Beyond Financial Literacy: Behavioral Finance Mechanisms Driving Micro Enterprise Performance in Emerging Market Tourism

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Abstract*:* While enhanced Financial Literacy theoretically correlates with improved micro-business outcomes, empirical evidence reveals inconsistent findings across diverse contexts and regional markets. This contradiction exemplifies the knowledge-implementation gap within behavioral finance literature, where theoretical understanding fails to automatically translate into superior operational performance. This investigation analyzes the complex relationships between Financial Literacy and business effectiveness among micro-tourism operators through three critical mediating mechanisms: Financial Experience, Credit Access, and Financing Decisions within emerging economy contexts.

Data were collected from 383 micro-tourism business owners across the Greater Malang region, Indonesia, using a two-stage stratified proportional random sampling approach. This research utilized a quantitative explanatory approach through cross-sectional survey methodology. Statistical analysis utilized Partial Least Squares Structural Equation Modeling via SmartPLS 4.0, integrating four fundamental behavioral finance theoretical frameworks: Expected Utility Theory establishing rational choice foundations, Prospect Theory explaining cognitive biases and decision-making limitations, Signaling Theory addressing information asymmetries between micro-businesses and financial institutions, and Pecking Order Theory illuminating financing preference hierarchies within capital-constrained environments.

The analysis demonstrates that Financial Literacy lacks direct influence on Financial Performance ($\beta = 0.019$, $p = 0.769$), but rather operates through sequential mediation pathways involving Financial Experience, Credit Access, and Financing Decisions. Credit Access emerges as the strongest mediating pathway ($\beta = 0.113$, $p < 0.001$), followed by Financial Experience ($\beta = 0.112$, $p < 0.01$) and Financing Decisions ($\beta = 0.068$, $p < 0.01$). The comprehensive model explains 54.2% of Financial Performance variance with substantial predictive validity, providing robust empirical support for behavioral finance applications in micro-enterprise contexts.

The results suggest that MSME development initiatives require holistic ecosystem strategies that transcend conventional financial education approaches, incorporating enhanced Credit Access mechanisms, structured Financial Experience programs, and comprehensive decision-support systems. The research enhances behavioral finance scholarship by explaining the complex transformation processes by which Financial Literacy translates into Financial Performance within emerging market tourism contexts.

Keywords: Credit Access, Financing Decisions; Financial Experience, Financial Literacy, Financial Performance

Introduction

Contemporary economic systems increasingly acknowledge tourism's transformative capacity, with the industry generating approximately 10.4% of global gross domestic product while sustaining livelihoods for 319 million professionals worldwide (United Nations World Tourism Organization, 2023). This expansive economic framework relies fundamentally on micro, small, and medium enterprise networks that constitute the operational backbone of visitor service delivery, encompassing hospitality providers, culinary establishments, artisan retailers, and travel coordination services (Badoc-Gonzales et al., 2022). Sectoral prosperity emerges through interconnected micro-business ecosystems that shape tourism experiences via intimate accommodation offerings, culturally-authentic culinary presentations, and locally-crafted artisan products (Badoc-Gonzales et al., 2022).

Within Indonesia's national economic strategy, tourism receives prioritization as a cornerstone development sector (Bank Indonesia, 2018), generating foreign currency inflows of USD 10.46 billion through September 2023 (Ministry of Foreign Affairs & University of Indonesia, 2021). Nevertheless, Indonesia's micro-enterprise landscape presents a compelling structural contradiction: micro-businesses constitute 98.68% of total MSME populations while absorbing 89% of sectoral employment, yet their gross domestic product contribution remains constrained at 37.8% (Ministry of Finance of the Republic of Indonesia, 2020). This discrepancy signals fundamental operational efficiency challenges warranting comprehensive investigation.

This structural complexity intensifies when analyzing Greater Malang's tourism ecosystem, recognized among Indonesia's premier destination regions. Operating within the Singhasari Special Economic Zone framework, the area accommodates 13 million annual visitors through extensive micro-enterprise networks encompassing family-operated dining establishments, community-based lodging providers, cultural artifact vendors, and specialized transportation services. Preliminary field research conducted by investigators across 15 micro-tourism operators within Greater Malang uncovered paradoxical findings: notwithstanding the region's elevated financial literacy indicators of 69.43% exceeding national benchmarks of 49.68%, and financial inclusion rates of 86.53% surpassing national levels of 85.10% (Malang City Government, 2022), operational constraints persist with 40% experiencing capital access limitations, 33% encountering debt management complexities, and 27% facing modernization impediments.

These contradictory patterns exemplify what behavioral finance researchers characterize as the competence-implementation gap, where enhanced financial comprehension capabilities do not automatically generate corresponding operational improvements. Scholarly investigations reveal divergent conclusions regarding relationships between financial knowledge and business effectiveness. Multiple empirical analyses confirm positive associations between financial competencies and performance achievements across varied geographical contexts, demonstrated through research by Lusardi and Mitchell (2014), Adomako et al. (2016), Agyapong and Attram (2019), Anwar et al. (2020), and Buchdadi et al. (2020). However, theoretical inconsistencies and methodological limitations persist, especially within tourism sectors characterized by seasonal fluctuations and external dependency vulnerabilities.

