

Financial Literacy and Digital Consumer Decision-Making Nexus: A PLS-SEM Analysis of Behavioural Dynamics in Vietnam's Emerging Peer-to-Peer Lending Ecosystem

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Abstract

This research investigates the complex interrelationship between financial literacy and consumer decision-making behaviour within Vietnam's rapidly evolving peer-to-peer (P2P) lending ecosystem. Whilst financial technology has transformed access to credit markets globally, the specific dynamics within emerging economies with nascent financial infrastructures remain underexplored. Through a multidimensional conceptual framework integrating financial capability theory, technology acceptance paradigms, and behavioural economics, this study examines how varying dimensions of financial literacy influence decision-making processes on digital lending platforms. Employing a structured survey methodology with 427 Vietnamese P2P platform users, this research applies partial least squares structural equation modelling (PLS-SEM) supplemented by fuzzy-set qualitative comparative analysis (fsQCA) to elucidate complex causal relationships. The findings reveal financial literacy demonstrates significant direct effects on risk perception, trust formation, and platform adoption decisions, with differential impacts across demographic segments. Moreover, financial self-efficacy emerges as a crucial moderating variable, reconfiguring the relationship between financial knowledge and behavioural outcomes. The research contributes to theoretical advancement through an integrated conceptual model whilst providing practical insights for financial technology providers, regulatory authorities, and financial literacy advocates within Vietnam's distinctive socioeconomic context.

Keywords: Consumer Behaviour, Digital Lending, Financial Literacy, Peer-To-Peer Platforms, PLS-SEM.

1. Introduction

The proliferation of financial technology platforms has fundamentally transformed financial service accessibility, particularly in emerging economies with historically limited banking infrastructure (Bruton et al., 2015). Peer-to-peer lending platforms represent particularly disruptive mechanisms, disintermediating traditional institutions and creating novel marketplaces connecting lenders directly with borrowers (Lin et al., 2013). However, these platforms' success remains contingent upon consumer-level variables influencing adoption and decision-making processes (Lee & Shin, 2018).

Financial literacy—defined as the confluence of knowledge, skills, and attitudes enabling effective financial decision-making (Huston, 2010)—has emerged as a critical yet insufficiently examined construct within digital lending contexts. Whilst its significance within traditional banking environments is well-established (Lusardi & Mitchell, 2014), its operative mechanisms within novel digital architectures remain theoretically underdeveloped (Agarwal et al., 2015), particularly in emerging economies where digital adoption frequently outpaces financial education infrastructure (Klapper et al., 2015).

Vietnam presents a compelling research context for examining this nexus. With digital financial services adoption growing at 25-30% annually (World Bank, 2017), the Vietnamese P2P lending market expanded from \$300 million in 2016 to approximately \$7.8 billion by 2017 (Asian Development Bank, 2017). Simultaneously, Vietnamese financial literacy rates remain below global averages, with only 24% of adults demonstrating adequate financial knowledge compared to the 33% global average (Standard & Poor's, 2015).

The empirical literature reveals significant gaps in understanding the precise mechanisms through which financial literacy impacts digital financial behaviour. Whilst studies have established correlations between financial knowledge and certain decision-making aspects (Fernandes et al., 2014), specific pathways within digital environments remain underspecified.

This research addresses these gaps by validating an integrated framework examining financial literacy's multidimensional impact on consumer behaviour within Vietnamese P2P platforms. Drawing upon bounded rationality (Simon, 1955), technology acceptance (Davis, 1989), and financial capability theories (Johnson & Sherraden, 2007), this study employs structural equation modelling with partial least squares approach, supplemented by fuzzy-set qualitative comparative analysis (Hair et al., 2014).

The theoretical contribution is threefold: extending financial literacy theory within digital environments; advancing technology adoption models by integrating financial capability constructs; and enhancing theoretical specificity regarding emerging market dynamics. Additionally, this research generates practical insights for platform developers, regulatory bodies, and financial education initiatives within rapidly digitalising economies.

2. Foundational Theories and Literature Review

2.1. Foundational Theories

2.1.1. Financial Literacy and Capability Theory

Financial literacy constitutes a multidimensional theoretical construct that has undergone substantial conceptual evolution. Initially conceptualised narrowly as financial knowledge (Bernheim & Garrett, 2003), contemporary theoretical frameworks have expanded to encompass cognitive, attitudinal, and behavioural dimensions that collectively enable effective financial decision-making (Remund, 2010). The theoretical foundations of financial literacy derive primarily from human capital theory, which positions financial knowledge as a form of intellectual capital that enhances decision-making capacity (Delavande et al., 2008). Huston (2010) advanced this conceptualisation by distinguishing between financial knowledge (the stock of information) and financial literacy (the application of that knowledge), thereby establishing a crucial theoretical distinction that informs the present research.

Financial capability theory, as articulated by Johnson and Sherraden (2007), represents a significant theoretical advancement by integrating both individual capacity and structural opportunity. This theoretical framework posits that effective financial behaviour requires not only knowledge and skills but also accessible institutional mechanisms that facilitate financial action. Sherraden (2013) further developed this theoretical position by emphasising the interaction between individual agency and financial infrastructure, positioning financial capability as an emergent property of this interaction rather than a purely individual attribute. This theoretical perspective bears particular relevance within the Vietnamese context, where rapid financial technology innovation has expanded institutional access while financial education infrastructure remains underdeveloped.

The theoretical conceptualisation of financial literacy has further evolved through integration with behavioural economics, particularly bounded rationality theory (Simon, 1955). This theoretical integration recognises that financial decision-making occurs under conditions of cognitive constraint, information asymmetry, and motivational biases (Lusardi & Mitchell, 2014). Thaler (2015) advanced this theoretical synthesis by demonstrating how financial literacy influences susceptibility to behavioural biases, including present bias, loss aversion, and choice overload—all particularly relevant within digital environments that intensify information complexity. Within this theoretical framework, financial literacy can be understood as a mitigating factor that reduces the gap between normative economic models and actual financial behaviour.

Critically, this theoretical evolution has produced increased recognition of financial literacy as domain-specific rather than universal (Hung et al., 2009). Financial knowledge and capability that prove adequate within traditional banking contexts may prove insufficient within novel digital environments that present distinctive decision architectures, information structures, and risk parameters. This theoretical position underpins the present research's focus on digital-specific financial literacy as a distinct construct from general financial knowledge. Remund (2010) supports this theoretical distinction by demonstrating how financial literacy encompasses context-specific competencies rather than generalised aptitude.

Within emerging economies specifically, financial capability theory has been extended by scholars emphasising the role of social and cultural factors that condition financial behaviour. Sherraden et al. (2015) articulated how financial capability development occurs through the integration of formal knowledge systems with community-based financial practices—a theoretical perspective particularly relevant within the Vietnamese context where traditional lending circles (*hui*) and family financial networks have historically substituted for formal financial institutions. This theoretical lens emphasises the importance of examining how traditional financial attitudes and practices interact with novel digital platforms.

The measurement of financial literacy has itself generated significant theoretical development. Early measurement approaches focused predominantly on objectively verifiable knowledge (Lusardi & Mitchell, 2011), whereas contemporary theoretical frameworks emphasise the importance of measuring subjective dimensions including financial attitudes, behavioural intentions, and perceived self-efficacy (Atkinson & Messy, 2012). This measurement evolution reflects the theoretical recognition that effective financial decision-making requires not merely knowledge acquisition but also behavioural application—a distinction with significant implications for digital environments where decision conditions differ substantially from traditional contexts.

