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Determinants of Fintech diffusion in emerging markets: a service ecosystem perspective

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Abstract

Purpose – This study aims to investigate the diffusion of financial technology (Fintech) in Vietnam by applying a service ecosystem perspective. It reconsiders traditional innovation diffusion approaches by focusing on the interplay of services, institutions and ecosystem dynamics across distinct Fintech service domains.

Design/methodology/approach – This study employed a qualitative approach using the Knowledge Café method for data collection. Transcripts were coded and analysed thematically across different diffusion phases. Findings were validated through a half-day workshop with banking professionals.

Findings – Government regulation in Vietnam has enhanced trust within the Fintech ecosystem, driving digital transactions and financial inclusion. However, as the regulations are heavily focused on the payment services, an uneven diffusion of innovation across the seven Fintech service domains is evident.

Practical implications – Regulation can accelerate Fintech diffusion in early stages, as seen in Vietnam's payments sector, but may hinder innovation as technologies mature. Policymakers must adapt regulatory frameworks to balance stability with ongoing innovation.

Originality/value – This study advances theory by analysing Fintech diffusion by service domain rather than as a unified sector and by extending the innovation diffusion theory to an emerging market context. Applying a service ecosystem lens reveals the multi-level dynamics shaping Fintech adoption, offering a more nuanced understanding across domains.

Keywords Emerging market institutions, Financial services, Fintech, Innovation diffusion, Vietnam

Paper type Research article

1. Introduction

The rapid advancement of financial technology (Fintech) is reshaping the global financial landscape. Emerging markets, characterized by low financial inclusion, underdeveloped banking infrastructure, and increasing reliance on mobile technologies, provide fertile ground for Fintech solutions to address financial gaps (Demirguc-Kunt *et al*., 2018; Banna *et al*., 2021). In contrast to developed economies, where financial systems are mature, emerging markets experience accelerated transformations driven by government interventions, technological innovations, and shifting consumer behaviours (Palmié *et al*., 2020; Muthukannan *et al*., 2021). Vietnam exemplifies this trend, with digital payment adoption surging due to proactive policies aimed at fostering a cashless economy (Nguyen, 2020). Between 2017 and 2021, the number of Fintech users in Vietnam doubled from 26.59 million to 53.80 million, and transaction values increased from $7.3 billion to $18.1 billion (Pham

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et al., 2024). While regulatory initiatives have facilitated Fintech adoption, their primary focus on payments has led to uneven diffusion across other service domains. Understanding this disparity is crucial for both academia and policymakers to develop inclusive regulatory frameworks and innovation strategies.

Existing literature has explored how institutional factors facilitate or constrain Fintech growth. Progressive and adaptive regulatory environments significantly enhance Fintech adoption by providing clarity, fostering trust, and supporting stability (Nguyen, 2020; Safiullah and Paramati, 2024). Regulatory initiatives are particularly crucial in markets like Vietnam and Malaysia, where targeted interventions have rapidly accelerated adoption, especially in payment services (Nguyen, 2020; Safiullah and Paramati, 2024). Conversely, unclear or excessive regulations can hinder innovation, underscoring the importance of balancing regulatory oversight with the need to maintain agility and foster creativity within the Fintech sector (Kowalewski and Pisany, 2023). Despite the growing body of literature on Fintech, gaps remain in explaining the varying rates of adoption across different service domains. Prior studies have extensively explored the adoption of digital payments (Coffie *et al*., 2021) but have not sufficiently examined the diffusion of alternative Fintech services, such as crowdfunding, cryptocurrencies, and banking back-office solutions, within emerging markets. The application of innovation diffusion theories in Fintech research remains limited, particularly in addressing how regulatory environments, technological infrastructure, and consumer trust interact to shape adoption patterns (Vargo *et al*., 2020). This study seeks to bridge this gap by examining Fintech diffusion through a service ecosystem perspective, which considers the interplay of institutional, technological, and consumer-level factors in shaping Fintech adoption.

To investigate this issue, we apply a qualitative approach, leveraging Knowledge café (KC) discussions and validation workshops with banking professionals in Vietnam a leading Fintech market. Between 2017 and 2021, the number of Fintech users in Vietnam doubled from 26.59 million to 53.80 million, and transaction values increased from $7.3 billion to $18.1 billion (Pham *et al*., 2024). While regulatory initiatives have facilitated Fintech adoption, their primary focus on payments has led to uneven diffusion across other service domains. Understanding this disparity is crucial for both academia and policymakers to develop inclusive regulatory frameworks and innovation strategies.

Table 1 outlines the seven distinct service domains within the Fintech sector, including their key offerings and underlying technologies.

This study is guided by the following research questions:

RQ1. What factors explain the diffusion of Fintech services in emerging markets?

RQ2. How does a service ecosystem perspective help us understand the diffusion of Fintech innovations across different Fintech service domains in Vietnam?

To address these questions, we analyse qualitative data collected through KC discussions and validation workshops with banking professionals. Our methodological approach captures the stakeholders' interpretations of their experiences and provides insights into the regulatory and institutional factors influencing Fintech diffusion.

This study makes three key contributions. First, it extends innovation diffusion theory (IDT) by applying a service ecosystem perspective, illustrating how different levels of regulatory and technological readiness influence Fintech adoption. Second, it provides empirical insights into the Vietnamese Fintech market, offering a case study that can inform policy and strategy in other emerging economies. Third, it highlights the role of regulatory frameworks in both enabling and constraining Fintech diffusion, emphasizing the need for adaptive policies that support innovation while maintaining financial stability.

The remainder of this paper is structured as follows: Section 2 presents the theoretical framework underpinning this research and reviews relevant literature on Fintech adoption and diffusion. Section 3 outlines the research methodology, including data collection and analysis

Table 1. Industrial organization of the Fintech sector framework

Fintech service domain	Examples of services	Leading technologies
Alternative Finance	Crowdfunding Peer-to-peer (P2P) lending, platform lending	Portal, mobile, cloud Machine learning, big data analytics, automated underwriting
Transactions	Payments Remittances	Identity recognition tools (e.g. Bioinformatics, Behavioural biometrics), Big data analytics, Cybersecurity tools
Alternative Investments	Asset management, Passive Portfolio Management, Securities Trading	Market-tracking algorithms, Robo-advisors, Robo-traders, Cybersecurity tools, Mobile technology
Banking Back Office	Big Data Data security Process optimization Regulatory compliance	Big Data analytics Data-visualization tools and techniques Cybersecurity tools Workflows, Distributed ledger technology (DLT) (e.g. blockchain), RegTech
Financial Inclusion	Serving the unbanked Micro-finance	Mobile Technology, Big Data analytics
Cryptocurrencies	Speculative investments Payments, Initial Coin Offering (ICO), Crypto exchange platforms	Distributed ledger technology, Crypto-wallets, Crypto exchange technologies
Business Partner Integration (Embedded Finance)	Alliances to enable delivering financial services: Telcos, retailers, airlines Buy-now-pay-later (BNPL)	Know your customer (KYC) tools, Anti-money laundering (AML) tools, AI and Machine learning (ML)

Source(s): Authors' own work

techniques. Section 4 presents the findings, followed by a discussion in Section 5. Finally, Section 6 concludes with policy and theoretical implications and proposes areas of future research.

2. Theoretical framework and literature review

2.1 Fintech: a diffusion theory perspective

IDT, pioneered by Rogers *et al.* (2019), provides a foundational framework to understand the adoption of technological innovations such as Fintech. Rogers identified five core attributes—relative advantage, compatibility, complexity, trialability, and observability—as critical determinants shaping adoption decisions and innovation diffusion rates (Rogers *et al.*, 2019; Coffie *et al.*, 2021). Relative advantage refers to the degree to which a new innovation is perceived as better than existing solutions (Singh *et al.*, 2020); compatibility denotes how consistent the innovation is with existing values, experiences, and needs (Lyons *et al.*, 2022); complexity involves the perceived difficulty of use (Demirguc-Kunt *et al.*, 2018); trialability indicates the extent to which the innovation can be tested on a limited basis; and observability relates to how visible the innovation's results are to potential adopters (Vargo *et al.*, 2020). These attributes significantly influence adoption patterns in Fintech, particularly where traditional banking infrastructure is limited, making digital solutions considerably advantageous (Palmié *et al.*, 2020).

