experience deficiencies or lack confidence? After being informed of the study's purpose, 20 microentrepreneurs voluntarily participated in the qualitative phase and openly shared their views and experiences during the interview. Their responses were presented through both direct and indirect quotations and subsequently condensed into brief phrases capturing the central ideas of each. The data were then systematically coded and grouped into subthemes, as illustrated in Figure 1. Figure 1 presents the web graphic of the initial thematic analysis on financial literacy. The interview sessions identified areas of financial literacy in which the microenterprise owners experienced deficiencies and lacked confidence. Sixteen clusters of themes were initially generated from the responses. This aligns with the study by Padi et al. (2025), which concluded that financial literacy among small- and medium-enterprise owners remains a challenge in developing economies. Similarly, Agyapong and Attram (2019) reported that many small and medium enterprise owners lack the financial knowledge, skills, and awareness necessary to manage their business finances and improve performance and sustainability effectively.

Moreover, the System Theory developed by Newman and Newman (2022) is clearly manifested in Figure 3. The thematic map shows that financial literacy serves as the connecting element, facilitating interaction among these three financial subsystems. Systems Theory explains that when cash management, financial planning, and loan management function effectively together, the enterprise becomes more stable and better able to sustain its operations. However, if one area becomes weak, it can affect the entire financial system of the business. Figure 1 illustrates how the financial practices of microenterprise owners are interconnected. Strengthening financial literacy helps improve how these financial areas work together, enabling business owners to manage resources more effectively, make sound financial decisions, and support the long-term sustainability of their enterprises.

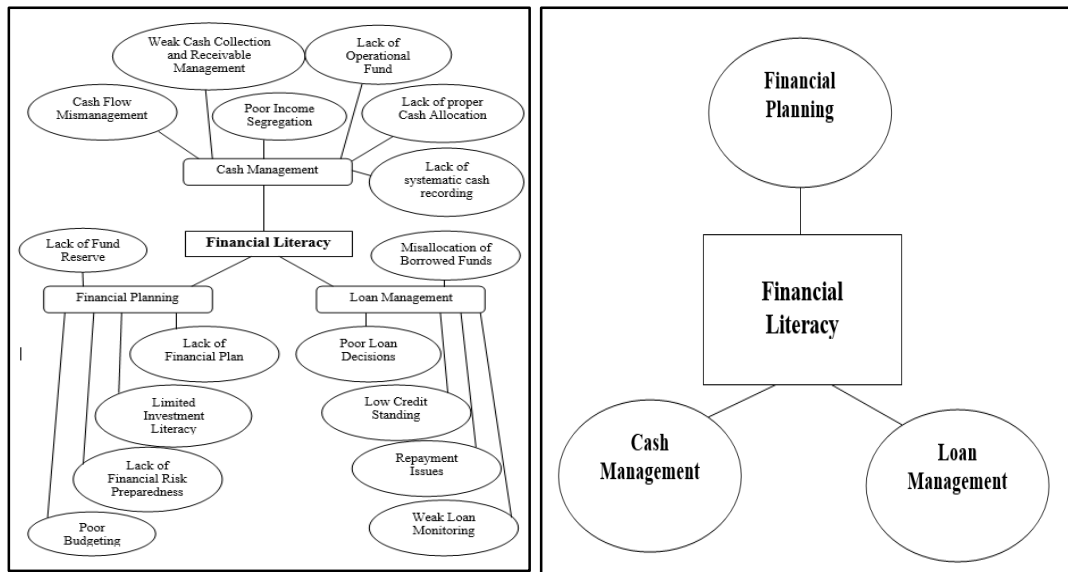
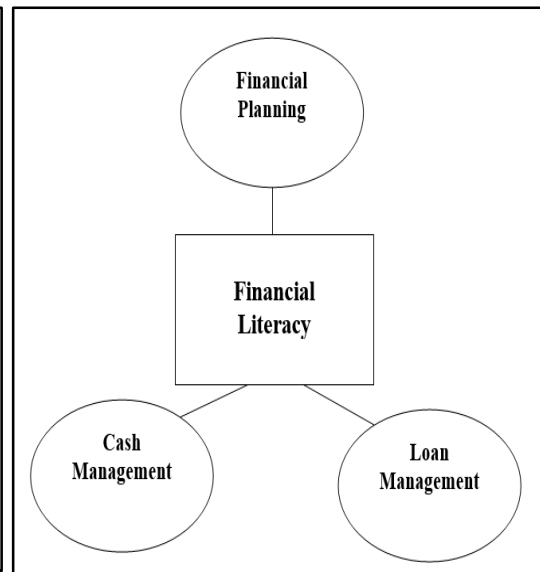


Figure 1. Initial Thematic Map of Financial Literacy      Figure 2. Final Thematic Map of Financial Literacy



