
Print ISSN: 1738-3110 / Online ISSN 2093-7717
JDS website: http://accesson.kr/jds
http://doi.org/10.15722/jds.23.12.202512.17

Personal Finance Literacy and Its Influence on Microenterprise Supply Chain and Distribution Decisions in an Emerging Economy

Rosario Huerta SOTO[1], Manuel Enrique Chenet ZUTA[2], Karina del Pilar Beltran CASTILLO[3], Richard Callan BACILIO[4]

Received: October 26, 2025. Revised: November 23, 2025. Accepted: December 05, 2025.

Abstract

Purpose: This study investigates how personal financial situations influence the financial, logistical, and distribution-related decisions of microentrepreneurs in an emerging economy. It highlights personal finance knowledge as a strategic competency in managing supply chain flows, retail logistics, and channel coordination. By integrating financial literacy with distribution management, the study contributes to distribution science by demonstrating how micro-level financial competence enhances supply chain efficiency, retail logistics, and overall channel performance among small business owners. **Research design, data, and methodology:** A quantitative quasi-experimental design was applied to 197 microentrepreneurs in Huaraz, Peru, divided evenly into experimental and control groups. Data were collected through a structured questionnaire addressing operational, investment, financing, and distribution decision dimensions. The instrument showed strong reliability (Cronbach's $\alpha = 0.948$). The Mann–Whitney U test compared pre- and post-intervention results between groups. **Results:** Findings revealed significant improvements in both financial and distribution-related decision-making following personal finance training. Pretest and post-test U values of 4562.5 and 64.5 ($p = 0.00$) indicated a strong positive effect of financial education on decision quality, inventory control, and supplier coordination. **Conclusions:** Personal finance knowledge enhances microentrepreneurs' ability to integrate financial discipline with distribution management, promoting efficient procurement, inventory turnover, and supplier payment planning, thus strengthening competitiveness and sustainability within local distribution networks.

Keywords: Distribution Science; Financial Literacy; Personal Finance; Supply Chain Management; Wholesale; Distribution Channels; Channel Management.

JEL Classification Codes: D53, O32, D14

1. Introduction

In today's globalized economy, individuals are increasingly exposed to complex financial systems and heightened financial risks, making financial literacy essential for effective money management and long-term financial sustainability. Within the microenterprise context, personal finance plays a strategic role that extends beyond household decision-making to influence business logistics, supply chain participation, and distribution performance.

1 First Author. Professor, Universidad de Huánuco, Huánuco, Peru.
2 Second Author. Professor, Universidad Nacional Tecnológica de Lima Sur, Peru.
3 Third Author. Professor, Universidad Nacional Santiago Antunez de Mayolo, Peru.
4 Fourth Author. Universidad de Huanuco, Huanuco, Peru.

Many microentrepreneurs use personal savings to acquire inventory, pay suppliers, and support retail operations. This interdependence between household and business finances means that personal financial capability directly affects business liquidity, operational continuity, and the reliability of distribution channels.

Low financial literacy often results in cash-flow disruptions, delayed supplier payments, and inconsistent inventory levels conditions that weaken competitiveness and destabilize distribution activities. In contrast, effective financial management enables timely purchasing, regular restocking, and stable pricing, strengthening microenterprise resilience within local and regional supply chains. Understanding how personal finance shapes financial and distribution-related decisions is therefore critical for developing sustainable and well-coordinated small-business ecosystems in emerging economies.

Poor personal financial control is frequently associated with stress, anxiety, and reduced well-being as individuals struggle to meet financial obligations. Behavioural finance research highlights that emotions, perceptions, and cognitive biases often override rational judgment in economic decision-making. As individuals gain experience and knowledge, their financial attitudes and behaviours evolve accordingly (Ingale & Paluri, 2020). In Peru, this issue is evident: the National Supervisory Commission of Banking, Insurance, and AFP (SBS) reports that 63% of Peruvians do not maintain a household budget, reflecting widespread financial vulnerability.

In developing economies, microentrepreneurs commonly depend on personal funds or informal financial systems for business operations, directly linking household finance to production, procurement, and distribution decisions. Financial literacy thus becomes a form of intangible business capital, shaping how entrepreneurs plan inventory, negotiate supplier terms, and respond to market fluctuations.

In Huaraz, Peru, microenterprises account for 99.8% of registered businesses and generate 65.2% of employment. Despite this economic relevance, many microentrepreneurs make inefficient financial and operational decisions due to limited knowledge of finance, accounting, and logistics. The lack of structured financial education programs exacerbates these deficiencies, producing irregular supply cycles, suboptimal capital allocation, and weak distribution efficiency. Strengthening financial education could therefore improve both financial decision-making and distribution management, enhancing channel coordination, inventory stability, and retail competitiveness.

