Financial Management Literacy and Costing Practices: Evidence from Micro-Entrepreneurs in Kelantan

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Abstract -- This study investigated the relationship between financial management literacy, costing practices, and business sustainability among micro-entrepreneurs in Kelantan, focusing on those registered with TEKUN Nasional, Amanah Ikhtiar Malaysia (AIM), and MARA. Using a quantitative survey, data were collected from 200 respondents across four districts, and analyzed using SPSS and PLS-SEM. The findings revealed that while financial literacy levels were moderate, the adoption of structured costing practices remained low, with fewer than one-third of entrepreneurs applying formal tools such as budgeting or break-even analysis. Structural modeling confirmed that financial literacy had a significant effect on costing practices ($\beta = 0.43$, $p < 0.001$) and, indirectly, on business sustainability. Costing practices were also found to significantly influence sustainability ($\beta = 0.37$, $p < 0.01$), validating the Resource-Based View (RBV) and Contingency Theory. The study concluded that financing support alone is insufficient unless complemented by financial literacy and practical costing adoption. The results provide theoretical contributions to SME literature and practical insights for policymakers and agencies in strengthening micro-enterprise resilience in Kelantan.

Keywords— Financial literacy; Costing practices; Business sustainability; Micro-entrepreneurs; Kelantan

I. INTRODUCTION

Micro-entrepreneurs form the backbone of Malaysia's grassroots economy, representing **70.1% of all MSMEs** (761,897 firms) and contributing **39.5% of Malaysia's GDP** through value added of approximately RM 652.4 billion (SME Corp, 2023; DOSM, 2024). In Kelantan, about **5.1% of SMEs** are located in the state, with most operating in food stalls, retail, handicraft, and night markets (UMK, 2023). These entrepreneurs play a crucial role in household income and rural business, often supported by TEKUN Nasional, Amanah Ikhtiar Malaysia (AIM), and Majlis Amanah Rakyat (MARA) through microfinancing and training programs. Despite this institutional support, **survival rates of micro-businesses remain low**, with many failing to sustain operations beyond the first three years due to weak financial management practices (SME Corp, 2023).

A major barrier lies in limited knowledge of **financial management literacy**. Many entrepreneurs continue to rely on mental calculations, handwritten notes, or competitor-based pricing rather than systematic financial planning. Basic practices—such as separating personal and business accounts, maintaining transaction records, and preparing budgets are often neglected. As a result, micro-entrepreneurs face underpricing, poor cash flow management, and difficulties in loan repayment, particularly among those receiving microfinancing (Ali et al., 2021; Haron & Ibrahim, 2022). The **National Strategy for Financial Literacy 2019–2023** has identified micro-entrepreneurs as a priority group requiring targeted interventions (Bank Negara Malaysia, 2023). These actions seem as a tools to helps the survivals of micro-business.

While several studies have explored financial literacy among SMEs, there is limited research focusing on **micro-entrepreneurs in Kelantan**, who face unique challenges such as limited access to formal training, reliance on informal community networks, and sensitivity to raw material price fluctuations. Addressing this gap is crucial for understanding how financial literacy translates into costing practices and, ultimately, business sustainability. Consequently, there is a pressing need for localized research to determine how these specific socio-economic factors influence the financial decision-making and long-term viability of Kelantanese micro-enterprises.

Grounded in the **Resource-Based View (RBV)** and **Contingency Theory**, this study argues that financial literacy represents an intangible resource that enhances competitiveness, while costing practices must be adapted to the specific context of micro-entrepreneurs. By applying these theoretical perspectives, the research explores how literacy and costing practices jointly influence business outcomes.

The study has four objectives:

- Assess the level of financial literacy among micro-entrepreneurs in Kelantan.
- Identify the costing methods use by micro-entrepreneurs in Kelantan.
- Analyze the relationship between financial literacy and costing adoption
- Evaluate the impact of costing practices on business sustainability.

