



Financial Literacy: Investment Management for Sustainability of MSME in Pulau Pinang

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This article examines how financial literacy education can strengthen investment management capabilities and potentially support the long-term sustainability of Micro, Small, and Medium Enterprises (MSMEs) associated with the Indonesian Community Organization in Penang (PERMAI), Malaysia. Using a descriptive document-based approach, the study analyzes an international community service proposal, its identified educational needs, and relevant literature through the Resource-Based View (RBV). The analysis identifies limited investment management knowledge as a priority concern in the programme rationale and outlines an educational framework covering financial planning, investment risk, and basic investment appraisal techniques, including the Payback Period, Accounting Rate of Return, and Net Present Value. These findings describe the proposed intervention rather than empirically verified improvements in participants' financial competencies or business performance. The practical implication is the development of a context-sensitive financial education framework that may help entrepreneurs make more informed investment decisions. The study's novelty lies in integrating knowledge-based entrepreneurial capabilities with practical investment literacy within an Indonesian migrant community in Malaysia. Further programme evaluation is required to establish educational effectiveness and long-term business outcomes.

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play an important role in supporting economic development, generating employment opportunities, and strengthening community welfare. In Malaysia, these enterprises contribute to local

economic activities while providing opportunities for individuals and families to develop independent sources of income. Nevertheless, maintaining business continuity remains challenging, particularly for entrepreneurs who operate with limited financial resources, relatively simple management systems, and insufficient knowledge of investment planning. As business competition intensifies, financial literacy has become increasingly important in helping entrepreneurs manage available resources, evaluate business opportunities, and make informed financial decisions.

The sustainability of MSMEs depends not only on their ability to generate revenue but also on how effectively business owners allocate financial resources to support future operations and expansion. Entrepreneurs frequently encounter decisions concerning the purchase of equipment, improvements in production capacity, inventory management, and the development of new products or services. Each decision requires an understanding of potential returns, associated risks, and available financial resources. Without adequate financial knowledge, entrepreneurs may invest in activities that appear profitable in the short term but generate financial difficulties over a longer period. Ross et al. (2016) explain that financial management encompasses investment, financing, and operational decisions, all of which contribute to business performance and long-term development.

These challenges are particularly relevant to Indonesian communities residing in Malaysia, including migrant workers who have established small businesses to supplement their employment income or develop independent economic opportunities. Malaysia remains a major destination for Indonesian migrant workers. Data presented by Bank Indonesia and the Indonesian migrant worker placement agency (2024) in the original proposal indicate that approximately 1.861 million Indonesian migrant workers were recorded in Malaysia during the third quarter of 2024. The historical figure follows the programme proposal and should be checked against the archived statistical release before submission.

In Pulau Pinang, the Indonesian Community Organization in Penang (PERMAI) serves as a community-based organization supporting Indonesian residents through social, educational, and cultural activities. Its members come from diverse backgrounds, including migrant workers, professionals, educators, and students. Some members are involved in entrepreneurial activities, making financial management education relevant to their economic development. PERMAI also seeks to strengthen members' capabilities and expand opportunities for economic advancement. Collaboration between universities and community organizations therefore provides a practical means of introducing financial literacy initiatives that respond to the financial management challenges experienced by community-based entrepreneurs.

One of the challenges identified in the community service proposal (Kurniasih et al., 2025) is the limited understanding of financial management among MSME entrepreneurs, particularly regarding investment decisions for business development. Entrepreneurs may recognize the importance of expanding their businesses but lack sufficient knowledge to determine whether an investment is financially feasible. Decisions concerning equipment purchases, business diversification, and capital allocation are sometimes made without systematic consideration of expected returns or potential financial risks. These circumstances underline the importance of introducing practical investment management knowledge that can be understood and applied by entrepreneurs with different educational and business backgrounds.

Financial literacy is widely recognized as an essential component of effective business management. It involves the knowledge, skills, and confidence required to

understand financial information and make responsible financial decisions. For MSME entrepreneurs, financial literacy extends beyond basic bookkeeping and cash management. It also includes understanding business financing, investment alternatives, risk assessment, and financial planning. Effendi (2023) emphasizes the importance of financial literacy education in strengthening MSME competencies and supporting business continuity. Similarly, Muhammad et al. (2024) report a positive relationship between financial literacy and financial management practices among MSME entrepreneurs in Mampang Prapatan, Jakarta.

The urgency of financial literacy development is also reflected in Indonesia's broader financial education landscape. According to the National Financial Literacy and Inclusion Survey (*Survei Nasional Literasi dan Inklusi Keuangan*, SNLIK) conducted by the Financial Services Authority (*Otoritas Jasa Keuangan*, OJK) and Statistics Indonesia (*Badan Pusat Statistik*, BPS), the national financial literacy index reached 65.43% in 2024 (Otoritas Jasa Keuangan & Badan Pusat Statistik, 2024). Although this figure represents financial literacy conditions in Indonesia rather than among MSME entrepreneurs in Malaysia, it illustrates the continuing importance of financial education initiatives. The circumstances of entrepreneurs in Pulau Pinang require a more contextual approach that considers business needs, entrepreneurial experience, and the practical challenges of managing investments within a cross-border community.

Previous studies have provided valuable insights into the relationship between financial literacy and MSME financial decision-making. Faidah et al. (2020) found that financial literacy positively influenced investment decisions among MSME entrepreneurs in Kudus, Central Java. Their findings suggest that financial understanding can contribute to more informed decisions regarding business investment opportunities. Manurung et al. (2023) examined financial literacy and financial management among handicraft MSMEs in Pekanbaru, emphasizing the importance of financial knowledge for managing business resources. These findings indicate that strengthening financial competencies may help entrepreneurs approach business decisions more systematically.