This multifaceted challenge necessitates integrated theoretical frameworks for understanding financial competence transformation into enhanced business outcomes. Earlier scholarly investigations predominantly utilized mono-theoretical approaches inadequate for comprehensively explaining knowledge-to-performance conversion processes. Consequently, the current investigation synthesizes four foundational behavioral finance theoretical perspectives: Expected Utility framework providing rational choice theoretical foundations, Prospect theoretical constructs elucidating cognitive bias influences, Signaling theoretical mechanisms addressing information asymmetry challenges between micro-businesses and financial institutions, and Pecking Order theoretical hierarchies illuminating financing preference structures within capital-constrained operational environments.

Despite extensive scholarly attention to financial literacy-MSME performance relationships, three critical knowledge gaps persist: theoretical limitations reflected in insufficient integrated behavioral finance frameworks for micro-business contexts, empirical deficiencies demonstrated through limited sequential mediation mechanism evidence linking competence to performance, and contextual insufficiencies revealed in inadequate tourism MSME dynamics understanding within emerging economy settings. Addressing these limitations, the investigation contributes three distinctive innovations: empirical validation of sequential mediation channels from financial competence through experiential learning, credit accessibility, and strategic financing choices to performance outcomes; theoretical synthesis of four behavioral finance frameworks within comprehensive micro-enterprise models; and specialized model development for tourism sectors within emerging market contexts.

Grounded in identified scholarly deficiencies, this investigation examines: "What behavioral finance mechanisms facilitate financial competence transformation into operational performance within micro-tourism businesses, with mediation through experiential learning, credit accessibility, and strategic financing choices?" The research objective centers on identifying and validating conversion processes whereby financial knowledge generates enhanced performance outcomes among micro-tourism operators in emerging market economies.

Anticipated scholarly contributions encompass: theoretical advancement through integrated behavioral finance framework development, empirical enrichment via evidence-based sequential transformation mechanism modeling, practical enhancement through sustainable tourism MSME development policy guidance formulation, and methodological innovation through PLS-SEM implementation with complex mediation analyses, collectively providing insights for MSME empowerment program optimization through comprehensive evidence-driven approaches.

Literature Review

Expected Utility Theory (EUT)

The foundation of modern decision-making theory lies in Expected Utility Theory, originally formulated by Von Neumann and Morgenstern (1944). This framework posits that rational actors make choices by evaluating probabilities, utilities, rationality, and economic outcomes. The theory assumes individuals seek to maximize expected utility when facing uncertain situations. Bernoulli's earlier work (1954) had introduced the diminishing marginal utility concept, while Fishburn's (1981) research established risk attitude classifications encompassing risk-averse, risk-neutral, and risk-seeking behaviors.

Despite its theoretical elegance, EUT faces practical limitations. Schoemaker's (1982) study and subsequent research by Starmer (2000) revealed systematic deviations from pure rationality. Sugden's (2004) analysis further confirmed that Expected Utility Theory, while academically robust, requires refinement to address real-world decision-making complexities in financial contexts.

Prospect Theory

Building upon EUT's limitations, Kahneman and Tversky (1979) introduced Prospect Theory as a more realistic framework for understanding decision-making under uncertainty. Lavy's (1992) validation demonstrated how individuals frequently act inconsistently with traditional economic predictions. The theory rests on three core principles: reference point dependence, loss aversion tendencies, and sensitivity diminishing.

Recent research by Abdulrasool et al. (2023) has reinforced the significance of loss aversion bias in shaping individual risk preferences. Kahneman and Tversky's original framework explained that decision-making unfolds through two distinct phases: editing and evaluation, providing insights into various behavioral finance anomalies that traditional theories could not adequately address.

Signaling Theory

Spence's (1978) introduction of Signaling Theory within labor market contexts has evolved to address information asymmetry challenges across multiple domains. Grinblatt and Hwang's (1989) research defined information asymmetry as situations where parties possess unequal information access. In financial markets, Stiglitz (2000) work distinguished between quality information (concerning fundamental value) and intention information (related to future actions).

Contemporary applications by Connelly (2011) have emphasized signaling's crucial role in addressing information imbalances between lending institutions and borrowers, particularly relevant for microenterprise financing decisions.

Pecking Order Theory

Donaldson's (1961) research on Fortune 500 companies laid the groundwork for understanding financing hierarchies, establishing patterns of retained earnings, debt, and equity preferences. Myers and Majluf's (1984) formalization introduced the information asymmetry perspective between management and investors. The theory gained empirical support through Shyam-Sunder and Myers' (1999) demonstration of its superiority over Trade-Off Theory.

Global validation has emerged through studies in Ghana (Agyei et al., 2020), India (Kanojia et al., 2020), and other emerging economies (Wieczorek-Kosmala et al., 2020), confirming the theory's cross-cultural applicability in explaining financing preferences.

Theoretical Development and Hypotheses

Financial Literacy and Performance Relationship

Contemporary research establishes financial literacy as a critical determinant of business success. Empirical evidence consistently demonstrates positive correlations between financial knowledge and enterprise performance across diverse geographical contexts, including studies in Ghana (Agyapong & Attram, 2019), Indonesia (Anwar et al., 2020), and various other emerging markets (Sohilauw et al., 2021).