This research contributes in three key areas. **Academically**, it fills a gap by linking financial literacy and costing practices in an underexplored context. **Practically**, it provides actionable insights for TEKUN, AIM, and MARA to design more targeted and effective training programs. **Policy-wise**, it informs strategies to strengthen the resilience of Kelantan's micro-enterprises, thereby contributing to Malaysia's broader agenda of inclusive and sustainable economic development

II. LITERATURE REVIEW

A. Micro-Entrepreneurs in Malaysia and Kelantan

Micro, small, and medium enterprises (MSMEs) are vital to Malaysia's economy, contributing **39.5% to GDP** and employing nearly half of the workforce (DOSM, 2024). Within this segment, micro-entrepreneurs account for more than **70% of registered businesses**, with concentration in food, retail, and services (SME Corp, 2023). In Kelantan, about **5.1% of national SMEs** are located in the state, dominated by micro-traders in food stalls, night markets, and handicrafts (UMK, 2023). Despite institutional support from TEKUN, AIM, and MARA, the sustainability of these micro-enterprises remains fragile, with high closure rates reported within the first three years of operation (Abdullah et al., 2022). Scholars consistently argue that the absence of structured financial practices is a major factor undermining resilience (Rahman & Mohd Noor, 2021).

B. Financial Management Literacy

Financial literacy is broadly defined as the knowledge, skills, and attitudes required to make informed financial decisions (Lusardi & Mitchell, 2014). In the entrepreneurial context, it includes budgeting, cash flow monitoring, cost classification, and record-keeping. Recent studies confirm that higher levels of financial literacy improve profitability, repayment ability, and sustainability (Ali et al., 2021; Oseifuah, 2020; Haron & Ibrahim, 2022). However, evidence from Malaysia shows that many micro-entrepreneurs, especially those in rural states like Kelantan, have limited exposure to training and often rely on informal practices such as mental calculations or competitor-based pricing (Salleh et al., 2020; Aziz et al., 2021).

Critics note that while financial literacy is necessary, it may not be sufficient on its own. Some researchers argue that its impact on performance is often mediated by access to advisory support, cultural attitudes toward risk, and the entrepreneur's willingness to formalize business practices (Rahman & Mohd Noor, 2021; Fatoki, 2020). This suggests that literacy alone may not guarantee adoption of sound financial practices without complementary institutional support.

C. Costing Practices in Micro-Enterprises

Costing practices are essential for accurate pricing, expense control, and profitability monitoring. Yet, studies show that most micro-entrepreneurs avoid structured costing methods such as activity-based costing, viewing them as too complex or unnecessary for small operations (Yazid & Sulaiman, 2019; Haron & Ibrahim, 2022). Instead, they often depend on intuition or competitor benchmarks, leading to underpricing and unstable margins. Research in East Coast Malaysia reported that more than 60% of micro-traders failed to account for hidden costs such as depreciation and opportunity costs, exposing them to long-term financial risk (Aziz et al., 2021).

However, evidence also shows that entrepreneurs exposed to **simple costing tools**—such as break-even analysis, cash flow templates, or digital bookkeeping apps—demonstrated stronger cash flow management and repayment capacity (Ali et al., 2021; Nkundabanyanga et al., 2019). The contrast highlights that while micro-entrepreneurs resist complex costing systems, simplified tools aligned with their scale can yield

significant benefits.

D. Linking Financial Literacy, Costing Practices, and Business Sustainability

The connection between financial literacy and costing practices has become increasingly evident. Fatoki (2020) found that financial literacy directly influences the likelihood of adopting sound financial practices, which in turn enhance sustainability. Similarly, Nkundabanyanga et al. (2019) identified financial management capability as a predictor of SME performance across developing contexts. Yet, despite these findings, limited empirical research focuses on Kelantan, where socio-cultural characteristics (e.g., family-based management, informal networks) may shape how literacy translates into practice.

Theoretically, the **Resource-Based View (RBV)** conceptualizes financial literacy as an *intangible resource* that provides a competitive advantage (Barney, 1991). At the same time, the **Contingency Theory** stresses that management practices must fit organizational size and context (Donaldson, 2001). Applying these perspectives, this study argues that literacy alone is insufficient; its effectiveness depends on whether costing practices are adapted to the realities of micro-trading in Kelantan.

