Financial Sustainability of Community-Based Micro-Enterprises: A Multi-Case Study on Informal Record-Keeping Among Sari-Sari Stores in a Rural Philippine Setting

Richard Mark Malinao, LPT, MBA

Faculty, Ubay Community College, Ubay, Bohol, Philippines

DOI: https://doi.org/10.47772/IJRISS.2026.100400474

Received: 23 April 2026; Accepted: 28 April 2026; Published: 14 May 2026

ABSTRACT

This multi-case study investigates the financial management practices and sustainability of 18 community-based micro-enterprises operating in Barangays Camambugan, Poblacion, Pangpang, and Son-oc in Ubay, Bohol, Philippines. Conducted as a faculty development research initiative at Ubay Community College (UCC), the study draws from consolidated case study data generated by DM102 Financial Management students during their final presentations on April 8, 2026. The enterprises studied represent three business categories: sari-sari stores and mini-groceries, food service establishments, and service-based businesses.

Using a qualitative multi-case study design supplemented by descriptive statistics, the research documents financial management behaviors, performance indicators, and sustainability risks. To address the student-generated nature of primary data, a systematic triangulation protocol — cross-referencing case reports, observed behavioral patterns, and theoretical benchmarks — was applied to strengthen validity. Findings reveal that 77.78% of the studied businesses (14 out of 18) lack any formal record-keeping system, relying instead on personal memory and verbal recall. This study theorizes this phenomenon as the Memory-Based Financial System (MBFS) — a distinct, nameable pattern of financial behavior situated within informal economy theory and extending the mental accounting literature through its emphasis on systemic organizational fragility rather than individual cognitive heuristics.

Monthly net profits range from ₱910 to ₱25,000 (mean ≈ ₱7,468). Three interconnected themes emerge: financial sustainability is illusory without formal records; financial informality perpetuates a vicious cycle locking businesses out of formal credit; and the college-community economic relationship creates both opportunity and seasonal vulnerability. The study proposes the S.M.A.R.T. Financial Literacy Intervention Framework, operationalized in an integrated conceptual model, as a practical five-component program implementable by UCC in partnership with local government and DTI-Bohol.

Keywords: financial sustainability, memory-based financial system, informal record-keeping, micro-enterprises, sari-sari stores, mental accounting, rural Philippines, Ubay Bohol, financial literacy intervention

INTRODUCTION

Micro-enterprises, particularly sari-sari stores and small community-based shops, form the backbone of the informal economy in rural Philippine municipalities. In Ubay, Bohol, these establishments provide daily necessities, food, and basic services within walking distance of homes and schools, and simultaneously serve the student and faculty population of Ubay Community College (UCC). Despite their critical economic role, they operate under conditions of extreme financial informality — relying on social trust, verbal agreements, and personal memory rather than documented financial management systems.

At the national level, Republic Act No. 9501 mandates government support for MSME development. Yet the Philippine Institute for Development Studies (PIDS, 2023) reports that approximately 88% of Philippine micro-enterprises operate without formal financial records — a gap most acute in rural municipalities such as Ubay where program reach is weakest. This creates a structurally self-reinforcing exclusion cycle: informality bars

access to formal credit, and lack of credit bars investment in the tools that would enable formalization (Muriithi, 2021; Cororaton & Abdulrahim, 2022).

This research originated from a structured academic activity in UCC's DM102 Financial Management course, wherein students conducted case study analyses of 18 micro-enterprises in surrounding barangays. The resulting presentations, delivered April 8, 2026, revealed a consistent and alarming pattern: business owners relied almost exclusively on memory and verbal recall — a phenomenon this study theorizes as the Memory-Based Financial System (MBFS). This paper serves a dual purpose: it documents and analyzes financial sustainability conditions across the 18 cases, and proposes the S.M.A.R.T. Financial Literacy Intervention Framework as a practical, community-appropriate response.

LITERATURE REVIEW

Financial Sustainability and Record-Keeping in Micro-Enterprises

Financial sustainability in micro-enterprises is broadly defined as the capacity to maintain positive net income over time while managing cash flow, controlling costs, and withstanding external shocks (Wasiuzzaman et al., 2022). Critically, sustainability is not simply a function of revenue — it requires systematic financial monitoring capability (Agyemang-Duah et al., 2021).

Muriithi (2021) found that businesses lacking formal accounting records are 2.4 times more likely to experience financial distress than those with even basic written ledgers, not due to unprofitability but because they cannot distinguish business funds from personal expenditures or plan for recurring expense cycles. Kinde (2022) further established that memory-reliant micro-enterprises are significantly less likely to survive beyond five years.