Despite its explanatory power, IDT remains relatively underutilized within Fintech literature, especially in emerging market contexts (Vargo *et al.*, 2020; Trischler *et al.*, 2020). Recent studies address this gap by integrating IDT with the service ecosystem perspective. This combined approach enhances understanding of the complex interactions among regulators, technology providers, incumbent banks, and consumers, crucial in shaping

adoption dynamics (Vargo *et al*., 2015; Geels, 2002; Griffiths, 2020). By leveraging IDT alongside a service ecosystem framework, this study aims to examine not only individual-level adoption attributes but also broader institutional and stakeholder interactions influencing Fintech diffusion across multiple service domains in Vietnam (Nguyen, 2020; Safiullah and Paramati, 2024).

2.2 Understanding Fintech adoption through classic and contemporary models

Beyond IDT, models like the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al*., 2003) have been used to understand FinTech adoption. TAM emphasizes perceived usefulness and ease of use, while UTAUT includes constructs like social influence and facilitating conditions. However, Fintech adoption is also driven by factors such as demographics, regulatory clarity, and market competitiveness (Choi *et al*., 2024; Carbó-Valverde *et al*., 2021; Cornelli *et al*., 2020).

Adoption is more likely in environments where traditional banking is costly or inefficient (Geels, 2002; Maier, 2016; Mallat *et al*., 2009). Mobile payments, for example, have diffused faster than services like cryptocurrencies or crowdfunding, reflecting IDT's emphasis on relative advantage and ease of use (Coffie *et al*., 2021; Singh *et al*., 2020).

In China urbanized, digitally connected eastern provinces exhibit higher Fintech penetration than central and western regions (Zhao *et al*., 2022), driven by factors such as transport accessibility, education levels, and population density (Grohmann *et al*., 2018). Over time, improved regulatory environments have turned initial barriers into enablers, highlighting how dynamic regulatory shifts can realign IDT's compatibility and observability parameters (Fungáčová and Weill, 2015).

2.3 The service ecosystem perspective

While IDT explains individual and firm-level adoption, it is less equipped to address systemic interactions between actors within the Fintech ecosystem. The service ecosystem perspective (Vargo *et al*., 2015) addresses this gap by framing innovation as a co-created process involving interdependent actors such as governments, consumers, financial institutions, and technology providers who engage in mutual value creation.

Service ecosystems evolve through resource integration and shared institutional logics (Trischler *et al*., 2020). This perspective is especially valuable in emerging markets, where Fintech diffusion depends not only on consumer attitudes but also on regulatory readiness and infrastructure. In Ghana, mobile payments have diffused widely, whereas Peer-to-peer (P2P) lending and crypto platforms face adoption challenges (Coffie *et al*., 2021). These dynamics are best understood through a service ecosystem lens that integrates macro-level policies, meso-level industry dynamics, and micro-level user behaviours.

Fintech ecosystems in emerging markets are highly dynamic, shaped by collaboration among governments, financial institutions, and tech providers Muthukannan *et al*. (2021). In China, a government-led push for digital finance has significantly boosted mobile payments and reduced cash dependency (Zhao *et al*., 2022). Similar trends are evident in Vietnam and India, although barriers such as limited financial literacy and cultural resistance remain (Nalluri and Chen, 2024).

Theoretically, combining IDT with the service ecosystem perspective allows for a multi-level analysis of Fintech diffusion. At the micro level, user perceptions and behavioural intentions drive adoption. The meso level captures interactions amongst industry actors such as Fintech startups and traditional banks who compete and collaborate. At the macro level, government policies and economic conditions shape the institutional environment (Palmié *et al*., 2020). This integrated perspective reflects the evolving and non-linear nature of Fintech diffusion, where innovation is not merely adopted but co-constructed through ongoing interactions among diverse actors. It resonates with Christensen *et al*. (2018), who underscore

Fintech's disruptive potential and the necessity for adaptable ecosystems, and with Geels (2002), who emphasizes that socio-technical transitions depend on multi-level system alignment.

2.4 Fintech growth and the role of institutions in emerging markets

Fintech firms leveraging blockchain, big data, artificial intelligence (AI), and robo-advisory technologies are revolutionizing financial services, often complementing or competing with traditional financial institutions (Financial Stability Board, 2017; Kowalewski and Pisany, 2023). In emerging markets, where financial infrastructure is often limited, Fintech plays a vital role in advancing financial inclusion. Governments and banks increasingly support Fintech innovations for their ability to reach underserved populations (Lyons *et al*., 2022).

Progressive, adaptive regulation is key to Fintech growth. In Malaysia, Fintech has enhanced the stability of smaller banks and those with weaker governance structures, including Islamic banks (Safiullah and Paramati, 2024). Similarly, studies highlight a positive feedback loop between Fintech expansion and banking system robustness (Sahay *et al*., 2020; Thakor, 2020). In Vietnam, supportive digital payment regulations have spurred rapid Fintech growth, although services such as P2P lending and digital wealth management lag behind (Nguyen, 2020). This pattern reflects what IDT would classify as differing levels of perceived complexity and trialability, indicating that some Fintech services are more readily adopted than others.

Fintech's impact extends beyond finance. In Chinese cities with advanced Fintech sectors, mid-sized private firms show reduced credit risk, particularly in less market-oriented regions and during downturns (Tan *et al*., 2024). Fintech adoption also enhances operational efficiency and financial performance among listed firms (Tang *et al*., 2023; Li *et al*., 2024). However, the effects are not uniformly positive—Fintech startup growth in the Gulf Cooperation Council correlates with declines in bank performance metrics such as return of assets, return of equity, and net interest margin (Litimi *et al*., 2023), highlighting competitive pressures on traditional institutions.

2.5 Barriers and enablers of Fintech diffusion

Digital technology alone is not enough for Fintech diffusion. In India, Nalluri and Chen (2024) identify nine interrelated barriers to Fintech adoption, including cultural and regulatory constraints, limited digital literacy, weak cybersecurity, and resistance from traditional institutions. These barriers reflect low compatibility and high perceived complexity—two key inhibitors in IDT. In contrast, secure Internet infrastructure, mobile penetration, and a skilled workforce support Fintech growth by enhancing observability and trialability (Haddad and Hornuf, 2019). Yet, without strong consumer protection and data security frameworks, trust remains low, especially among financially excluded groups (Thomas, 2023).

2.6 Synthesis and contribution

This review identifies six key concepts central to Fintech development in emerging markets: regulatory environment, underserved markets, demographics, state of technology, lack of trust in incumbent banks, and expensive and non-competitive traditional financial services. The literature tends to approach Fintech diffusion from three main angles: (1) the relationship between Fintech growth and incumbent banks, (2) factors influencing user adoption, and (3) enablers and barriers to Fintech expansion. Together, these dimensions inform a concept-driven, two-dimensional framework (Table 2), which organizes relevant studies by concept and perspective. This framework forms the conceptual foundation for the empirical analysis that follows.

This synthesis not only maps the intellectual terrain but also clarifies how our study contributes to advancing theory and practice. By integrating IDT and the service ecosystem

Table 2. Summary of prior studies and value addition of this study

1 Perspective/ Concept	2 Fintech growth and incumbents	3 Factors explaining adoption	4 Enablers or constraints in EMs	5 Contribution of this study
Regulatory Environment	Thakor (2020), Nguyen (2020)	Carbó-Valverde *et al.* (2021), Cornelli *et al.* (2020)	Muthukannan *et al.* (2021), Financial Stability Board (2017), Nalluri and Chen (2024)	Offers a service ecosystem view of how regulations shape multi-level interactions
Underserved Markets	Lyons *et al.* (2022)	Coffie *et al.* (2021), Cornelli *et al.* (2020)	Pradhan *et al.* (2021), Thomas (2023)	Examines gaps beyond digital payments to include neglected Fintech domains
Demographics	Sahay *et al.* (2020), Safiullah and Paramati (2024)	Choi *et al.* (2024), Bech *et al.* (2018)	Tang *et al.* (2023), EY (2017)	Highlights regional variations in Fintech use tied to demographic factors
State of Technology	Tang *et al.* (2023), Li *et al.* (2024)	Geels (2002), Zhao *et al.* (2022)	Haddad and Hornuf (2019), Coffie and Hongjiang (2023)	Considers digital infrastructure as a core part of the ecosystem
Lack of trust (in incumbent banks)	–	Choi *et al.* (2024), Mallat *et al.* (2009), Maier (2016)	–	Explores how trust in institutions and platforms impacts adoption
Expensive and non-competitive	–	Cornelli *et al.* (2020), Gao *et al.* (2011)	Litimi *et al.* (2023)	Links Fintech competitiveness to diffusion success across domains

Source(s): Authors' own work

framework, we move beyond contextual description to offer a theoretically grounded explanation of Fintech diffusion that is both multi-dimensional and policy relevant.