The clusters of themes were subsequently refined into three final themes, namely financial planning, cash management, and loan management. These themes served as key indicators of financial literacy to measure its extent among microentrepreneurs. The qualitative results of the study revealed that financial planning, cash management, and loan management are the primary indicators of financial literacy among microentrepreneurs, findings consistent with several existing studies. This is a clear illustration of the Human Capital Theory, which posits that an entrepreneur's financial knowledge significantly affects their performance in managing their business, thereby improving economic outcomes (Aman-Ullah et al., 2022). Financial planning, for instance, reflects the business owner's knowledge and ability to direct their financial resources to achieve stability and sustainability, which are the basic goals of a business. As explained by Salazar et al. (2024), financial planning involves practical actions such as maintaining financial records, controlling expenses, adjusting budgets in response to financial challenges, and preparing for future investments. These activities require a certain level of financial knowledge and discipline, which explains why they naturally surfaced in the participants' responses. Similarly, Samuels (2024) emphasized that financial planning plays a central role in achieving financial stability by supporting goal attainment, efficient resource use, risk management, and long-term financial security. Beyond planning, participants also highlighted the importance of managing daily financial transactions, which aligns with the concept of cash management. Although earlier defined by Ahmad (2016) as the process of monitoring and controlling cash inflows and outflows to maintain liquidity and support business sustainability, this practice remains a critical indicator of financial literacy in real-world business settings, as evidenced by the experiences of microentrepreneurs. Likewise, the theme of loan management emerged from the interviews as many microentrepreneurs rely on borrowed capital to sustain their operations. According to Bancoro (2023), loan management is an essential aspect of financial literacy because it involves identifying appropriate sources of financing, evaluating loan terms, using borrowed funds productively, and ensuring timely repayment.

Table 2 presents the level of financial literacy among microentrepreneurs; all three indicators indicate a high level. These results indicate that the respondents possess adequate financial literacy in terms of financial planning, cash management, and loan management. A high level of financial literacy reflects microentrepreneurs' ability to understand various financial concepts and apply appropriate financial practices. Among the three indicators, financial planning (3.66) got the highest composite mean; this result suggests clear manifestations of the respondents' well-established financial planning practices. These results are also consistent with established frameworks that identify financial planning, proper record-keeping, and setting financial goals as core drivers of microenterprises' sustainability and resilience. Evidently, the Organization for Economic Co-operation and

Development (OECD) concluded from its financial literacy studies that business owners who engage in planning and monitoring practices achieve stronger financial outcomes and higher survival rates (OECD, 2020). Several studies conducted globally have reported similar results. Just like the studies by Samiun et al. (2024) and Odonkor et al. (2024), which show that SMEs in Indonesia are actively engaged in financial planning, sustainable investment, and risk management. In addition, the study by Salazar et al. (2024) showed the same result for microentrepreneurs in Chachapoyas, Peru, indicating that 59% of respondents have a high level of financial planning. Similarly, the study of Guevara et al. (2022) showed that the majority of (52.42%) of the respondents, the microentrepreneurs in Guasave, Sinaloa, Mexico, have the skills and conditions for the financial planning of their business. In contrast, the study conducted by Bancoro (2023) revealed that a significant portion of MSME owners in San Jose, Negros Oriental, demonstrated limited financial planning knowledge and, in practice, neglected this component within their overall financial management framework. Moreover, it highlighted that the gap between knowledge of the importance of long-term planning and its implementation is an area of financial management that requires further education.

**Table 2**

*Mean Extent of Financial Literacy of Microentrepreneurs in terms of Financial Planning, Cash Management, and Loan Management*

Financial Planning	Weighted Mean	Interpretation
1. I prepare a clear long-term financial plan for my business.	3.67	High
2. I regularly set financial goals (e.g., sales, profit targets) for my business.	3.67	High
3. I allocate business funds for future investments.	3.71	High
4. I separate business from personal finances.	3.68	High
5. I monitor financial performance to guide long-term decisions.	3.67	High
6. I maintain financial records to track growth.	3.63	High
7. I believe that financial planning is the key factor in achieving financial security.	3.66	High
8. I believe that long-term investment provides an opportunity to increase wealth.	3.60	High
Composite Mean	3.66	High
<b>Cash Management</b>		
1. I allocate funds for regular business expenses.	3.66	High
2. I record all cash receipts and payments daily.	3.61	High
3. I closely monitor accounts receivable to ensure timely collection.	3.64	High
4. I maintain a record of all credit sales and follow up on unpaid accounts.	3.62	High
5. I separate personal and business cash transactions.	3.49	High
6. I avoid unnecessary cash withdrawals for non-business purposes.	3.59	High
7. I ensure that receipts or vouchers support all cash disbursements.	3.64	High
8. I prioritize payments according to due dates and importance.	3.73	High
Composite Mean	3.62	High
<b>Loan Management</b>		
1. I am aware of the loan products offered by financial institutions.	3.58	High
2. I carefully evaluate loan terms (e.g., interest rate, payment schedule) before borrowing.	3.52	High
3. I use loans primarily for productive business purposes rather than personal expenses.	3.58	High
4. I maintain a good credit record with financial institutions.	3.67	High
5. I prepare repayment plans before availing myself of loans.	3.68	High
6. I avoid over-borrowing beyond the repayment capacity of my business.	3.70	High
7. I regularly monitor my outstanding loan balances to ensure accurate tracking of repayments.	3.63	High
8. I maintain proper documentation of all loan transactions and repayment records.	3.59	High
Composite Mean	3.62	High
Overall Mean	3.63	High