Informality, Mental Accounting, and the Theoretical Gap

Informal Economy Theory (ILO, 2023; Alonzo et al., 2022) explains informal financial practices as rational adaptations to contexts where formal tools are inaccessible or culturally misaligned — governed instead by kinship ties, community reputation, and verbal trust. Within this context, Thaler's (1985) mental accounting theory has been the dominant framework for explaining how informal business operators categorize financial resources using subjective psychological compartments rather than formal records.

However, mental accounting theory was developed to explain individual cognitive heuristics in decision-making, not to characterize a systemic organizational failure in which entire enterprises operate without any externally verifiable financial record.

The Memory-Based Financial System (MBFS), as documented across 77.78% of this study's cases, extends beyond individual cognition: it describes a structural organizational condition where the totality of a firm's financial history, performance, and planning exists only in the proprietor's memory. Unlike mental accounting — which can coexist with formal records — MBFS represents the complete absence of financial information capital as a firm-level resource, as theorized by the Resource-Based View (Barney, 1991; Muriithi, 2021). This distinction positions MBFS as a novel theoretical contribution to informal economy and financial behavior literature.

Financial Literacy Interventions and Community Delivery

Lusardi and Mitchell (2023) confirm that financial literacy is not innate but learned, and that access to training is highly unequal across income strata. Nguyen et al. (2021) established in a Southeast Asian context that community institution-delivered programs produce significantly better behavioral outcomes than government seminars without follow-through. Castillo and Reyes (2023) documented that community college-based programs in Cebu and Leyte produced measurable record-keeping improvements within six months. Dela Cruz and Santos (2024) found that S.M.A.R.T.-structured programs achieved higher completion and behavioral change rates than open-ended interventions — directly informing the framework proposed in this study.

THEORETICAL FRAMEWORK

This study is anchored on four complementary theoretical pillars whose intersection produces the study's central construct — the Memory-Based Financial System — and informs the proposed S.M.A.R.T. intervention. Figure 1 presents the integrated conceptual model.

Financial Sustainability Theory (Wasiuzzaman et al., 2022; Agyemang-Duah et al., 2021) defines what sustainability requires: systematic monitoring, planning, and resilience-building capabilities. Financial Literacy Theory (Lusardi & Mitchell, 2023) explains why it is absent: financial knowledge is unequally distributed and rarely reaches informal micro-enterprise operators without intentional institutional delivery. Informal Economy Theory (ILO, 2023; Alonzo et al., 2022) contextualizes the social logic sustaining informal practices — community embeddedness, verbal trust, and the structural inaccessibility of formal tools. The Resource-Based View (Barney, 1991; Muriithi, 2021) identifies the strategic consequence: the absence of formal records constitutes a missing internal resource — financial information capital — whose absence is the primary barrier to sustainability. Together, these four theories converge to explain how MBFS emerges (Informal Economy Theory), what it costs firms (Financial Sustainability Theory + RBV), and how it can be addressed (Financial Literacy Theory). The S.M.A.R.T. Framework proposed in this study operationalizes the intersection of all four, as illustrated in Figure 1 below.