Other studies have explored the relationship between financial literacy, enterprise sustainability, and community welfare. Pratiwi and Budhi (2021) identified a relationship between financial literacy, MSME sustainability, and community welfare in Gianyar, Bali. Their findings suggest that financial knowledge has implications beyond individual business transactions, potentially contributing to the continuity of economic activities and community well-being. Meanwhile, Sitorus et al. (2023) conducted investment literacy activities for MSMEs in Sempakata, Medan, and reported improvements in participants' understanding of investment concepts. Sari and Salsabilla (2024) also highlighted the need to introduce investment knowledge among MSME entrepreneurs to support more informed business development decisions.

Despite these contributions, several gaps can be identified from the literature reviewed in the project proposal. First, the existing studies predominantly address MSME entrepreneurs operating within Indonesia, while the financial education needs of Indonesian entrepreneurs residing in Malaysia receive limited attention in the reviewed material. Entrepreneurs operating in a cross-border environment may face different financial circumstances, business opportunities, and institutional requirements. Consequently, findings from domestic MSME settings cannot automatically be assumed to represent the experiences of Indonesian entrepreneurs in Pulau Pinang.

Second, previous research has frequently examined financial literacy in relation to investment decisions, financial management, or business sustainability as separate areas

of investigation. The practical connection between financial knowledge, the evaluation of investment feasibility, and long-term enterprise sustainability requires further attention within community-based financial education programmes. Understanding investment principles alone may be insufficient unless entrepreneurs can translate that knowledge into practical decisions involving business expansion, capital allocation, and risk management.

Third, the reviewed studies provide relatively limited discussion of how investment management education can be adapted to community organizations supporting migrant entrepreneurs. Financial literacy programmes need to consider differences in participants' knowledge, business experience, and ability to apply financial concepts. A programme that introduces investment appraisal through accessible explanations and practical exercises may offer a useful educational approach. However, whether such an approach improves participants' knowledge or subsequent investment practices must be established through systematic programme evaluation rather than assumed from the training design.

To address these gaps, the present study adopts the Resource-Based View (RBV) as its theoretical foundation. Barney (1991) argues that organizational resources and capabilities can contribute to sustained competitive advantage when they possess characteristics that make them valuable and difficult to replicate or substitute. In the context of MSMEs, financial literacy can be understood as a knowledge-based capability that potentially supports entrepreneurs in making more effective investment decisions. Investment management skills may help business owners evaluate financial opportunities, allocate resources more efficiently, and reduce exposure to avoidable financial risks. From this perspective, financial education is not merely the transfer of theoretical knowledge but also a means of strengthening internal business capabilities that may support long-term sustainability.

Based on these considerations, this study addresses three research questions: (1) What financial literacy and investment management challenges form the basis for developing an educational programme for MSME entrepreneurs associated with PERMAI in Pulau Pinang, Malaysia? (2) How can financial literacy education introduce practical investment planning, investment feasibility assessment, and risk management to support more informed financial decision-making among MSME entrepreneurs? (3) How can improved investment management capabilities potentially contribute to the long-term financial sustainability of MSMEs in Pulau Pinang?

Accordingly, the study aims to identify the principal financial literacy challenges addressed by the community programme, develop a structured educational approach to investment management, and examine the proposed contribution of investment knowledge to sustainable business management. The educational content focuses on financial planning, investment alternatives, risk considerations, and basic investment appraisal techniques, including the Payback Period, Accounting Rate of Return (ARR), and Net Present Value (NPV).

The novelty of this study lies in its integration of financial literacy, practical investment appraisal, and MSME sustainability within the context of an Indonesian migrant community organization in Malaysia. Rather than treating investment knowledge solely as a financial concept, the study positions it as a capability that entrepreneurs can develop through community-based learning. The programme framework also offers an opportunity to connect university expertise with the economic needs of Indonesian entrepreneurs living abroad. By focusing on the educational process and its potential implications for financial decision-making, this study seeks to

contribute to the development of more accessible and context-sensitive financial literacy programmes.

LITERATURE REVIEW

Resource-Based View Theory

The Resource-Based View (RBV) provides a theoretical foundation for understanding how internal resources and organizational capabilities contribute to business performance and long-term competitiveness. Barney (1991) explains that firms may achieve sustained competitive advantage when they possess resources that are valuable, rare, difficult to imitate, and difficult to substitute. These resources are not limited to physical assets or financial capital but also include knowledge, managerial skills, experience, and organizational capabilities.

In the context of MSMEs, financial literacy represents a knowledge-based resource that can support more effective business management. Entrepreneurs who understand financial planning, investment evaluation, and financial risk may be better equipped to allocate limited resources and respond to changing business conditions. However, financial knowledge becomes a meaningful organizational capability when entrepreneurs consistently apply it through financial records, investment planning, and informed decision-making.

The RBV is relevant to this study because many MSMEs operate with limited access to capital and managerial resources. Strengthening financial competencies may help business owners make better use of resources already available to them. Although basic financial literacy does not automatically constitute a rare or inimitable resource, its integration with entrepreneurial experience and business-specific practices may contribute to organizational resilience and competitiveness.

Financial Literacy in MSME Management

Financial literacy refers to the knowledge, understanding, and practical skills required to make informed and responsible financial decisions. For MSME entrepreneurs, it includes the ability to prepare financial plans, manage cash flows, distinguish business finances from personal expenditures, evaluate financing alternatives, and assess investment opportunities.

Financial literacy is particularly important because small business owners frequently perform several managerial functions independently. Limited financial understanding may complicate decisions concerning business expansion, operational expenditure, and resource allocation. Effendi (2023) emphasizes that financial education is important for improving entrepreneurial competencies and supporting business continuity.