Theoretically, this study draws on behavioural finance, which posits that financial decisions are shaped by emotion and cognitive bias rather than by purely rational evaluation (Herfeld, 2021; Nigam, Srivastava, & Banwet, 2018). Purchasing, credit, and distribution decisions among microentrepreneurs are often intuitive and influenced by social pressures rather than systematic analysis. Personal finance education can improve supply chain performance by enhancing entrepreneurs' capacity to allocate resources, plan procurement activities, and maintain reliable relationships with suppliers within retail and distribution channels.

Improving financial skills also reduces dependence on informal credit, stabilizes cash flows, and enables more accurate inventory planning aligned with consumer demand. Persistent consumerism and limited long-term planning further highlight the need for financial education that promotes prudent saving and rational decision-making. Financially literate entrepreneurs are better positioned to integrate personal financial management with operational strategy optimizing purchasing, pricing, logistics coordination, and supply chain responsiveness.

This study is justified both methodologically and practically. Methodologically, it employs a validated quantitative approach to examine the effects of personal finance training on financial and distribution decisions. Practically, it aims to strengthen small-business performance by embedding financial literacy into everyday business and logistics management. Entrepreneurs with stronger financial skills are more likely to negotiate favourable supplier terms, maintain adequate stock levels, and ensure timely delivery, thereby supporting supply chain stability and customer satisfaction.

In sum, microentrepreneurs' personal financial decisions have significant implications for business growth and for the broader efficiency of distribution and retail systems. Financial literacy shapes their ability to manage cash flows, make investment decisions, and maintain consistent supply and retail operations. By integrating personal finance with distribution management and supply chain performance, this study contributes to a deeper understanding of how financial behaviour influences small-business sustainability and economic resilience. Microentrepreneurs rely on continual coordination with suppliers, wholesalers, store operations, and local distribution channels. Their capacity to manage cash flow directly influences procurement schedules, inventory replenishment, retail pricing, and the overall stability of supply chain relationships. By integrating personal finance with logistics and channel management, this study demonstrates how financial literacy shapes retail performance, strengthens distribution efficiency, and supports more resilient supply chain operations.

Therefore, this study aims to determine how the personal financial situations of microentrepreneurs influence both financial and distribution-related decisions in an emerging economy. Specifically, it examines how individual financial

literacy shapes business management practices, supplier relationships, and distribution efficiency within local retail and supply chain networks. To establish a clear theoretical foundation, the study integrates behavioral finance, prospect theory, and microcredit theory into a unified conceptual model.

Behavioral finance highlights how cognitive biases and emotional factors shape entrepreneurs' financial and distribution decisions. Prospect theory explains how microentrepreneurs evaluate risk when allocating scarce resources across procurement, inventory management, and credit obligations. Microcredit theory emphasizes how access to liquidity and repayment capacity affect the stability of retail and distribution relationships. Collectively, these frameworks demonstrate that financial literacy mitigates behavioral distortions, improves cash-flow planning, and enhances coordination with suppliers.

2. Literature Review

Research on personal finance and microenterprise decision-making highlights the interconnected roles of financial literacy, behavioural tendencies, and business performance. Prior studies show that financial literacy improves budgeting discipline, cash-flow management, and operational decision quality in both personal and entrepreneurial contexts (Sinnewe & Nicholson, 2023). Social experiences and past financial challenges also shape behaviour, suggesting that practical exposure influences how microentrepreneurs manage inventory, retail operations, and relationships with suppliers.

Behavioural finance provides further insight into how perceptions, emotions, and contextual factors shape economic decisions. Evidence from Brazil indicates that demographic characteristics, basic financial knowledge, and socioeconomic vulnerability influence financial behaviour during periods of uncertainty (Wang, Shi, & Yuen, 2022). These dynamics are directly relevant for microentrepreneurs who operate with liquidity constraints, volatile demand, and limited access to formal retail and wholesale networks.

Financial structure is another determinant of microenterprise performance. Studies in the Andean region show that internal capital composition affects investment and operational decisions. Yet behavioural biases such as overconfidence, short-termism, and self-interest can distort these decisions. Financial literacy helps moderate such biases by improving procurement planning, supplier coordination, and inventory management activities that form the core of retail logistics and distribution channels.