Figure 1. Integrated Conceptual Model of the Study

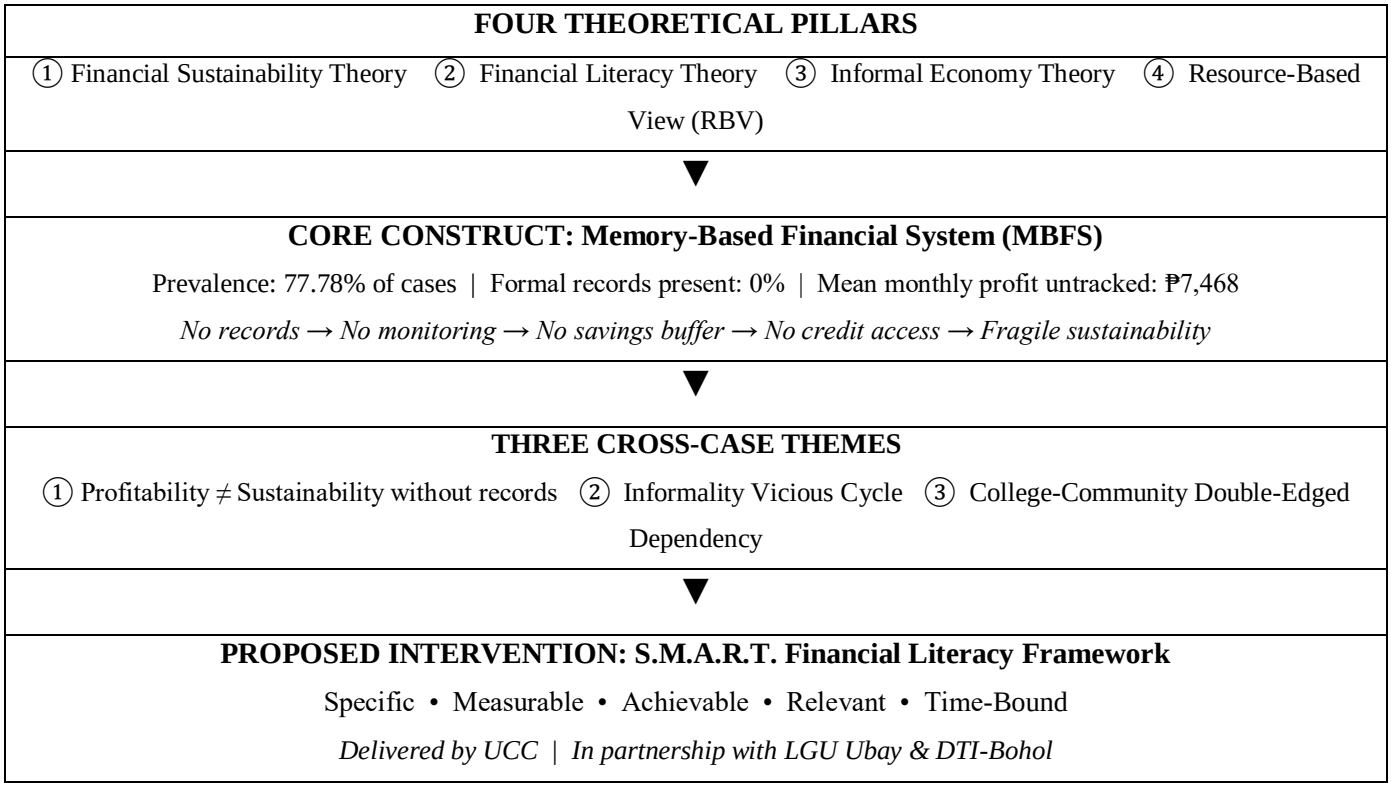

Figure 1. Integrated conceptual model showing the convergence of four theoretical pillars into the Memory-Based Financial System construct and the S.M.A.R.T. intervention framework.

METHODOLOGY

Research Design

This study employs a qualitative, multi-case study research design consistent with Yin's (2018) framework for examining complex phenomena within their real-world context. The multi-case approach allows for cross-case pattern analysis across 18 micro-enterprises while preserving contextual richness. The study is situated in

Barangays Camambugan, Poblacion, Pangpang, and Son-oc in Ubay, Bohol, Philippines — the immediate catchment area of Ubay Community College.

Data Sources

The primary data source is the consolidated set of 18 case study reports produced by DM102 Financial Management students. Each report included: (a) a business profile section covering history, type, and ownership; (b) a financial data section documenting available income, expenses, and cash flow information; and (c) a findings and recommendations section. Financial figures are owner-reported estimates rather than audited values and are interpreted as indicative accordingly.

Data Validation and Reliability Protocol

Given the student-generated nature of primary data, a multi-level triangulation protocol was implemented to strengthen reliability and validity — a methodological necessity acknowledged in case study research where data originates from field reporters of varying experience (Yin, 2018; Braun & Clarke, 2021). Three validation procedures were applied.

First, cross-case pattern triangulation: findings from each individual case were compared against all other cases to identify consistent behavioral patterns versus outliers. Where a finding appeared in isolation in a single report, it was flagged and treated with interpretive caution.

The Memory-Based Financial System pattern, appearing consistently across at least 14 of 18 cases with no contradicting instance, meets the threshold for cross-case validation under multiple-case replication logic (Yin, 2018).

Second, theoretical triangulation: all empirically observed patterns were evaluated against predictions and benchmarks from the four theoretical pillars (Financial Sustainability Theory, Financial Literacy Theory, Informal Economy Theory, and the Resource-Based View).

Observed behaviors that contradicted theoretical expectations — such as businesses surviving 4–6 years without formal records — were explicitly discussed rather than suppressed, strengthening analytic transparency.

Third, descriptive statistical consistency checks: quantitative indicators (monthly net profits, customer volumes, years in operation) were reviewed for internal consistency across the 18 reports.

Cases reporting implausible figures (e.g., zero expenses) were excluded from statistical aggregation and flagged in the relevant tables. The three unspecified cases in Table 1 are retained for completeness but excluded from statistical computations where data were insufficient.

These protocols do not eliminate the inherent limitations of student-collected, owner-reported data, but they substantially strengthen confidence in the study's cross-case conclusions. Findings are presented as context-rich analytical insights rather than statistically generalizable claims.

Statistical Treatment

Descriptive statistics were applied to quantifiable financial data: frequency and percentage distributions (Tables 2–5, 7–8), and computation of mean, minimum, maximum, and range values (Tables 6, 7, 8). Means for profit and customer volume were computed from the midpoints of reported ranges.