Manurung et al. (2023) found that higher financial literacy was associated with better financial management among handicraft MSMEs in Pekanbaru. This finding indicates that financial knowledge is relevant not only to understanding financial concepts but also to managing everyday business activities. From the RBV perspective, financial literacy can therefore be viewed as a capability that becomes valuable through its application to business decisions.

Investment Management and Financial Decision-Making

Investment management involves planning, allocating, monitoring, and evaluating financial resources to generate future economic benefits while considering uncertainty and financial risk. For MSMEs, investment does not necessarily involve purchasing

financial securities. It may include acquiring production equipment, improving business facilities, developing products, or expanding operational capacity.

Ross et al. (2016) identify investment decisions as an essential component of financial management. Such decisions require entrepreneurs to consider expected benefits, investment costs, financing requirements, and potential risks. Several investment appraisal techniques can support this process. The Payback Period (PP) measures the time required to recover the initial investment. The Accounting Rate of Return (ARR) evaluates expected accounting profitability relative to invested capital, while Net Present Value (NPV) assesses investment feasibility by incorporating the time value of money.

For entrepreneurs with limited financial experience, PP and ARR provide relatively accessible introductory tools. However, PP does not account for the time value of money or cash flows after the recovery period, while ARR relies on accounting profit rather than discounted cash flows. NPV offers a more comprehensive financial assessment but requires reliable cash-flow estimates and an appropriate discount rate. Understanding these approaches may help entrepreneurs compare investment alternatives more systematically instead of relying exclusively on intuition.

Financial Literacy and MSME Sustainability

MSME sustainability refers to an enterprise's capacity to maintain business operations, meet financial obligations, adapt to economic challenges, and support continued business development. In this study, sustainability primarily concerns financial and operational continuity rather than environmental sustainability.

Effective investment management may contribute to sustainability by encouraging responsible capital allocation, maintaining adequate liquidity, and reducing exposure to poorly evaluated investments. Nevertheless, financial literacy alone cannot guarantee business continuity, which may also be affected by market conditions, competition, financing constraints, and entrepreneurial experience.

Pratiwi and Budhi (2021) identified a relationship between financial literacy, MSME continuity, and community welfare. Their findings suggest that financial knowledge is relevant to business continuity and community well-being. Viewed through the RBV, financial literacy may support sustainability when acquired knowledge is translated into consistent financial management practices.

Previous Studies and Research Positioning

Previous research provides a foundation for examining financial literacy and investment management among smaller enterprises. Faidah et al. (2020) found that financial literacy had a positive and significant relationship with investment decisions among MSME entrepreneurs in Kudus. Similarly, Manurung et al. (2023) reported that financial literacy was relevant to financial management among handicraft enterprises in Pekanbaru.

Community-oriented studies also demonstrate the relevance of investment education. Sitorus et al. (2023) reported positive educational outcomes from investment literacy activities involving MSMEs in Sempakata, Medan. Sari and Salsabilla (2024) highlighted the need to improve entrepreneurs' understanding of investment opportunities and associated risks.

Although these studies support financial education initiatives, the literature reviewed provides limited evidence concerning investment management education among Indonesian migrant entrepreneurs in Pulau Pinang. The present study addresses

this contextual gap by integrating financial literacy, basic investment appraisal, and potential business sustainability within a community-based educational framework.

Conceptual Framework

Drawing on the RBV, the proposed framework positions financial literacy education as an intervention intended to strengthen entrepreneurs' financial knowledge and investment management capabilities. The programme incorporates financial planning, investment appraisal, and risk awareness as practical competencies that may support more informed financial decisions.

The framework begins with the financial management challenges identified among MSME entrepreneurs associated with PERMAI. These challenges inform the design of investment management education. Improved knowledge and practical assessment skills represent the intended immediate learning outcomes, while stronger financial decision-making and business sustainability represent potential longer-term contributions.

Figure 1. Proposed Conceptual Framework of Financial Literacy and Investment Management for MSME Sustainability in Pulau Pinang.



Note: Arrows represent proposed relationships, not empirically verified effects.

Source: Authors' conceptual development based on Barney (1991) and the reviewed literature.

This framework is conceptual rather than a validated causal model. Its proposed relationships must be examined through appropriate programme evaluation and, where possible, subsequent observation of participants' business practices.

METHODS

Research Design and Approach

This study is designed as a community-based financial education programme employing a participatory and descriptive evaluation approach. The programme focuses

on strengthening financial literacy, particularly investment management knowledge, among MSME entrepreneurs in Pulau Pinang, Malaysia. Rather than examining financial literacy exclusively through statistical relationships, the proposed approach emphasizes the identification of participants' learning needs, the delivery of practical financial education, and the assessment of knowledge and skills relevant to business investment decisions.

The programme is conceptually grounded in the RBV, which emphasizes the contribution of internal resources and organizational capabilities to business competitiveness (Barney, 1991). Within this framework, investment management knowledge is regarded as a potential entrepreneurial capability that can support resource allocation and long-term business development.

The current manuscript uses a descriptive document-based analysis of the community service proposal and relevant studies. For subsequent programme implementation, the proposed evaluation integrates qualitative and quantitative sources of information where available. Qualitative information is intended to identify financial management challenges and participants' experiences, while quantitative assessments are proposed to describe changes in financial knowledge and the ability to evaluate investment alternatives. The programme is not designed as a controlled experiment; therefore, any changes observed after training should be interpreted as descriptive educational outcomes rather than definitive causal effects.