Scale: 3.25-4.00 High; 2.50-3.24 Moderate; 1.75-2.49 Low; 1.00-1.74 Very Low

The same composite mean was observed for loan management (3.62) and cash management (3.62). In terms of loan management, the results imply a greater extent of financial literacy among microentrepreneurs. It is also observed that all eight statements are highly interpretable, with weighted means ranging from 3.52 to 3.70. These results imply that respondents apply loan practices, evaluate loan terms, plan repayments, monitor obligations, and use borrowed funds appropriately. A study by Cabueñas et al. (2025) examined how the level of financial literacy affects borrowers' loan repayment behavior in the Philippines. It concluded that responsible loan management and

monitored repayment are indicators of high financial literacy. Similarly, Agyapong and Attram (2019) concluded that financial literacy in entrepreneurs influences their capacity to assess financing needs and loan products, evaluate loan conditions, and make sound borrowing decisions. The strongest indicator, which obtained the highest weighted mean of 3.70, is the avoidance of over-borrowing and borrowing beyond repayment capacity. It implies that a significant number of respondents exhibit strong financial discipline regarding excessive borrowing. This result is a positive indication of effective loan management, which is essential to the business's financial stability. A study by Lusardi (2019) concluded that those who understood debt better were less likely to take out loans at high interest rates and better able to plan their repayments around their cash flow. Kaiser (2024) further stressed that understanding the terms of a loan immediately lowers the risk of becoming over-indebted.

Lastly, regarding cash management, the high level of financial literacy among microentrepreneurs in San Jose, Occidental Mindoro, is evidenced by a composite mean of 3.62. This implies that a significant number of respondents have a high level of literacy in cash management. In general, microentrepreneurs are expected to have a high level of literacy in cash management because it involves liquidity that directly determines the continuity of business operations, the capacity to meet debts, and overall sustainability. A study conducted by Tao and Sanchez (2025) examined the cash flow practices of microentrepreneurs. They found that proper record-keeping significantly affects a business's ability and sustainability. The strongest indicator, with a weighted mean of 3.73, shows that a significant number of microenterprise owners in San Jose, Occidental Mindoro, demonstrate strong discipline in managing financial obligations by prioritizing payments according to due dates to avoid penalties that could directly affect the business's operational funds. This demonstrates effective working capital management, which is more likely to affect liquidity and operational stability. These results coincide with the study of Yparraguirre (2025), which highlighted that the microenterprise owners in Cantilan, Surigao Del Sur, manifested the same high level of understanding regarding cash flow, monitoring of cash balances, and tracking payments; and with the study of Haavig (2019), which emphasized that practicing bank reconciliation, bookkeeping, and monitoring cash flow are clear manifestations of financial literacy. On the other hand, some studies contradict these results; for example, Ahmad (2016) found that the cash management practices of microentrepreneurs, particularly in the service industry across four states in Malaysia, remain low despite respondents' awareness of their importance.

Overall, the findings are consistent with Corpuz (2022), who concluded that informed financial decisions and favorable financial outcomes can be achieved through microentrepreneurs' financial knowledge, skills, and behaviors. Meressa's (2023) study indicated that financial literacy enables entrepreneurs to make sound financial decisions. Similarly, Deviyanti (2024) found that financial literacy plays a huge part in financial management practices. The study reveals that businesses with higher financial literacy demonstrated sounder financial planning and sound financial decision-making. Lastly, Aguilar et al. (2024) concluded that there is a positive relationship between cash management and business financial performance.

**Table 3**  
*Mean Level of Sustainable Development of Microentrepreneurs in terms of Business Management Decision*

Business Management Decision	Weighted Mean	Interpretation
1. I analyze the history of business sales before making major purchasing decisions.	3.44	High
2. I use clear criteria when selecting business opportunities to avoid impulsive decisions.	3.46	High
3. My decisions related to my business operations are supported by data.	3.44	High
4. I apply strategic techniques when finding appropriate solutions to financial problems.	3.39	High
5. I follow rational processes when making business decisions to ensure the best possible outcomes.	3.42	High
6. I review the factors that impact my credit rating.	3.43	High
7. I apply business literacy to enhance my negotiation skills.	3.43	High
8. I use my business knowledge to mitigate potential risks.	3.42	High

9. I seek external information, such as market trends, when planning product offerings.	3.41	High
10. I analyze my business's capacity to handle potential risks associated with new plans.	3.43	High
Composite Mean	3.43	High

Scale: 3.25-4.00 High; 2.50-3.24 Moderate; 1.75-2.49 Low; 1.00-1.74 Very Low

Table 3 presents the data on the mean level of sustainable development of microentrepreneurs in terms of business management decisions, with a composite mean of 3.43, interpreted as high. This result implies that the respondents are generally able to make informed decisions in managing their business. Such a decision-making practice enables business owners to allocate resources effectively, mitigate risks, and respond to ever-changing market conditions. Entrepreneurship books emphasize that the ability to make informed, analytical decisions is fundamental to enabling small business owners to maintain operational efficiency and long-term viability (Barringer & Ireland, 2019; Scarborough & Cornwall, 2020). Based on the presented data, the strongest indicator, with a weighted mean of 3.46, concerns the respondents' ability to use clear criteria when selecting business opportunities to avoid impulsive decisions. This indicates that microentrepreneurs are carefully evaluating every aspect before investing their resources in potential opportunities. The practice of evaluating opportunity is a big help in ensuring the viability of business initiatives. The study of Karimi et al. (2017) showed that proper assessment of opportunity significantly improves the performance and sustainability of small businesses. Similarly, studies on MSME management also reported that careful evaluation of business opportunities strengthens operational planning and improves enterprise productivity (Capiña, 2021). In addition, Anoo et al. (2020) examined the financial management of MSMEs in Cebu. They found that effective management practices, such as regular evaluation of opportunities, have a significant impact on business performance and longevity. The other indicators also achieved high levels, with weighted means ranging from 3.39 to 3.44. The results indicate that the microentrepreneurs review operational data and business history before making major decisions. Analyzing past business experiences and performances enables entrepreneurs to make purchases more effectively.