The knowledge-behavior gap identified in behavioral finance literature suggests that theoretical understanding alone proves insufficient for optimal business outcomes (Lusardi & Mitchell, 2014). Microenterprise owners, despite possessing fundamental financial knowledge, require practical implementation mechanisms to transform understanding into superior performance.

- H1: Financial literacy demonstrates a significant positive influence on micro-enterprise financial performance

Financial Experience as a Mediating Factor

Prospect Theory illuminates how financial decision-making becomes influenced by prior experience patterns. Individuals develop capability through exposure to diverse financial products and services (Kahneman & Tversky, 1979). Research indicates that financial literacy facilitates enhanced financial experience, while practical experience enables better risk evaluation and money management skills.

Studies by Lusardi (2015) emphasized financial literacy's role in measuring financial capability and improving decision-making experience. Mejia et al. (2022) revealed positive literacy-experience correlations, while Gathergood and Weber (2017) demonstrated how limited literacy leads to suboptimal financial choices.

- H2: Financial literacy significantly enhances financial experience in micro-tourism enterprises

Credit Access and Financial Inclusion

Signaling Theory explains how financial literacy functions as a credibility indicator, reducing information asymmetry between borrowers and financial institutions (Spence, 1978). Higher literacy levels enable entrepreneurs to better understand credit requirements and navigate application processes effectively.

Cross-national research confirms positive relationships between financial knowledge and credit access. Studies in China (Xu et al., 2019), Pakistan (Raza et al., 2023), Ethiopia (Meressa, 2023), and Indonesia (Widyastuti et al., 2023) consistently demonstrate that formal credit access serves as a mediating factor connecting financial literacy with business performance.

- H3: Financial literacy positively influences credit access for micro-tourism enterprises

Financing Decision Quality Enhancement

Expected Utility Theory suggests rational individuals select alternatives that maximize expected utility (Von Neumann & Morgenstern, 1944). Financial literacy enhances rationality in financing decision evaluation through improved analytical capabilities and risk-benefit assessment skills.

Research by Fong et al. (2019) and Sohilauw et al. (2021) demonstrated positive relationships between literacy and financing decision quality, while Sulistianingsih and Santi (2023) found contrasting results in Indonesian contexts, attributed to Prospect Theory's influence where decisions become affected by gain-versus-loss perceptions.

- H4: Financial literacy positively affects financing decisions in micro-tourism enterprises

Financial Experience and Credit Access Relationship

Signaling Theory demonstrates how financial experience serves as a credibility indicator that enhances borrowers' track records in financial management (Spence, 1978). Banks frequently evaluate potential borrowers based on limited formal data availability. Thaler and Sunstein (2008) explained how payment history fundamentally impacts future financing prospects. Zulkifli and Perera (2011) emphasized trust as essential for credit accessibility, while Ampountolas et al. (2021) demonstrated that active banking service involvement provides positive credit indication signals.

- H5: Financial experience significantly influences credit access for micro-tourism enterprises

Financial Experience and Financing Decisions

Prospect Theory explains how past experience shapes individuals' evaluation of gain-loss prospects in financial decision-making (Kahneman & Tversky, 1979). Experience enables better risk recognition patterns and reduces emotional bias. Eberhardt et al. (2019) found that positive financial experience affects decision-making through sunk cost resistance and enhanced money management capabilities. Giné and Goldberg (2023) and Sohn et al. (2012) reinforced that accumulated experience provides crucial functional knowledge in financing decisions.

- H6: Financial experience positively affects financing decisions in micro-tourism enterprises

Financial Experience and Financial Performance

Prospect Theory suggests that accumulated financial experience enhances understanding of risk patterns and financial decision outcomes (Kahneman & Tversky, 1979). Business operators with diverse experience demonstrate superior risk-balancing abilities, enabling optimal financial management reflected in improved performance. Eberhardt et al. (2019) demonstrated positive experience effects on performance through sunk cost resistance and optimal decisions. Anwar et al. (2020) confirmed significant positive experience influence on MSME performance.

- H7: Financial experience positively influences financial performance in micro-tourism enterprises

Credit Access and Financial Performance

Pecking Order Theory explains financing hierarchy with internal priority, followed by debt, and finally equity (Myers, 1984). Good credit access enables external financing with favorable terms, increasing capital availability and influencing optimal financing structure. Research consistently demonstrates positive relationships: Wilfred et al. (2013), Serino et al. (2019), Buchdadi et al. (2020), and Zarrouk et al. (2020), while Fowowe (2017) showed limited negative growth impacts.

- H8: Credit access positively affects financial performance in micro-tourism enterprises

Credit Access and Financing Decisions

Pecking Order Theory indicates firms prioritize internal funds before seeking external financing with superior cost-benefit profiles (Myers, 1984). Credit access becomes crucial because favorable terms enhance capital availability and influence optimal financing structure. Wasiuzzaman and Nurdin (2019) found Malaysian companies with good access tend toward debt financing with significant positive capital structure decision impacts.