Research Location and Community Partners

The programme was proposed for Pulau Pinang, Malaysia, through collaboration between Universitas Mercu Buana (UMB), Indonesia, and the Indonesian Community Organization in Penang (PERMAI) (Kurniasih et al., 2025). PERMAI supports Indonesian residents in Malaysia through social, educational, and cultural initiatives. Its membership includes migrant workers, professionals, educators, and students, some of whom are involved in entrepreneurial activities.

According to the institutional proposal, PERMAI is headquartered at 66 Jalan Kuantan, George Town, 10150 Pulau Pinang, while its learning centre is located at 2 Jalan Tun Dr Awang, Bukit Jambul, 11900 Bayan Lepas, Pulau Pinang. The precise training venue must be confirmed from implementation documentation.

The programme belongs to the 2024/2025 academic year and was planned over a five-month implementation period covering preparation, coordination, educational activities, evaluation, and reporting. The exact training date and duration of the educational sessions have not been established in the available proposal. PERMAI was expected to facilitate communication with prospective participants, support programme coordination, and help identify financial education needs within the community. The university team was responsible for developing training materials, providing financial management education, and designing an appropriate evaluation process.

Target Participants and Participant Selection

The target population consists of MSME entrepreneurs associated with the Indonesian community in Pulau Pinang, particularly Indonesian migrant workers who operate micro or small businesses. Participants are proposed to be identified through purposive recruitment in collaboration with PERMAI. The selection criteria emphasize involvement in an existing business, interest in business development, and willingness to participate in financial literacy education. Entrepreneurs from different business sectors may be included to accommodate diverse experiences and investment needs.

Participation should be voluntary, with individuals informed about the programme objectives and the intended use of any evaluation data. The final number of participants, their demographic characteristics, business sectors, and entrepreneurial experience must be reported using verified attendance records or other implementation documents. The individual participant constitutes the primary unit of analysis for educational outcomes. Information about participants' businesses may be used to provide context for their financial management challenges and investment decisions.

Data Collection Techniques

The proposed evaluation uses several complementary data collection techniques to obtain information about participants' financial knowledge, educational experiences, and practical investment management capabilities.

First, preliminary needs assessment. Initial discussions with PERMAI representatives and participating entrepreneurs are proposed to identify financial management challenges, existing investment practices, and expectations regarding business development. A brief questionnaire or semi-structured interview may be used to explore participants' experiences with bookkeeping, capital allocation, investment planning, and financial risk.

Second, direct observation. Structured observation during educational sessions can document participation, engagement in discussions, difficulties encountered when applying financial calculations, and responses to practical investment examples. Observation notes would provide qualitative information to complement formal assessments.

Third, financial literacy assessments. A pre-training assessment and a comparable post-training assessment are recommended to measure participants' understanding of investment management. These instruments would focus on basic financial planning, investment alternatives, expected returns, investment risk, and fundamental investment appraisal techniques.

Fourth, practical investment exercises. Participants may be given business scenarios requiring them to identify initial investment costs, estimate financial benefits, and assess investment feasibility using simple financial calculations. Such exercises provide evidence of participants' ability to apply financial concepts beyond merely recognizing their definitions.

Fifth, documentation review. Supporting documents may include educational materials, attendance records, participant worksheets, programme photographs, and evaluation summaries. These documents should be examined only when they are available and can be verified.

Where feasible, follow-up interviews or questionnaires may be conducted after the programme to explore whether participants have applied the knowledge acquired. Such follow-up data would be necessary to discuss changes in business practices, although they would not alone establish long-term business sustainability.

Programme Implementation Procedures

The proposed programme follows five interconnected stages. Stage 1: Preparation and needs identification. The university team coordinates with PERMAI to identify participants, determine priority financial management problems, and prepare educational materials suited to their entrepreneurial backgrounds. The materials emphasize practical financial concepts that can be applied to businesses operating with limited capital.

Stage 2: Financial management education. The introductory session explains the importance of financial planning, cash-flow management, and the distinction between operational expenditure and investment expenditure. Participants are introduced to the role of financial information in maintaining business continuity.

Stage 3: Investment management education. This stage addresses investment objectives, investment alternatives, expected financial returns, and risk considerations. Participants are encouraged to understand investment as a business development decision requiring careful evaluation rather than merely an opportunity to generate additional income.

Stage 4: Investment feasibility assessment. Participants are introduced to basic financial appraisal methods, including the Payback Period (PP), Accounting Rate of Return (ARR), and Net Present Value (NPV). The PP estimates how long an investment takes to recover its initial cost. The ARR compares expected average accounting profit with invested capital, while NPV evaluates expected future cash flows by considering the time value of money. These methods are introduced progressively, beginning with relatively simple calculations and moving toward more comprehensive investment assessments (Ross et al., 2016).

Participants may practise evaluating hypothetical investment alternatives relevant to small businesses, such as purchasing additional equipment or expanding production capacity. Practical exercises should use clearly identified illustrative figures rather than presenting hypothetical calculations as actual business outcomes.

Stage 5: Evaluation and programme reflection. The final stage is intended to assess participants' understanding, review their ability to complete investment exercises, and collect feedback on the relevance and accessibility of the training materials. Evaluation findings may inform recommendations for subsequent financial education activities.

Research Instruments and Measurement Indicators

The proposed evaluation instruments consist of a participant profile form, financial literacy assessment, investment appraisal worksheet, observation checklist, and programme feedback questionnaire. The financial literacy assessment would measure knowledge of financial planning, investment concepts, expected returns, and financial risks. Investment management competence would be assessed through the ability to identify relevant cash flows, perform basic investment calculations, and interpret financial feasibility indicators.

To improve consistency, assessment items and scoring guidelines should be developed before programme implementation. The pre-training and post-training assessments should examine comparable learning objectives. Practical worksheets may be evaluated using a structured rubric covering calculation accuracy, interpretation of results, and consideration of business risks.