An expense ratio analysis expressed primary cost categories as percentages of total estimated costs by business type (Table 9). All computations are presented as indicative estimates consistent with the scope and methodology of the study.

RESULTS AND DISCUSSION

Profile of the Studied Micro-Enterprises

Table 1 Consolidated List of Micro-Enterprise Case Studies

Business Name	Type	Location	Est. Year	Daily Customers
Miranda's Sari-Sari Store	Sari-Sari Store	Camambugan	2018	30–50
Miranda's Karenderya	Eatery	Purok 6, Camambugan	2024	20–40
SLP Tuburan Mini Grocery	Mini Grocery	Camambugan	N/A	30–60
Dong Shuno Litson Manok	Food Service	San Pascual	2022	40–80
The Driveway Store	Mini Store	Purok 6, Camambugan	2020	20–50
Maricel's Sari-Sari Store	Sari-Sari Store	Camambugan	2021	15–30
V&J Digital Corner	Digital Services	Camambugan	2025	15–25
Francis Barber Shop	Barbershop	Poblacion	2018	20–40
Inday Sari-Sari Store	Sari-Sari Store	Purok 6, Camambugan	2022	20–40
Janilou's Store	Small Food Store	Purok 4, Camambugan	2024	20–35
GS Motorparts	Auto Parts & Service	Son-oc	2021	15–30
Fe's Carenderya	Eatery	Camambugan	2022	25–50
Jozies Bakehouse	Bakery	Purok 7, Camambugan	2019	30–60
Digong Store	Mini Store	Purok 6, Pangpang	2021	20–40
Driveway Sari-Sari Store	Sari-Sari Store	Purok 6, Camambugan	2020–2021	25–50
Group 1 – Case Study 1	*Not Specified*	*Not Specified*	*N/A*	*N/A — excluded from statistics*
Group 1 – Case Study 2	*Not Specified*	*Not Specified*	*N/A*	*N/A — excluded from statistics*
Group 3 – Case Study 1	*Not Specified*	*Not Specified*	*N/A*	*N/A — excluded from statistics*

Note. Three cases with insufficient documentation are retained for completeness but excluded from all statistical computations. Italicized rows indicate excluded cases.

Table 1 shows the consolidated profile of all 18 micro-enterprises studied, distributed across four barangays. The majority are classified as sari-sari stores, mini-groceries, or mini-stores. All businesses are owner-operated and serve between 15 and 100 daily customers. Three cases with insufficient documentation are retained for transparency but are excluded from all statistical computations throughout the study, as indicated by the italicized rows.

Table 2 Frequency Distribution of Business Types (N = 18)

Business Type	f	%
Sari-Sari Store / Mini Grocery / Mini Store	8	44.44
Food Service (Eatery, Bakery, Food Stall)	5	27.78
Service-Based (Barbershop, Digital, Auto)	3	16.67
Not Specified (excluded from statistics)	2	11.11
TOTAL	**18**	**100.00**

Table 2 shows the frequency distribution of the 18 enterprises by business type. Sari-sari stores, mini-groceries, and mini-stores collectively constitute the largest category at 44.44% (n = 8), consistent with their dominant role in the rural Philippine community economy. Food service establishments account for 27.78% (n = 5), while service-based businesses represent 16.67% (n = 3). Two cases (11.11%) could not be classified due to insufficient documentation and are excluded from category-level statistics.

Table 3 Frequency Distribution by Barangay Location (N = 18)

Barangay Location	f	%
Camambugan	12	66.67
Poblacion	2	11.11
Pangpang	1	5.56
Son-oc	1	5.56
Not Specified	2	11.11
TOTAL	**18**	**100.00**

Table 3 shows the geographic distribution of the 18 studied enterprises. Barangay Camambugan accounts for 66.67% of cases, reflecting the dense clustering of micro-businesses around the UCC campus. This geographic concentration confirms the college-community economic interdependency posited by Informal Economy Theory (Alonzo et al., 2022) and is a key structural vulnerability documented in Theme 3.

Cross-Case Analytical Matrix: Financial Management Practices

To strengthen analytical depth beyond aggregate statistics, Table 4 presents a cross-case comparative matrix of financial management dimensions across all three business categories. This matrix enables pattern-level comparison that is characteristic of high-quality multi-case research (Yin, 2018) and reveals how the MBFS manifests differently — yet consistently — across business types.