This integrated literature review positions IDT and the service ecosystem perspective as central to understanding Fintech adoption in emerging markets. It highlights how individual, organizational, and institutional factors intersect to shape adoption dynamics across different Fintech service domains. Furthermore, by synthesizing prior research through a structured framework and offering an explanatory model that goes beyond contextual specifics, this study addresses a critical gap in the literature and sets the stage for meaningful empirical investigation.

3. Methodology

3.1 Design

We apply an interpretive, theory-building, approach that will enable understanding Fintech diffusion from the perspective of those involved in its evolution (Gubrium and Holstein, 2000; Rahi, 2017; Welman and Kruger, 2001) and used purposive sampling to identify the participants with experiences related to the diffusion of Fintech in Vietnam (Greig *et al.*, 2007; Hycner, 1999; Schwandt, 1997; Welman and Kruger, 2001).

The Vietnamese market was selected because one of the authors had significant knowledge of the market obtained through the design and implementation of executive training programmes for bankers and Fintech entrepreneurs in the country. Through that experience, two characteristics had emerged that made this market particularly interesting. The first is that the development of Fintech varies significantly across the different service domains. While payments are highly developed in terms of adoption and service quality, the others are in early

stages of development. This was supported by research that has found that Vietnam has seen a surge in digital payments due to proactive government policies aimed at fostering a cashless economy (Nguyen, 2020). This rapid expansion is complemented by an increasing reliance on mobile payments and a surge in Fintech startups, which grew by 170% between 2017 and 2021, facilitated by regulatory innovations such as the establishment of Fintech sandboxes (Pham *et al*., 2024). Institutional factors like these in Vietnam shape the Fintech diffusion process in emerging markets, making them a fertile ground for exploring how regulatory, technological, and social conditions interact to drive Fintech adoption (Vargo *et al*., 2020).

So, it was believed that if, rather than look at Fintech in general, we analysed it through a framework that enabled us to observe each domain individually, we would get insights on what has enabled or constrained development. The second characteristic noted is that, as opposed to most other markets, in Vietnam people seem to appreciate their banking system so do not have an emotional need for an alternative. Therefore, the study of this market might give us a different perspective on the triggers for the adoption of Fintech.

The data collection and analysis was done in three stages, and in each stage data collected from informants was used to complement and validate the findings of the previous stages:

(1) In stage 1, developed in December 2021, the researchers worked with a group of 20 highly experienced bankers and Fintech entrepreneurs. See profiles in Table A1

(2) Stage 2 was a form of validation of the findings in stage 1 that took the form of a forum of 40 highly experienced bankers (independent of and no overlap with the group in stage 1) to whom the outcome of stage 1 was presented for discussion and feedback. This was performed in February 2022.

For stage 3 (performed in November 2023) the sample consisted of three knowledgeable individuals from the political and higher education sectors, whose input gives insights into the Meso- and Macro-layers of the Fintech ecosystem. See profiles in Table A2.

This three-stage design enables us to capture Fintech innovation as a co-creation process involving interdependent actors (as stated in section 2.3) and to achieve the contribution of the study as stated in column 5 of Table 2.

3.2 Data collection method

We used KC as a data collection method that brings together all the informants and entails confronting points of view and converting the informants' tacit knowledge into explicit knowledge. It does so by posing questions that none of the participants would have been able to address individually, but that through interactions enables the collective to arrive at satisfactory responses that exceed what would have been achieved by any individual. It also gives space for the researcher to develop a Socratic dialogue with the group, which promotes going deeper into the issues discussed (Remenyi and Griffiths, 2009). The KC format has clear guidelines on how this should be conducted (Remenyi, 2004) and the "light touch" moderation it prescribes, together with the fact that one researcher moderated while the other two observed, should minimize the risk of researcher-induced bias. This was reinforced by letting the discussion flow freely and recording the proceedings.

Although the KC in its pure form does not keep track of individual contributions but instead focuses on the responses articulated by the group, based on the researchers' experience using the KC as a data collection method (Griffiths and Baudier, 2023; Griffiths and Remenyi, 2008) it was decided to keep track of verbatim data to strengthen the chain of evidence and thus rigour of the method. As the three authors of the paper participated in the KC, one would moderate the event while the remaining two observed and made notes of the non-verbal aspect of the proceedings.

The stage 2 data collection was organized such that the outcome of stage 1 was presented to a forum of bankers convened by the Innovation Division at MB Bank in Vietnam. This forum was on-line and took the form of an in-company masterclass titled "Rise and Evolution of the

Fintech Sector" for MB Bank professionals and managers. The masterclass was held on February 25th, 2022, with 40 participants and lasted four hours (with a 20-min break in the middle.) It was structured in four sections as follows:

(1) Origins of the Fintech Sector;

(2) A global framework to understand the Industrial Organization of the Fintech Sector (i.e. the seven service domains and advanced technologies framework applied in this research);

(3) Evolving relationship between incumbent banks and Fintechs and

(4) Diffusion of Fintech in Vietnam: An external perspective (i.e. the findings of stage 1).

At the end of the meeting the participants were asked to express whether they agreed or disagreed with the findings presented to them. An interesting exchange took place in which participants agreed or totally agreed with the findings and made additional comments such as that they found the presentation highly insightful. There was not one that disagreed or expressed being neutral about the findings.

Stage 3 data collection took the form of three semi-structured interviews. The interview guide was informed by the model in Figure 2 and can be obtained from the authors.

The KC was hosted at the Vietnam National University – International Francophone Institute (VNU-IFI) and was recorded on the VNU-IFI platform abiding by the stringent ethical standards demanded by this institution that explicitly informed the participants that it was being video-recorded. The forum in stage 2 of data collection was hosted by MB Bank and abided by the bank's ethical standards in relations to its staff privacy. On top of this, we have coded the names of the participants in the KC transcript to respect the anonymity of their comments. We have also respected the anonymity of the interviewees.

3.3 Analysis of data

The evidence from the KC was analysed using Strauss and Corbin's (1998) three-phase coding procedures for grounded theory development. With participant consent, the KC was video-recorded and transcribed. The session continued until no new insights emerged on Fintech diffusion in Vietnam, indicating theoretical saturation. The discussion lasted over three hours. Data analysis followed three sequential phases:

Phase 1: Open Coding - the transcript of the KC was coded at the phrase level with the result of some 200 codes. In the coding process great care was made to keep track of the source of the code and the expressions of which participants of the KC had given place to the code.

Phase 2: Axial Coding. In this stage relationships between the codes were identified and through these relationships they were grouped into sub-networks and networks. These networks were aligned along six axes, departing from the six concepts that came out of the literature review (column 1 of Table 2, Conceptual framework of departure). It was found that the Vietnam evidence does, on the one hand, not support two of these concepts ("Lack of trust in incumbent banks" and "Expensive and non-competitive") and, on the other, a new concept emerged: "Data Protection and Security". So, this second phase ended with the networks of codes regrouped to alignment around the five concepts. This was the result of deep reflection to "define and refine" so as to identify what the essence of each concept or theme is about (Braun and Clarke, 2006).

Phase 3: Narrative creation: This phase departs form the networks of codes determined in phase 2 and articulates them into the narrative that is presented in section 4.1 "Narrative construction . . . " of the paper. In line with the guidelines of Braun and Clarke (2006) (phases 5 and 6 of their data analysis) this phase has to link with the data as we have done by indicating the participants in each contribution but go further than a mere description to

make arguments in relation to our research question. In this way our analytic claims are grounded in, but go beyond, the "surface" of the data.