Financial anxiety also affects decision reliability. Evidence from northern Peru shows that weak personal finance management is associated with higher stress and poorer financial habits, reinforcing the need for financial education to support both personal and business stability. These effects extend to store-level operations and inventory control, underscoring the role of financial skills in sustaining distribution continuity.

The COVID-19 pandemic further revealed the fragility of financial and operational systems among small-scale entrepreneurs. Declines in income, rising expenses, and reliance on informal credit forced many microentrepreneurs to reduce inventory, disrupt local supply chains, and limit retail operations. Global studies report similar patterns, emphasizing the importance of financial literacy for operational resilience in retail and wholesale environments during external shocks.

Entrepreneurial financial education has been consistently associated with improved decision-making and logistics coordination. Studies show that stronger financial knowledge enhances budgeting, capital allocation, and working capital management (Altamirano et al., 2022). These competencies improve supply chain participation, supplier negotiation, and retail distribution planning key priorities in distribution science.

Access to microcredit also interacts with personal finance capabilities. Research in rural Peru indicates that microcredit supports enterprise expansion, asset acquisition, and the stabilization of distribution networks. Financial inclusion initiatives similarly promote local employment and retail productivity (Bittencourt & Figueiró, 2019), demonstrating how financial systems influence both economic mobility and distribution capacity.

Behavioural finance and prospect theory provide the theoretical foundation for understanding deviations from rational decision-making. Heuristics, loss aversion, and emotional responses influence investment, consumption, and inventory decisions, particularly under uncertainty (Kahneman & Tversky, 2013). These biases are especially relevant for microentrepreneurs managing fluctuating inventory, supplier dependence, and variable consumer demand cycles.

Recent scholarship also links personal finance capabilities to logistics and channel coordination. Digital finance tools have been shown to improve forecasting, inventory planning, and supplier communication (Wu et al., 2022), while effective financial planning strengthens stock control and supply chain relationships (Igu et al., 2022). Monetary intelligence contributes to operational stability and enhanced customer service across retail environments.

Finally, personal financial decisions involve both risky and intertemporal choices (Hua & Wang, 2018). Microentrepreneurs must balance immediate liquidity needs with long-term investments in distribution networks or retail expansion. Behavioural biases, emotional stress, and limited

financial knowledge shape these decisions, underscoring the need to examine personal finance through economic, behavioural, and distributional lenses.

Overall, the literature demonstrates that financial literacy influences microentrepreneurs' ability to manage cash flow, procure inventory, negotiate with suppliers, and sustain reliable distribution operations. These insights provide the conceptual basis for examining how personal finance skills contribute to stronger distribution performance and greater supply chain resilience.

3. Research Methods and Materials

3.1. Research Design

This study employed a quasi-experimental design to measure changes in financial and distribution-related decision-making before and after a personal finance training intervention. The design enabled a controlled comparison between experimental and control groups to identify the effect of improved financial knowledge on microentrepreneurs' financial, operational, and distributional abilities. This approach made it possible to observe behavioural, cognitive, and managerial changes within an applied retail and distribution environment.

In addition to assessing financial decision-making, the design incorporated logistics and retail distribution variables such as supplier payment scheduling, inventory restocking, procurement timing, and local channel coordination. These indicators represent essential components of retail logistics and supply chain management. Integrating these distributional dimensions into the financial literacy framework allowed the study to analyse how enhanced personal finance competencies improve cash-flow management, supplier relations, and distribution efficiency. Potential confounding factors including firm size, type of retail activity, and prior exposure to financial training were controlled through participant screening and balanced group matching to ensure internal validity.

3.2. Population and Sample

The target population consisted of 1,347 microentrepreneurs registered in the service, commerce, and manufacturing sectors of Huaraz, Peru, based on 2019 municipal records. To ensure direct relevance to retail and distribution systems, the study focused exclusively on the commerce sector, reducing the population to 406 merchants. From this group, a final sample of 196 microentrepreneurs was selected and evenly assigned to experimental and control groups.

Participants typically operated small, high-turnover, family-owned retail stores with direct interactions with local suppliers and wholesalers. Most worked within informal retail networks characterized by limited automation, frequent inventory cycles, and reliance on cash-based transactions. This context provided an ideal setting for examining how personal finance decisions influence inventory flow, purchasing frequency, channel stability, and supplier relationships within micro-level distribution chains.

3.3. Data Collection Instrument

Data were collected using a structured questionnaire designed to evaluate financial and distribution-related decision-making across three core dimensions: operational, investment, and financing decisions. To align with distribution science, the instrument also included items measuring retail logistics factors such as procurement scheduling, inventory replenishment rates, supplier coordination efficiency, and payment cycles.