III. METHODOLOGY

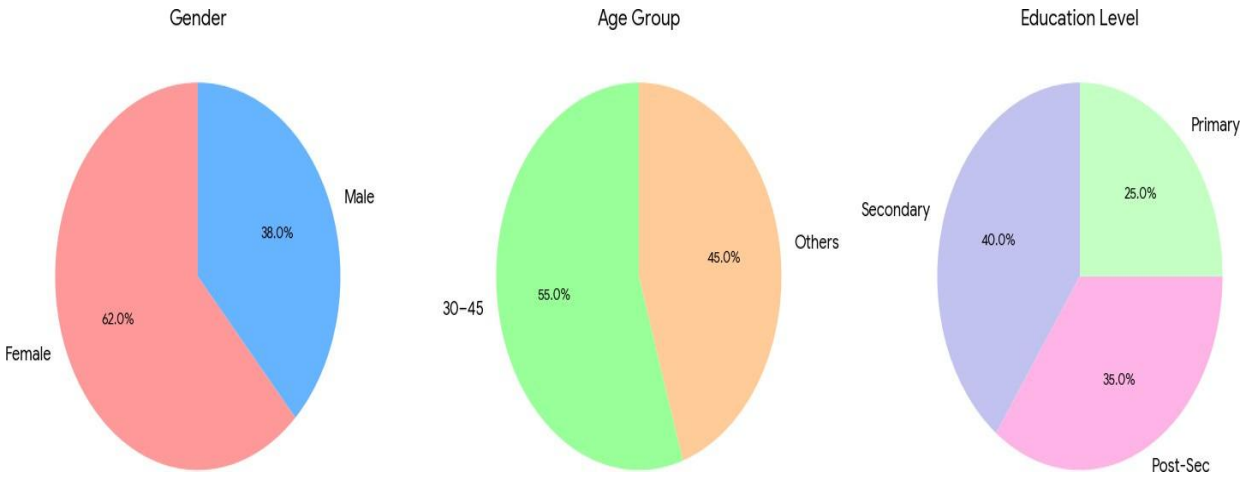
A. Research Design

This study employed a **quantitative survey design** to examine the relationship between financial management literacy, costing practices, and business sustainability among micro-entrepreneurs in Kelantan. The design was appropriate as it enabled data collection from a large sample in a standardized manner, facilitating statistical analysis and hypothesis testing. However, the cross-sectional nature of the survey limited the ability to establish causality. Longitudinal or panel studies may offer deeper insights into how literacy and costing practices evolve over time.

B. Population and Sampling

The population consisted of micro-entrepreneurs registered with **TEKUN Nasional, Amanah Ikhtiar Malaysia (AIM), and MARA** in Kelantan. A **stratified random sampling** method was used to ensure sectoral representation across food and beverage, retail, services, and handicrafts.

A total of **220 questionnaires** were distributed in four districts—Kota Bharu, Machang, Pasir Mas, and Tumpat. After screening, **200 valid responses** were retained (91% response rate). Respondents were 62% female and 38% male, with 55% aged 30–45. Educational backgrounds varied: 40% had secondary education, 35% post-secondary qualifications, and 25% only primary education.



While this sampling frame ensured diversity, its scope was limited to Kelantan, constraining generalizability to other Malaysian states where micro-entrepreneurs may face different challenges. Future studies could expand the geographical coverage or conduct comparative state-level analyses.

C. Measurement and Instrument Development

The survey comprised four sections:

*1) **Demographics** (gender, age, education, sector, agency registration).*

*2) **Financial Management Literacy** – adapted from Lusardi & Mitchell (2014), covering record-keeping, budgeting, cash flow monitoring, and cost classification (10 items).*

*3) **Costing Practices** – adapted from Haron & Ibrahim (2022), measuring pricing methods, cost tracking, and use of tools such as break-even analysis (8 items).*

*4) **Business Sustainability** – adapted from Fatoki (2020), capturing profitability, cash flow stability, and repayment capacity (7 items).*

All items were rated on a **5-point Likert scale** (1 = strongly disagree to 5 = strongly agree). Although these measures were adapted from established scales, contextual differences between global frameworks and local Kelantanese micro-entrepreneurs may affect interpretation. This underscores the need for careful cultural adaptation and potential future use of mixed-method validation (e.g., interviews) to complement survey data.

D. Data Collection Procedures

Data collection occurred between **March and May 2024**, during agency-organized training sessions and through field visits to micro-business premises. Respondents were briefed on the study's purpose, and participation was voluntary. Enumerators assisted respondents with limited literacy by clarifying items in simple Malay.

The reliance on self-reported data introduced risks of *social desirability bias*, as respondents may have overstated their financial practices. To mitigate this, anonymity was emphasized, but future research could incorporate triangulation with financial records or observational data for more objective insights.