- H9: Credit access positively influences financing decisions in micro-tourism enterprises

Financing Decisions and Financial Performance

Pecking Order Theory explains appropriate financing decisions based on cost-benefit hierarchy that produce optimal capital structures supporting financial performance (Myers, 1984). Rational decision-makers consider expected utility maximization for each alternative. Research demonstrates positive effects: Sohilauw et al. (2019), Muharam et al. (2020), Nohong et al. (2021), and Ramantha et al. (2021) in Indonesia confirmed significant positive influences of financing decisions on financial performance.

- H10: Financing decisions positively affect financial performance in micro-tourism enterprises

Mediation of Financial Experience

Expected Utility Theory explains financial literacy providing knowledge foundation for rational expected utility calculation, but this ability requires theoretical contextualization through practical experience (Von Neumann & Morgenstern, 1944). Financial experience serves as a mediator transforming conceptual knowledge into practical wisdom, creating learning cycles that improve accuracy in expected utility calculation and enhance superior financial performance.

- H11: Financial experience mediates the effect of financial literacy on financial performance in micro-tourism enterprises

Mediation of Credit Access

Expected Utility Theory indicates financial literacy represents rationality in evaluating financial alternatives for expected utility calculation (Von Neumann & Morgenstern, 1944). Individuals with high literacy utilize credit access

optimally for maximum utility generation. Buchdadi et al. (2020), Meressa (2023), and Widyastuti et al. (2023) confirmed formal credit access as mediating connector between financial literacy and financial performance.

- H12: Credit access mediates the effect of financial literacy on financial performance in micro-tourism enterprises

Mediation of Financing Decisions

Expected Utility Theory indicates financial literacy enhances rationality in evaluating financing decisions through need calculation ability, benefit-risk analysis, and financial information updates (Von Neumann & Morgenstern, 1944). This capability produces optimal financing decisions that maximize expected utility and improve financial performance. Meressa (2023) confirmed good financial literacy enables rational financing decisions contributing to SME financial performance.

- H13: Financing decisions mediate the effect of financial literacy on financial performance in micro-tourism enterprises

This integrated theoretical framework advances understanding of how financial literacy translates into superior business performance through multiple behavioral finance mechanisms, particularly relevant for micro-tourism enterprises operating in resource-constrained emerging market contexts.

Grounded in research gaps and the integration of four behavioral finance theoretical perspectives, this research formulates a comprehensive theoretical framework explaining how financial literacy translates into financial performance within micro-tourism enterprises. Figure 1 displays the conceptual model developed for this study.

Figure 1: Conceptual Hypothesis Model
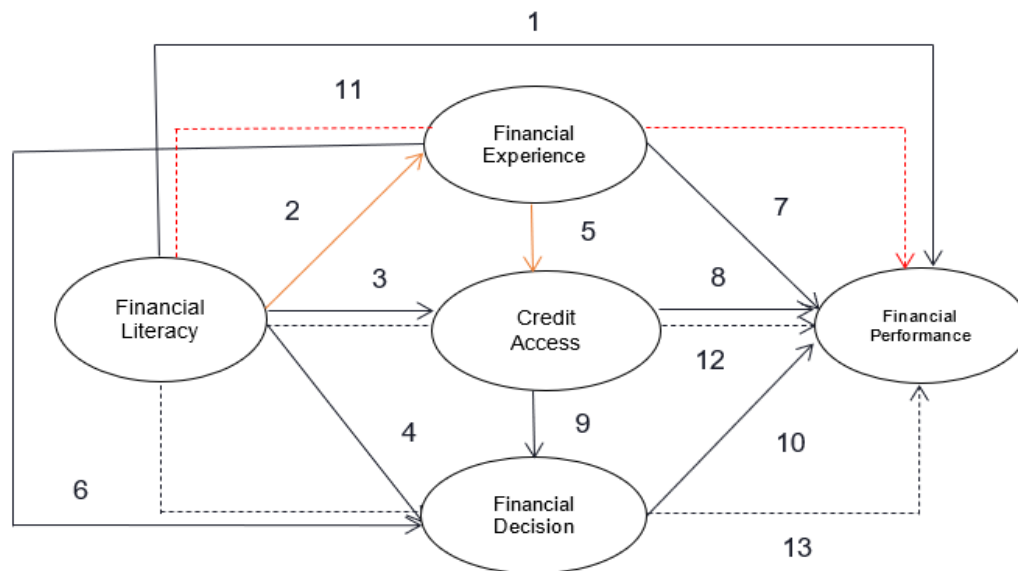
Research Methodology

Research Approach and Sampling Method

The investigation follows a quantitative explanatory design with cross-sectional data gathering performed in Greater Malang region (Malang City, Malang Regency, Batu City). The population consists of 6,557 officially registered micro-enterprises supporting tourism, as recorded by the Youth, Sports and Tourism Office of Malang City, the Culture and Tourism Office of Malang Regency, and the Tourism Office of Batu City. Inclusion criteria comprise owners who simultaneously act as managers aged 21-60 years, minimum one year of operation, successful bank credit history, maximum capital of IDR 1 billion (excluding land/buildings), and annual sales below IDR 2 billion.