2.1.2. Technology Acceptance and Digital Consumer Behaviour Theories

Technology acceptance theory provides the second core theoretical foundation for examining consumer behaviour within digital lending platforms. The Technology Acceptance Model (TAM), initially proposed by Davis (1989), identifies perceived usefulness and perceived ease of use as the primary determinants of technology adoption, mediated by attitudinal factors and behavioural intentions. This theoretical framework has demonstrated robust explanatory power across diverse technological contexts but requires domain-specific augmentation to fully capture financial technology acceptance (Venkatesh & Bala, 2008).

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003), represents a significant theoretical advancement by integrating multiple theoretical perspectives into a unified framework. This model identifies performance expectancy, effort expectancy, social influence, and facilitating conditions as core determinants of technology adoption intentions. Within fintech contexts specifically, the UTAUT framework has been extended to incorporate additional constructs including perceived trust, perceived risk, and perceived security—factors particularly salient within lending platforms where financial vulnerability is inherent (Slade et al., 2015).

These technology acceptance models have undergone further theoretical refinement through integration with innovation diffusion theory (Rogers, 2003), which classifies adopters according to their temporal relationship with

innovation. This theoretical integration proves particularly relevant within the Vietnamese context, where digital lending platforms remain in the early adoption phase, suggesting that current users may demonstrate systematically different characteristics from the broader population (Lee & Shin, 2018). Innovation diffusion theory further emphasises the importance of perceived attributes including relative advantage, compatibility, complexity, trialability, and observability—constructs that complement traditional technology acceptance models (Moore & Benbasat, 1991).

The behavioural economics of technology usage has emerged as a crucial theoretical extension to traditional acceptance models. As articulated by Benartzi and Lehrer (2015), digital decision environments create distinctive cognitive conditions that systematically influence decision processes, often in ways that deviate from rational choice models. These theoretical developments emphasise how digital interfaces can exploit attentional limitations, frame choices to emphasise certain attributes, and utilise social proof mechanisms to influence behaviour. Within digital lending contexts specifically, these interface characteristics may interact with financial literacy levels to produce distinctive behavioural outcomes (Benartzi, 2015).

Trust theory represents another critical theoretical foundation for understanding digital financial behaviour. Gefen et al. (2003) established the multidimensional nature of online trust, distinguishing between institution-based trust (derived from structural assurances), calculative-based trust (derived from rational assessment of trustworthiness), and knowledge-based trust (derived from familiarity). Within P2P lending specifically, Greiner and Wang (2010) demonstrated how trust mechanisms including reputation systems, historical performance metrics, and social network verification function as critical determinants of platform engagement. The theoretical intersection between trust formation processes and financial literacy remains underspecified, representing a critical gap addressed by the present research.

Notably, consumer behaviour within digital financial environments draws theoretical insights from information asymmetry theory (Akerlof, 1970). P2P lending platforms create novel information structures that differ substantively from traditional banking environments, redistributing information across platform participants and creating new forms of information asymmetry (Lin et al., 2013). The interaction between financial literacy and these novel information structures remains theoretically underdeveloped, particularly regarding how varying levels of financial sophistication condition information processing within these environments.

Self-determination theory (Ryan & Deci, 2000) provides additional theoretical insights by emphasising how autonomy, competence, and relatedness drive intrinsic motivation. Within digital lending contexts, financial literacy may function as a competence enabler that enhances self-efficacy and thereby influences platform engagement through motivational pathways. This theoretical perspective complements traditional technology acceptance models by emphasising psychological need satisfaction rather than merely instrumental outcomes (Malhotra et al., 2008).

Collectively, these theoretical frameworks establish the foundation for examining the complex interrelationship between financial literacy and digital consumer behaviour. By integrating financial capability theory with technology acceptance models, trust formation theories, and behavioural economics, this research develops a comprehensive theoretical framework for examining consumer decision-making within Vietnam's emerging P2P lending ecosystem.

2.2. Review Of Empirical and Relevant Studies

2.2.1. Financial Literacy: Empirical Findings and Measurement Approaches

Empirical research examining financial literacy has documented significant and persistent knowledge gaps across global populations. Lusardi and Mitchell's (2011) seminal work established that only one-third of global respondents could correctly answer three basic financial literacy questions regarding interest rates, inflation, and risk diversification. This finding has been replicated across diverse national contexts, with emerging economies typically demonstrating lower financial literacy rates than developed economies (Klapper et al., 2015). Within Vietnam specifically, the Standard & Poor's Global Financial Literacy Survey (2015) found that only 24% of adults could be classified as financially literate, positioning Vietnam below regional averages despite its rapid economic development.

The empirical relationship between financial literacy and financial behaviour has been extensively documented, though with important nuances. Fernandes et al. (2014) conducted a meta-analysis of 168 papers examining financial literacy effects, finding a statistically significant but relatively modest relationship between financial literacy and financial behaviours ($r = 0.21$). Notably, intervention effects demonstrated significant decay over time, suggesting the importance of sustained rather than one-time financial education. van Rooij et al. (2011) established more specific linkages, demonstrating that financial literacy significantly influences stock market participation, retirement planning, and wealth accumulation, with effects persisting after controlling for cognitive ability, educational attainment, and risk preferences.

Measurement approaches for financial literacy have evolved substantially, with empirical studies demonstrating the limitations of unidimensional measures. Huston (2012) demonstrated that traditional knowledge-based measures fail to capture the application dimension of financial literacy, thereby undermining predictive validity regarding actual financial behaviours. In response, multidimensional measurement approaches have been developed, including the OECD/INFE framework which incorporates knowledge, attitudes, and behaviour dimensions (Atkinson & Messy, 2012). Empirical validation of these multidimensional measures has demonstrated superior predictive validity regarding financial outcomes compared to knowledge-only measures (Potrich et al., 2016).

Contextual factors significantly moderate the relationship between financial literacy and behaviour. Cole et al. (2011) found that financial literacy effects vary systematically with income levels, with stronger effects observed among middle-income compared to low-income populations. Similarly, Meier and Sprenger (2013) demonstrated that time preferences moderate financial literacy effects, with present-biased individuals demonstrating weaker relationships between knowledge and behaviour. These empirical findings suggest the importance of examining conditional effects rather than assuming uniform financial literacy impacts across populations.

Domain-specific financial literacy measures have demonstrated superior predictive validity compared to general measures when examining specific financial behaviours. Nicolini et al. (2013) established that domain-specific financial knowledge regarding mortgage products more strongly predicted mortgage choice quality than general financial literacy. This empirical finding supports the present research's focus on digital-specific financial literacy as potentially distinct from general financial knowledge. To date, however, few empirical studies have developed and validated measures specifically targeting financial literacy within digital lending contexts.

2.2.2. Digital Financial Behaviour and P2P Lending Platform Dynamics

Empirical research examining P2P lending platforms has documented distinctive behavioural patterns that differentiate these environments from traditional lending contexts. Lee and Lee (2012) analysed 3,000 loan listings from a major P2P platform, identifying herding behaviour as a significant factor influencing funding outcomes. This finding suggests the operation of social influence mechanisms that may interact with financial literacy levels to produce distinctive decision patterns. Similarly, Zhang and Liu (2012) demonstrated rational herding effects, whereby lenders extrapolate borrower quality from the lending decisions of previous investors—a finding with significant implications regarding how financial sophistication might influence information processing within these platforms.

Trust formation within digital lending platforms follows empirically distinct patterns from traditional financial contexts. Duarte et al. (2012) established that perceived trustworthiness based on borrower photographs significantly influenced lending decisions and accurately predicted default risk, suggesting the operation of non-financial evaluation heuristics. Chen et al. (2016) further documented how textual features of loan requests, including linguistic complexity and narrative persuasiveness, significantly impacted funding outcomes independent of financial indicators. These findings suggest that digital environments create distinctive evaluation contexts that may interact with financial literacy to influence decision quality.