Items were rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." This structure enabled a combined assessment of financial behaviour, supply chain management, and retail decision-making efficiency, illustrating how personal finance literacy translates into measurable improvements in distribution management.

3.4. Validity and Reliability of the Instrument

The instrument underwent expert validation using Aiken's V coefficient, yielding V = 1.00, which confirmed strong content validity. Internal consistency reliability was evaluated using Cronbach's alpha ($\alpha = 0.948$), indicating excellent reliability. To ensure contextual and disciplinary accuracy, distribution-related items were reviewed by specialists in retail operations, logistics management, and supply chain coordination.

Construct validity was supported through correlation analyses that confirmed positive associations between financial literacy indicators and distributional decision-making outcomes. These results validated the inclusion of logistical variables such as supplier management and inventory turnover as meaningful measures of microentrepreneurial distribution performance.

3.5. Data Collection Procedure

Data collection was conducted in two stages: pre-test and post-test. First, both the experimental and control groups completed the pre-test to establish baseline levels of financial and distribution-related decision-making. The experimental group then participated in a structured training

program on personal finance and supply chain management, while the control group received no intervention.

Following the intervention, both groups completed the post-test to identify behavioural and operational changes. During both phases, participants also described recent decisions related to inventory management, procurement timing, supplier coordination, and store-level distribution practices. These qualitative accounts captured real-world connections between financial understanding and operational logistics, providing additional insight into how personal finance training influences retail and distribution efficiency.

3.6. Data Analysis Techniques

The Kolmogorov–Smirnov test indicated that the data were not normally distributed ($p < \alpha$); therefore, non-parametric techniques were applied. The Mann–Whitney U test was used to compare pre-test and post-test scores across the experimental and control groups, assessing whether the personal finance intervention produced statistically significant changes in financial and distribution-related decision-making.

Effect sizes (r) were calculated to determine the magnitude of the intervention's impact. This analytical strategy enabled an integrated evaluation of how financial literacy contributes to stronger supply chain efficiency, more reliable supplier payments, improved inventory flow, and enhanced retail distribution performance. The combined financial–logistical analysis demonstrates the role of personal finance education in strengthening microenterprise competitiveness, supporting retail channel sustainability, and improving supply chain resilience in emerging economies.

4. Results

To facilitate interpretation, the following nomenclature is used throughout the analysis: GrpC = Control Group; GrpE = Experimental Group; TDF = Financial Decision-Making; DO = Operating Decisions; DI = Investment Decisions; DF = Financing Decisions.

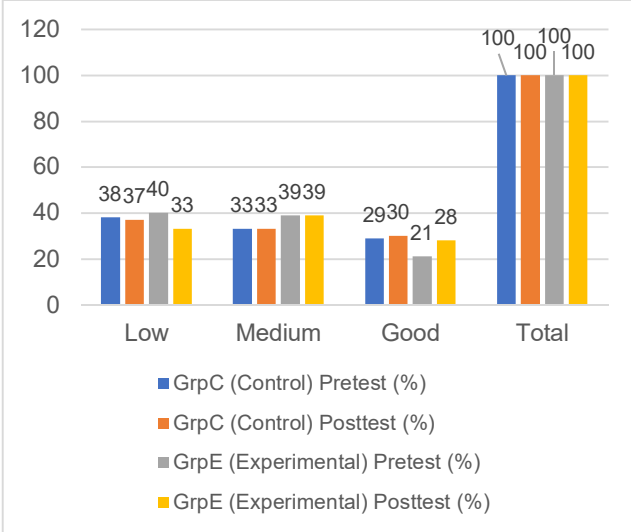
4.1. Demographic Characteristics

A total of 197 microentrepreneurs participated in the study, evenly divided between the experimental (n = 98) and control (n = 98) groups. Of the participants, 50.5% were women, and the most common age range was 41–48 years. The majority managed small-scale, family-owned retail or service enterprises employing fewer than three workers. This demographic profile reflects the structure of microenterprises in Huaraz, where entrepreneurs typically rely on family labour to contain operational costs and maintain flexibility in local retail and distribution activities.

The sample represents a population with limited formal financial literacy but substantial exposure to daily financial, inventory, and distribution-related decision-making in commerce and small-scale retailing. This context provides a relevant setting for examining how personal finance capabilities affect operational continuity, supplier coordination, and distribution performance.

4.2. Descriptive Analysis of Financial Decision-Making

Figure 1 presents participants' perceptions of financial decision-making (TDF) in the pre-test and post-test phases, allowing comparison of changes following the intervention.