According to Barringer and Ireland (2019), business owners can make sound, informed managerial decisions and reduce operational uncertainty by examining the business's sales, purchase, and financial records. Similarly, research on digital transformation among ASEAN MSMEs shows that the use of business information and data analysis strengthens competitiveness and supports business sustainability (ERIA, 2019). The indicator measuring microentrepreneurs' ability to seek relevant information, such as market trends, when planning product offerings, also achieved a high level, with a weighted mean of 3.41. This further indicates that the microentrepreneurs are aware of the importance of market conditions in decision-making. Gathering external information enables them to assess consumer preferences and respond to industry needs, which contributes to the long-term survival of microenterprises (Samson, 2025). Although still interpreted as high level, with a weighted mean of 3.39, the indicator measuring microenterprise owners' ability to apply strategic techniques to find appropriate solutions to financial problems obtained the lowest scores among the statement indicators. This result suggests that while respondents generally apply strategic thinking when addressing financial challenges, there may still be opportunities to further strengthen their strategic financial management skills. Strategic financial decision-making is essential because microenterprises often encounter limited resources and economic instability. According to the Philippine MSME Development Plan 2023–2028, strengthening entrepreneurial competencies such as financial analysis, strategic planning, and informed decision-making is necessary to improve the sustainability and competitiveness of micro and small enterprises in the country (Department of Trade and Industry, 2024).

Table 4 presents the mean Level of Sustainable Development of Microentrepreneurs with respect to Effective Debt Payment and Societal Benefit. A composite mean of 3.52 for effective debt payment, interpreted as high, is presented in Table 10, indicating the mean level of microentrepreneurs in this regard. The results indicate that the microentrepreneurs are making responsible, disciplined debt payments. These also suggest that a significant percentage of respondents are capable of carefully monitoring their debt obligations, creating repayment plans and strategies, and avoiding borrowing-related risks. Various studies on micro and small business financial

management have concluded that business owners' capacity to manage their debts responsibly and make timely repayments significantly impacts the long-term stability of their businesses (Roberts, 2018; Manyanga et al., 2023). Similarly, Morales's (2023) study indicated that business sustainability can also be achieved through owners' responsible borrowing practices and proper record-keeping. The indicator with the highest mean of 3.65 indicates that the microentrepreneurs are knowledgeable about the consequences and risks of excessive borrowing and of settling financial obligations through additional loans. This is a great example of business owners' prudent financial behavior that helps prevent debt accumulation and financial distress. The study by Elliyana et al. (2024), which focuses on the debt management of small and medium enterprises, concluded that business owners who exhibit responsible borrowing behavior are better able to maintain business stability and avoid debt-related risks. On the other hand, Manyanga et al. (2023) revealed that while disciplined borrowing improves business flexibility, enterprises' dependence on debt financing to sustain their operations negatively affects their long-term sustainability. The indicators related to allocating a fixed portion of business revenue to repay and borrow, based on the business's capacity to pay, also achieved high levels. This implies that the microentrepreneurs are practicing repayment planning and strategic borrowing for their business finances. The study by Supriyadi et al. (2024) on microenterprise financing indicated that a business's repayment performance and sustainability are influenced by debt repayment planning. The indicators related to microentrepreneurs' capacity to negotiate with lenders over their repayment terms also achieved a high level, with a weighted mean of 3.53. This result suggests that respondents can communicate with their lenders when they encounter financial difficulties. By negotiating repayment arrangements, they can address short-term cash flow challenges while maintaining good relationships with financial institutions. Kaya (2024) emphasized that open communication between borrowers and lenders is the fundamental means of improving repayments and avoiding defaults. In addition, Kitomo et al. (2020) identified additional ways to improve debt repayment, such as budgeting, monitoring obligations, and maintaining loan records.

**Table 4**

*Mean Level of Sustainable Development of Microentrepreneurs in terms of Effective Debt Payment and Societal Benefits*

Effective Debt Payment	Weighted Mean	Interpretation
1. I review past debt performance data of my business to assess the profitability of planned actions.	3.43	High
2. I assess potential loan risks before implementing new business initiatives.	3.41	High
3. I prepare a repayment schedule for each debt.	3.52	High
4. I allocate a fixed portion of revenue each month specifically for debt payments.	3.59	High
5. I keep complete records of all loan agreements.	3.46	High
6. I regularly review my financial records to ensure all loan-related information is accurate.	3.52	High
7. I avoid taking new loans to cover overdue loan payments.	3.65	High
8. I borrow from financial institutions only when I am sure I can repay the loan.	3.59	High
9. I negotiate repayment terms with lenders when cash flow is tight.	3.53	High
10. I communicated proactively when unable to repay.	3.47	High
Composite Mean	3.52	High
Societal Benefit	4.63	Very High
1. I engage in activities that increase my financial literacy to help reduce the burden on social safety.	3.11	Moderate
2. I participate in activities that help create a more educated citizenry capable of making informed choices.	3.09	Moderate
3. I communicate with government agencies to stay updated about the financial landscape.	3.13	Moderate
4. I conduct assessments of community needs to prevent aggressive competition.	3.23	Moderate
5. My business provides employment opportunities to residents.	3.40	High
6. I buy materials from other local businesses.	3.23	Moderate
7. I consider customer feedback when improving my products or services.	3.61	High
8. I make my products or services affordable to the local community.	3.63	High
9. I take steps to reduce energy in my operations.	3.55	High
10. I properly dispose of waste generated by my business.	3.91	High
Composite Mean	3.39	High