Table 1. Distribution of Micro-Enterprise Population Supporting Tourism

Business Type	Malang City	Malang Regency	Batu City	Total
Small Hotels	207	88	27	322
Restaurants	2.413	2.418	33	4.864
Souvenir Shops	865	47	126	1.038
Travel Agencies	215	52	66	333
Total	**3.700**	**2.605**	**252**	**6.557**

Source: Tourism Office Data (2024)

This research employs probability sampling using two-stage stratified proportional random sampling technique (Sugiyono, 2018). The first stage performs stratification based on business type (small hotels, restaurants, souvenir shops, travel agencies) considering that each type has different business characteristics. The second stage conducts stratification based on region (Malang City, Malang Regency, Batu City) to ensure proportional geographical representation. The sample size of 368 respondents was determined using multiple considerations to ensure adequacy for PLS-SEM analysis. Following Solimun's (2002) guideline of 5-10 times the number of questionnaire items for complex multivariate analysis, a conservative ratio of 8 was selected ($8 \times 46 = 368$), which aligns with Hair et al.'s (2019) "10 times rule" for Partial Least Squares Structural Equation Modeling. Given that the most complex construct in the model has four predictors, the minimum required sample is 40 respondents, which is substantially exceeded. To anticipate non-response, an additional 10% buffer (37 respondents) was added, resulting in 405 questionnaires distributed and 383 valid responses obtained (response rate 94.56%), providing adequate statistical power for the study. Sample allocation uses the formula $ni = (Ni/N) \times n$, where ni is the number of samples per category, Ni is the population number per category, N is the total population (6,557), and n is the total required sample (368). Calculations were performed for each cell in the business type × region matrix.

Table 2. Sample Distribution of Micro-Enterprises Supporting Tourism

Business Type	Malang City	Malang Regency	Batu City	Total
Small Hotels	12	5	1	18
Restaurants	135	136	2	273
Souvenir Shops	48	3	7	58
Travel Agencies	12	3	4	19
Total	207	147	14	368

Source: Proportional Calculation (2024)

Respondent selection used a Random Number Generator from the verified tourism office database (Babbie, 2013), with an additional 10% sample for non-response anticipation, resulting in 405 questionnaires distributed and 383 questionnaires returned (response rate 94.56%). A five-point Likert scale was employed to measure five variables.

Measurement

Financial Literacy (FL)

➢ Financial Literacy (FL): Measured using scales developed and validated by Wahyono and Hutahayan (2020), encompassing three dimensions:

• Knowledge of Formal Financial Products (FL.1): account opening requirements (FL.1.1), initial deposit obligations (FL.1.2), minimum savings balance provisions (FL.1.3), guarantees on customer deposits (FL.1.4)

• Numeracy Knowledge (FL.2): ability to calculate simple interest (FL.2.1), ability to calculate compound interest (FL.2.2), ability to calculate loan interest rates (FL.2.3)

• Basic Economic Concepts (FL.3): understanding of inflation (FL.3.1), ability to calculate discounts (FL.3.2), understanding of time value of money concept (FL.3.3), understanding of money illusion (FL.3.4)

Financial Experience (FE)

➢ Financial Experience (FE): Conceptualized based on Lusardi's (2015) work, encompassing three key dimensions:

- Traditional Loan Experience (FE.1): business loan experience (FE.1.1), vehicle credit experience for business (FE.1.2), asset-collateralized credit experience (FE.1.3)

- Alternative Financial Services Loan Experience (FE.2): experience obtaining advance payment (FE.2.1), experience obtaining family loans (FE.2.2), experience using pawnshop services (FE.2.3), leasing credit experience (FE.2.4)

- Savings or Investment (FE.3): experience opening checking accounts (FE.3.1), experience opening savings accounts (FE.3.2), experience opening deposit accounts (FE.3.3)

Credit Access (CA)

➢ Credit Access (CA): Defined based on the scale used by Widyastuti et al. (2023), consisting of two dimensions:

- Ease of Credit Access (CA.1): ease of credit application (CA.1.1), obtaining credit information (CA.1.2), ease of accessing credit (CA.1.3), consideration of financial institution credit regulations (CA.1.4), credit collateral requirements (CA.1.5), ease of credit access (CA.1.6), maintaining good relationships with financial institutions (CA.1.7)

- Frequency of Credit Access (CA.2): suitability of credit application amount with required funds (CA.2.1), increased frequency of credit applications (CA.2.2), frequency of credit access in building bank trust (CA.2.3)

Financing Decisions (FD)

➢ Financing Decisions (FD): Measured using scales adapted from Sohilauw et al. (2021) research, encompassing three dimensions:

- Credit Amount (FD.1): credit decisions through simple analysis (FD.1.1), credit decisions based on financial condition evaluation (FD.1.2)

- Benefits and Risks (FD.2): knowledge of banking credit benefits (FD.2.1), knowledge of banking credit risks (FD.2.2)

- Financial Information Updates (FD.3): financial condition updates (FD.3.1), information seeking before credit application (FD.3.2)

Financial Performance (FP)

➢ Financial Performance (FP): Measured using scales adapted and synthesized from various previous studies assessing SME performance (Agyapong & Attram, 2019; Anwar et al., 2020; Sohilauw et al., 2021; Purnomo, 2019):