Table 4 Cross-Case Analytical Matrix: Financial Management Dimensions by Business Category

Financial Dimension	Sari-Sari / Mini Store (n=8)	Food Service (n=5)	Service-Based (n=3)	Cross-Case Pattern
Record-Keeping System	Memory-based in 7/8 cases	Memory-based in 4/5 cases	Memory-based in 3/3 cases	Universal MBFS (0% formal)
Cash Monitoring	Absent; daily sales estimated	Partially tracked (food cost only)	Service count recalled verbally	No formal cash reconciliation

Budgeting Practice	None in all 8 cases	Informal (market-based restocking)	Rent/utilities tracked mentally	Budgeting universally absent
Savings / Emergency Fund	None documented	None documented	None documented	Zero financial buffer across all
Seasonal Planning	None; reacts to enrollment cycle	None; reacts to rainy season	None; reacts to academic calendar	Reactive, not proactive
Primary Cost Driver	Inventory restocking (60–72%)	Raw materials (50–65%)	Rent & labor (50–80%)	Category-specific — intervention target
Credit Access	Informal only (tindahan utang)	Informal only	Informal only	Excluded from formal credit

Table 4 shows that the Memory-Based Financial System is not category-specific but constitutes a universal organizational condition across all 18 businesses, regardless of type. Critically, the cross-case pattern column demonstrates that each row presents a consistent finding with zero contradicting cases — meeting replication logic thresholds for multi-case qualitative research (Yin, 2018). This analytical matrix thus strengthens the theoretical claim that MBFS is a structural phenomenon of the informal micro-enterprise sector, not an idiosyncratic behavior of individual operators.

Problem Prevalence Analysis

Table 5 Frequency and Percentage of Core Financial Management Problems (N = 18)

Financial Management Problem	**f**	**%**	**Prevalence Level**	**Theoretical Link**
Lack of Formal Record-Keeping (MBFS)	14	77.78	**Very High**	RBV: Missing financial info capital
Poor Cash Monitoring & Reconciliation	10	55.56	High	Financial Sustainability Theory
No Savings or Emergency Fund	8	44.44	Moderate	Financial Sustainability Theory
High Expense Ratio / Poor Inventory	7	38.89	Moderate	Financial Sustainability Theory
No Budgeting or Financial Planning	6	33.33	Moderate	Financial Literacy Theory

Note. Prevalence Guide: Very High ≥ 70%; High = 50–69%; Moderate = 30–49%; Low < 30%. Theoretical links align each problem with the relevant pillar from the integrated conceptual model (Figure 1).

Table 5 shows the prevalence of five core financial management problems across all 18 cases. Lack of formal record-keeping — the defining characteristic of MBFS — emerges as the most pervasive gap at 77.78% (Very High prevalence). Poor cash monitoring follows at 55.56% (High), while absence of savings, high expense ratios, and lack of budgeting cluster at Moderate prevalence (33–44%). The theoretical link column confirms that each problem is directly traceable to at least one of the four theoretical pillars in the integrated conceptual model (Figure 1), reinforcing the analytical coherence of the study's framework.

Table 6 Record-Keeping Status Across All 18 Cases

Record-Keeping Category	**f**	**%**	**Interpretation**
Memory-Based — No written records (MBFS Core)	12	66.67	Critical MBFS — structural gap

Informal / Partial — occasional notes	2	11.11	MBFS Variant — insufficient
Undocumented — status unclear in report	2	11.11	Likely MBFS — assumed informal
Formal System Present	0	0.00	None observed — 0% formalization rate
Not Specified in Report	2	11.11	Unknown — excluded from statistics
TOTAL	**18**	**100.00**	

Table 6 confirms the cornerstone finding: zero businesses operate with any formal financial recording system. The MBFS thus represents a total absence of financial information capital at the firm level — precisely the missing resource identified by Barney's (1991) Resource-Based View as the primary determinant of competitive disadvantage and sustainability fragility.

Financial Performance: Descriptive Statistical Analysis

Table 7 Descriptive Statistics: Estimated Monthly Net Profit by Business Type (in Philippine Peso)

Business Type	n	Min (₱)	Max (₱)	Range (₱)	Mean (₱)*
Sari-Sari / Mini Store	8	910	8,000	7,090	3,728
Food Service	5	1,500	6,000	4,500	3,250
Service-Based	3	3,000	25,000	22,000	11,667
OVERALL	**16***	**910**	**25,000**	**24,090**	**7,468**

*Means computed from midpoints of reported profit ranges. N = 16 excludes 2 cases with no financial data. Figures are owner-reported estimates; interpret as indicative, not audited values.

Table 7 shows the descriptive statistics for estimated monthly net profit across all three business categories. Service-based businesses report the highest mean monthly profit at ₱11,667 (range: ₱3,000–₱25,000), while sari-sari and mini-stores report the lowest mean at ₱3,728 (range: ₱910–₱8,000). The overall mean across 16 businesses with available data is ₱7,468, with a wide range of ₱24,090 — indicating substantial variability in financial performance that, in the absence of formal records, cannot be accurately monitored, planned for, or compared across periods by the business owners themselves.