The principal outcome indicators are participants' understanding of financial concepts, their ability to apply investment appraisal techniques, and their expressed readiness to use financial analysis in business decisions. Business sustainability is considered a potential longer-term outcome and should not be treated as an immediately measurable consequence of a single educational intervention.

Data Processing and Analysis

Data processing is proposed to begin with reviewing the completeness of evaluation forms, matching individual pre-training and post-training responses where

both are available, and organizing information according to the programme objectives. Quantitative assessment data may be summarized using descriptive statistics, including frequencies, percentages, averages, and individual changes in assessment scores. Knowledge scores can be calculated as the proportion of correct responses relative to the total number of assessment questions. Where valid paired assessments are available, differences between pre-training and post-training scores can describe immediate changes in participant understanding.

Practical investment worksheets may be evaluated by examining calculation accuracy, appropriate selection of appraisal methods, and the ability to interpret whether an investment alternative is financially reasonable. Qualitative information from discussions, observation notes, and participant feedback may be analyzed through thematic categorization. Relevant themes include financial planning difficulties, investment knowledge limitations, perceived business risks, and barriers to applying financial management practices.

The analysis is organized around the three research questions. The first examines the financial management challenges informing the programme. The second evaluates the educational process and participants' understanding of investment management. The third interprets how the competencies developed through financial education might support more informed financial decisions and, potentially, long-term enterprise sustainability.

The interpretation of findings is informed by the RBV, particularly the role of knowledge and managerial capabilities in supporting effective resource utilization. However, the study distinguishes immediate educational outcomes from longer-term business performance and avoids attributing changes in enterprise sustainability directly to the training without sufficient longitudinal evidence.

Ethical Considerations and Methodological Boundaries

Participation in evaluation activities should be voluntary and based on informed consent. Participants' identities and individual business information should be protected through appropriate data handling and anonymous reporting. The study is intended primarily as a community-based educational intervention. Consequently, the findings will depend on the completeness of implementation records and the availability of valid evaluation data. The proposed pre-training and post-training assessment design can describe immediate educational changes but cannot independently establish causality or confirm sustained business improvement.

Evidence concerning long-term MSME sustainability would require additional monitoring of financial practices or business performance beyond the training period. These boundaries are important to ensure that the conclusions remain consistent with the evidence obtained.

RESULT AND DISCUSSION

The discussion is organized around three interconnected areas: financial literacy and investment management challenges among MSME entrepreneurs in Pulau Pinang; the development of investment management education to support informed financial decision-making; and the potential contribution of financial capabilities to long-term business sustainability. The findings presented in this section are derived from an analytical review of the programme proposal, its identified community needs, proposed educational activities, and supporting literature. As the available documentation does

not contain verified participant assessments or post-programme evaluations, the discussion distinguishes between needs identified in the proposal, programme components designed to address those needs, and potential outcomes that require empirical verification.

Financial Literacy and Investment Management Challenges among MSME Entrepreneurs in Pulau Pinang

Financial literacy represents an important managerial capability for MSME entrepreneurs, particularly those operating businesses with limited financial resources and relatively simple administrative systems. In such circumstances, financial decisions are often closely connected to everyday business activities, including purchasing inventory, managing operating expenses, obtaining financing, and allocating capital for future expansion. Understanding these financial responsibilities is essential because business continuity depends not only on the ability to generate income but also on how effectively entrepreneurs manage the resources available to them.

The community service proposal (Kurniasih et al., 2025) identifies limited financial management knowledge as a priority concern among MSME entrepreneurs associated with the Indonesian community in Pulau Pinang. The identified challenges particularly concern investment management and the ability to evaluate financial decisions related to business expansion. The proposal indicates that entrepreneurs require stronger knowledge of how investments are planned, financed, and assessed before financial resources are committed to business development.

These concerns provide the rationale for developing a financial literacy programme in collaboration with PERMAI. However, the proposal does not contain a participant-level baseline assessment demonstrating the prevalence or severity of these challenges. Accordingly, the identified problems should be understood as the programme's initial needs assessment rather than verified measurements of financial literacy among all participating entrepreneurs.

PERMAI provides an institutional setting for delivering financial education to Indonesian residents in Malaysia. Its membership includes individuals from different occupational and educational backgrounds, some of whom engage in entrepreneurial activities. This diversity has implications for programme design because participants may differ in their financial experience, business knowledge, and familiarity with investment terminology.

For entrepreneurs who have limited exposure to structured financial education, investment may be understood primarily as the use of additional capital to increase business income. Although business expansion is an important objective, investment decisions require a broader understanding of financial feasibility. Entrepreneurs need to consider whether expected benefits justify initial costs, whether sufficient cash flows will remain available for daily operations, and whether the investment exposes the business to manageable risks.

This distinction is particularly important for smaller enterprises because available funds frequently serve several purposes simultaneously. Resources used for daily operations may also be needed to replace equipment, maintain inventory, or finance future business opportunities. Consequently, an investment that appears attractive in terms of expected revenue may create financial pressure if its timing, financing requirements, and potential risks are not adequately considered.

Previous studies reinforce the relevance of these issues. Faidah et al. (2020) found that financial literacy had a positive and significant relationship with investment

decisions among MSME entrepreneurs in Kudus, Indonesia. Their findings suggest that financial understanding can support more informed investment choices. Similarly, Manurung et al. (2023) examined financial literacy among handicraft MSMEs in Pekanbaru and reported its relevance to financial management practices. Effendi (2023) also emphasizes the role of financial literacy in strengthening entrepreneurial competencies and supporting business sustainability.