- Sales Improvement (FP1): sales revenue increase (FP1.1), customer number increase (FP.1.2), demand increase (FP.1.3)

- Asset Improvement (FP.2): business property value increase (FP.2.1), equipment quality improvement (FP.2.2), transportation equipment quality improvement (FP.2.3)

- Profit Improvement (FP.3): business revenue and cost comparison (FP.3.1), business profit increase (FP.3.2), business debt decrease (FP.3.3)

Measurement of all constructs employed a five-point Likert scale format, with responses ranging from 1 ("strongly disagree") to 5 ("strongly agree") with a perceptual approach to measure latent constructs that cannot be directly observed, appropriate for micro-business contexts with limited formal accounting systems. Validity was tested using Pearson correlation between items and total construct scores (threshold >0.3), yielding coefficients from 0.402 to 0.837, while reliability was assessed using Cronbach's alpha (threshold >0.6), producing values from 0.774 to 0.900, confirming excellent internal consistency for all constructs (Sugiyono, 2018).

Data Analysis

The study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS version 4.0 to examine structural connections among constructs, adhering to guidelines established by Hair et al. (2021). The selection of this analytical approach was based on its capacity to manage intricate models containing multiple latent constructs, accommodation of non-normal data distributions, and suitability for moderate-sized samples (383

participants). The analytical procedure comprised two phases: assessment of the measurement framework through internal consistency evaluation (composite reliability and Cronbach's alpha values ≥ 0.7), convergent validity verification (factor loadings exceeding 0.7 and AVE values ≥ 0.5), and discriminant validity confirmation (Fornell-Larcker assessment, cross-loading analysis, and HTMT ratios ≤ 0.9), and multicollinearity testing (VIF < 5.0); and structural model evaluation through path coefficient significance using bootstrapping with 5,000 resamples (t-value > 1.96, p-value < 0.05), R^2 (coefficient of determination), f^2 (effect size), and Q^2 (predictive relevance) via blindfolding procedures. Mediation effect testing used the Preacher and Hayes (2008) approach integrated with SmartPLS 4.0 with 95% confidence interval, where mediation effects are significant if the interval does not contain zero.

Result

Respondent Characteristics

The 383 respondents showed balanced gender distribution (52.48% male), with dominant age group 41-50 years (49.61%). Most respondents were high school graduates (61.10%) with over 5 years business experience (85.64%), primarily operating restaurants (73.37%) in Malang City (55.87%).

Descriptive Analysis of Variables

Table 3 presents the results of construct measurement and reliability for all research variables:

Table 3: Construct Measurement

Variable	Indicator	Item	Outer Loading (First Order)	Outer Loading (Second Order)	*Mean*	Composite Reliability	Cronbach's Alpha	AVE
Financial Literacy (FL)	FL.1	FL.1.1	0,820	0,910	4,52	0,814	0,877	0,642
		FL.1.2	0,788					
		FL.1.3	0,821					
		FL.1.4	0,775					
	FL.2	FL.2.1	0,848	0,923	4,48	0,722	0,845	0,647
		FL.2.2	0,705					
		FL.2.3	0,851					
	FL.3	FL.3.1	0,806	0,926	4,46	0,803	0,871	0,629
		FL.3.2	0,766					
		FL3.3	0,792					
		FL.3.4	0,808					
Financial Experience (FE)	FE.1	FE.1.1	0,853	0,873	4,46	0,786	0,875	0,701
		FE.1.2	0,804					
		FE.1.3	0,853					
	FE.2	FE.2.1	0,758	0,877	4,42	0,751	0,843	0,573
		FE.2.2	0,706					
		FE.2.3	0,812					
		FE.2.4	*0,749*					
	FE.3	FE.3. 1	0,835	0,794	4,38	0,724	0,845	0,645
		FE.3.2	0,783					
		FE.3.3	0,790					
Credit Access (CA)	CA.1	CA.1.1	0,776	0.921	4,47	0,870	0,900	0,563
		CA.1.2	0,738					
		CA.1.3	0,748					
		CA.1.4	0,765					
		CA.1.5	0,740					
		CA.1.6	0,763					
		CA.1.7	0,720					
	CA.2	CA.2.1	0,810					

Variable	Indicator	Item	Outer Loading (First Order)	Outer Loading (Second Order)	*Mean*	Composite Reliability	Cronbach's Alpha	AVE
		CA.2.2	0,807			0,745	0,855	0,663
		CA.2.3	0,825	0,887	4,43			
Financing Decision (FD)	FD.1	FD.1.1	0,871	0,855	4,46	0,713	0,874	0,777
		FD.1.2	0,891					
	FD.2	FD.2.1	0,874	0,859	4,51	0,708	0,872	0,774
		FD.2.2	0,885					
	FD.3	FD.3.1	0,900	0,823	4,46	0,721	0,877	0,781
		FD.3.2	0,867					
Financial Performance (FP)	FP.1	FP.1.1	0,833			0,742	0,853	0,660
		FP.1.2	0,778	0,873	4,44			
		FP.1.3	0,826					
	FP.2	FP.2.1	0,787			0,739	0,852	0,658
		FP.2.2	0,839	0,852	4,31			
		FP.2.3	0,806					
	FP.3	FP.3.1	0,828			0,729	0,847	0,649
		FP.3.2	0,772	0,898	4,43			
		FP.3.3	0,816					

(Source: Authors' analysis using SmartPLS 4.0)

Discriminant Validity Analysis

Discriminant validity was established through the analysis presented in Table 4, confirming that each latent variable measures separate conceptual domains. Meanwhile, the multicollinearity testing shown in Table 5 indicates no multicollinearity issues in the structural model.