Based on the prior narrative, on the feedback from the bankers in stage 2 and the discussion in section 5 of this paper, the findings were synthesized in the "Fintech diffusion in Vietnam model" that is presented in Figure 2. As can be seen, four concepts that remained of the literature are proposed as mediator constructs, and "Data Protection and Security" is a moderator (its presence does not necessarily promote diffusion, but its absence hinders it.) The transcripts of stage 3 interviews were mapped onto the model in Figure 2 to reinforce or modify the model.

4. Findings

4.1 Narrative construction based on stage 1 & 2, 3 findings

Vietnam's demographics strongly support Fintech growth. With a population exceeding 100 million where less than 30% hold bank accounts and a young, tech-savvy majority, particularly among millennials, the market is primed for digital financial services. Smartphone penetration stands at 45%, further enabling mobile-based Fintech adoption (#5). Notably, a pattern of reverse teaching has emerged, where younger users guide older family members in using mobile payments and transactions (#15).

Payments and transactions represent the most advanced and dynamic Fintech segment in Vietnam (#1, #3, #4, #5, #9). A survey by the Singapore FinTech Association ranks Vietnam among the top three payments markets in Asia. Leading firms such as MoMo and VNPay have collectively secured $336 million in funding (#3), reflecting strong investor confidence and market momentum.

The government has been proactive or even aggressive in promoting cashless payments (#3, #5, #8, #15). Supportive regulations have helped foster a fast-growing, demand-driven payments market (#1, #2, #3). Notably, even unbanked users can access e-wallet services; however, strict limits on transaction amounts for such users have become a constraint on further growth (#1, #2, #3). As a result, Fintech-driven payments in Vietnam have followed a distinct trajectory compared to regions such as Europe, Africa, and China (#4).

In Vietnam, all payments must be routed through the state-owned National Payments Corporation (NaPaC), and e-wallets must be linked to a bank account (#4). This differs from China, where platforms like WeChat and Alipay enable payments without bank accounts. In Vietnam, transactions are processed via bank-issued payment cards (debit or credit), which enhances credibility, as public trust in banks remains strong (#4, #15).

The government's push for a cashless economy has fuelled strong growth in digital payments, enabling Fintech expansion in the transaction's domain (#8). However, looking at future growth, if Fintechs want to develop payments not only in Vietnam but also abroad, there is a problem with the government "owning" Fintech transactions by making them pass through NaPaC. This condition is driven by the government's intention to control cross-border payments and foreign currency exchange, which restrains Vietnamese Fintechs to exclusively national transactions (#8, #15).

Despite strong growth, Fintech operators in Vietnam face several barriers to innovation. One of these is, precisely, the fact that the sector is highly regulated and, it is argued, this limits innovation amongst users and producers (#8, #6). Access to capital is another major constraint, compounded by weak managerial capacity; investors report that 70% of Fintech startups fail within their first year (#6, #15). Users also express concerns about underdeveloped cybersecurity laws, further hindering adoption (#6, #8, #15). Finally, trust remains a significant barrier. While users are open to digital services, Fintech firms must invest in brand-building to compete with banks, which continue to enjoy high public trust (#5, #15).

While excessive regulation is seen as a constraint in the payments domain, a lack of regulation does not appear to limit innovation in other Fintech areas. Paradoxically, despite the

government's ambitious "Digital Strategy 2025" and public support for Fintech development, regulatory frameworks to support these goals remain underdeveloped (#1, #5, #15). Despite regulatory gaps, some Fintech segments are showing early growth. While there are no formal regulations for P2P lending, crowdfunding platforms have emerged, acting as intermediaries between funders and fundraisers. These platforms are estimated to represent up to 10% of the loan market (#1, #9), indicating that while diffusion is occurring, it remains limited, likely due to regulatory uncertainty.

The wealth management space is gradually expanding, with around nine Fintechs positioning themselves as alternative asset managers and 25 operating as personal finance platforms—the most prominent being Money Lover. These firms share similar business models and offer a range of financial planning features (#9). In contrast, activity in the financial inclusion domain remains limited, aside from a government-led e-money pilot, about which little information is available (#5), suggesting minimal innovation in this area.

In total there are some 200 Fintechs in Vietnam compared to Singapore where there are 1,200 with a population under six million, highlighting strong growth potential. Fintechs currently represent some 31% of startups in Vietnam, of which 16% to 17% are in P2P lending and 13% in Blockchain enabled services. As mentioned above, the vast majority are in payments (#5).

In terms of technology, mobile access is widespread, and blockchain development is gaining momentum. Overall, digital infrastructure is advancing rapidly, offering particular advantages to smaller banks. However, few Fintechs currently operate in banking back-office services or business partner integration, indicating untapped potential in these domains (#3, #5, #6). Blockchain is seen as a driver of future growth in Fintech. While Vietnam has not been an early adopter in some Fintech domains, it shows great potential to lead in cryptocurrencies. This is supported by its dynamic economy, high mobile penetration, and strong information technology human capital all of which lowers the complexity of innovation and enables the further development of blockchain and taking leadership in cryptocurrencies (#3, #6, #15).

Vietnam's potential in the cryptocurrency space is underscored by the presence of around ten active crypto firms and a thriving blockchain-based gaming sector, which has attracted $161 million in funding (#3). Many startups view blockchain as a growth driver not only in finance but also in sectors like agriculture and smart contracts. The absence of local cryptocurrency regulations has also attracted foreign firms, particularly from Singapore, making Vietnam a favourable entry point for blockchain ventures (#3, #15).

4.2 Fintech diffusion in Vietnam-a dynamic service ecosystem perspective

This section interprets the rate of Fintech diffusion in Vietnam through the service ecosystem lens, which captures adoption dynamics across micro, meso, and macro levels. Findings were triangulated using data from the KC and stakeholder interviews to assess diffusion across these levels. Figure 1 illustrates this multi-level perspective. As evidenced by the KC and confirmed in the 2023 Stage 3 interviews, Vietnam's Fintech landscape has evolved significantly over the past two years. Thematic analysis reveals emerging trends in consumer behaviour, regulatory developments, technological uptake, and shifts in education and workforce readiness.

In the case of Vietnam, several novel innovations are being adopted at the Micro Level, by individuals and firms. KC participants mentioned Fintech companies such as MoMo and VNPay securing $336 million in funding, indicating the presence of investors due to growth of the service' ecosystem. Several interactions between actors were mentioned at the meso level. Telecom companies are partnering with NaPaC to develop contactless payment technology. The State Bank of Vietnam regulates the Fintech payments service domain by granting licences to only eligible providers. The KC participants have discussed the influence of reverse teaching suggesting demographics do not restrict adoption. The elders are learning from the younger people about the e-wallet services and therefore the rate of adoption is increasing significantly. In the P2P lending service domain, the KC participants discussed that there is

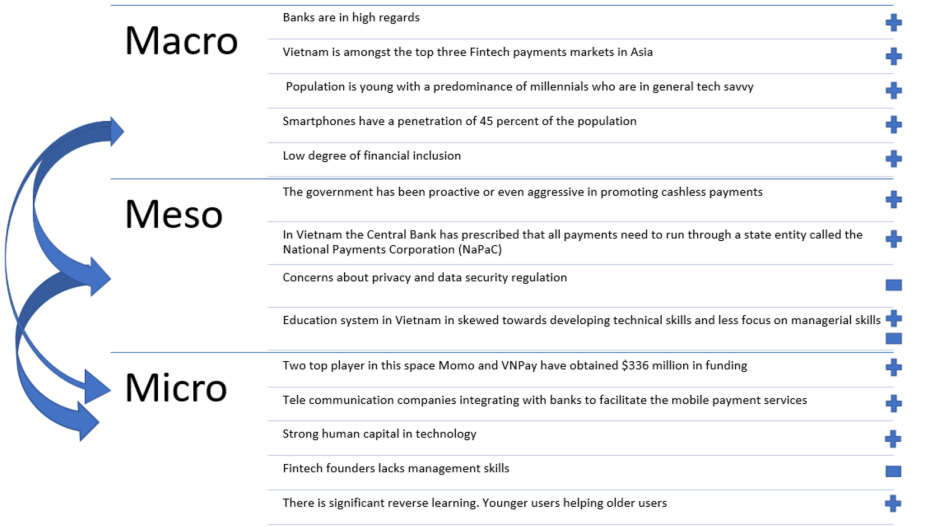

Figure 1. Factors affecting the diffusion of Fintech at various levels of the service ecosystem. **Source: Authors' own work**