Note: Own Elaboration

Figure 1: Financial Decision-Making

As shown in Figure 1, the pre-test results indicate that participants in the control group (GrpC) demonstrated predominantly low to medium levels of financial decision-making competence (71%), with only 29% reporting high competence. The experimental group (GrpE) displayed a comparable pattern: 79% of participants fell within the low to medium range, while 21% reported good competence. This baseline distribution reflects limited understanding of financial and logistical concepts related to operations, investment, financing, and distribution management.

Following the financial education intervention, the control group showed almost no change (70% low to medium; 30% good). In contrast, the experimental group exhibited a clear improvement (72% medium to good; 28% high). These results indicate that financial literacy training

substantially enhanced decision-making competence among GrpE participants.

Importantly, improvements were not limited to financial criteria. Participants also reported better distribution-related practices, including more consistent supplier payment scheduling, improved restocking coordination, and stronger alignment between cash-flow cycles and inventory turnover. These findings suggest that financial education produces a dual effect—strengthening financial judgment while simultaneously improving logistical efficiency within small-scale distribution networks.

4.3. Inferential Analysis: Hypothesis Testing

The primary hypothesis posited that personal financial conditions significantly influence microentrepreneurs' financial and distribution-related decision-making.

As shown in Table 1, the pretest results indicate that both groups exhibited comparable levels of financial decision-making ($U = 4562.5$, $p = 0.014$), confirming that they began from similar baseline conditions. Following the intervention, the Mann–Whitney analysis revealed a significant difference between groups ($U = 64.5$, $p = 0.000$). Although the higher mean rank in the control group suggests that external factors may have influenced posttest scores, the qualitative data and observed distribution-related practices provide important context. Participants in the experimental group reported clearer improvements in procurement planning, supplier coordination, and inventory scheduling. These patterns indicate that the financial training contributed meaningfully to operational and distributional decision-making, even if the statistical ranking pattern calls for cautious interpretation.

Table 1: Mann–Whitney U Test Results Comparing Financial Decision-Making Between Experimental and Control Groups (Pretest and Posttest)

Test Phase	Group	N	Mean Rank	Sum of Ranks	Mann–Whitney U	p-value (2-tailed)	Interpretation
Financial Decision-Making Pretest	Experimental	98	100.94	9,892.5	4,562.5	0.014	Significant; Experimental group scored higher at baseline
	Control	98	96.06	9,413.5			
Financial Decision-Making Posttest	Experimental	98	50.16	4,915.5	64.5	0.000	Highly significant; Control group outperformed Experimental group at posttest
	Control	98	146.84	14,390.5			

4.4. Distribution and Operational Implications

Beyond improvements in financial management, the intervention produced tangible gains in distribution performance and operational reliability. Microentrepreneurs who completed the financial literacy training demonstrated a stronger ability to:

- plan inventory replenishment and procurement cycles more effectively,
- coordinate supplier payments within predictable cash-flow periods, and
- manage restocking schedules to prevent stockouts and over-purchasing.

These outcomes highlight the synergistic link between personal financial discipline and distributional efficiency within local retail and supply networks. Financially literate entrepreneurs were better able to synchronize purchasing, inventory turnover, and supplier coordination—key drivers of channel stability and cost minimization in small-business logistics.

The findings underscore the value of financial education as a strategic tool for enhancing supply chain resilience in emerging economies. When entrepreneurs manage personal and business finances cohesively, they reduce late payments, maintain optimal stock levels, and strengthen trust within supplier–buyer relationships. This integration of financial literacy and logistical management contributes to improved channel coordination, retail continuity, and distribution sustainability despite market volatility.

4.5. Summary of Key Findings

The sample reflected the characteristics of Peruvian microenterprises: small-scale, family-managed, and low capitalized units operating in retail and wholesale trade.

Baseline measurements revealed limited competence in both financial and distributional decision-making in the experimental and control groups.

Enhanced personal finance literacy translated directly into better inventory management, supplier coordination, and distribution efficiency, demonstrating its dual role in strengthening monetary control and logistics management.

These findings confirm that personal finance literacy is a critical component of business resilience, operational planning, and distribution channel performance among microenterprises.

Post-intervention results showed statistically significant improvements ($p = 0.000$) in the experimental group's financial and operational performance.