Table 4: Evaluation of Discriminant Validity Fornell-Larcker Test

	FL	FP	FE	CA	FD
FL	0,920				
FP	0,537	0,875			
FE	0,693	0,588	0,849		
CA	0,625	0,670	0,644	0,904	
FD	0,601	0,664	0,604	0,675	0,846

(Source: Authors' analysis using SmartPLS 4.0)

Table 4 shows that the measurement model evaluation demonstrates good instrument quality with convergent validity confirmed through high outer loadings (>0.7 for all indicators), excellent reliability (Composite Reliability >0.8 and Cronbach's Alpha >0.7), and Average Variance Extracted (AVE) >0.5 for all constructs. Discriminant validity is also satisfied with Fornell-Larcker Criterion values and HTMT <0.90, and no multicollinearity problems are indicated by VIF values <5.0.

Table 5 presents hypothesis testing results for all paths in the structural model, achieving a success rate of 92.3% out of 13 hypotheses tested.

Table 5: Hypothesis Validation Results

Hypothesis	Effect	*Original Sample (O)*	*T Statistics (|O/STDEV|)*	*P Values*	*Result*
H1	FL -> FP	0,019	0,294	0,769	Not Supported
H2	FL -> FE	0,693	24,309	0,000	Supported
H3	FL -> CA	0,343	5,758	0,000	Supported
H4	FL -> FD	0,205	3,142	0,002	Supported
H5	FE -> CA	0,406	6,054	0,000	Supported
H6	FE -> FD	0,187	3,124	0,002	Supported
H7	FE -> FP	0,162	2,810	0,005	Supported
H8	CA -> FD	0,427	7,428	0,000	Supported
H9	CA -> FP	0,329	5,399	0,000	Supported
H10	Z3 -> FP	0,332	5,969	0,000	Supported
H11	FL -> FE -> FP	0,112	0,112	0,040	Supported
H12	FL -> CA -> FP	0,113	0,112	0,028	Supported
H13	FL -> FD -> FP	0,068	0,067	0,024	Supported

The hypothesis testing results are visually displayed in Figure 2, showing the structural model path diagram with path coefficients, significance levels, and R-square values for each endogenous construct. This model confirms that financial literacy lacks direct impact on financial performance, but rather through sequential mediation pathways involving financial experience, credit access, and financing decisions.

Figure 2: Structural Equation Modeling Results Using PLS Approach
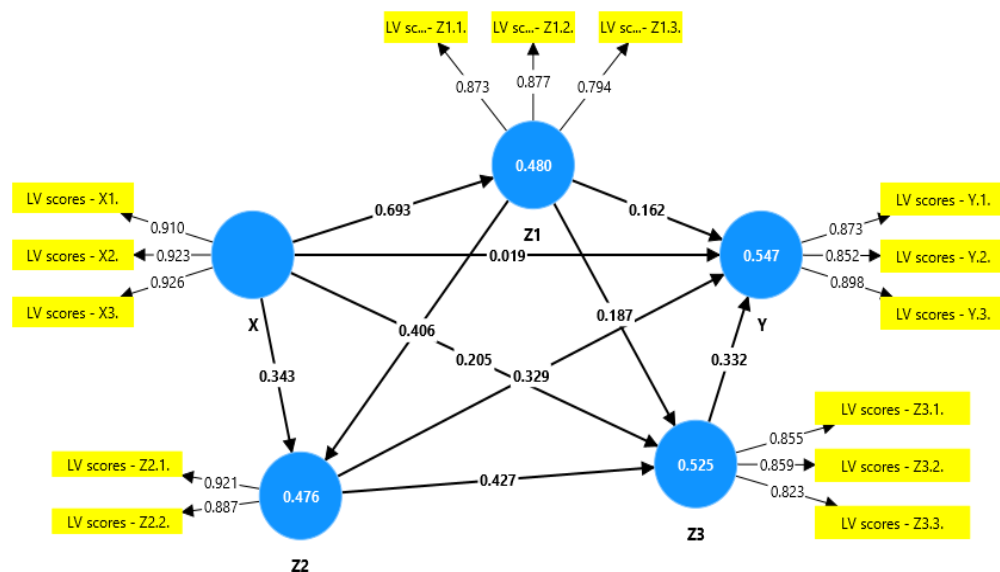
(Source: Authors' analysis using SmartPLS 4.0)
Note: Path coefficients are standardized. Bootstrap results (n=5,000). *p<0.05, **p<0.01, ***p<0.001

Discussion

Direct Financial Literacy Effects

Financial literacy demonstrated no direct effect on financial performance (H1: $\beta = 0.019$, $p = 0.769$), supporting the behavioral finance perspective on the knowledge-behavior gap. This finding aligns with research showing that financial knowledge alone is insufficient without practical implementation (Lusardi & Mitchell, 2014). Although micro-business owners possess good understanding of financial products, this knowledge requires transformation through other mechanisms to enhance performance.