E. Reliability and Validity

Data screening confirmed suitability, with no significant missing values. **Cronbach's Alpha** values ranged between **0.78–0.86**, showing internal consistency. **Kaiser-Meyer-Olkin (KMO)** values exceeded 0.7, and Bartlett's test was significant ($p < 0.001$), confirming construct validity. Despite these strong indicators, the exclusive use of quantitative measures may not capture nuanced socio-cultural factors influencing financial behavior. Future studies could apply qualitative or mixed-method approaches to provide richer perspectives.

F. Data Analysis Strategy

Data were analyzed using **SPSS 26** and **SmartPLS 4.0**. Descriptive statistics summarized demographics and item responses. Pearson correlation tested bivariate relationships, while **Partial Least Squares Structural Equation Modeling (PLS-SEM)** assessed hypothesized relationships among financial literacy, costing practices, and business sustainability. Path coefficients, R^2 values, and bootstrapping confirmed relationship significance and strength.

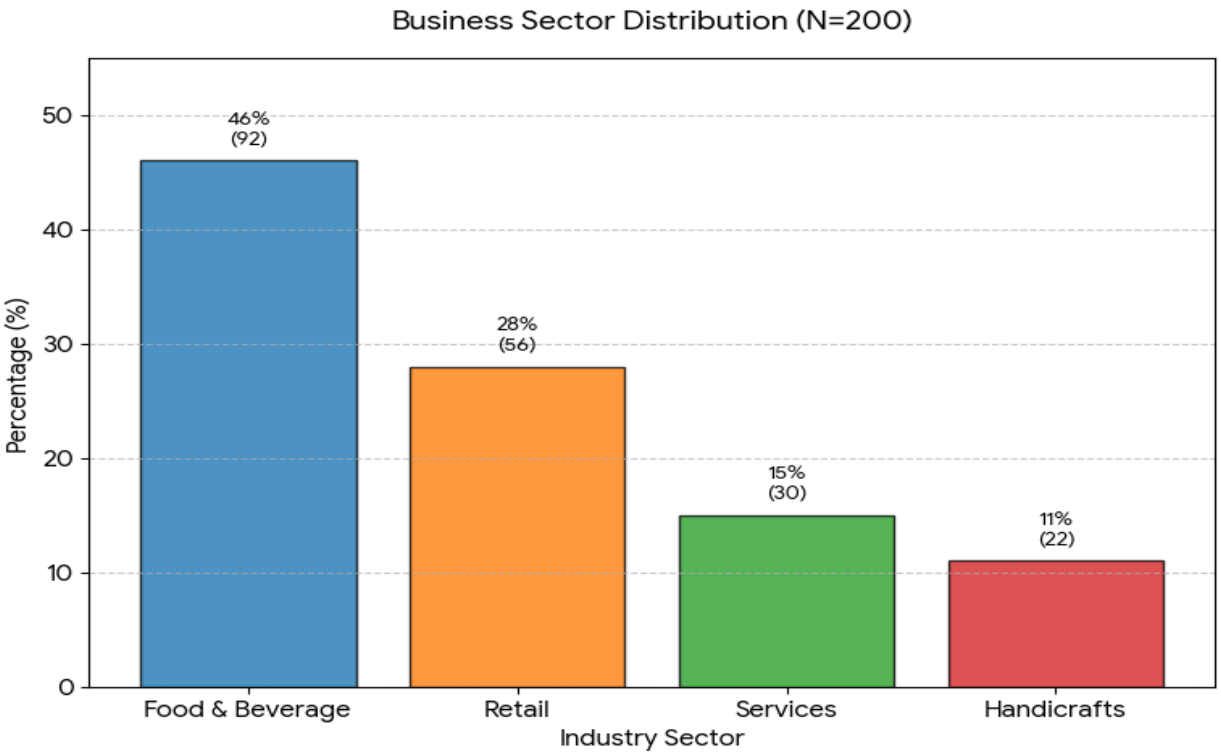
G. Ethical Considerations

Ethical clearance was obtained from the university's research ethics committee. Participation was voluntary, informed consent was secured, and confidentiality was assured. Data were reported in aggregate form only.