Consumer risk perception within P2P platforms demonstrates empirically complex patterns. Iyer et al. (2016) found that lenders could predict default with 45% greater accuracy than credit scores alone, suggesting that distributed risk assessment through collective intelligence mechanisms creates distinctive risk evaluation dynamics. Conversely, Lin et al. (2013) documented friendship networks functioning as signals of creditworthiness, with borrowers who displayed social connections receiving funding at lower interest rates despite no difference in default rates—suggesting potential inefficiencies in risk assessment mechanisms that financial literacy might moderate.

Platform design features significantly influence user behaviour within digital lending environments. Herzenstein et al. (2011) demonstrated that identity verification influenced funding success, with borrowers providing verification receiving 58% more funding than unverified borrowers. Similarly, Kawai et al. (2013) established that screening mechanisms significantly reduced adverse selection problems within P2P platforms. These empirical findings suggest that platform architecture creates distinctive decision environments that may amplify or attenuate the effects of financial literacy on decision outcomes.

Demographic factors significantly influence digital financial behaviour, creating potential interaction effects with financial literacy. Pope and Sydnor (2011) documented significant racial disparities in P2P lending outcomes, with loan requests from Black borrowers 25-40% less likely to receive funding than identical requests from White borrowers. Ravina (2012) further established beauty premiums within lending decisions, with attractive borrowers receiving funding at interest rates 1.5 percentage points lower than equally qualified but less attractive counterparts. These findings suggest that non-financial factors significantly influence digital lending decisions, potentially creating contexts where financial literacy effects may be diminished or enhanced.

2.2.3. Financial Technology Adoption in Emerging Economies

Empirical research examining financial technology adoption within emerging economies has documented distinctive patterns that differentiate these contexts from developed markets. Jack and Suri (2014) examined mobile money adoption in Kenya, finding that availability of mobile financial services reduced consumption volatility by 11.8 percentage points by enabling households to receive remittances from a wider network during economic shocks. This finding suggests that digital financial services fulfil distinctive functions within emerging economies, potentially creating different adoption motivations than observed in developed markets.

Institutional factors significantly influence fintech adoption within emerging economies. Demirgüç-Kunt et al. (2015) found that regulatory quality predicted digital financial inclusion independent of economic development, with clear legal frameworks regarding digital transactions significantly accelerating adoption. Within Vietnam specifically, World Bank (2017) research documented how the lack of comprehensive regulatory frameworks for P2P lending created uncertainty that influenced risk perceptions among potential users. These findings suggest the importance of examining institutional context when assessing financial literacy effects within emerging economies.

Cultural factors significantly moderate technology adoption patterns across national contexts. Tam and Oliveira (2017) established that Hofstede's cultural dimensions significantly predicted mobile banking adoption patterns, with uncertainty avoidance demonstrating particularly strong effects. Within the Vietnamese context specifically, collectivist cultural orientations may influence digital lending behaviour through distinctive social trust mechanisms and group-oriented decision processes (Vuong & Napier, 2014). These empirical findings suggest the importance of examining cultural moderation of financial literacy effects rather than assuming universal mechanisms.

Access barriers remain significant within emerging economies despite rapid technological diffusion. Research by Klapper et al. (2015) documented substantial urban-rural divides in digital financial service access, with rural populations facing both infrastructural and educational barriers. Within Vietnam specifically, the World Bank (2017) found that while 72% of urban residents accessed digital financial services, only 43% of rural residents did so—suggesting the operation of significant digital divides that may influence the composition of current P2P platform users.

Financial inclusion motivations differ significantly between developed and emerging economies. Demirgüç-Kunt and Klapper (2013) found that while convenience predominantly drives digital financial service adoption in developed economies, access to otherwise unavailable formal financial services drives adoption in emerging economies. This finding suggests that P2P lending platforms may fulfil fundamentally different market functions within the Vietnamese context compared to developed markets, potentially attracting users with distinctive demographic and psychographic profiles.

2.3. Proposed Research Model

Based on the theoretical foundations and empirical findings reviewed above, this study proposes an integrated research model examining the financial literacy-digital consumer behaviour nexus within Vietnam's P2P lending ecosystem. The proposed model conceptualises financial literacy as a multidimensional construct comprising cognitive, attitudinal, and behavioural dimensions that influence consumer decision-making through multiple pathways, moderated by individual and contextual factors.

The primary dependent variable within this research model is P2P platform adoption and utilisation, conceptualised as a multidimensional construct comprising initial adoption, usage intensity, and transaction complexity. This operationalisation draws upon innovation diffusion theory (Rogers, 2003) and technology acceptance models (Davis, 1989), recognising that digital financial engagement occurs along a continuum rather than as a binary state. The empirical evidence suggests that different dimensions of financial literacy may differentially influence these adoption dimensions, necessitating a nuanced conceptualisation of platform engagement (Slade et al., 2015).

Financial literacy constitutes the central independent variable within this model, operationalised through three distinct but interrelated dimensions. First, financial knowledge encompasses the cognitive understanding of financial concepts, product features, and risk-return relationships. Second, financial attitudes capture psychological dispositions toward financial planning, risk tolerance, and digital trust. Third, financial behaviour encompasses demonstrated capabilities regarding budgeting, saving, and prior financial technology engagement. This multidimensional operationalisation draws upon the OECD/INFE framework (Atkinson & Messy, 2012) while incorporating digital-specific elements informed by technology acceptance theories.

The research model proposes multiple mediating variables that establish the causal pathways through which financial literacy influences platform engagement. First, perceived risk functions as a primary mediator, with financial literacy hypothesised to reduce risk perception through enhanced understanding of platform mechanisms and improved capacity to evaluate lending opportunities (van Rooij et al., 2011). Second, trust perceptions mediate literacy effects, with financial knowledge enhancing institutional trust through familiarity with regulatory frameworks and operational models (Gefen et al., 2003). Third, self-efficacy regarding financial technology usage mediates literacy effects, with knowledge enhancing confidence in navigating digital interfaces and executing financial transactions (Bandura, 1997).

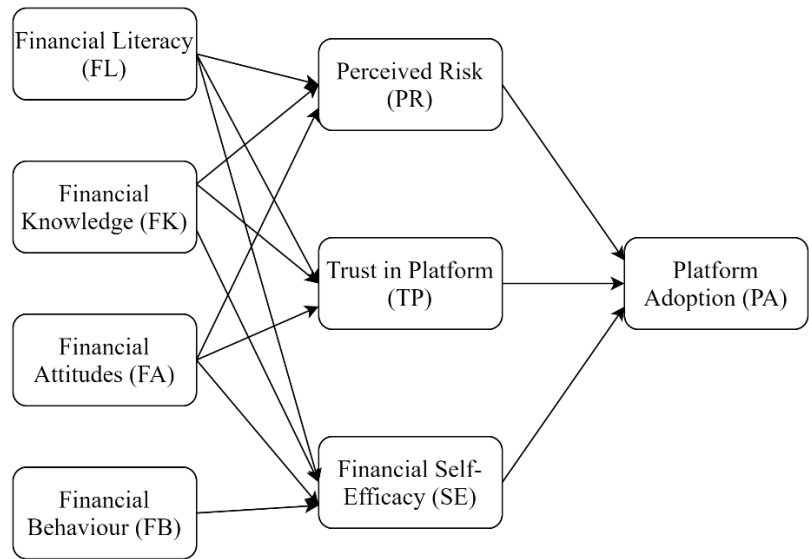


Figure 1. Proposed research model.