These studies collectively indicate that financial education is relevant to managerial decision-making. Nevertheless, their findings cannot automatically be generalized to Indonesian entrepreneurs operating in Pulau Pinang because differences in business environments, participant characteristics, and access to financial resources may influence how financial knowledge is applied.

The present programme therefore highlights the importance of contextualizing financial education. Participants should not merely be introduced to definitions of investment and financial management. Instead, educational activities should connect financial concepts to decisions commonly encountered in smaller businesses, such as purchasing production equipment, expanding inventory, improving business facilities, or identifying appropriate sources of financing.

From the perspective of the Resource-Based View (RBV), financial literacy can be interpreted as a knowledge-based resource that supports entrepreneurial capabilities. Barney (1991) explains that organizational resources contribute to competitive advantage when they enable businesses to develop valuable capabilities that competitors cannot easily reproduce. In the MSME context, financial knowledge becomes useful when entrepreneurs apply it to actual business decisions.

An entrepreneur who understands the relationship between investment expenditure, expected financial returns, and business liquidity may be better positioned to allocate limited resources responsibly. However, financial literacy by itself does not necessarily constitute a rare or inimitable resource. Its strategic value depends on its integration with entrepreneurial experience, business-specific information, and consistent management practices.

The analysis therefore identifies a central educational requirement: financial literacy programmes should connect theoretical knowledge with the practical capabilities needed to manage business resources. For PERMAI-associated entrepreneurs, the proposed programme responds to this requirement by emphasizing investment planning and basic investment feasibility assessment. This focus extends financial literacy beyond understanding financial terminology and toward developing the ability to evaluate business development opportunities.

Nevertheless, the available evidence does not establish the actual financial literacy level of participants or the frequency with which particular financial management problems occur. These questions would require baseline questionnaires, interviews, or documented observations conducted with the target group. The principal finding from the proposal analysis is therefore the identification of a programme-level need for structured and accessible investment management education. Addressing this need may strengthen entrepreneurs' financial decision-making capabilities, but the extent of improvement must be established through programme evaluation.

Financial Literacy Education and Investment Management for Informed Financial Decision-Making

Financial literacy education becomes more meaningful when participants can relate financial concepts to decisions encountered in managing their businesses.

Although entrepreneurs may understand the importance of generating profits and expanding operations, evaluating whether an investment is financially feasible requires additional knowledge and analytical skills.

The proposed programme addresses this requirement through three principal educational components: financial management, investment management, and investment feasibility evaluation. These components are designed as an interconnected learning process through which participants can move from understanding business financial activities to evaluating possible investment decisions.

The first component focuses on financial management. Entrepreneurs are introduced to the importance of financial planning, financial resource allocation, and the relationship between operating activities and business development. Understanding these concepts is necessary because investment decisions cannot be separated from the broader financial condition of an enterprise.

In practice, a business owner considering the purchase of additional equipment must evaluate not only its acquisition cost but also its implications for operating expenditure, maintenance, production capacity, and available cash. Without such considerations, business expansion may increase financial obligations without producing sufficient additional benefits.

The second component concerns investment management. Investment is presented as the allocation of resources to activities expected to generate future economic benefits. For smaller enterprises, such activities may involve expanding production capacity, purchasing machinery, improving business facilities, or developing new products. This understanding is particularly relevant because investment management is sometimes associated exclusively with financial instruments. Within the programme, however, investment is primarily connected to decisions that support the development of participants' businesses.

Ross et al. (2016) explain that investment decisions form an essential part of financial management alongside financing and operational decisions. These decisions require consideration of expected returns, investment costs, financial uncertainty, and alternative uses of available funds.

The third component introduces investment feasibility evaluation. The programme proposal includes several appraisal methods, particularly the Payback Period (PP), Accounting Rate of Return (ARR), and Net Present Value (NPV). Each method provides a different perspective on investment feasibility.

The Payback Period measures the time required to recover the initial investment from the cash flows generated by the investment. Its simplicity makes it potentially suitable for entrepreneurs who are beginning to learn financial appraisal. By estimating how quickly invested funds can be recovered, entrepreneurs may develop a better understanding of liquidity requirements and capital recovery. Nevertheless, the PP method has limitations because it does not consider the time value of money or financial benefits arising after the investment has been recovered. Consequently, an investment with a shorter recovery period is not necessarily the most economically beneficial alternative.

The Accounting Rate of Return evaluates expected accounting profitability in relation to the amount invested. Using the formulation provided in the programme materials, ARR is expressed as follows:

$$\text{ARR} = (\text{Average Annual Accounting Profit} / \text{Initial Investment}) \times 100\%$$

This method allows entrepreneurs to estimate the percentage return generated by an investment using accounting profit. Its relative simplicity may facilitate financial learning among participants who are unfamiliar with more advanced appraisal techniques. However, ARR does not incorporate discounted cash flows and may be influenced by accounting assumptions. It should therefore be introduced as an initial analytical tool rather than a complete basis for investment decisions.

Net Present Value provides a more comprehensive approach because it considers the time value of money. NPV estimates whether the present value of expected future net cash flows exceeds the initial investment:

$$NPV = -C_0 + \sum [CF_t / (1 + r)^t]$$

Here, C_0 represents the initial investment, CF_t refers to net cash flow in period t , and r represents the appropriate discount rate. A positive NPV generally indicates that a project is expected to generate value under the assumptions used in the calculation. Nevertheless, the reliability of the result depends on the accuracy of cash-flow forecasts and the appropriateness of the selected discount rate.

Introducing these methods progressively may enable participants to understand the strengths and limitations of different investment appraisal techniques. Relatively simple calculations can serve as an entry point, while more advanced methods can provide additional insight for decisions involving longer investment periods or greater financial commitments.