However, financial literacy strongly influenced three key pathways. First, it significantly enhanced financial experience (H2: $\beta = 0.693$, $p < 0.001$), indicating that 69.3% of experience variation stems from literacy improvements. This reflects the theoretical foundation enabling individuals to engage in diverse financial activities. Second, literacy improved credit access (H3: $\beta = 0.343$, $p < 0.001$), functioning as a credibility signal that addresses information asymmetry between borrowers and lenders, consistent with Signaling Theory. Third, literacy enhanced financing decision quality (H4: $\beta = 0.205$, $p < 0.01$), supporting Expected Utility Theory's emphasis on informed decision-making. These findings suggest that financial literacy operates through sequential mediation rather than direct performance enhancement.

Sequential Mediation Effects

Financial experience emerged as a critical mediator in the literacy-performance relationship. Experience significantly influenced credit access (H5: $\beta = 0.406$, $p < 0.001$), providing stronger signals to financial institutions compared to theoretical knowledge alone. Experience also enhanced financing decisions (H6: $\beta = 0.187$, $p < 0.01$) and directly improved performance (H7: $\beta = 0.162$, $p < 0.01$). These findings support Prospect Theory's emphasis on experiential learning in shaping reference points for decision-making.

Credit access demonstrated the strongest mediating effects, significantly influencing both financing decisions (H8: $\beta = 0.427$, $p < 0.001$) and financial performance (H9: $\beta = 0.329$, $p < 0.001$). The coefficient of 0.427 indicates that credit access has the greatest impact on financing decisions among all factors, reflecting the importance of financial inclusion in optimizing capital structure. This supports Pecking Order Theory, where better access to external financing provides flexibility for optimal capital combinations.

Financing decisions also significantly enhanced performance (H10: $\beta = 0.332$, $p < 0.001$), confirming that optimal capital structure decisions maximize firm value. In the context of micro-tourism businesses facing seasonal fluctuations, strategic financing decisions based on comprehensive analysis contribute to operational efficiency and sustainable profitability.

Mediation Pathway Analysis

The mediation analysis revealed three significant transformation pathways from financial literacy to performance. Financial experience mediation (H11: $\beta = 0.112$, $p < 0.01$) confirmed that literacy must be converted into practical experience to provide value. This reflects experiential learning theory, where knowledge requires practical implementation before contributing to business outcomes.

Credit access mediation (H12: $\beta = 0.113$, $p < 0.001$) emerged as the strongest pathway, showing that financial literacy creates better access to external financing, which then contributes to improved performance. This finding highlights the essential role of financial inclusion infrastructure in translating financial capabilities into business results, particularly relevant for micro-tourism enterprises in emerging markets.

Financing decision mediation (H13: $\beta = 0.068$, $p < 0.01$) demonstrated that literacy contributes to decision quality that ultimately improves performance. Although having the smallest coefficient among mediators, this pathway reflects the cognitive process connecting financial knowledge with business outcomes through enhanced decision-making quality.

Theoretical and Practical Implications

The integration of four behavioral finance theories successfully explains 54.2% of financial performance variance, providing robust empirical support for the sequential transformation model. The findings reveal that Expected Utility Theory and Prospect Theory work complementarily, where rational knowledge (EUT) requires behavioral application (Prospect Theory) to generate performance outcomes. Signaling Theory and Pecking Order Theory explain the institutional mechanisms through which literacy translates into business results.

For policy implications, these findings suggest that MSME development programs must adopt an integrated ecosystem approach combining financial education with institutional access improvement. Simply enhancing financial literacy without addressing credit access barriers will not optimize performance outcomes. The tourism sector's unique characteristics, including seasonal fluctuations and external dependencies, require specialized financial inclusion strategies that consider both knowledge enhancement and practical application pathways.

The research contributes to behavioral finance literature by demonstrating that financial literacy operates through complex mediation mechanisms rather than simple direct relationships. This has important implications for emerging market contexts where financial inclusion infrastructure may be limited, requiring coordinated interventions across multiple dimensions of the financial ecosystem.

Conclusion

This research provides significant empirical evidence of behavioral finance mechanisms that transform financial literacy into business performance in micro-tourism enterprises in emerging markets, revealing a critical knowledge-behavior gap where financial literacy does not directly impact financial performance but requires sequential mediation through financial experience, credit access, and financing decisions. The integration of four behavioral finance theories successfully explains 54.2% of financial performance variance with credit access as the strongest mediator, indicating that financial inclusion infrastructure is crucial for transforming financial knowledge into business results. Therefore, MSMEs development programs must adopt an integrated ecosystem approach that combines financial education with institutional access improvement. This research has several limitations: the cross-sectional nature of the study, reliance on self-reported measures, focus on Greater Malang's tourism sector that limits broader application, and omission of external economic factors. Future research should use longitudinal approaches to determine causality, test findings in various emerging markets, and explore how demographic and business factors influence these relationships for better understanding of MSMEs development.

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