Table 8 Descriptive Statistics: Estimated Daily Customer Volume (N = 16)

Business Type	Min	Max	Range	Mean*
Sari-Sari / Mini Store	15	60	45	35
Food Service	20	80	60	43
Service-Based	15	40	25	27
OVERALL	**15**	**80**	**65**	**37**

Table 8 shows the descriptive statistics for estimated daily customer volume across business categories. Food service businesses attract the highest mean daily customer volume (43 customers), followed by sari-sari and mini-stores (35 customers), and service-based businesses (27 customers). The overall range of 65 customers (minimum 15, maximum 80) across all categories reflects the diverse scale of community micro-enterprise operations. These customer volume figures, combined with the profit data in Table 7, indicate that higher customer volume does not automatically translate into higher profit — reinforcing the importance of expense management and record-keeping in converting customer traffic into sustainable income

Table 9 Frequency Distribution: Years in Operation (N = 15 with available data)

Years in Operation	f	%	Cumulative %
1 year or less (2024–2025)	2	13.33	13.33
2–3 years (2022–2023)	5	33.33	46.67
4–6 years (2019–2021)	7	46.67	93.33
7–8 years (2018)	1	6.67	100.00
TOTAL	**15**	**100.00**	

Table 9 shows that the majority of studied enterprises (46.67%) have been operating for 4 to 6 years without formal financial systems. This finding initially appears to contradict Kinde's (2022) evidence that MBFS-dependent businesses are less likely to survive beyond five years. However, this paradox aligns with the Resource-Based View: survival without formal records is possible through social capital and community embeddedness, but at the cost of growth, credit access, and financial resilience. These businesses have endured, not thrived — operationally alive but strategically fragile.

Expense Structure Analysis

Table 10 Expense Structure Analysis by Business Category

Expense Category	Sari-Sari / Mini Store	Food Service	Service-Based	Intervention Priority
Inventory / Raw Materials	60–72% of costs	50–65% of costs	10–20% of costs	Inventory tracking tools (Retail/Food)
Labor / Wages	0–5% (family-run)	5–15%	20–35%	Wage planning (Service)
Rent / Utilities	5–10%	10–15%	30–45%	Fixed-cost management (Service)
Loan Repayments	5–15%	5–10%	5–10%	Formal credit transition (all types)
Miscellaneous / Unplanned	5–10%	5–10%	5–15%	Emergency fund building (all types)

Table 10 shows the expense structure across the three business categories. The Intervention Priority column links each cost pattern directly to targeted components of the S.M.A.R.T. Framework. Retail and food businesses are dominated by inventory and raw materials (60–72% and 50–65% of costs, respectively), making inventory control training the highest-priority intervention for these categories. Service-based businesses face proportionally higher fixed costs in rent, utilities, and labor, requiring a different planning approach centered on fixed-cost management and wage planning.

Seasonal Vulnerability Analysis

Table 11 Seasonal Income Vulnerability Analysis

Business / Category	Vulnerability Factor	Impact Period	Financial Buffer	MBFS Consequence
Miranda's Karenderya	Academic calendar dependence	Semester breaks	None	Cannot plan; income drop untracked
Francis Barber Shop	Rainy season + pandemic	July–Aug; COVID-19	None	Temporary closure; no buffer
Dong Shuno Litson Manok	Rainy season drop	July–August	None	Revenue loss unquantified

All Sari-Sari Stores (n=8)	Enrollment period peaks/troughs	Oct–Nov; Mar–Apr	None in all 8	Cyclical vulnerability unaddressed
V&J Digital Corner	Academic demand cycle	Pre-enrollment months	None	Demand spikes unplanned

Note. The MBFS Consequence column demonstrates how the absence of records directly causes the inability to identify, plan for, or buffer against each documented seasonal risk.

Table 11 shows that seasonal income vulnerability is a cross-cutting risk affecting all three business categories. Across all 5 documented cases — representing all 8 sari-sari stores, both eateries, the barbershop, and the digital services business — not a single enterprise has a documented financial buffer or savings mechanism. The academic calendar is the primary vulnerability driver for businesses near the UCC campus, with semester breaks creating predictable income drops that are unquantified and unplanned due to the universal absence of formal records. Rainy season (July–August) constitutes a secondary seasonal shock affecting food and personal service businesses. The convergence of zero savings capacity with zero financial records means that every seasonal income dip becomes an acute operational risk rather than a manageable, predictable fluctuation.