Scale: 4.20-5.00 Very High; 3.40 -4.19 High; 2.60-3.39 Moderate; 1.80-2.59 Low; 1.00-1.79 Very Low

Table 4 also shows that the composite mean level of sustainable development of microentrepreneurs in terms of societal benefit is 3.39, which is interpreted as high. This indicates that the microentrepreneurs are generally integrating socially responsible practices in the daily operations of their businesses, which includes several aspects. The first aspect is creating local jobs, supported by the study by Mile et al. (2022), which concluded that small businesses made a significant contribution to community employment. Other aspects include responding to the community's needs, supporting local industries, and implementing environmentally responsible practices. Balancing economic considerations with social and environmental responsibility reflects the principle of sustainable development (Muñoz & Cohen, 2018). Li (2023) claimed that businesses that implement sustainable practices, such as responsible financial conduct and community involvement, exhibit enhanced operational performance and facilitate poverty alleviation and social welfare. Kannan and Gambetta (2025) explained that the operational practices of sustainability-oriented SMEs play a significant role in advancing sustainable development goals. The study by Carroll and Brown (2018) also highlighted that businesses' responsibility to generate value extends not only to shareholders but also to employees, customers, communities, and the environment.

The strongest indicator, as shown in Table 4, with a weighted mean of 3.91, concerns proper waste disposal. This result clearly indicates that the microentrepreneurs are effectively implementing proper waste disposal practices. This aligns with the study by Casibang and Bilog (2025), which found that microenterprises commonly implement environmental practices, particularly the proper disposal of operational waste. It also indicates that the microentrepreneurs are doing the right thing in managing their waste. This aligns with the study by Semlai et al. (2024), which found that small and medium-sized enterprises achieve sustainability through green marketing practices, emphasizing that these businesses remain competitive despite the need to address environmental demands.

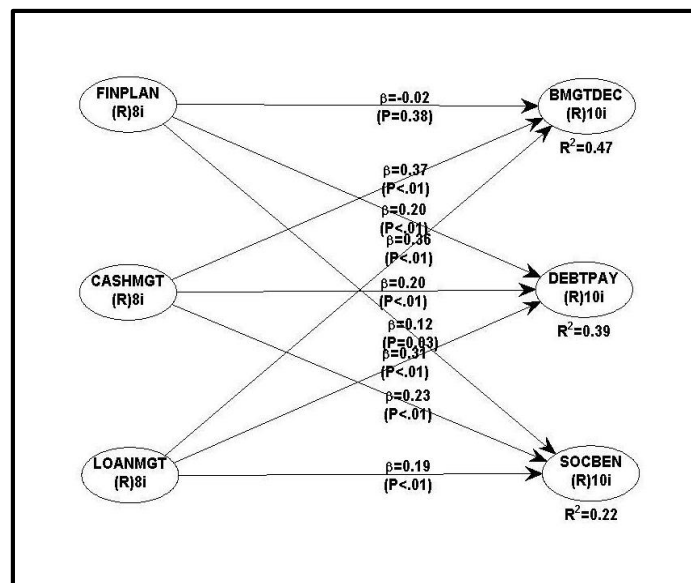


Figure 3. Structural Model of the Relationship Between Financial Literacy and Sustainable Development of Microentrepreneurs

The structural model displayed in Figure 3 illustrates the impact of financial literacy dimensions on the sustainable development of microentrepreneurs. The model was generated by WarpPLS version 7.0 using the Partial Least Squares Structural Equation Modeling (PLS-SEM). The structural model evaluates three exogenous variables or predictors: financial planning (FINPLAN), cash management (CASHMGT), and loan management (LOANMGT) against the endogenous variable or outcome represented by business management decision (BMGTDEC), effective debt payment (DEBTPAY), and societal benefits (SOCBEN). The model uses two primary statistical indicators to determine the strength and validity of these relationships. These are the path coefficients (Beta,  $\beta$ ) and p-values. The beta coefficients represent the strength of the effect, with higher values indicating a

stronger relationship between the variables. The p-values indicate statistical significance, typically less than .05, suggesting the relationship is not due to chance. Coefficients of determination (R<sup>2</sup>) are also found under the endogenous variable and show the percentage of variance in the outcome explained by the three predictors combined. The values range from 0.22 to 0.49. The combined exogenous factors explain 47% of management decisions, 39% of debt payment behavior, and 22% of social benefits.