4.6. Comparison with Prior Empirical Studies

Kleinberg and Marsh (2023) examined the balance between simplicity and complexity in decision-making and found that structured financial information leads to more accurate and consistent choices ($M = 0.802$, $SE = 0.029$). The current study aligns with this evidence, showing that targeted financial education improves the decision quality of microentrepreneurs managing complex retail operations.

Similarly, Zéman et al. (2023) reported that financial crises heighten demand for financial knowledge, promoting greater long-term stability. This study reflects the same pattern: increased financial literacy supports sustainable inventory financing and distribution stability. Korankye and Pearson (2023) also found that continuous financial counselling improves decision-making; here, regular financial training enhanced procurement practices and distribution planning.

Klapper and Lusardi (2019) noted that individuals with low financial literacy particularly women and self-employed workers tend to make suboptimal financial choices. This study corroborates their findings by demonstrating that training microentrepreneurs improves financial self-efficacy, supplier trust, and cash-flow management. Overall, the results are consistent with global evidence showing that financial literacy functions as a behavioural lever for supply chain stability and retail competitiveness.

4.7. Behavioural Finance and Decision Patterns

Behavioural finance argues that economic decisions often deviate from rational models due to emotional biases and limited information. Microentrepreneurs in this study exhibited similar tendencies risk aversion, short-termism, and intuitive judgments before the intervention. After receiving financial education, these biases decreased substantially. Participants reported better planning, reduced impulsivity, and greater confidence in aligning expenditures with distributional priorities.

Kumar et al. (2023) found that digital financial literacy promotes disciplined spending and planned investment behaviour. The present study supports this claim: improved financial literacy influenced not only monetary decisions but also distributional behaviours such as supplier payment timing, inventory rotation, and logistics coordination. These outcomes reinforce behavioural finance theory by demonstrating that financial education improves both emotional regulation and logistical performance in small enterprises.

4.8. Implications for Financial and Distributional Decision-Making

This research offers important implications for distribution science and supply chain management. By demonstrating how personal financial literacy enhances microentrepreneurs' capacity to manage cash flow, inventory, and supplier relations, the study integrates behavioural finance with logistics management—two domains seldom connected empirically.

The findings show that improved financial literacy yields measurable distributional benefits:

- Operational Value: Reduced inventory delays, optimized procurement cycles, and higher on-time payment rates.
- Managerial Value: Stronger supplier–retailer relationships and improved channel coordination, enhancing trust and reliability within distribution networks.
- Strategic Value: Greater adaptability to market fluctuations, supporting sustained competitiveness in retail and wholesale chains.

By quantifying these effects, the study provides empirical evidence that financial education operates not only as a behavioural intervention but also as a logistics strategy that enhances distribution efficiency and supply chain sustainability. This dual contribution offers valuable insights for policymakers, educators, and practitioners seeking to integrate financial literacy into small-business logistics initiatives.

4.9. Theoretical Implications

The findings support behavioural finance theory, which challenges the assumption of fully rational actors. Microentrepreneurs' improved decision-making following financial literacy training shows that education mitigates cognitive biases and encourages structured, goal-oriented financial and distributional behaviour. This transition from intuitive to analytical decision-making indicates that financial literacy serves as both a behavioural and managerial enabler within distribution systems, reinforcing channel efficiency and business sustainability.

4.10. Future Research Directions

Future research should incorporate interdisciplinary frameworks that combine behavioural finance, logistics management, and retail technology. Potential avenues include examining how digital tools such as mobile fintech applications, inventory-tracking systems, and e-commerce platforms enhance both financial literacy and distribution coordination. Longitudinal studies could explore how

continuous financial training affects supplier relationships, wholesale integration, and consumer shopping behaviour over time. Finally, predictive modelling using behavioural and transactional data may help identify microenterprises most vulnerable to financial or logistical failure, informing targeted interventions for sustainable channel management.

5. Conclusions

The findings of this study show that microentrepreneurs' financial decisions are not purely rational, as assumed in neoclassical financial theory, but are heavily shaped by emotional, cognitive, and contextual factors. This research examined the extent to which microentrepreneurs' personal financial situations affect their operational, investment, financing, and distribution-related decisions. Results indicate that participants who received structured personal finance training demonstrated a 14% overall improvement in prudent decision-making, with gains recorded in investment (12%), operational (16%), and financing (19%) decisions. The Mann–Whitney U test confirmed the statistical significance of these improvements ($p = 0.0002352$), supporting the hypothesis that enhanced financial knowledge positively influences decision quality and efficiency.