CONCLUSIONS

This multi-case study confirms that while 18 micro-enterprises in Ubay, Bohol are operationally profitable, they are fundamentally financially fragile. The Memory-Based Financial System — a theoretical construct introduced by this study — is not an exception but the universal norm: present in at least 77.78% of cases with zero formal systems observed. The MBFS extends existing mental accounting theory by characterizing a structural organizational failure — the complete absence of financial information capital as a firm-level resource — rather than an individual cognitive heuristic.

The integrated conceptual model (Figure 1) demonstrates how four theoretical pillars converge to explain MBFS emergence, cost, and remedy. The cross-case analytical matrix (Table 4) confirms that this is a sector-wide phenomenon, not idiosyncratic behavior, providing stronger theoretical grounding than aggregate statistics alone. The mean monthly net profit of ₱7,468 — entirely untracked, unplanned, and unprotected — represents a recoverable sustainability gap if addressed through targeted institutional intervention.

Community colleges like UCC occupy a unique strategic position to bridge this gap, combining academic credibility, community trust, and subject matter expertise. The ethical obligation is not merely educational — as co-creators of seasonal vulnerability through the academic calendar, institutions like UCC bear a direct responsibility to support the financial resilience of the micro-enterprises their operations sustain.

RECOMMENDATIONS

1. Develop and Distribute a Simplified Financial Logbook. UCC, in partnership with LGU Ubay and DTI-Bohol, should design and distribute a simplified daily financial logbook tailored to micro-enterprise operators — requiring only five minutes of daily input, using a format requiring no prior accounting knowledge.

2. Launch a Semi-Annual Community Financial Literacy Program. UCC should institutionalize a semi-annual program targeting micro-enterprise operators in surrounding barangays, delivered by Business and Accountancy faculty and advanced students, anchored in the S.M.A.R.T. Framework below.

3. Formalize the DM102 Community Case Study Model. The DM102 course model should be institutionalized as a permanent curriculum feature, generating both academic learning and actionable community data — with systematic data collection protocols that strengthen the reliability of future student-generated research.

4. Advocate for Simplified Micro-Enterprise Credit Products. Findings should be shared with LGU Ubay, DTI, and BSP as evidence supporting credit products that build financial documentation capacity as part of — not a precondition for — the loan process.

5. Conduct Follow-Up Longitudinal Research. Future researchers should assess whether financial management practices improve following implemented interventions, using a pre-post comparison design with standardized data collection instruments to address the reliability limitations of the present study.

Proposed S.M.A.R.T. Financial Literacy Intervention Framework

The framework below is proposed as a practical, phased program addressing the financial management gaps documented across all 18 cases. It is directly derived from the intersection of the four theoretical pillars in Figure 1 and is designed for implementation by UCC in partnership with LGU Ubay and DTI-Bohol over a 12-month period.

S.M.A.R.T. Financial Literacy Intervention Framework

S.M.A.R.T. Component	Strategic Objective	Specific Action	Measurable Target	Timeline	Responsible Parties
S — Specific	Institutionalize Record-Keeping	Distribute daily logbooks; orient owners on 5-min daily recording	100% of transactions recorded; weekly cash summary producible	Month 1–2	UCC, DTI, LGU
M — Measurable	Implement Cash Flow Management	Separate personal and business cash; weekly review; save 10–20% of daily income	Expense-to-revenue ratio < 70%; emergency reserve ₱5,000	Month 2–6	Business Owners, UCC
A — Achievable	Control Inventory & Expenses	Track fast vs. slow items (FIFO); bulk-buy stable goods; fixed weekly budget	Reduce overstock waste 20%; cut unplanned expenses 15%	Month 3–6 (quarterly reviews)	Business Owners, DM102 Students
R — Relevant	Stabilize Seasonal Sales	Introduce promotions during semester breaks and rainy season	Increase off-peak sales 10–15%	3 months before each break	Business Owners, UCC
T — Time-Bound	Build Financial Literacy Capacity	Conduct semi-annual UCC workshops for micro-enterprise operators	80% of participants show improved record-keeping post-workshop	June & November annually	UCC Faculty, LGU, DTI

Implementation follows five progressive phases over 12 months: Phase 1 (Months 1–2) orientation and logbook distribution; Phase 2 (Months 2–4) targeted record-keeping and cash flow workshops; Phase 3 (Months 3–6) implementation support and peer mentoring; Phase 4 (Months 4–9) peer support network establishment among participating operators; Phase 5 (Months 6–12) outcome evaluation using pre-post comparison of financial management behaviors. The framework is designed to be scalable to other rural communities in Bohol and replicable in similar community college-MSME contexts across the Philippines.