**Table 5**  
*Beta Coefficients of the Paths and p-values for Ho*

Paths	Beta ( $\beta$ ) Coefficient	p-value*	Interpretation
Ho: Financial Literacy→Sustainable Development			
FINPLAN→BMGTDEC	-0.019	0.378	Not Significant
FINPLAN→DEBTPAY	0.204	<0.001	Highly Significant
FINPLAN→SOCBEN	0.119	0.026	Significant
CASHMGT→BMGTDEC	0.368	<0.001	Highly Significant
CASHMGT→DEBTPAY	0.196	<0.001	Highly Significant
CASHMGT→SOCBEN	0.229	<0.001	Highly Significant
LOANMGT→BMGTDEC	0.365	<0.001	Highly Significant
LOANMGT→DEBTPAY	0.310	<0.001	Highly Significant
LOANMGT→SOCBEN	0.187	0.001	Significant

\*Significant at  $p < 0.05$

Table 5 presents a comprehensive analysis of the path coefficients and their significance levels, which underpin the hypothesis testing results. Significant-to-highly significant analysis is indicated by beta values ranging from 0.119 to 0.368. The endogenous variable, sustainable development, reflects the quality of strategic and operational choices made by the microentrepreneurs. Cash management shows the highest beta coefficient ( $\beta = 0.368$ ,  $p < .001$ ), suggesting that owners' mastery of daily cash flow is the primary driver of sustainable development, given management decisions. Loan Management also shows a strong positive impact ( $\beta = 0.365$ ,  $p < .001$ ). This implies that decisions are heavily influenced by how well the owners handle credit and debt obligations. Meanwhile, financial planning is found to be insignificant in business management decisions, suggesting that, for these microentrepreneurs, long-term planning does not dictate day-to-day management to the same extent as other factors. This result is consistent with the study by Akinyi and Jagongo (2020), which indicated that many small and medium enterprise owners rely mainly on cash flow conditions, present experiences, and short-term financial constraints rather than on long-term financial planning. It is also aligned with the study by Orlando et al. (2022), which emphasized that small- and medium-enterprise owners are more focused on operational costs, cash flow, and day-to-day operational results. It only means that the financial planning may not be the basis of their daily decision-making.

In general, the findings lead to the rejection of the null hypothesis, which posits no significant relationship between the extent of financial literacy and the level of sustainable development among microentrepreneurs, as a significant relationship exists overall, except for financial planning in business management decisions. The data reveal that cash management serves as the anchor of financial literacy for microenterprises, as it is the only variable that strongly and consistently predicts all three dimensions of sustainable development. While financial planning is often considered the most important skill, the structural model shows it is not relevant to management decisions in a microenterprise context. It is likely because microentrepreneurs operate in highly volatile environments where alertness to cash and loan management is more valuable than a strict plan. However, planning remains vital for structural sustainability, such as debt repayment and social impact. The study by Corpuz (2022) is relevant to the current study's results because it concluded that financial literacy directly influences the financial performance and sustainability of microenterprises. Corpuz's research showed that informed financial decisions can be made and favorable financial outcomes achieved through microentrepreneurs' financial knowledge, skills, and behaviors. The finding that cash management is the anchor of microenterprises aligns with Lamatao and Sanchez (2025), who examined the cash flow practices of microenterprises and found that effective cash flow monitoring and proper record-keeping significantly influence a business's profitability and sustainability.

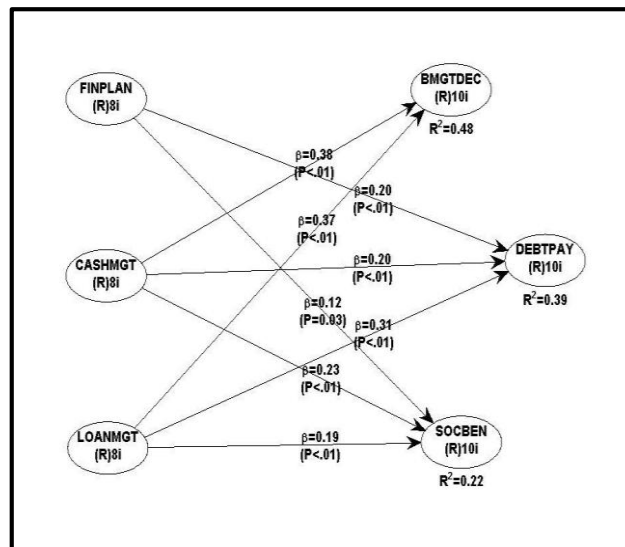


Figure 4. The Emerging Model of the Relationship Between Financial Literacy and Sustainable Development of Microentrepreneurs

In the context of the study, the emerging model in Figure 4 illustrates the direct structural relationships between microentrepreneurs' financial literacy and indicators of their sustainable development. Unlike the structural model, this new model indicates that all hypothesized paths are now statistically significant, suggesting a validated framework in which every dimension of financial literacy plays a distinct role. The emerging model presents path coefficients that represent the strength and direction of the effects, while the p-values confirm statistical significance. In terms of explanatory power, the model accounts for 48% ( $R^2 = 0.48$ ) of the variance in management decisions, a robust finding in social science research. The three literacy factors also account for 39% ( $R^2 = 0.39$ ) of the variance in debt payment performance. The model explains the impact on societal benefits, which accounts for 22% ( $R^2 = 0.22$ ) of the variance. The emerging model provides a clear roadmap for enhancing the sustainability of microenterprises through targeted financial literacy.