The sample primarily entrepreneurs aged 33–48 reflected the characteristics typical of microenterprises in emerging economies: family-run, asset-limited, and operating under high indebtedness. These conditions underscore the close relationship between household finances and business performance, where personal budgeting directly affects liquidity, inventory turnover, and supplier payments. Consequently, microentrepreneurs' decisions often deviate from rational optimization and instead follow intuitive or emotionally driven patterns, consistent with behavioural finance frameworks. The results reaffirm that financial behaviour is context-dependent and influenced by cognitive and affective biases rather than strictly economic logic.

Beyond financial behaviour, the study demonstrates clear implications for logistics and distribution management. Entrepreneurs with stronger financial literacy exhibited improved control over procurement scheduling, inventory turnover, store operations, and supplier payment coordination. These advances translated into more reliable distribution cycles, reduced stockouts, stronger wholesale relationships, and increased stability across retail channels. Thus, financial literacy emerges as a strategic capability that reinforces supply chain performance within microenterprise environments.

Consistent with previous literature, the findings confirm that financial literacy functions as a corrective mechanism that reduces irrational tendencies and strengthens evidence-based decision-making. This study extends the field by demonstrating that these behavioural improvements also lead to distributional and logistical benefits. Financially literate microentrepreneurs displayed enhanced ability to plan inventory replenishment, schedule supplier payments, and align cash-flow cycles with procurement timing factors essential to supply chain and retail efficiency.

A key contribution of this research is establishing a causal link between personal financial literacy and distribution management. Integrating financial education with business operations enabled microentrepreneurs to achieve greater control over their distribution systems, optimize inventory levels, maintain regular procurement schedules, and cultivate stronger supplier relationships. This integration fosters supply chain resilience and enhances channel performance, allowing microenterprises to operate with greater stability even amid market disruptions.

From a distribution science perspective, the findings highlight that financial literacy is not solely a personal competence but a strategic resource for retail logistics, store operations, and channel management. Financially literate entrepreneurs demonstrate better cost control, more accurate inventory forecasting, and stronger supplier coordination all of which contribute to efficient product flow and customer satisfaction. These results align with core themes in distribution science by showing that financial education strengthens supply chain sustainability, retail competitiveness, and distribution network reliability in emerging markets.

Theoretically, the study reinforces behavioural finance by demonstrating that education can mitigate bounded rationality and emotional biases. By shifting decision-making from intuitive judgments to informed, goal-oriented reasoning, financial literacy enables entrepreneurs to align short-term financial decisions with long-term business and distribution objectives. This transition validates financial literacy as a catalyst for channel efficiency and sustainable enterprise growth.

Practically, the results emphasize the value of incorporating personal finance education into microenterprise development and distribution training programs. Many small business owners in emerging economies rely on personal funds or informal credit to sustain operations; thus, their financial management skills directly influence business liquidity, stability, and supply continuity. Structured, context-specific financial education can reduce over-indebtedness, improve working capital turnover, and enhance the reliability of local supply chains.

From a policy standpoint, the findings highlight the need for financial literacy initiatives that are explicitly linked to distribution and retail training. Local governments,

development agencies, and business associations can collaborate to provide integrated financial and logistics education tailored to microentrepreneurs. Future research should explore how emerging digital tools such as mobile fintech applications, inventory tracking systems, and e-commerce platforms—can be paired with behavioural interventions to enhance financial and distributional efficiency. Longitudinal studies could further assess the durability of these effects and provide deeper insights into how financial education supports retail innovation, online channel growth, and wholesale system development.

Acknowledgements

The authors express their sincere appreciation to the participants in this study, whose insights and experiences provided essential grounding for the analysis. We also acknowledge the constructive comments and technical support offered by colleagues across our collaborating institutions, which helped refine both the conceptual and methodological development of this manuscript.
We extend our thanks to Rosario Huerta Soto, Manuel Enrique Chenet Zuta, Karina del Pilar Beltrán Castillo, and Richard Callan Bacilio for their valuable assistance during data collection and initial analytical work. Their steady contributions and careful attention to detail strengthened the empirical base of this project and supported its progression. This collaboration reflects the meaningful outcomes that can emerge from shared research engagement across academic roles and areas of expertise.

Declarations

Ethics Approval and Consent to Participate

This study did not involve human participants or animal subjects. Therefore, ethical approval and consent procedures were not required.

Conflicts of Interest

The authors declare that they have no competing interests.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions

R.H.S. contributed to the conceptualization and methodology of the study, conducted the formal analysis and investigation, managed data curation, prepared the original draft, and developed the visualizations. M.E.C.Z. supported the investigation and data curation and assisted with review and editing of the manuscript. K.d.P.B.C. contributed to the investigation and participated in the review and editing process. R.C.B., as the corresponding author, was responsible for conceptualization, methodology, resource provision, supervision, project administration, funding acquisition, and manuscript review and editing. All authors have read and approved the final version of the manuscript.