The educational strategy should therefore emphasize practical exercises and discussion rather than relying exclusively on theoretical explanations. Hypothetical examples involving equipment purchases, production expansion, or inventory development may be used to demonstrate how different investment alternatives can be evaluated. These exercises are intended to develop participants' ability to identify investment costs, estimate expected benefits, assess financial risks, and interpret appraisal results. However, the available proposal does not document completed exercises, assessment scores, or participants' performance. Consequently, these activities remain programme components rather than verified learning achievements.

Previous community-based studies support the relevance of this educational direction. Sitorus et al. (2023) reported positive learning outcomes from investment literacy activities involving MSMEs in Sempakata, Medan. Sari and Salsabilla (2024) also emphasized the importance of introducing investment concepts to entrepreneurs who need to strengthen their understanding of business investment opportunities. These studies provide support for investment education as a community empowerment strategy. Nevertheless, their outcomes should not be interpreted as evidence that the proposed programme in Pulau Pinang produced similar results.

From the RBV perspective, the primary contribution of financial education lies in developing knowledge-based managerial capabilities. Financial literacy may help entrepreneurs recognize available resources, understand their limitations, and determine how those resources can be allocated to support business objectives.

The distinction between acquiring knowledge and developing capabilities is important. Participants may understand the definition of NPV without being able to prepare reliable cash-flow estimates. Similarly, an entrepreneur may correctly calculate ARR but still overlook operational risks that affect investment feasibility. Therefore, educational effectiveness should be assessed not only through participants' ability to recall financial concepts but also through their capacity to interpret financial information and apply it to realistic business decisions.

The proposed evaluation framework includes comparable pre-training and post-training knowledge assessments, practical investment exercises, and participant feedback. If these instruments are administered, the results could provide evidence of immediate learning outcomes and areas requiring further explanation. However, no such results are available in the uploaded document. The findings currently support only the existence of an educational design that addresses the identified investment management needs.

The discussion suggests that financial literacy education may serve as a practical mechanism for connecting financial knowledge with business decision-making. Its effectiveness would depend on the relevance of training materials, opportunities for participants to practise calculations, and their ability to apply the acquired knowledge to their business circumstances.

The Potential Contribution of Investment Management Capabilities to Long-Term MSME Sustainability

Long-term MSME sustainability requires entrepreneurs to maintain business operations while responding to financial constraints, market competition, and changing economic conditions. Sustainable business development is not achieved solely through increasing revenue but also through maintaining financial stability, managing available resources, and making investment decisions that support continued operations.

Investment management is particularly relevant because business expansion frequently requires entrepreneurs to commit financial resources before the expected benefits are realized. Decisions involving equipment purchases, business diversification, or additional production capacity can create opportunities for growth, but they may also increase financial exposure. An entrepreneur who allocates a substantial proportion of available capital to an unsuitable investment may experience difficulties financing regular operational requirements. Conversely, carefully evaluated investments may contribute to more efficient production, improved service delivery, or stronger business capabilities.

The programme proposes investment management education as a means of helping MSME entrepreneurs understand these considerations. Financial literacy is therefore positioned not merely as personal financial knowledge but as a potential managerial resource that supports business development decisions.

The relationship between financial knowledge and business sustainability can be interpreted through the RBV. Barney (1991) emphasizes that organizational resources and capabilities contribute to business competitiveness when they support the development and implementation of valuable strategies. Within smaller enterprises, entrepreneurs' financial knowledge may be particularly important because managerial decisions are often concentrated in the business owner. Understanding how to evaluate investments, manage financial risks, and maintain adequate operational resources may strengthen the enterprise's capacity to respond to business challenges.

Nevertheless, financial knowledge must be translated into consistent financial practices before its potential contribution to sustainability can be realized. Entrepreneurs need to incorporate investment evaluation into regular decision-making, maintain relevant financial records, and review the financial consequences of previous decisions.

This interpretation is consistent with Pratiwi and Budhi (2021), who identified a relationship between financial literacy, MSME sustainability, and community welfare. Their study suggests that financial understanding is relevant to business continuity and broader economic well-being. However, a relationship between financial literacy and

sustainability does not necessarily establish that financial education independently causes improvements in business performance. Other factors, including market demand, financing opportunities, production capacity, and entrepreneurial experience, may influence business outcomes.

For Indonesian entrepreneurs associated with PERMAI in Pulau Pinang, financial literacy education may provide an opportunity to strengthen business capabilities within a community-based learning environment. The involvement of a community organization is relevant because educational activities can be developed around shared needs and supported through communication among community members. Such an approach may facilitate the exchange of experiences concerning financial management and business development. However, the existence of a community network should not automatically be interpreted as evidence of improved business performance. Its contribution depends on how actively participants engage in learning activities and apply the resulting knowledge.

The potential contribution of investment management education can be understood through three related dimensions. First, financial resilience. Entrepreneurs who understand investment costs, expected cash flows, and financial risks may be better prepared to avoid excessive commitments of limited business capital. Appropriate investment planning can potentially reduce liquidity pressures and support more responsible financing decisions.

Second, operational continuity. Financially informed investment decisions may help entrepreneurs maintain the resources needed for daily business activities. By evaluating investment priorities and anticipating financial obligations, business owners may become better equipped to balance immediate operational needs with future development objectives.

Third, business development. Knowledge of investment feasibility may support the selection of expansion opportunities that are more consistent with an enterprise's financial capacity. This does not mean every investment will generate positive outcomes, but structured evaluation can provide a more transparent basis for comparing available alternatives.

These dimensions illustrate possible pathways connecting investment management capabilities with enterprise sustainability. However, the pathways remain conceptual until supported by evidence showing that participants have adopted relevant financial practices and that these practices are associated with subsequent business outcomes.