**Table 6**  
Standardized Estimates of the Path in the Emerging Model

Hypothesis	Standardized Estimates ( $\beta$ )	Standard Error	p-value*	Effect Coefficient**	Effect Size
Ho: Financial Literacy → Sustainable Development					
FINPLAN → DEBTPAY	0.204	0.060	<0.001	0.105	Small
FINPLAN → SOCBEN	0.119	0.061	0.026	0.041	Small
CASHMGT → BMGTDEC	0.378	0.059	<0.001	0.245	Medium
CASHMGT → DEBTPAY	0.196	0.061	<0.001	0.109	Small
CASHMGT → SOCBEN	0.229	0.060	<0.001	0.100	Small
LOANMGT → BMGTDEC	0.368	0.059	<0.001	0.238	Medium
LOANMGT → DEBTPAY	0.310	0.059	<0.001	0.178	Medium
LOANMGT → SOCBEN	0.187	0.061	<0.001	0.078	Small

\*Significant at  $p \leq 0.05$

\*\* Effect size coefficient: 0.02 – small, 0.15 – medium, 0.30 – large

Based on Table 6, which presents the standardized path estimates in the emerging model, the results reveal how financial literacy dimensions affect the sustainable development of microentrepreneurs. The model evaluates the influence of the exogenous variables (FINPLAN, CASHMGT, LOANMGT) on three endogenous dimensions of sustainable development. Notably, all tested paths are statistically significant ( $p < 0.05$ ). Cash management remains the strongest predictor of management decisions, with a standardized estimate of 0.378 ( $p < 0.001$ ) and a medium effect size (.245), indicating that it is a primary contributor to the operational decisions of microentrepreneurs. Loan management shows a very similar influence with an estimate of 0.368 and a medium effect size (.238). Several studies explicitly supported these findings. One of these is the study by Haavig (2019). This qualitative multi-case study explores the cash management strategies small tavern business owners use to ensure the longevity of their businesses. The study highlighted that cash management strategies benefit not only

businesses but also the community by creating jobs, improving the local economy, and raising the standard of living, all of which are indicators of sustainability. In addition, the World Bank and IFC (2024) highlighted the importance of loan management as a component of financial literacy, as it affects an enterprise's ability to remain in business and continue operating over time.

Regarding the impact on debt payments, loan management is the primary factor, with a beta estimate of 0.310 and a medium effect size of 0.178. Both financial planning (0.204) and cash management (0.196) show small effect sizes (.105, .109). This suggests that while planning and cash flow help, technical loan management is the most decisive factor in successfully paying off debt. Several aspects of loan management greatly affect the effectiveness of debt payment. However, the very first step in effective loan management is identifying the right loans for the business. It also includes the knowledge of what financial institutions offer good interest rates. According to the Global Partnership for Financial Inclusion (2024), informal lending channels often have higher interest rates than banks. Endris (2022) found that limited knowledge of loan products is associated with receiving less favorable credit, making it harder for microenterprises to achieve sustainability. Another important part of loan management is comparing loan terms, including interest rates, amortization schedules, and collateral requirements. Lusardi (2019) found that those who understood debt better were less likely to borrow money at high interest rates and better able to plan their repayments around their cash flow. Kaiser (2024) further stressed that understanding the terms of a loan immediately lowers the risk of becoming over-indebted. Regarding societal benefits, cash management again leads this dimension, with an estimated effect size of 0.229, though it is considered small. Financial planning and loan management both show significant positive correlations with societal benefits, though their effect coefficients are the lowest in the emerging model.

The emerging model confirms the rejection of the null hypothesis for all eight paths, as all p-values are below the 0.05 threshold. The standard error across all paths is consistently low, ranging from 0.059 to 0.061, indicating high precision in these estimates and increasing the model's reliability. Overall, cash and loan management are functional factors in the sustainable development of microentrepreneurs. This implies that their management skills are fundamental to their business's survival. This is in line with the study by Cabildo et al. (2022), which found that cash management is positively related to financial performance, including higher profitability. Like cash management, loan management is also vital to maintaining financial health (Bancoro, 2023).

**Table 7**  
*Proposed Financial Literacy Program for Microentrepreneurs*

Program Component	Objective	Strategies/ Activities	Timeline	Personnel Responsible	Success Indicator	Estimated Budget
1. Financial Literacy Assessment and Profiling	To determine the current level of financial knowledge and financial practices of microentrepreneurs.	Conduct baseline financial literacy surveys and structured interviews focusing on financial planning, cash management, and loan management practices.	Q1 2027	Municipal Planning and Development Office (MPDO), Municipal Business Office, Partner Academic Institution	100% of participating microentrepreneurs were assessed, and a baseline financial literacy profile was established.	₱40,000.00
2. Cash Management Training Workshop	To strengthen the ability of microentrepreneurs to manage cash flow and daily financial transactions.	Conduct training sessions on cash flow monitoring, proper cash allocation, income segregation, receivables management, and basic bookkeeping practices.	Q1–Q2 2027	MPDO, Department of Trade and Industry (DTI)-Negosyo Center	At least 80% of participants demonstrate improved cash management practices, according to the post-training evaluation.	₱90,000.00