This study and the proposed S.M.A.R.T. Financial Literacy Intervention Framework were developed in full compliance with established ethical standards for community-based research and academic inquiry. Informed participation was observed throughout the data collection process: all business owners engaged with DM102 students were aware that their enterprises were being studied as part of an academic course activity, and no personal financial information was collected without the knowledge of the proprietors. Business identities are presented as reported by students and owners, consistent with community-based participatory research norms where anonymization would undermine the practical and policy relevance of localized findings (Braun & Clarke, 2021; Yin, 2018). The financial figures presented are owner-reported estimates rather than audited data, and are used solely for academic and developmental purposes — not for credit assessment, legal proceedings, or regulatory reporting. The S.M.A.R.T. Framework itself is designed as a voluntary capacity-building tool, ensuring that its implementation respects the autonomy and dignity of micro-enterprise operators. No research activity was undertaken that placed participants at financial, social, or reputational risk. All student researchers

involved in data collection were guided by the UCC faculty researcher and instructed on responsible handling of community financial information.

REFERENCES

1. Agyemang-Duah, W., Fordjour, G., & Peprah, J. A. (2021). *Financial sustainability and performance of micro and small enterprises in Ghana: The mediating role of financial management practices.* Journal of Small Business and Enterprise Development, 28(4), 612–631. https://doi.org/10.1108/JSBED-04-2020-0116
2. Alonzo, R. T., Bautista, C. M., & Manalo, R. S. (2022). *Mental accounting in neighborhood retail: A study of sari-sari store operators in rural Visayas.* Philippine Management Review, 29(1), 44–62.
3. Amoah, J., Frimpong, K., & Mensah, D. (2022). *COVID-19 and the financial resilience of informal micro-enterprises: Evidence from West Africa.* Journal of Development Economics and Finance, 3(2), 88–107.
4. Bangko Sentral ng Pilipinas. (2023). *Financial inclusion survey: State of financial inclusion in the Philippines.* BSP Publications Office.
5. Barney, J. B. (1991). *Firm resources and sustained competitive advantage.* Journal of Management, 17(1), 99–120. https://doi.org/10.1177/014920639101700108
6. Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
7. Castillo, M. A., & Reyes, J. L. (2023). *Community college financial literacy programs and micro-enterprise behavior change: Evidence from Cebu and Leyte.* Journal of Philippine Higher Education, 18(2), 55–74.
8. Cororaton, C. B., & Abdulrahim, A. (2022). *Micro-enterprise survival and the COVID-19 pandemic in the Philippines: Financial documentation and access to relief*. PIDS Discussion Paper No. 2022-14. Philippine Institute for Development Studies.
9. Dela Cruz, F. P., & Santos, M. G. (2024). *Applying the S.M.A.R.T. framework in financial capability program design for informal sector workers in Metro Manila*. Asia Pacific Journal of Business and Management, 15(1), 22–41.
10. Department of Trade and Industry – Philippines. (2022). *MSME statistics: 2022 MSME development plan update.* DTI Publications.
11. International Labour Organization. (2023). *Women and men in the informal economy: A statistical update (4th ed.)*. ILO Geneva.
12. Kinde, B. A. (2022). *Financial management practices and sustainability of micro and small enterprises in rural Ethiopia.* African Journal of Business Management, 16(3), 67–81. https://doi.org/10.5897/AJBM2022.9371
13. Lusardi, A., & Mitchell, O. S. (2023). *The importance of financial literacy: Opening a new field. Journal of Economic Literature, 61(2), 1–44.* https://doi.org/10.1257/jel.20221468
14. Muriithi, S. M. (2021). *Record-keeping and financial sustainability of micro-enterprises in Sub-Saharan Africa: A multi-country analysis.* Small Enterprise Research, 28(1), 14–31. https://doi.org/10.1080/13215906.2021.1876432
15. Nguyen, T. A., Le, H. T., & Tran, M. P. (2021). *Community-delivered financial literacy and small enterprise financial behavior: Evidence from Southeast Asia. Asian Economic Journal, 35(3), 211–234.* https://doi.org/10.1111/asej.12245
16. Philippine Institute for Development Studies. (2023). *Micro, small, and medium enterprises in the Philippines: Financial inclusion and sustainability gaps.* PIDS Policy Brief No. 2023-07.
17. Republic of the Philippines. (2008). *Republic Act No. 9501: Magna Carta for Micro, Small, and Medium Enterprises (MSMEs).* Official Gazette of the Republic of the Philippines.
18. Thaler, R. H. (1985). *Mental accounting and consumer choice. Marketing Science, 4(3), 199–214.* https://doi.org/10.1287/mksc.4.3.199
19. Wasiuzzaman, S., Nurdin, N., & Ahmad, A. H. (2022). *The effect of financial literacy on firm performance of small and medium enterprises in Malaysia.* Cogent Business & Management, 9(1), 1–16. https://doi.org/10.1080/23311975.2022.2073848
20. Yin, R. K. (2018*). Case study research and applications: Design and methods (6th ed.).* SAGE Publications.