Moderating variables within the research model account for heterogeneous effects across demographic segments and contextual conditions. Demographic moderators include age, gender, income level, educational attainment, and urban/rural residence—factors empirically demonstrated to influence both financial literacy and digital technology adoption (Lusardi & Mitchell, 2011). Technological moderators include internet experience, smartphone ownership duration, and prior digital banking experience—factors that potentially influence the relationship between financial knowledge and platform engagement through familiarity effects (Venkatesh et al., 2003). Cultural moderators include individualism/collectivism orientation and uncertainty avoidance—dimensions shown to influence financial behaviour across national contexts (Tam & Oliveira, 2017).

The proposed model further incorporates distinctive elements of Vietnam's institutional context. The regulatory environment for P2P lending in Vietnam remains emergent, with platforms operating in a legal grey area that potentially influences risk perceptions independent of financial literacy (World Bank, 2017). Furthermore, Vietnam's rapid transition from a centrally planned to a market economy has created distinctive generational differences in financial socialisation, potentially moderating the relationship between financial knowledge and digital financial behaviour (Vuong & Napier, 2014). These contextual factors are incorporated as control variables within the model.

For lenders within P2P platforms, the model hypothesises that financial literacy enhances portfolio diversification behaviour, risk-adjusted return optimisation, and evaluation accuracy regarding borrower creditworthiness. These behavioural outcomes derive from improved comprehension of risk-return relationships, enhanced capacity to interpret financial information, and reduced susceptibility to behavioural biases including herding effects (Lee & Lee, 2012). For borrowers, the model hypothesises that financial literacy influences loan request quality, appropriate borrowing amounts relative to income, and optimal timing of borrowing activities. These effects derive from improved understanding of interest mechanics, enhanced long-term financial planning, and reduced present bias in consumption decisions (Meier & Sprenger, 2013).

The research model proposes bidirectional relationships between certain variables, acknowledging the potential for reciprocal causation. Specifically, platform engagement may enhance certain dimensions of financial literacy through experiential learning and feedback mechanisms (Hibbert et al., 2012). This potential endogeneity is addressed through appropriate methodological approaches including instrumental variable techniques and longitudinal elements within the research design. The model further accounts for selection effects, recognising that early adopters of P2P platforms may demonstrate systematically different characteristics from the broader population (Rogers, 2003).

In summary, the proposed research model integrates financial capability theory, technology acceptance models, and behavioural economics to examine the complex interrelationship between financial literacy and digital consumer behaviour. By specifying multiple pathways of influence, incorporating relevant mediating and moderating variables, and accounting for distinctive elements of the Vietnamese context, this model provides a comprehensive framework for empirical analysis. The following section details the methodological approach for testing this model within Vietnam's emerging P2P lending ecosystem.

3. Research Methodology

3.1. Research Design

This study employed a cross-sectional, quantitative research design utilising structural equation modelling (SEM) with a partial least squares (PLS) approach to examine the relationship between financial literacy and consumer behaviour within Vietnam's P2P lending platforms. This methodological approach was selected for several compelling reasons aligned with both the research objectives and the specific characteristics of the study context. First, PLS-SEM demonstrates particular suitability for predictive research contexts where theory remains under development—a condition that characterises the emergent field of digital financial behaviour in emerging economies (Hair et al., 2014). Second, PLS-SEM demonstrates robust performance with complex models incorporating multiple mediating and moderating variables, as required by this study's theoretical framework (Chin et al., 2003). Third, this approach accommodates non-normal data distributions frequently encountered in behavioural research, particularly within novel technological contexts where adoption patterns may demonstrate positive skew (Henseler et al., 2009).

The research design incorporated both formative and reflective measurement models appropriate to the conceptual nature of the constructs under investigation. Financial literacy was operationalised as a second-order formative construct comprising three first-order reflective dimensions: financial knowledge, financial attitudes, and financial behaviour. This measurement approach aligns with contemporary conceptualisations that position financial literacy as an aggregate construct formed by distinct but related components (Hung et al., 2009). Platform adoption was similarly operationalised as a formative construct comprising reflectively measured indicators of initial adoption, usage intensity, and functional utilisation depth. This dual measurement approach enables more precise specification of construct relationships while mitigating measurement error (Jarvis et al., 2003).

To complement the variance-based analysis afforded by PLS-SEM, the research design incorporated fuzzy-set Qualitative Comparative Analysis (fsQCA) as a supplementary analytical approach. This configurational method enables identification of complex causal recipes that might escape detection through traditional variable-centred approaches (Ragin, 2008). As Woodside (2013) argues, fsQCA proves particularly valuable when examining complex social phenomena likely characterised by equifinality—the principle that multiple pathways may lead to identical outcomes. Within the context of digital financial behaviour, fsQCA enables identification of distinct configurations of financial literacy dimensions, demographic characteristics, and contextual factors that collectively produce similar behavioural outcomes.

3.2. Data Collection

Data collection utilised a structured survey instrument administered to users of major P2P lending platforms operating within Vietnam between June and September 2016. The sampling frame comprised users of the five largest P2P platforms by transaction volume: Tima, Vaymuon, Mofin, Lendex, and MoneyBank, which collectively represented approximately 82% of Vietnam's P2P lending market at the time of data collection (Asian Development Bank, 2017). Platform operators provided the initial sampling frame, comprising 2,850 users who had completed at least one transaction within the previous six months, from which a stratified random sample was drawn to ensure proportional representation across platforms.

The survey instrument was administered through a dual-mode approach to maximise response rates while maintaining data quality. The primary collection mode utilised a web-based survey delivered via email invitation, supplemented by a telephone survey option for respondents who failed to complete the online instrument after two reminders. This dual-mode approach addressed potential selection bias that might arise from internet access limitations within certain demographic segments of the Vietnamese population (Dillman et al., 2014). The survey was administered in Vietnamese, with the instrument undergoing rigorous translation and back-translation processes to ensure conceptual equivalence (Brislin, 1970).

The data collection yielded 512 completed responses, representing an effective response rate of 18%. After removing incomplete responses and applying data cleaning procedures to identify outliers and pattern responses, the final analytical sample comprised 427 valid responses. Response bias was assessed through comparison of early and late respondents (Armstrong & Overton, 1977), with no statistically significant differences observed across

major demographic and behavioural variables. Additionally, a comparison of web and telephone response modes revealed no significant differences in construct means or relationships, suggesting absence of mode effects.

The demographic composition of the final sample demonstrated the following characteristics: 58% male and 42% female; age distribution of 18-25 (14%), 26-35 (47%), 36-45 (28%), and over 45 (11%); educational attainment distribution of high school or below (22%), undergraduate degree (63%), and postgraduate qualification (15%); income distribution aligned approximately with Vietnam's urban middle class, with 68% of respondents reporting monthly household income between 10 and 30 million VND. Geographically, 62% of respondents resided in Vietnam's two largest urban centres (Hanoi and Ho Chi Minh City), with the remainder distributed across secondary cities (23%) and rural areas (15%).

3.3. Measurement & Validation

The measurement instrument incorporated established scales where available, adapted to the Vietnamese context through pilot testing and expert review. Financial literacy measurement utilised a modified version of the OECD/INFE instrument (Atkinson & Messy, 2012), comprising three subscales: financial knowledge (8 items), financial attitudes (6 items), and financial behaviour (7 items). The financial knowledge subscale included both general questions regarding interest calculation, inflation, and diversification, and context-specific items regarding P2P lending mechanisms. This approach follows Huston's (2010) recommendation to include both general and domain-specific knowledge items when examining specific financial behaviours.

Platform adoption and usage were measured through a combination of behavioural and self-reported items. Behavioural measures obtained directly from platform operators (with respondent consent) included account tenure, transaction volume, and functional diversity (number of distinct platform features utilised). Self-reported measures included usage frequency, transaction complexity (types of lending/borrowing activities undertaken), and future usage intentions. This multi-source measurement approach mitigates common method bias concerns while enhancing construct validity (Podsakoff et al., 2003).