Data Availability Statement

Not applicable. No new data were created or analyzed in this study.

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

No generative AI or AI-assisted technologies were used in the writing or preparation of this manuscript. Only standard grammar and spell-check tools were utilized.

References

Altamirano, B. Y. G., Chuquipa, B. K. H., & Tafur, J. B. V. (2022). Working capital management and decision-making at Alba Mayo S.R.L., Moyobamba - 2021. *Ciencia Latina, A Multidisciplinary Scientific Journal, 5*(6), 14931–14953. https://doi.org/10.37811/cl_rcm.v5i6.1447

Bittencourt, B. A., & Figueiró, P. S. (2019). Creating shared value based on an innovation ecosystem. *EBAPE BR Notebooks, 17*(4), 1002–1015. https://doi.org/10.1590/1679-395174403

Herfeld, C. (2021). Revisiting the criticisms of rational choice theories. *Philosophy Compass*, *17*(1), 12774. https://doi.org/10.1111/phc3.12774

Hua, F., & Wang, J. (2018). How investor sentiment impacts financial decision-making behavior: From a Cognitive Neuroscience perspective. *NeuroQuantology*, *16*(5), 1–7. https://doi.org/10.14704/nq.2018.16.5.1385

Igu, J. A., Zakaria, S., & Bar-Or, Y. D. (2022). Systematic review of personal finance training for physicians and a proposed curriculum. *BMJ Open*, *12*(12), e064733. https://doi.org/10.1136/bmjopen-2022-064733

Ingale, K. K., & Paluri, R. A. (2020). Financial literacy and financial behaviour: a bibliometric analysis. *Review of Behavioral Finance*, *14*(1), 130–154. https://doi.org/10.1108/rbf-06-2020-0141

Kahneman, D., & Tversky, A. (2013). Prospect Theory: an analysis of decision under risk. In *World Scientific handbook in financial economic series,* 99–127. https://doi.org/10.1142/9789814417358_0006

Klapper, L., & Lusardi, A. (2019). Financial literacy and financial resilience: Evidence from around the world. *Financial*

Management, *49*(3), 589–614. https://doi.org/10.1111/fima.12283

Kleinberg, S., & Marsh, J. K. (2023). Less is more: information needs, information wants, and what makes causal models useful. *Cognitive Research Principles and Implications*, *8*(1), 1–23. https://doi.org/10.1186/s41235-023-00509-7

Korankye, T., & Pearson, B. (2023). Managing Household Finances: How engaging in financial management activities relates to the Experiential Well-Being of Americans. *Journal of Risk and Financial Management*, *16*(2), 132. https://doi.org/10.3390/jrfm16020132

Kumar, P., Islam, M. A., Pillai, R., & Sharif, T. (2023). Analysing the behavioural, psychological, and demographic determinants of financial decision making of household investors. *Heliyon*, *9*(2), e13085. https://doi.org/10.1016/j.heliyon.2023.e13085

Nigam, R. M., Srivastava, S., & Banwet, D. K. (2018). Behavioral mediators of financial decision making – a state-of-art literature review. *Review of Behavioral Finance*, *10*(1), 2–41. https://doi.org/10.1108/rbf-07-2016-0047

Sinnewe, E., & Nicholson, G. (2023). Healthy financial habits in young adults: An exploratory study of the relationship between subjective financial literacy, engagement with finances, and financial decision-making. *Journal of Consumer Affairs*, *57*(1), 564–592. https://doi.org/10.1111/joca.12512

Wang, X., Shi, W., & Yuen, K. F. (2022). A synthesised review of pandemic-driven consumer behaviours and applied theories: Towards a unified framework. *International Journal of Disaster Risk Reduction*, *77*, 103104. https://doi.org/10.1016/j.ijdrr.2022.103104

Wu, X. Q., Yap, C. S., & Ho, P. L. (2022). Use of digital finance platforms for personal finance management in rural China: Antecedents and consequences. *Journal of Electronic Commerce in Organizations, 20*(1), 1-22. https://doi.org/10.4018/JECO.296256

Zéman, Z., Kálmán, B. G., Bárczi, J., & Pataki, L. (2023). The evolution of university students' financial attitudes and their role in the sustainability of personal finances. *Sustainability*, *15*(8), 6385. https://doi.org/10.3390/su15086385