The proposed community education programme primarily addresses the initial stage of this process by developing financial understanding and investment appraisal knowledge. Immediate evaluation could therefore focus on participants' ability to recognize investment risks, perform basic calculations, and interpret financial feasibility results.

Longer-term evaluation would require additional evidence concerning whether participants use these competencies in business decisions. Relevant indicators might include the adoption of investment planning procedures, preparation of financial forecasts, maintenance of liquidity reserves, and more systematic monitoring of business investment outcomes. A stronger assessment of sustainability would additionally examine business continuity, operating cash-flow conditions, and financial performance over an appropriate observation period. Such information would help distinguish educational achievements from actual changes in business management practices.

The available programme proposal does not provide post-training observations, financial performance records, or longitudinal evidence concerning participating enterprises. Therefore, it is not possible to conclude that the proposed educational programme has improved profitability, reduced financial risk, or strengthened business sustainability.

Nevertheless, the programme design offers a theoretically supported approach to strengthening entrepreneurial capabilities. Financial literacy education is linked to practical investment management, which may improve the quality of resource allocation decisions when applied consistently. This relationship is consistent with the RBV's emphasis on the strategic importance of knowledge and capabilities. The programme's potential contribution lies in helping entrepreneurs convert financial understanding into practical managerial competence rather than treating financial literacy as an isolated educational outcome.

Accordingly, the analysis indicates that investment management education can be considered a relevant component of MSME empowerment. Its contribution to sustainability should be understood as a plausible longer-term outcome requiring further evaluation rather than an established result of the proposed intervention.

Synthesis of Findings and Theoretical Implications

The analysis of the proposed financial literacy programme identifies three interconnected contributions. First, the programme responds to financial management and investment knowledge challenges identified in its preliminary community needs description. These challenges highlight the relevance of providing accessible financial education to MSME entrepreneurs associated with the Indonesian community in Pulau Pinang.

Second, the programme integrates financial management, investment principles, and basic appraisal techniques into a structured educational approach. This integration provides a practical framework for helping entrepreneurs move from understanding financial concepts to evaluating investment alternatives.

Third, the programme establishes a conceptual connection between investment management capabilities and long-term MSME sustainability. Through the Resource-Based View, financial literacy is positioned as a potentially valuable internal capability that may support more effective resource allocation and informed managerial decisions.

The theoretical implication is that financial literacy should be evaluated not only as knowledge possessed by entrepreneurs but also as a capability demonstrated through their financial practices. This distinction helps explain why financial education requires practical application and, ideally, follow-up assessment.

The practical implication concerns the importance of designing investment education around the actual characteristics and business needs of participants. Introductory financial concepts, accessible investment appraisal exercises, and opportunities for further mentoring may help bridge the gap between financial understanding and business application. Overall, the proposal-based analysis provides a foundation for an investment management education programme designed to support MSME entrepreneurs in Pulau Pinang. While its theoretical rationale and intended educational components can be established from the available documentation, conclusions about programme effectiveness and actual business sustainability must await verified implementation and evaluation evidence.

CONCLUSION AND RECOMMENDATIONS

This study examines the role of financial literacy education in strengthening investment management capabilities and supporting the potential sustainability of MSMEs associated with PERMAI, Malaysia. Based on the analysis of the programme proposal and supporting literature, three main conclusions can be drawn.

First, the programme identifies limited financial management and investment knowledge as priority educational concerns among its target community. These concerns highlight the importance of developing accessible financial education that addresses investment planning, capital allocation, financial risk, and the evaluation of business development opportunities. However, the extent of these challenges among individual entrepreneurs remains to be established through systematic baseline assessment.

Second, integrating financial management concepts with practical investment appraisal provides a structured approach to entrepreneurial financial education. The proposed introduction of the Payback Period, Accounting Rate of Return, and Net Present Value offers complementary methods for understanding investment feasibility and making more informed financial decisions. Their practical effectiveness will depend on participants' understanding and ability to apply these methods to their businesses.

Third, the Resource-Based View (RBV) provides a theoretical explanation for the potential contribution of investment management knowledge to business sustainability. Financial literacy may become a valuable managerial capability when entrepreneurs consistently apply it to resource allocation and investment decisions. Nevertheless, the available documentation does not establish that the proposed educational programme has improved participants' financial knowledge, investment behaviour, or enterprise performance.

Overall, the study provides a conceptual and programme-based foundation for financial literacy education among Indonesian entrepreneurs in Pulau Pinang. Its contribution lies in connecting practical investment management education with entrepreneurial capability development and potential long-term business sustainability.

Recommendations

The proposed programme should prioritize practical, accessible financial education that reflects the business characteristics and financial experiences of participating entrepreneurs. Training materials should combine financial management concepts with realistic investment appraisal exercises and discussions of financial risks.

Universitas Mercu Buana and PERMAI are encouraged to develop structured participant assessments, provide opportunities for practical financial calculations, and consider follow-up mentoring to support the application of acquired knowledge. Future activities should also incorporate monitoring mechanisms that examine whether participants adopt more systematic investment planning and financial management practices after training.

Research Limitations

This study is limited by its reliance on a community service proposal and supporting academic literature. Verified implementation records, participant-level assessments, and post-training evaluations were unavailable. Consequently, the analysis cannot establish improvements in financial literacy or investment management capabilities.

The study also does not provide longitudinal financial information sufficient to evaluate changes in business profitability, resilience, or sustainability. Its conclusions are therefore conceptual and programme-oriented rather than evidence of causal relationships. Future research should incorporate documented programme implementation, participant assessments, practical investment exercises, and follow-up observations to evaluate educational outcomes and their potential contribution to enterprise sustainability.

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