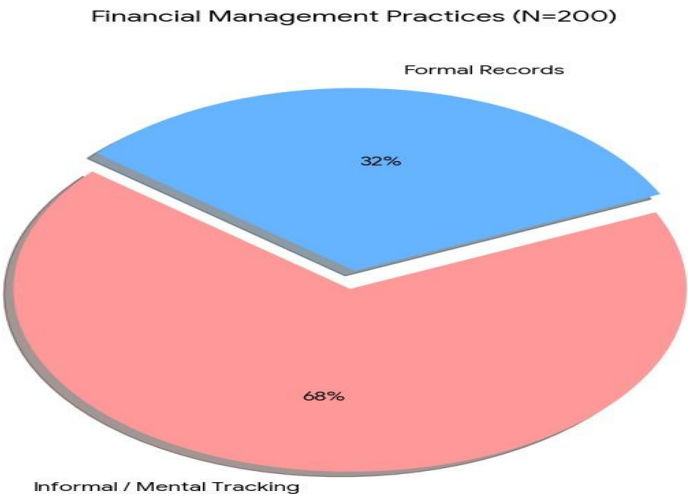
IV. FINDINGS AND DISCUSSION

A. Descriptive Results

A total of **200 valid responses** were analyzed. The majority of respondents operated in the **food and beverage sector (46%)**, followed by retail (28%), services (15%), and handicrafts (11%). Financial support distribution showed **42% registered with TEKUN**, **38% with AIM**, and **20% with MARA**.



Regarding financial management practices, only **32% of respondents maintained formal financial records**, while 68% relied on informal notes or mental tracking. Approximately **29% prepared budgets regularly**, and just **24% applied costing tools** such as break-even analysis. These figures are even lower than Aziz et al. (2021), who reported about 40% adoption of costing practices among micro-traders in Terengganu, suggesting that Kelantanese entrepreneurs face deeper challenges in financial formalization.



Sectoral variation was also evident. Food and beverage traders were more likely to adopt simple costing methods (31%) compared to handicraft traders (18%), indicating that sectors with higher turnover and perishable inputs had greater incentive to apply costing. However, across all sectors, adoption levels remained below 35%, underscoring systemic weaknesses in financial practice.

B. Correlation Analysis

Correlation analysis indicated a **positive and significant relationship** between financial literacy and costing practices ($r = 0.46$, $p < 0.01$), and between costing practices and business sustainability ($r = 0.41$, $p < 0.01$). These results reinforce the role of literacy as a driver of sound costing adoption and, indirectly, business resilience.

C. Structural Model (PLS-SEM)

The PLS-SEM results revealed:

- **Financial Literacy → Costing Practices**: $\beta = 0.43$, $p < 0.001$. This represents a **moderate effect size** (Cohen, 1988), indicating that literacy significantly shapes costing adoption.
- **Costing Practices → Business Sustainability**: $\beta = 0.37$, $p < 0.01$. This also reflects a **moderate effect**, showing costing is central to sustaining micro-businesses.
- **Financial Literacy → Business Sustainability** (direct effect): $\beta = 0.18$, $p < 0.05$. Although significant, the effect is **small**, suggesting literacy improves sustainability primarily through costing.

The model explained **42% of variance in business sustainability ($R^2 = 0.42$)** and **47% of variance in costing practices ($R^2 = 0.47$)**. These R^2 values are considered moderate, comparable to Fatoki (2020), who found R^2 between 0.40–0.50 in SME performance models.

D. Discussion

The findings reinforce the argument that **financial literacy is an enabling resource** but only impactful when translated into practice. While literacy had a direct effect on sustainability, its smaller coefficient compared to the literacy–costing–sustainability path indicates that **literacy works mainly through costing adoption**. This nuance confirms Rahman & Mohd Noor (2021), who argued that knowledge without action remains ineffective.

The results also validate the **Resource-Based View (RBV)**, framing financial literacy as an *intangible resource* that enhances competitiveness when applied, and the **Contingency Theory**, which stresses that practices must align with the enterprise context. In Kelantan, the low adoption of formal costing suggests that traditional accounting systems are poorly fitted to the socio-cultural reality of family-based, informal businesses. Many traders rely on community norms—"ikut cara orang kampung" (following peer practices)—rather than structured tools, which explains the persistent informality.

Compared to national averages reported by SME Corp (2023), Kelantanese micro-entrepreneurs showed weaker record-keeping and costing adoption. This highlights a **regional gap** that may be shaped by education levels, cultural reliance on informal networks, and limited exposure to training. Such socio-cultural dimensions require more attention in entrepreneurship research, as they influence the translation of literacy into practice.

From a policy perspective, the findings stress that financing alone is insufficient. Agencies like TEKUN, AIM, and MARA must integrate **financial literacy and costing modules** into their programs, delivered in practical and culturally accessible formats. Examples include Malay-language mobile apps for bookkeeping, standardized templates for cost tracking, and community-based workshops demonstrating simple break-even analysis.