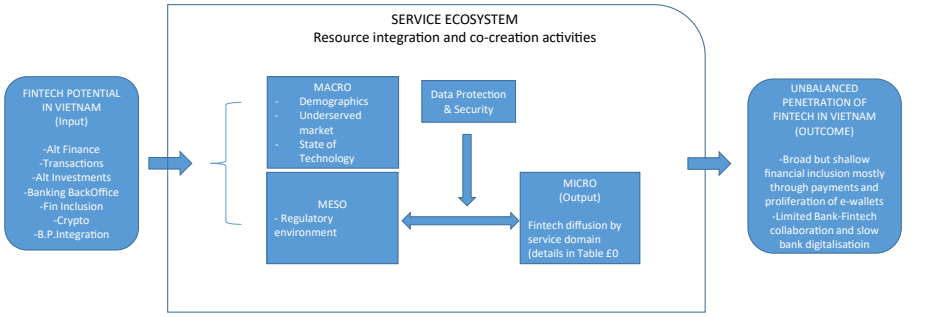

Figure 2. Fintech diffusion in Vietnam model. **Source: Authors' own work**

some penetration but not at the same level of payments or the e-wallet services. The blockchain technology is also getting some traction in recent years.

The stage 3 interviews revealed that Vietnam's education system has prioritized technical over managerial skills, limiting Fintech founders' ability to scale their businesses. Participants highlighted a growing recognition of the need for entrepreneurial and management education. Despite this gap, interviewees expressed optimism about Fintech growth, citing government support through initiatives such as incubators and accelerators.

At the meso level, participants noted that the government has actively promoted cashless payments through NaPaC and mandates that all e-wallets be linked to bank accounts. However, cross-border payments via Fintech platforms are currently restricted, and participants reported little government engagement in other Fintech domains. Concerns were raised about privacy, data security, and the education system's emphasis on technical over managerial skills. The stage 3 interviews pointed to a nuanced regulatory shift, with increasing flexibility in approvals for foreign currency and cross-border transactions. Still, the lack of comprehensive data protection laws remains a concern. While regulations have enabled growth in the payments sector, participants expressed mixed views on their broader

impact. As one noted, "The constraints on foreign currencies and cross-border payments pose challenges for further innovation." At the macro level, participants observed that Vietnam's societal structure supports rapid adoption of e-wallet services. Banks enjoy high public trust, and Fintech firms with bank affiliations gain enhanced legitimacy. High smartphone penetration and low financial inclusion further contribute to Fintech adoption, particularly in the payments segment. However, limited participant feedback on other Fintech domains suggests these services may be perceived as less relevant or useful.

The stage 3 interviews reinforced the strong trust in traditional banks, especially among urban middle classes. As one participant noted, "People are happy using traditional banks for their savings . . . they trust banks as there has never been a bank failure in the country." In contrast, Fintech services are gaining traction among unbanked, rural, and elderly populations, particularly for small transactions and borrowing. However, limited access to smartphones remains a barrier for some. These trends highlight Fintech's growing role in advancing financial inclusion and suggest a shift in trust dynamics, with increasing adoption among underserved segments and tech-savvy youth.

5. Discussion

5.1 Mapping findings onto the literature

This study aimed to examine the diffusion of innovation across seven Fintech service domains in Vietnam. Findings indicate that payment services have experienced the highest adoption, while other domains remain relatively underdeveloped. Recent interviews suggest that although payment services still dominate, Fintech adoption is expanding among unbanked and rural populations, signalling a shift beyond the urban middle class since 2021. This evolution reflects a more inclusive diffusion pattern and an adaptive service ecosystem involving both users and providers (Palmié *et al*., 2020). High adoption in payments appears linked to an established foundation of trust within that specific domain.

The Vietnamese government and the State Bank of Vietnam have introduced targeted regulations to support trust and engagement within the payment ecosystem. These policies foster innovation at the micro level and institutionalization at the macro level. An illustrative example of value co-creation is the intergenerational knowledge exchange, where digitally savvy youth guide older users in adopting Fintech (Vargo *et al*., 2015).

While consumer financial protection is a regulatory priority, gaps remain in data privacy and cybersecurity, which have undermined trust in certain service domains. As a result, adoption is slower in areas more sensitive to data security concerns. However, 2023 data point to stronger regulatory frameworks and increased efforts by Fintechs and banks to address these issues—potentially rebuilding trust and boosting adoption. In contrast, limited government involvement in other Fintech domains helps explain their slower diffusion.

The other meso level factor influencing Fintech diffusion is Vietnam's education system which is skewed towards developing technological skills and less focused on managerial skills. This imbalance affects micro-level dynamics, particularly the ability of Fintech founders to effectively manage and scale their businesses. While founders have technological skills to develop innovative products, they lack the management skills to develop the brand and reputation for the organization. This leads to a lack of trust and slows Fintech diffusion. Insights from the stage 3 interviews reinforce the observation about the imbalance in the educational system. However, there is an emerging focus on integrating business management courses and fostering entrepreneurship, which could gradually address this gap and contribute to enhancing the management capabilities of Fintech entrepreneurs. This is synthesized in Table 3.

From observing Table 3 and the different states of development of the seven business domains, it can be seen that the combined effect of these macro, meso and micro level factors contributes to the diffusion of Fintech services (Geels, 2002; Rogers, 2010; Vargo *et al.*, 2020); and the fact that we observe the sector through the seven-service-domain framework (Griffiths, 2020) highlights how sensitive diffusion is to enablers combined at the three levels.

Table 3. Two-dimensional conceptual framework for Fintech diffusion

	Macro	Meso	Micro
Alternative Finance	Focus on protecting consumers, but still weak data protection and privacy laws	Non-extant or weak regulation for crowdfunding Difficulties to access capital	Low rate of adoption (probably 10% market share)
Cashless Transactions	Strong institutionalization and thrust from drive towards cashless society	Robust regulatory environment Trust in payments scheme through regulations and connection to NaPac Regulations restrictive on international transactions e-Wallets independent from bank accounts only for very small payments	Highly developed domestic payments Not so high in remittances High diffusion of e-Wallets Future innovation risks being stifled by excessive regulatory interventions Significant reverse-learning (youth to elders)
Alternative Investments	Weak data protection and privacy Some consumer protection	Have not developed strong brands, needed to generate trust	Low trust in Fintech Small number of alternative asset managers Strong in "personal financial advisory'
Banking Back-office	Banks held in high regard by the population (societal culture)	Competitive environment for banks is low Banks have little incentive to transform Banks have not needed Fintechs	Low development of collaboration for back-office services Banks are going digital, but at their own pace and internally
Financial Inclusion	High mobile phone penetration Favourable demographics for innovative services	Significant unbanked population (only 30% have bank accounts)	Penetration of digital payments has increased inclusion But financial inclusion is "shallow' and has not covered the other business domains
Cryptocurrencies	Cautious approach due to concerns over risks and regulatory challenges	No regulations for crypto Strong human capital for technology and blockchain	Few, or none, home-grown crypto companies Opportunity for foreign providers, especially from Singapore
Business Partner Integration	Cultural trust in banks, thus no call for large non-financial companies to move into the sector	Telcos are partnering with NaPaC to develop contactless payments tech with indirect links to banks No incentive for Telcos to partner with Fintechs to compete with banks	Business Partner Intergration (BPI) is poorly developed due to lack of incentives

Source(s): Authors' own work

As a final point, going back to the six concepts that are key to the diffusion of Fintech in an emerging market (i.e. Table 2) our study finds that the first four concepts are highly relevant drivers in Vietnam, but *Lack of trust* and *Expensive and non-competitive financial services* are not significant in this market. The stage 3 interviews validate the continued relevance of these

drivers in the Vietnamese market. However, they also indicate subtle shifts, such as increasing trust in certain Fintech segments and evolving regulatory dynamics, which may influence these drivers in the future.