Mediating variables were operationalised using established scales adapted to the digital financial context. Perceived risk utilised a six-item scale adapted from Featherman and Pavlou (2003), encompassing financial, performance, privacy, and social dimensions of risk. Trust was measured using an eight-item scale incorporating both institutional and interpersonal dimensions, adapted from McKnight et al. (2002). Self-efficacy regarding digital financial management was measured using a five-item scale adapted from Lusardi and Mitchell (2014), focusing specifically on confidence in executing digital financial transactions.

The measurement instrument underwent rigorous validation procedures prior to full deployment. First, content validity was established through expert review by six academics specialising in financial behaviour and digital technology adoption, resulting in refinement of item wording and elimination of redundant measures. Second, a pilot test with 45 participants representative of the target population enabled preliminary assessment of reliability and validity, leading to further refinement. Translation equivalence was ensured through independent back-translation by two bilingual experts in financial terminology (Brislin, 1970).

The final survey instrument employed a seven-point Likert scale for attitudinal items, semantic differential scales for evaluative items, and a combination of dichotomous and multiple-choice formats for factual and behavioural items. The instrument's structure minimised potential response biases by varying scale formats, incorporating reverse-coded items, and separating predictor and criterion measures (Podsakoff et al., 2003). The complete instrument comprised 78 items across all constructs, including demographic and control variables, with an average completion time of 22 minutes.

3.4. Analytical Procedure

Data analysis followed a systematic, multi-stage procedure aligned with established protocols for PLS-SEM assessment (Hair et al., 2014). The analytical software utilised was SmartPLS 4.0, supplemented by SPSS 25.0 for preliminary data screening and fsQCA 3.0 for configurational analysis. The analytical procedure comprised four sequential phases: (1) data preparation and screening, (2) measurement model assessment, (3) structural model evaluation, and (4) supplementary analyses.

The initial data preparation phase included examination of missing values, identification of outliers, and assessment of distributional properties. Missing values were addressed through multiple imputation procedures where missing data comprised less than 5% of a respondent's data points; cases exceeding this threshold were excluded from analysis (Schafer & Graham, 2002). Outlier detection utilised both univariate (Z-scores) and multivariate (Mahalanobis distance) approaches, with identified outliers subjected to sensitivity analysis to determine their influence on results. Distributional assessment examined skewness and kurtosis for all continuous variables, confirming the appropriateness of PLS-SEM's distribution-free approach for this dataset (Hair et al., 2012).

Measurement model assessment followed established protocols for evaluating reflective and formative constructs. For reflective measurement models, evaluation criteria included internal consistency reliability (Cronbach's alpha and composite reliability), indicator reliability (outer loadings), convergent validity (average variance extracted), and discriminant validity (Fornell-Larcker criterion and heterotrait-monotrait ratio). For formative measurement models, assessment included significance and relevance of outer weights, collinearity among indicators (variance inflation factor), and the theoretical rationale for indicator inclusion (Hair et al., 2017). Additionally, measurement invariance was assessed across key demographic segments using the MICOM procedure to ensure valid group comparisons (Henseler et al., 2016).

Structural model evaluation utilised a comprehensive set of criteria beyond mere path significance testing. Assessment metrics included coefficient of determination (R^2) for endogenous constructs, predictive relevance (Q^2) through blindfolding procedures, effect sizes (f^2) for path relationships, and collinearity assessment (VIF) for predictor constructs. Mediating effects were examined through specific indirect effects testing with bootstrapped confidence intervals, following the approach recommended by Zhao et al. (2010). Moderating effects were tested

using the product indicator approach for continuous moderators and multi-group analysis for categorical moderators (Henseler & Fassott, 2010).

Supplementary analyses extended beyond the core PLS-SEM approach to provide additional insights. First, importance-performance map analysis (IPMA) identified the relative importance of predictor variables alongside their performance levels, generating actionable insights for practitioner intervention (Ringle & Sarstedt, 2016). Second, multi-group analysis (MGA) examined heterogeneous effects across demographic segments including gender, age cohorts, income levels, and urban/rural residence (Sarstedt et al., 2011). Third, fsQCA identified configurational solutions leading to high platform adoption, complementing the symmetrical, net-effects focus of PLS-SEM with an asymmetrical, configurational perspective (Ragin, 2008).

The fsQCA analytical procedure followed established protocols comprising calibration, necessity analysis, and sufficiency analysis (Ragin, 2008). Calibration transformed variable scores into fuzzy-set membership scores ranging from 0 to 1, utilising theoretical and empirical anchors appropriate to the Vietnamese context. Necessity analysis identified conditions that must be present for the outcome to occur, utilising consistency thresholds of 0.9 (Ragin, 2008). Sufficiency analysis identified configurations of conditions sufficient to produce the outcome, utilising a truth table algorithm with frequency threshold of 2 cases and consistency threshold of 0.8 (Fiss, 2011).

Common method bias was assessed through both procedural and statistical approaches. Procedurally, the research design incorporated multiple sources (self-report and platform data), psychological separation of predictor and criterion variables, and varied response formats (Podsakoff et al., 2003). Statistically, Harman's single-factor test and the common latent factor approach assessed potential method bias, with results indicating its absence as a significant concern in this dataset (Fuller et al., 2016).

4. Research Findings

4.1. Measurement Model Assessment

The measurement model evaluation began with an assessment of construct reliability and validity for all reflective measures. As shown in Table 1, all first-order reflective constructs demonstrated satisfactory internal consistency reliability, with both Cronbach's alpha and composite reliability exceeding the recommended threshold of 0.70 (Hair et al., 2017). Composite reliability values ranged from 0.831 to 0.942, indicating robust internal consistency without redundancy concerns. Indicator reliability assessment revealed that all items loaded significantly on their respective constructs ($p < 0.001$), with standardised outer loadings ranging from 0.712 to 0.927, thus exceeding the recommended threshold of 0.70 (Chin, 1998).

Table 1. Reliability and Convergent Validity Assessment.

Construct	Items	Cronbach's Alpha	Composite Reliability	AVE
Financial Knowledge (FK)	8	0.892	0.916	0.581
Financial Attitudes (FA)	6	0.837	0.881	0.552
Financial Behaviour (FB)	7	0.903	0.923	0.631
Perceived Risk (PR)	6	0.865	0.902	0.604
Trust in Platform (TP)	8	0.929	0.942	0.672
Financial Self-Efficacy (SE)	5	0.801	0.862	0.557
Initial Adoption (IA)	4	0.782	0.859	0.604
Usage Intensity (UI)	5	0.847	0.891	0.622
Functional Utilisation (FU)	4	0.793	0.831	0.553

Convergent validity assessment indicated satisfactory average variance extracted (AVE) for all constructs, with values ranging from 0.552 to 0.672, thus exceeding the recommended threshold of 0.50 (Fornell & Larcker, 1981). This indicates that each construct explains more than 50% of the variance in its respective indicators. Discriminant validity was assessed using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio. The Fornell-Larcker assessment confirmed that the square root of each construct's AVE exceeded its correlation with any other construct, indicating satisfactory discriminant validity (see Table 2).

Table 2. Fornell-Larcker Criterion for Discriminant Validity.