E. Critical Reflection

Despite providing empirical support for the literacy–costing–sustainability link, this study faced several limitations. First, reliance on **self-reported survey data** may have introduced *social desirability bias*, where respondents overstated good practices. Second, the **cross-sectional design** prevents causal inference,

limiting the ability to claim long-term effects. Third, the scope was confined to Kelantan, restricting generalizability. Finally, the instruments were adapted from global scales, which, while reliable, may not fully capture local cultural nuances.

Future research should adopt a **mixed-method design** by triangulating survey data with financial records or interviews to validate practices. Longitudinal studies tracking entrepreneurs over multiple years would also clarify whether training interventions translate into lasting behavioral change. Comparative studies between Kelantan and other states could further highlight regional differences in literacy and costing practices.

V. CONCLUSION AND RECOMMENDATIONS

Conclusion

This study investigated the relationship between financial management literacy, costing practices, and business sustainability among micro-entrepreneurs in Kelantan, particularly those registered with TEKUN, AIM, and MARA. The findings confirmed the initial concern that many entrepreneurs continued to rely on informal practices such as mental calculations and competitor-based pricing, with fewer than one-third maintaining proper records or applying costing tools. This reliance on informality explained why business sustainability remained fragile despite access to financing.

The PLS-SEM analysis demonstrated that financial literacy had a significant and moderate effect on costing practices, which in turn strongly influenced sustainability. Although literacy also showed a direct but smaller effect on sustainability, its main impact operated through costing adoption. This highlighted that knowledge alone is insufficient unless converted into practice. The results supported the **Resource-Based View (RBV)** by framing literacy as an intangible resource, and the **Contingency Theory**, which stresses that financial practices must be adapted to organizational context.

This study contributes academically by providing empirical evidence that literacy affects sustainability primarily through costing, extending RBV theory into the micro-enterprise domain. **Practically**, it revealed the low penetration of structured costing tools among Kelantanese traders, underscoring the urgent need for simplified and accessible solutions. **From a policy perspective**, it showed that financing schemes, while essential, must be complemented with capacity-building interventions to translate capital into sustainable practices.

Recommendations

1) Academic Implications

- This study contributes to theory by demonstrating the mediating role of costing between literacy and sustainability, an area underexplored in micro-enterprise research.
- Future research should compare Kelantan with other states to identify regional variations, and conduct longitudinal studies to track literacy and costing adoption over time.
- Mixed-method designs are encouraged to capture socio-cultural influences such as family-based decision-making and informal community norms, which surveys alone may not fully explain.

2) Practical Implications

- The most urgent recommendation is to embed **financial literacy modules into TEKUN, AIM, and MARA financing schemes**, making training mandatory alongside capital disbursement.
- Training should prioritize **hands-on costing tools**, including break-even calculators, simple bookkeeping templates, and mobile apps in Malay, adapted to low-literacy users.
- Sector-specific programs are needed—for example, perishable cost tracking for food businesses and inventory costing for retail traders.
- Continuous mentoring and follow-up support should replace one-off workshops, ensuring knowledge is reinforced and applied.

3) Policy Implications

- Policymakers should recognize that financing alone is insufficient and must be paired with structured financial education to achieve sustainability.
- Collaboration between government agencies and local universities (e.g., UMK, UiTM Kelantan) should be strengthened to co-develop **community-based financial management interventions** tailored to local culture.
- State-level digital initiatives should promote mobile bookkeeping apps to improve transparency, reduce informality, and support data-driven decision-making among micro-entrepreneurs.

Closing Statement

This study concluded that while financing remains critical, its impact on micro-entrepreneurial sustainability is undermined by weak financial literacy and minimal costing adoption. By closing this gap through training, simplified tools, and supportive policies, micro-entrepreneurs in Kelantan can strengthen their resilience and contribute more effectively to Malaysia's inclusive and sustainable economic development.

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DECLARATION OF GENERATIVE AI USAGE

During the preparation of this manuscript, ChatGPT and Grammarly was used as an assistive tool for language refinement, article structuring, and formatting alignment with the ITEC 2026 manuscript template. Its use was limited to editorial support, and all outputs were reviewed, verified, and revised by the author(s). The author(s) take full responsibility for the accuracy, integrity, and final content of the manuscript.

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