The findings from Vietnam provide critical insights into the broader phenomenon of Fintech diffusion in emerging markets. Like Vietnam, countries like India, Nigeria, and Brazil are also grappling with regulatory challenges and trust-building in their Fintech ecosystems. The service ecosystem perspective used in this study can be extended to these countries to further refine the theoretical understanding of how Fintech services diffuse in emerging markets. Future research should test this theoretical framework in other regions to enhance its robustness and applicability.

5.2 Theoretical implication

A key theoretical contribution of this study lies in its disaggregation of Fintech into seven distinct service domains, moving beyond the common tendency to treat Fintech as a monolithic category (e.g. Kowalewski and Pisany, 2023). This domain-specific approach, combined with a service ecosystem lens, allows for a more nuanced understanding of how micro-, meso-, and macro-level factors influence the diffusion of innovation within each Fintech segment.

Our findings highlight that adoption dynamics vary significantly across service areas, reinforcing the importance of tailored theoretical analysis. This aligns with calls by scholars such as Griffiths (2020) for domain-specific perspectives in Fintech research. By integrating IDT with the service ecosystem framework, the study advances a multi-level conceptualization of Fintech diffusion that is especially relevant to emerging markets.

The two-dimensional framework in Table 3 enhances understanding of Fintech adoption and offers a basis for future domain-specific policy and research. Aligned with Vargo *et al*. (2020), this study supports the value of a service ecosystem perspective, capturing micro, meso, and macro-level interactions to provide a more dynamic view of adoption. Empirically, four of the six initial concepts (Table 2) emerged as particularly relevant to Vietnam: regulatory environment, underserved markets, demographics, and state of technology. As illustrated in Figure 1, the regulatory environment maps to the meso level, while the others correspond to the macro level.

A new construct that emerged with strength in the empirical work as important for diffusion of Fintech, is that of "Data Protection and Security". Interestingly enough, the significance of this construct seems to vary sharply across service domains, and acts through its absence rather than its presence. After reflection, we arrive at that "Data Protection and Security" operates as a moderating construct.

Building on the initial framework in Table 2 and analysing Fintech diffusion through the dual lens of IDT (via the service ecosystem) and the industrial organization of the Fintech sector, our theoretical contribution is synthesized in the refined model presented in Figure 2. The two-way arrow between *Regulatory Environment* and *Fintech Diffusion by Service Domain* captures the dynamic nature of regulation, highlighting the need for continuous adaptation in response to sector maturity, and the ongoing balance between fostering innovation and maintaining trust.

In this model we adopt the distinction between "output" (what was done) and "outcome" (the impact of what was done) proposed by IIRC (2021). The outputs are those presented in column "Micro" in Table 3 and the outcomes a broad-based financial inclusion, but one that is shallow in the sense that it is limited to payments and the use of e-wallets. This is possibly reinforced by that, due to the relatively low convergence between Fintechs and incumbent banks, the digitalization of the latter has been slow.

5.3 Policy Recommendations and practical implications

The findings of this study carry important policy, practical, and societal implications for advancing Fintech adoption and diffusion in Vietnam. These recommendations are grounded in IDT and the service ecosystem perspective, providing a theoretically informed response to

real-world challenges. Figure 3 synthesizes key policy actions, integrating insights from our conceptual framework, empirical findings, and refined theoretical model.

Regulatory ambiguity remains a key barrier in Vietnam's Fintech landscape. Our findings highlight the urgent need for clear, comprehensive guidelines across the six Fintech service domains currently lacking defined regulation. Transparent and adaptive frameworks can reduce uncertainty, foster trust, and promote fair competition (Financial Stability Board, 2017; Kowalewski and Pisany, 2023). Policymakers must balance innovation with consumer protection, as both over- and under-regulation pose risks (Carbó-Valverde *et al*., 2021; Cornelli *et al*., 2020). Regulatory sandbox models offer a pragmatic solution by enabling controlled experimentation while safeguarding financial stability.

Fintech diffusion is further accelerated in ecosystems that encourage cross-border collaboration (Nguyen, 2020; Lyons *et al*., 2022). Facilitating partnerships between Vietnamese Fintech firms and global players can support technology transfer, knowledge exchange, and resource integration. Drawing on regulatory best practices from Fintech hubs such as Singapore, the UK, and China (Zhao *et al*., 2022), and promoting international investment and cross-border sandboxes, can enhance Vietnam's global competitiveness in the Fintech sector.

Trust is a key enabler of Fintech adoption, as emphasized by IDT (Rogers *et al*., 2019) and the service ecosystem perspective (Vargo *et al*., 2015). Our findings indicate that privacy concerns and cybersecurity risks are significant barriers. Policymakers should enact robust data protection laws aligned with international standards, such as the General Data Protection Regulation, while tailoring them to Vietnam's context. Strengthening cybersecurity infrastructure and consumer protection policies is essential to fostering public trust and adoption.

Institutional support plays a vital role in Fintech innovation (Trischler *et al*., 2020). Government agencies, financial institutions, and industry bodies should establish incubators, accelerators, and mentorship programs, while offering tax incentives and targeted funding to encourage entrepreneurship. Innovation hubs and regulatory sandboxes provide structured testing environments and can attract both domestic and international investment (Muthukannan *et al*., 2021).

Skills shortages in technology and management continue to constrain sectoral growth. To address this, Vietnam's education system must prioritize digital financial literacy, blockchain, data analytics, and AI in finance. Collaboration between universities, vocational institutions,

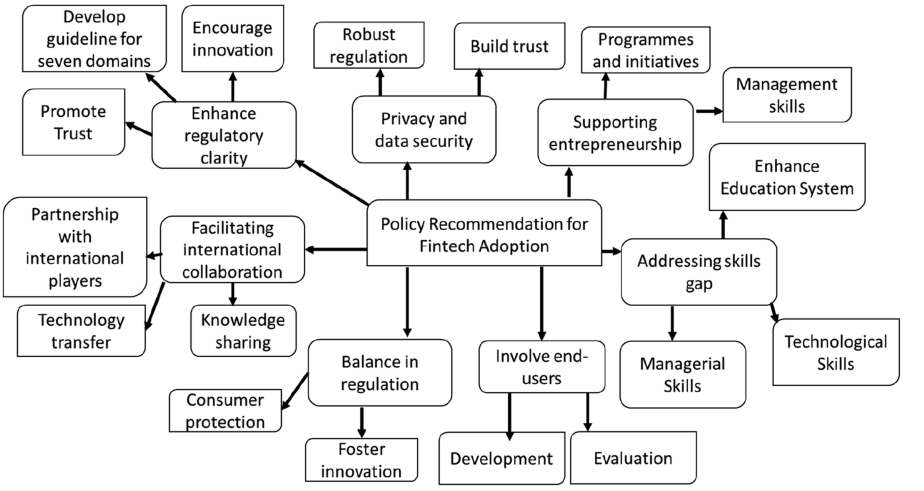

Figure 3. Policy recommendations for fostering Fintech adoption. **Source: Authors' own work**

and industry is critical to developing Fintech-specific training, with public-private partnerships integrating these efforts into broader economic development strategies.

Fintech adoption is also shaped by user experience and perceived benefits (Püschel *et al*., 2010; Yi-Hsuan *et al*., 2011). To ensure inclusivity and usability, policymakers and Fintech firms should engage end-users in the co-design and evaluation of digital financial services. This participatory approach, grounded in the service ecosystem model, ensures Fintech solutions are responsive to diverse consumer needs. Strengthening regulatory frameworks, adopting sandbox models, and improving cybersecurity and data protection will enhance trust and attract foreign direct investment. Supporting Fintech startups through incubators and targeted funding can spur job creation and economic growth.

Integrating Fintech topics into academic curricula will produce a skilled workforce capable of sustaining sector innovation. Over time, widespread Fintech adoption particularly in mobile banking and digital payments can improve financial inclusion for underserved populations, reduce reliance on informal lending, and increase formal economic participation, especially among rural communities and small businesses.

6. Conclusions

This study explored the determinants of Fintech diffusion in Vietnam, disaggregated by service domain, to identify key drivers, barriers, and opportunities. Vietnam's young, tech-savvy population, widespread mobile and Internet usage, and underserved financial segments create strong conditions for Fintech growth, aligning with prior research (Kowalewski and Pisany, 2023) and responds to our research question RQ01.