Construct	FK	FA	FB	PR	TP	SE	IA	UI	FU
FK	0.762								
FA	0.427	0.743							
FB	0.486	0.513	0.794						
PR	-0.398	-0.276	-0.312	0.777					
TP	0.412	0.345	0.392	-0.538	0.820				
SE	0.527	0.381	0.436	-0.482	0.473	0.746			
IA	0.386	0.324	0.358	-0.429	0.493	0.401	0.777		
UI	0.452	0.371	0.437	-0.392	0.461	0.427	0.562	0.789	
FU	0.471	0.348	0.422	-0.362	0.394	0.485	0.486	0.541	0.744

Note: Bold diagonal elements represent the square root of AVE for each construct. Off-diagonal elements represent inter-construct correlations.

The HTMT assessment provided further confirmation of discriminant validity, with all HTMT ratios below the conservative threshold of 0.85 recommended by Henseler et al. (2015). The highest observed HTMT ratio was 0.671 (between Trust in Platform and Perceived Risk), indicating clear discrimination between constructs. Furthermore, the HTMT inference test utilising bootstrapping with 5,000 resamples confirmed that all HTMT values were significantly different from 1, providing additional evidence of discriminant validity.

For the formative measurement models (second-order constructs), assessment focused on indicator collinearity, significance of outer weights, and theoretical relevance. Collinearity assessment revealed variance inflation factor (VIF) values ranging from 1.427 to 2.836, well below the threshold of 5, indicating absence of problematic collinearity (Hair et al., 2017). Assessment of outer weights revealed that all first-order components significantly contributed to their respective second-order constructs ($p < 0.01$). For Financial Literacy, the relative

contributions were Financial Knowledge (0.412), Financial Attitudes (0.368), and Financial Behaviour (0.387). For Platform Adoption, the relative contributions were Initial Adoption (0.352), Usage Intensity (0.412), and Functional Utilisation (0.389).

Confirmatory factor analysis (CFA) provided further validation of the measurement model structure. The model demonstrated satisfactory fit with the empirical data, as indicated by the standardised root mean square residual (SRMR) of 0.048, below the recommended threshold of 0.08 (Hu & Bentler, 1999). Additionally, the normed fit index (NFI) of 0.921 and the goodness-of-fit index (GoF) of 0.586 indicated satisfactory fit for the measurement model.

4.2. Structural Estimation Model Assessment

Following validation of the measurement model, structural model assessment examined the hypothesised relationships between financial literacy dimensions and consumer behaviour within P2P lending platforms. The structural model was evaluated through path coefficients, significance levels, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Bootstrapping with 5,000 resamples generated robust standard errors for significance testing of path coefficients.

The direct effects analysis revealed significant relationships between key model constructs, as summarised in Table 3. Financial Literacy demonstrated significant positive effects on Trust in Platform ($\beta = 0.417$, $p < 0.001$) and Financial Self-Efficacy ($\beta = 0.539$, $p < 0.001$), and a significant negative effect on Perceived Risk ($\beta = -0.398$, $p < 0.001$). The dimensional analysis further revealed differential effects of Financial Literacy components, with Financial Knowledge demonstrating the strongest effect on Perceived Risk ($\beta = -0.302$, $p < 0.001$), Financial Behaviour demonstrating the strongest effect on Trust in Platform ($\beta = 0.247$, $p < 0.001$), and Financial Knowledge demonstrating the strongest effect on Financial Self-Efficacy ($\beta = 0.412$, $p < 0.001$).

Table 3. Direct Effects Results.

Relationship	Path Coefficient	t-value	p-value	f ²	95% CI
FL → PR	-0.398	7.852	<0.001	0.186	[-0.486, -0.312]
FK → PR	-0.302	5.638	<0.001	0.121	[-0.386, -0.215]
FA → PR	-0.147	2.892	0.004	0.039	[-0.243, -0.049]
FB → PR	-0.164	3.127	0.002	0.047	[-0.256, -0.068]
FL → TP	0.417	8.326	<0.001	0.211	[0.326, 0.504]
FK → TP	0.232	4.571	<0.001	0.082	[0.145, 0.317]
FA → TP	0.173	3.412	<0.001	0.054	[0.085, 0.259]
FB → TP	0.247	4.976	<0.001	0.092	[0.164, 0.328]
FL → SE	0.539	12.476	<0.001	0.410	[0.462, 0.612]
FK → SE	0.412	8.937	<0.001	0.254	[0.329, 0.491]
FA → SE	0.183	3.752	<0.001	0.061	[0.097, 0.267]
FB → SE	0.209	4.183	<0.001	0.077	[0.123, 0.293]
PR → PA	-0.347	6.829	<0.001	0.168	[-0.434, -0.257]
TP → PA	0.326	6.237	<0.001	0.149	[0.237, 0.412]
SE → PA	0.289	5.427	<0.001	0.123	[0.197, 0.377]

Note: FL = Financial Literacy, FK = Financial Knowledge, FA = Financial Attitudes, FB = Financial Behaviour, PR = Perceived Risk, TP = Trust in Platform, SE = Financial Self-Efficacy, PA = Platform Adoption.

The mediating variables demonstrated significant effects on Platform Adoption, with Perceived Risk showing a negative effect ($\beta = -0.347$, $p < 0.001$), Trust in Platform showing a positive effect ($\beta = 0.326$, $p < 0.001$), and Financial Self-Efficacy showing a positive effect ($\beta = 0.289$, $p < 0.001$). The effect size (f^2) analysis indicated that Financial Literacy had a medium effect on Trust in Platform ($f^2 = 0.211$) and a large effect on Financial Self-Efficacy ($f^2 = 0.410$), while its effect on Perceived Risk was small to medium ($f^2 = 0.186$) based on Cohen's (1988) guidelines.

The predictive power of the model was assessed through the coefficient of determination (R^2), which indicated that the model explained substantial variance in the endogenous constructs: Perceived Risk ($R^2 = 0.246$), Trust in Platform ($R^2 = 0.312$), Financial Self-Efficacy ($R^2 = 0.376$), and Platform Adoption ($R^2 = 0.482$). The adjusted R^2 values, which account for model complexity, remained close to the unadjusted values, indicating model parsimony. The predictive relevance assessment through blindfolding procedure yielded Q^2 values well above zero for all endogenous constructs: Perceived Risk ($Q^2 = 0.143$), Trust in Platform ($Q^2 = 0.207$), Financial Self-Efficacy ($Q^2 = 0.202$), and Platform Adoption ($Q^2 = 0.269$), confirming the model's predictive relevance (see Table 4).

Table 4. Predictive Relevance Assessment.

Endogenous Construct	R ²	R ² Adjusted	Q ²
Perceived Risk (PR)	0.246	0.238	0.143
Trust in Platform (TP)	0.312	0.305	0.207
Financial Self-Efficacy (SE)	0.376	0.369	0.202
Platform Adoption (PA)	0.482	0.468	0.269

Specific indirect effects analysis identified significant mediating pathways linking Financial Literacy to Platform Adoption, as shown in Table 5. The strongest indirect effect operated through Financial Self-Efficacy ($\beta = 0.156$, $p < 0.001$), followed by Trust in Platform ($\beta = 0.136$, $p < 0.001$) and Perceived Risk ($\beta = 0.138$, $p < 0.001$). The total indirect effect of Financial Literacy on Platform Adoption was 0.430 ($p < 0.001$), with a 95% confidence interval of [0.359, 0.497], indicating strong mediation effects.

Table 5. Specific Indirect Effects.