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3. Financial Planning and Budgeting Seminar	To improve financial planning skills and strengthen financial preparedness among microentrepreneurs.	Facilitate seminars on budgeting, financial goal-setting, risk management, investment awareness, and the development of simple financial plans for business sustainability.	Q2 2027	MPDO, DTI-Negosyo Center	At least 75% of participants develop a basic financial plan and budgeting framework for their business.	₱80,000.00
4. Responsible Borrowing and Loan Management Training	To enhance the capability of microentrepreneurs to make informed borrowing decisions and manage loans effectively.	Provide training on loan evaluation, credit terms analysis, repayment planning, proper utilization of borrowed funds, and loan monitoring practices.	Q3 2027	MPDO, DTI-Negosyo Center, Microfinance Institutions, Local Banks,	At least 80% of participants demonstrate improved understanding of loan management and repayment planning.	₱70,000.00
5. Financial Mentoring and Monitoring Program	To ensure the continuous application of financial literacy skills in business operations.	Establish quarterly mentoring sessions, financial coaching, and monitoring of financial practices among participating microentrepreneurs.	Q3-Q4 2027	MPDO, DTI-Negosyo Center, Partner Academic Institution	At least 70% of participating enterprises show improvement in financial record-keeping and financial decision-making.	₱100,000.00
6. Financial Sustainability and Growth Forum	To reinforce financial discipline and promote sustainable enterprise growth.	Organize a forum featuring successful entrepreneurs, financial experts, and government support agencies to share best practices in financial management.	Q4 2027	MPDO, DTI-Negosyo Center	Increased awareness of sustainable financial practices among participants; positive evaluation from at least 85% of attendees.	₱60,000.00

This program emphasizes stages that begin with an assessment of microentrepreneurs' financial literacy, followed by targeted financial education, mentoring, and coaching. By establishing a baseline financial literacy profile, relevant government agencies can identify specific gaps in the financial knowledge, skills, and practices of microentrepreneurs (Morales, 2023). Assuming that improvements in financial literacy cannot be achieved through one-time training and seminars, the program includes mentoring and monitoring of microentrepreneurs' application of the financial knowledge they have gained. In addition to this study, this program was supported by various studies. One of these is Kurniasari's (2025) research, which demonstrated that financial literacy significantly improves entrepreneurs' financial management practices. Subsequently, these entrepreneurial practices directly influence sustainability and business performance. Moreover, the study by Culebro-Martinez et al. (2024) indicates that financial literacy strengthens entrepreneurs' ability to manage credit responsibly and make sound borrowing decisions that support business growth. In addition, knowledge-sharing initiatives have been recognized as an effective means of strengthening microentrepreneurs' competencies and financial behaviors (Pinca et al., 2023).

#### 4. Conclusions

Based on the findings, the following conclusions are drawn: The essential components of financial literacy, such as financial planning, cash management, and loan management, require ongoing strengthening among microentrepreneurs to support the sustainable development of their businesses. The extent of financial literacy among microentrepreneurs: Microentrepreneurs have a strong ability to allocate resources for future investments and set financial goals to sustain the business, but long-term planning is not the basis of their daily business operations. Microentrepreneurs exhibit sound cash management practices, enabling them to manage their operational finances efficiently. Microentrepreneurs can effectively manage their business's financial obligations. At the level of sustainable development for microentrepreneurs, sound management decisions are widely practiced in business operations. Microentrepreneurs maintain creditworthiness to avoid financial distress. The microentrepreneurs are driven by a commitment to the community to build long-term sustainability rather than by a mere concern for short-term profits. There is a significant relationship between the extent of financial literacy and the level of sustainable development of microentrepreneurs, except for financial planning as related to business management decisions. Cash management serves as the anchor of financial literacy, leading to sustainability. Formulation and continuous implementation of a financial literacy program that includes evaluation, training, seminars, mentoring, and coaching can enhance microentrepreneurs' financial literacy and support their business sustainability.

**Recommendations** - Based on the study's findings and conclusions, the following recommendations are presented: Microentrepreneurs may be encouraged to engage in activities that strengthen their financial literacy, particularly in financial planning, cash management, and loan management. Even though the data showed they already possess a high level of financial literacy, continuous improvement in these areas remains essential to help them manage their business more effectively. Regarding the Extent of Financial Literacy of Microentrepreneurs, the LGU may collaborate with academic and financial institutions to conduct training for microentrepreneurs on long-term financial planning, including budgeting, to be incorporated into their daily operations. Microentrepreneurs may be encouraged to adopt formal cash control systems, such as cash flow monitoring and proper recording, to strengthen their cash management practices. A collaboration between financial institutions and the LGU may be encouraged to facilitate seminars for microentrepreneurs about loan management and repayment strategies. At the Level of sustainable development, microentrepreneurs may be encouraged to incorporate financial planning and forecasting into their daily decision-making. To maintain creditworthiness, microentrepreneurs may be encouraged to seek guidance from financial institutions about the loan products and repayment plans. Microentrepreneurs may strengthen programs and initiatives that promote community-oriented practices, ensuring their businesses contribute to the community's long-term socio-economic development. LGU, in collaboration with academic and financial institutions, may prioritize cash management training as a core component of sustainability programs, and may also help microentrepreneurs apply financial planning to their business decisions through training and case-based learning. LGU and DTI may administer the financial literacy program for microentrepreneurs, covering the assessment, training, mentoring, and evaluation. They may also be encouraged to assign program coordinators to oversee implementation, monitoring, and continuous improvement. Future researchers may conduct further studies on financial literacy and the sustainable development of microentrepreneurs by incorporating additional variables, expanding to other locations, and using a larger sample size. This may provide deeper insights into the factors that affect the sustainability of microenterprises.

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