Government regulation has legitimized and accelerated Fintech adoption in the payment domain, where bank-backed services enjoy high consumer trust. However, regulation across the remaining six Fintech domains remains limited or unclear, creating risks and slowing diffusion. Encouragingly, signs of regulatory evolution—particularly around data security and cross-border transactions—may foster greater innovation and collaboration. Moreover, the ecosystem approach applied in this research helps us understand how Fintech diffusion depends on factors at the macro-, meso- and micro-level as is demonstrated by the different progress made across the seven service domains, which addresses our research question RQ02.

Our findings reinforce the importance of balanced regulation: while essential for trust and stability, excessive oversight can constrain innovation. This tension is a critical area for future inquiry.

This study's primary limitation is its reliance on industry expert perspectives, with limited input from end-users and policymakers. Future research should incorporate user-level insights to better capture adoption behaviours and trust dynamics and engage policymakers to clarify regulatory constraints and enablers. Comparative studies across emerging markets could reveal broader patterns or divergences in Fintech diffusion, enhancing the service ecosystem perspective. Longitudinal research on Fintech's effects on financial inclusion, stability, and digital literacy would offer a more comprehensive understanding of its long-term impact.

Addressing these gaps can support researchers, policymakers, and industry leaders in crafting strategies that foster innovation while safeguarding financial security and inclusiveness.

(The Appendix follows overleaf)

Appendix

Table A1. Profile of participant in knowledge café

No (#)	Gender	Organization	Position
1	Female	International bank subsidiary	Personal Banking Advisor
2	Female	Joint stock bank	Regional Compliance Control Manager
3	Male	Joint stock bank	Assistant Relationship Manager, Sales Department: Commercial Banking Division
4	Male	Joint stock bank	Manager in Software development department, IT Centre
5	Female	Joint stock bank	Head of Sales department, Retail Banking
6	Male	Joint stock bank	Insurance securities specialist
7	Female	Joint stock bank	Regional manager, Retail Banking Division
8	Female	Joint stock bank	Regional Manager of Individual Foreign exchange
9	Female	Joint stock bank	Head pf People and Sales Excellence
10	Male	Joint stock bank	Head of digital banking department
11	Male	Joint stock bank	Vice Director of Information Technology Division
12	Female	Joint stock bank	Risk Strategy Officer
13	Female	International bank subsidiary	Relationship Manager. Financial Institution Department
14	Female	Securities: Brokerage, fin advisory and asset management	Manager of Wealth Advisory Department
15	Female	International bank subsidiary	Head of Financial Institution department
16	Female	Joint stock bank	Assistant Relationship Manager, Financial Institution Centre
17	Male	Securities: Brokerage, fin advisory and asset management	Operation Staff
18	Female	Joint stock bank	Not specified
19	Male	Tech services provider	Engineer
20	Female	University	Academic

Source(s): Authors' own work

Table A2. Profile of stage 3 interviewees

No (#)	Gender	Organization	Position
1	Female	University	Director
2	Male	University	Academic
3	Female	Public Sector	Operations

Source(s): Authors' own work

References

Banna, H., Kabir Hassan, M. and Rashid, M. (2021), "Fintech-based financial inclusion and bank risk-taking: evidence from oic countries", *Journal of International Financial Markets, Institutions and Money*, Vol. 75, 101447, doi: 10.1016/j.intfin.2021.101447.

Bech, M.L., Faruqui, U., Ougaard, F. and Picillo, C. (2018), "Payments are a-changin'but cash still rules", *BIS Quarterly Review*, available at: https://www.bis.org/publ/qtrpdf/r_qt1803g.htm?mod=article_inline

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: 10.1191/1478088706qp063oa.

Carbó-Valverde, S., Cuadros-Solas, P.J. and Rodríguez-Fernández, F. (2021), "Fintech and banking: an evolving relationship", in King, T., Stentella Lopes, F.S., Srivastav, A. and Williams, J. (Eds), *Disruptive Technology in Banking and Finance: an International Perspective on Fintech*, Springer International Publishing, Cham, pp. 161-194.

Choi, Y., Han, S. and Lee, C. (2024), "Exploring drivers of fintech adoption among elderly consumers", *Technology in Society*, Vol. 78, 102669, doi: 10.1016/j.techsoc.2024.102669.

Christensen, C.M., McDonald, R., Altman, E.J. and Palmer, J.E. (2018), "Disruptive innovation: an intellectual history and directions for future research", *Journal of Management Studies*, Vol. 55 No. 7, pp. 1043-1078, doi: 10.1111/joms.12349.

Coffie, C.P.K. and Hongjiang, Z. (2023), "FinTech market development and financial inclusion in Ghana: the role of heterogeneous actors", *Technological Forecasting and Social Change*, Vol. 186, 122127.

Coffie, C.P.K., Hongjiang, Z., Mensah, I.A., Kiconco, R. and Simon, A.E.O. (2021), "Determinants of fintech payment services diffusion by smes in Sub-Saharan Africa: evidence from Ghana", *Information Technology for Development*, Vol. 27 No. 3, pp. 539-560, doi: 10.1080/02681102.2020.1840324.

Cornelli, G., Frost, J., Gambacorta, L., Rau, P.R., Wardrop, R. and Ziegler, T. (2020), "Fintech and big tech credit: a new database".

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, p. 319, doi: 10.2307/249008.

Demirguc-Kunt, A., Klapper, L., Singer, D. and Ansar, S. (2018), *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*, World Bank Publications, Washington, DC.

EY. (2017), *EY FinTech Adoption Index 2017*, available at: https://www.innovatefinance.com/reports/ey-fintechadoption-index-2017/

Financial Stability Board (2017), "Financial stability implications from fintech", available at: http://www.fsb.org/2017/06/financial-stability-implications-from-fintech/

Fungáčová, Z. and Weill, L. (2015), "Understanding financial inclusion in China", *China Economic Review*, Vol. 34, pp. 196-206, doi: 10.1016/j.chieco.2014.12.004.

Gao, S., Krogstie, J. and Siau, K. (2011), "Developing an instrument to measure the adoption of mobile services", *Mobile Information Systems*, Vol. 7 No. 1, 831018, doi: 10.1155/2011/831018.

Geels, F.W. (2002), "Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study", *Research Policy*, Vol. 31 No. 8, pp. 1257-1274, doi: 10.1016/s0048-7333(02)00062-8.

Greig, A.D., Taylor, M.J. and MacKay, T. (2007), *Doing Research with Children*, Sage, London.

Griffiths, P. (2020), "The fintech industry: crowdfunding in context", in Shneor, R., Zhao, L. and Flåten, B.-T. (Eds), *Advances in Crowdfunding: Research and Practice*, Springer International Publishing, Cham, pp. 241-270.

Griffiths and Baudier, P. (2023), "Enabling responsible banking through the application of blockchain", *Journal of Innovation Economics and Management*, Vol. N° 41 No. 2, pp. I-XXXIII, doi: 10.3917/jie.pr1.0126.

Griffiths, P. and Remenyi, D. (2008), "Aligning knowledge management with competitive strategy: a framework", *Electronic Journal of Knowledge Management*, Vol. 6 No.2, pp. 51-60.

Grohmann, A., Klühs, T. and Menkhoff, L. (2018), "Does financial literacy improve financial inclusion? Cross country evidence", *World Development*, Vol. 111, pp. 84-96, doi: 10.1016/j.worlddev.2018.06.020.

Gubrium, J.F. and Holstein, J.A. (2000), "The self in a world of going concerns", *Symbolic Interaction*, Vol. 23 No. 2, pp. 95-115, doi: 10.1525/si.2000.23.2.95.

Haddad, C. and Hornuf, L. (2019), "The emergence of the global fintech market: economic and technological determinants", *Small Business Economics*, Vol. 53 No. 1, pp. 81-105, doi: 10.1007/s11187-018-9991-x.

Hycner, R. (1999), "Some guidelines for the phenomenological analysis of interview data", in Bryman, A. and Burgess, R.G. (Eds), *Qualitative Research London*, Sage.

IIRC (2021), "Integrated reporting framework - update", International Integrated Reporting Counc, link: Integrated Reporting Framework | Integrated Reporting.

Kowalewski, O. and Pisany, P. (2023), "The rise of fintech: a cross-country perspective", *Technovation*, Vol. 122, 102642, doi: 10.1016/j.technovation.2022.102642.