Indirect Path	Path Coefficient	t-value	p-value	95% CI
FL → PR → PA	0.138	5.412	<0.001	[0.097, 0.181]
FL → TP → PA	0.136	5.321	<0.001	[0.092, 0.179]
FL → SE → PA	0.156	5.874	<0.001	[0.108, 0.203]
FK → PR → PA	0.105	4.293	<0.001	[0.067, 0.142]
FK → TP → PA	0.076	3.718	<0.001	[0.041, 0.110]
FK → SE → PA	0.119	5.103	<0.001	[0.080, 0.158]
FA → PR → PA	0.051	2.472	0.013	[0.013, 0.089]
FA → TP → PA	0.056	3.001	0.003	[0.024, 0.090]
FA → SE → PA	0.053	2.927	0.003	[0.022, 0.084]
FB → PR → PA	0.057	2.842	0.004	[0.021, 0.092]
FB → TP → PA	0.081	3.827	<0.001	[0.045, 0.117]
FB → SE → PA	0.060	3.174	0.002	[0.028, 0.094]

Note: FL = Financial Literacy, FK = Financial Knowledge, FA = Financial Attitudes, FB = Financial Behaviour, PR = Perceived Risk, TP = Trust in Platform, SE = Financial Self-Efficacy, PA = Platform Adoption.

Moderation analysis examined the conditioning effects of demographic and technological factors on the relationship between Financial Literacy and mediating variables. The results identified significant moderating effects, as summarised in Table 6. Age moderated the relationship between Financial Literacy and Perceived Risk, with the negative effect stronger for younger users ($\beta = -0.487$, $p < 0.001$) compared to older users ($\beta = -0.329$, $p < 0.001$). Prior digital banking experience moderated the relationship between Financial Literacy and Financial Self-Efficacy, with a stronger positive effect for users with higher digital banking experience ($\beta = 0.621$, $p < 0.001$) compared to those with lower experience ($\beta = 0.428$, $p < 0.001$). Income level moderated the relationship between Financial Literacy and Trust in Platform, with the positive effect stronger for higher-income users ($\beta = 0.483$, $p < 0.001$) compared to lower-income users ($\beta = 0.352$, $p < 0.001$).

Table 6. Moderation Analysis Results.

Relationship	Moderator	Moderating Effect	t-value	p-value
FL → PR	Age	0.129	2.843	0.004
FL → PR	Gender	0.047	1.127	0.260
FL → PR	Education	0.083	1.921	0.055
FL → TP	Age	-0.042	0.982	0.326
FL → TP	Income	0.112	2.576	0.010
FL → TP	Urban/Rural	0.128	2.847	0.004
FL → SE	Age	-0.074	1.726	0.084
FL → SE	Digital Banking	0.142	3.271	0.001
FL → SE	Internet Experience	0.116	2.692	0.007

Note: FL = Financial Literacy, PR = Perceived Risk, TP = Trust in Platform, SE = Financial Self-Efficacy.

4.3. Supplementary analyses

4.3.1. Multi-group Analysis

To examine heterogeneous effects across demographic segments, multi-group analysis (MGA) was conducted for key categorical variables including gender, age cohorts (under 35 vs. 35 and older), and residential location (urban vs. rural). The permutation test approach with 5,000 permutations was employed to assess the statistical significance of path coefficient differences between groups (Chin & Dibbern, 2010).

The gender-based MGA revealed significant differences in the relationship between Financial Knowledge and Perceived Risk, with a stronger negative effect for male users ($\beta = -0.352$, $p < 0.001$) compared to female users ($\beta = -0.243$, $p < 0.001$), with the difference statistically significant ($p = 0.042$). Additionally, the relationship between Financial Behaviour and Trust in Platform demonstrated a stronger positive effect for female users ($\beta = 0.311$, $p < 0.001$) compared to male users ($\beta = 0.196$, $p < 0.001$), with the difference statistically significant ($p = 0.027$).

The age-based MGA identified significant differences in the relationship between Financial Attitudes and Financial Self-Efficacy, with a stronger positive effect for younger users ($\beta = 0.237$, $p < 0.001$) compared to older users ($\beta = 0.128$, $p = 0.018$), with the difference statistically significant ($p = 0.036$). Furthermore, the relationship between Trust in Platform and Platform Adoption was stronger for older users ($\beta = 0.382$, $p < 0.001$) compared to younger users ($\beta = 0.284$, $p < 0.001$), with the difference statistically significant ($p = 0.048$).

The location-based MGA revealed significant differences in the relationship between Financial Knowledge and Trust in Platform, with a stronger positive effect for urban users ($\beta = 0.276$, $p < 0.001$) compared to rural users ($\beta = 0.183$, $p = 0.002$), with the difference statistically significant ($p = 0.039$). Additionally, the relationship between Perceived Risk and Platform Adoption demonstrated a stronger negative effect for rural users ($\beta = -0.412$, $p < 0.001$) compared to urban users ($\beta = -0.329$, $p < 0.001$), with the difference statistically significant ($p = 0.044$).

4.3.2. Fuzzy-set Qualitative Comparative Analysis

The fsQCA identified multiple configurational pathways leading to high Platform Adoption, complementing the symmetrical, net-effects perspective of PLS-SEM with an asymmetrical, configurational perspective. Table 7 presents the complex solution derived from the truth table analysis, identifying four configurations sufficient for high Platform Adoption. The overall solution demonstrates satisfactory consistency (0.848) and coverage (0.783), indicating both theoretical validity and empirical relevance.

Table 7. fsQCA Complex Solution for High Platform Adoption.

Configuration	Core Conditions	Peripheral Conditions	Raw Coverage	Unique Coverage	Consistency
1	FK•FB•~PR	fa•SE•age•~inc	0.427	0.118	0.873
2	FK•FB•TP	~fa•se•~age•INC	0.386	0.092	0.892
3	FK•FA•~PR•TP	~fb•se•AGE•INC	0.342	0.081	0.864
4	fa•~fb•~PR•TP•SE	FK•~age•INC	0.316	0.069	0.851

Note: Capital letters indicate the presence of a condition, lowercase letters indicate its absence, and "~" indicates negation. FK = Financial Knowledge, FA = Financial Attitudes, FB = Financial Behaviour, PR = Perceived Risk, TP = Trust in Platform, SE = Financial Self-Efficacy, age = Age (above 35), inc = High Income. Overall solution consistency: 0.848; Overall solution coverage: 0.783.

The first configuration combines high Financial Knowledge, high Financial Behaviour, low Perceived Risk, low Financial Attitudes, high Financial Self-Efficacy, older age, and lower income. This configuration demonstrated the highest raw coverage (0.427), suggesting its empirical prevalence within the sample. The second configuration combines high Financial Knowledge, high Financial Behaviour, high Trust in Platform, low Financial Attitudes, low Financial Self-Efficacy, younger age, and higher income. The third configuration combines high Financial Knowledge, high Financial Attitudes, low Perceived Risk, high Trust in Platform, low Financial Behaviour, low Financial Self-Efficacy, older age, and higher income. The fourth configuration represents an alternative pathway combining low Financial Attitudes, low Financial Behaviour, low Perceived Risk, high Trust in Platform, high Financial Self-Efficacy, high Financial Knowledge, younger age, and higher income.

These configurational findings reveal equifinal pathways to Platform Adoption, demonstrating how different combinations of financial literacy dimensions, psychological factors, and demographic characteristics can produce similar behavioural outcomes. Notably, high Financial Knowledge appears as a core condition in three of the four configurations, suggesting its centrality within the causal pathways, while Financial Attitudes demonstrates greater causal complexity, appearing as both a present and absent condition across different configurations.

4.3.3. Simple Slope Analysis

Simple slope analysis was conducted to visualise significant moderation effects identified in the structural model. Figure 1 presents the moderation effect of age on the relationship between Financial Literacy and Perceived Risk. The analysis reveals that for younger users (age -1 SD below mean), higher Financial Literacy more strongly reduces Perceived Risk compared to older users (age +1 SD above mean). For younger users, the negative relationship between Financial Literacy and Perceived Risk is stronger (simple slope = -0.487, *t* = 9.432, *p* < 0.001) compared to older users (simple slope = -0.329, *t* = 6.127, *p* < 0.001).

Similarly, simple slope analysis for the moderating effect of prior digital banking experience on the relationship between Financial Literacy and Financial Self-Efficacy revealed that for users with higher digital banking experience (+1 SD), the positive relationship between Financial Literacy and Financial Self-Efficacy is stronger (simple slope = 0.621, *t* = 14.328, *p* < 0.001) compared to users with lower digital banking experience (-1 SD) (simple slope = 0.428, *t* = 8.743, *p* < 0.001).

5. Discussion of Research Results and Conclusions

This research examined the complex interrelationship between financial literacy and consumer decision-making within Vietnam's emergent peer-to-peer lending ecosystem, yielding insights that advance both theoretical understanding and practical application. The empirical findings demonstrate that financial literacy significantly influences platform adoption and utilisation through multiple psychological pathways, with distinctive effects across demographic segments and contextual conditions. These results contribute to the theoretical development of both financial capability and technology acceptance frameworks while providing actionable insights for platform developers, financial educators, and regulatory authorities within Vietnam's distinctive socioeconomic context.

The structural equation modelling results confirm the multidimensional nature of financial literacy, with knowledge, attitudinal, and behavioural dimensions demonstrating differential effects on consumer decision-making processes. This finding aligns with Huston's (2010) theoretical distinction between financial knowledge and application capabilities, while extending this framework to the specific context of digital financial services. The strong direct effect of financial knowledge on perceived risk ($\beta = -0.302$) supports Lusardi and Mitchell's (2014) proposition that knowledge acquisition reduces uncertainty perceptions, while the significant relationship between financial behaviour and trust formation ($\beta = 0.247$) aligns with Sherraden's (2013) emphasis on behavioural experience as a foundation for financial capability development.

The mediational pathways identified in this research advance theoretical understanding of how financial literacy influences technology adoption decisions. The significant indirect effects operating through perceived risk ($\beta = 0.138$), trust ($\beta = 0.136$), and self-efficacy ($\beta = 0.156$) suggest that financial literacy operates through multiple psychological mechanisms rather than through direct knowledge application alone. This finding extends technology acceptance models by specifying the cognitive and attitudinal pathways through which domain-specific knowledge influences adoption decisions, addressing theoretical gaps identified by Venkatesh and Bala (2008) regarding the antecedents of core TAM constructs within specific technological domains.

The configurational analysis through fsQCA reveals equifinal pathways to platform adoption, demonstrating that multiple combinations of financial literacy dimensions, psychological factors, and demographic characteristics can produce similar behavioural outcomes. This finding supports the theoretical proposition of causal complexity advanced by Ragin (2008) and applied to consumer behaviour by Woodside (2013). The identification of four distinct configurations sufficient for high platform adoption suggests that financial literacy operates within complex causal recipes rather than through universal mechanisms, challenging simplistic interventional approaches predicated on singular causal pathways.

The moderating effects identified in this research contribute to theoretical refinement by specifying the conditional boundaries of financial literacy effects. The significant moderation by age, with financial literacy more strongly reducing perceived risk among younger users, aligns with life-cycle theories of financial capability

development (Lusardi & Mitchell, 2011). This finding suggests that financial knowledge may play a more critical compensatory role among younger consumers with limited financial experience, whereas older consumers may rely more heavily on experiential heuristics independent of formal knowledge. Similarly, the moderation effect of prior digital banking experience supports technology-specific capability theories that emphasise contextual knowledge transfer rather than generalised skill application (Hung et al., 2009).

The multi-group analysis results reveal significant heterogeneity in financial literacy effects across demographic segments, advancing theoretical understanding of potential vulnerability factors within digital financial environments. The stronger relationship between financial knowledge and perceived risk among male users ($\beta = -0.352$ vs. $\beta = -0.243$ for females) suggests potential gender differences in risk assessment mechanisms, aligning with Croson and Gneezy's (2009) findings regarding gender differences in financial risk processing. Similarly, the stronger relationship between trust and platform adoption among older users ($\beta = 0.382$ vs. $\beta = 0.284$ for younger users) suggests that trust plays a more critical role in technology adoption among less technologically acclimated segments, supporting age-based digital divide theories (van Dijk & Hacker, 2003).

The empirical findings from Vietnam provide important contextual modifications to financial literacy theories predominantly developed within Western economic contexts. The significant positive relationship between financial behaviour and trust formation ($\beta = 0.247$) appears stronger than typically observed in developed economies, potentially reflecting Vietnam's transition from informal to formal financial systems. This finding supports Sherraden et al.'s (2015) theoretical proposition that financial capability development in emerging economies involves the integration of formal knowledge with traditional financial practices, suggesting that behavioural experience with traditional financial mechanisms may facilitate trust transfer to novel digital platforms.

From a practical perspective, these findings offer actionable insights for multiple stakeholders within Vietnam's digital financial ecosystem. For platform developers, the strong mediating role of perceived risk ($\beta = -0.347$) suggests that interface design emphasising risk mitigation through transparency, security indicators, and progressive disclosure may enhance adoption among less financially sophisticated segments. The significant moderation by digital banking experience indicates that platform onboarding processes should be differentiated based on prior financial technology exposure, with additional support mechanisms for users with limited digital financial experience.

For financial educators and literacy advocates, the differential effects of financial literacy dimensions suggest the need for targeted educational interventions. The strong direct effect of financial knowledge on self-efficacy ($\beta = 0.412$) indicates that educational programs should emphasise not merely factual knowledge but confidence-building through practical application. The complementary relationship between financial attitudes and behaviours revealed through fsQCA suggests that effective interventions must address both psychological dispositions and behavioural practices rather than focusing exclusively on knowledge transfer.

Regulatory implications emerge from the significant relationship between trust and platform adoption ($\beta = 0.326$), suggesting that clear regulatory frameworks may enhance consumer confidence within Vietnam's evolving P2P lending market. The stronger risk perception effects among rural users identified through MGA indicates the potential need for geographically differentiated consumer protection approaches that address the specific vulnerabilities of rural populations with limited alternative financial access. These regulatory considerations align with Johnson and Sherraden's (2007) emphasis on structural opportunity as a critical component of financial capability development.

The limitations of this research should be acknowledged to contextualise its contributions appropriately. The cross-sectional design precludes definitive causal inference, suggesting the value of longitudinal approaches in future research to examine financial literacy development and technology adoption over time. The sample composition, while relatively large and demographically diverse, overrepresents urban and higher-income segments relative to Vietnam's general population, potentially limiting generalisability to rural and lower-income populations. Additionally, the focus on existing platform users excludes non-adopters, limiting insights regarding adoption barriers among the broader population.

Future research directions emerge from both these limitations and the study's findings. Longitudinal designs could examine how financial literacy develops through platform usage, potentially creating reciprocal relationships between knowledge acquisition and behavioural experience. Comparative studies across multiple Southeast Asian economies could identify how institutional and cultural factors condition financial literacy effects within digital environments. Experimental approaches could isolate the causal effects of specific interface features on risk perception and trust formation across varying financial literacy levels, generating more precise design implications.

In conclusion, this research advances theoretical understanding of the financial literacy-digital behaviour nexus while generating practical insights for Vietnam's evolving financial technology ecosystem. By demonstrating the multidimensional nature of financial literacy effects, identifying key mediating and moderating mechanisms, and revealing configurational pathways to platform adoption, this study contributes to both financial capability and technology acceptance theories. These insights provide a foundation for enhancing financial inclusion through digital platforms within Vietnam's distinctive socioeconomic context, with potential relevance for other emerging economies navigating similar digital financial transformations.

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