Li, J., Wei, R. and Sui, L. (2024), "How does financial technology innovatioin impact business performance?", *Emerging Markets Finance and Trade*, Vol. 61 No. 1, pp. 110-124, doi: 10.1080/1540496X.2024.2377996.

Litimi, H., BenSaïda, A. and Raheem, M.M. (2023), "Impact of FinTech growth on bank performance in GCC region", *Journal of Emerging Market Finance*, Vol. 23 No. 2, pp. 227-245, doi: 10.1177/09726527231218423.

Lyons, A.C., Kass-Hanna, J. and Fava, A. (2022), "Fintech development and savings, borrowing, and remittances: a comparative study of emerging economies", *Emerging Markets Review*, Vol. 51, 100842, doi: 10.1016/j.ememar.2021.100842.

Maier, E. (2016), "Supply and demand on crowdlending platforms: connecting small and medium-sized enterprise borrowers and consumer investors", *Journal of Retailing and Consumer Services*, Vol. 33, pp. 143-153, doi: 10.1016/j.jretconser.2016.08.004.

Mallat, N., Rossi, M., Tuunainen, V.K. and Öörni, A. (2009), "The impact of use context on mobile services acceptance: the case of mobile ticketing", *Information and Management*, Vol. 46 No. 3, pp. 190-195, doi: 10.1016/j.im.2008.11.008.

Muthukannan, P., Tan, B., Chian Tan, F.T. and Leong, C. (2021), "Novel mechanisms of scalability of financial services in an emerging market context: insights from Indonesian fintech ecosystem", *International Journal of Information Management*, Vol. 61, 102403, doi: 10.1016/j.ijinfomgt.2021.102403.

Nalluri, V. and Chen, L.-S. (2024), "Modelling the fintech adoption barriers in the context of emerging economies - an integrated fuzzy hybrid approach", *Technological Forecasting and Social Change*, Vol. 199, 123049, doi: 10.1016/j.techfore.2023.123049.

Nguyen, H.Y. (2020), "Fintech in Vietnam and its regulatory approach", in Fenwick, M., Van Uytsel, S. and Ying, B. (Eds), *Regulating Fintech in Asia: Global Context, Local Perspectives*, Springer Singapore, Singapore, pp. 115-138.

Palmié, M., Wincent, J., Parida, V. and Caglar, U. (2020), "The evolution of the financial technology ecosystem: an introduction and agenda for future research on disruptive innovations in ecosystems", *Technological Forecasting and Social Change*, Vol. 151, 119779, doi: 10.1016/j.techfore.2019.119779.

Pham, T.P., Pavelkova, D., Popesko, B., Hoang, S.D. and Huynh, H.T. (2024), "Relationship between fintech by Google search and bank stock return: a case study of Vietnam", *Financial Innovation*, Vol. 10 No. 1, p. 123, doi: 10.1186/s40854-023-00576-1.

Pradhan, R.P., Arvin, M.B., Nair, M.S., Hall, J.H. and Bennett, S.E. (2021), "Sustainable economic development in India: the dynamics between financial inclusion, ict development, and economic growth", *Technological Forecasting and Social Change*, Vol. 169, 120758, doi: 10.1016/j.techfore.2021.120758.

Püschel, J., Afonso Mazzon, J., Mauro, C. and Hernandez, J. (2010), "Mobile banking: proposition of an integrated adoption intention framework", *International Journal of Bank Marketing*, Vol. 28 No. 5, pp. 389-409, doi: 10.1108/02652321011064908.

Rahi, S. (2017), "Research design a,d methods: a systematic review of research paradigms, sampling issues and instruments development", *International Journal of Economics and Management Sciences*, Vol. 6 No. 2, p. 403, doi: 10.4172/2162-6359.1000403.

Remenyi, D. (2004), "Knowledge sharing and collaboration knowledge cafes–do it yourself knowledge sharing", *Paper presented at the 5th European Conference on Knowledge Management*, Paris, Conservatoire National des Arts et Metiers.

Remenyi, D. and Griffiths, P. (2009), "The socratic dialogue in the work place: theory and practice", *Electronic Journal of Knowledge Management*, Vol. 7 No.1, pp. 155-164.

Rogers, E.M. (2010), *Diffusion of Innovations*, Simon & Schuster, New York.

Rogers, E.M., Singhal, A. and Quinlan, M.M. (2019), "Diffusion of innovations", *An Integrated Approach to Communication Theory and Research*, 3rd ed., Routledge, New York.

Safiullah, M. and Paramati, S.R. (2024), "Electronic commerce research", *Electronic Commerce Research*, Vol. 24 No. 1, pp. 453-475, doi: 10.1007/s10660-022-09595-z.

Sahay, M.R., von Allmen, M.U.E., Lahreche, M.A., Khera, P., Ogawa, M.S., Bazarbash, M. and Beaton, M.K. (2020), *The Promise of Fintech: Financial Inclusion in the Post covid-19 Era*, International Monetary Fund, available at: https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2020/06/29/The-Promise-of-FinTech-Financial-Inclusion-in-the-Post-COVID-19-Era-48623

Schwandt, T.A. (1997), *Qualitative Inquiry: a Dictionary of Terms*, Sage Publications, Thousand Oaks, CA.

Singh, S., Sahni, M.M. and Kovid, R.K. (2020), "What drives fintech adoption? A multi-method evaluation using an adapted technology acceptance model", *Management Decision*, Vol. 58 No. 8, pp. 1675-1697, doi: 10.1108/md-09-2019-1318.

Strauss, A. and Corbin, J. (1998), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd ed., SAGE, Thousand Oaks, CA.

Tan, C., Mo, L., Wu, X. and Zhou, P. (2024), "Fintech development and corporate credit risk: evidence from an emerging market", *International Review of Financial Analysis*, Vol. 92, 103084, doi: 10.1016/j.irfa.2024.103084.

Tang, S., Chen, Z., Chen, J., Quan, L. and Guan, K. (2023), "Does fintech promote corporate competitiveness? Evidence from China", *Finance Research Letters*, Vol. 58, partD, 104660, doi: 10.1016/j.frl.223.104660.

Thakor, A.V. (2020), "Fintech and banking: what do we know?", *Journal of Financial Intermediation*, Vol. 41, 100833, doi: 10.1016/j.jfi.2019.100833.

Thomas, N.M. (2023), "Modeling key enablers influencing fintechs offering SME credit services: a multi-stakeholder perspective", *Electronic Markets*, Vol. 33 No. 1, p. 18, doi: 10.1007/s12525-023-00627-6.

Trischler, J., Johnson, M. and Kristensson, P. (2020), "A service ecosystem perspective on the diffusion of sustainability-oriented user innovations", *Journal of Business Research*, Vol. 116, pp. 552-560, doi: 10.1016/j.jbusres.2020.01.011.

Vargo, S.L., Wieland, H. and Akaka, M.A. (2015), "Innovation through institutionalization: a service ecosystems perspective", *Industrial Marketing Management*, Vol. 44, pp. 63-72, doi: 10.1016/j.indmarman.2014.10.008.

Vargo, S.L., Akaka, M.A. and Wieland, H. (2020), "Rethinking the process of diffusion in innovation: a service-ecosystems and institutional perspective", *Journal of Business Research*, Vol. 116, pp. 526-534, doi: 10.1016/j.jbusres.2020.01.038.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003), "User acceptance of information technology: toward a unified view", *MIS Quarterly*, Vol. 27 No. 3, pp. 425-478, doi: 10.2307/30036540.

Welman, J.C. and Kruger, S.J. (2001), *Research Methodology for the Business and Administrative Sciences*, International Thompson, Johannesburg.

Yi-Hsuan, L., Yi-Chuan, H. and Chia-Ning, H. (2011), "Adding innovation diffusion theory to the technology acceptance model: supporting employees' intentions to use e-learning systems", *Journal of Educational Technology and Society*, Vol. 14 No. 4, pp. 124-137.

Zhao, Y., Goodell, J.W., Dong, Q., Wang, Y. and Abedin, M.Z. (2022), "Overcoming spatial stratification of fintech inclusion: inferences from across Chinese provinces to guide policy makers", *International Review of Financial Analysis*, Vol. 84, 102411, doi: 10.1016/j.irfa.2022.102411.

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