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THE EVOLUTION OF FINTECH AND ITS ROLE IN TRANSFORMING THE INDIAN FINANCIAL SYSTEM: A CONCEPTUAL ANALYSIS

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Keywords	*Abstract*
Fintech, Indian Financial System, Financial Inclusion, Digital Payments, UPI, Digital Public Infrastructure, Regulation.	Digital public infrastructure like Aadhaar, Unified Payments Interface (UPI), Jan Dhan accounts and the Account Aggregator (AA) framework have helped make India one of the world's most active FinTech markets today. The aim of this conceptual paper is to trace the evolution of FinTech in India and to build an integrative framework to explain how FinTech brings changes in financial system in three ways: access (financial inclusion), efficiency (cost and speed of intermediation) and supervisory adaptation (regulatory response). Based on literature published from 2018 to 2024 and the theoretical foundations of diffusion of innovation, disruptive innovation and the technology acceptance tradition, the paper proposes two hypotheses and two research questions that can be tested empirically. It says that the impact of FinTech that has been created in India is unique as it relies on the state-led shared infrastructure instead of private platforms and is dependent on digital literacy, trust, consumer protection and balanced regulation. Policymakers, banks, FinTech companies and researchers are discussed regarding the implications.

1. Introduction

Financial technology (FinTech) is about technology driven innovation in financial services, which may result in new business models, applications, processes or products with a material impact on financial services markets and institutions (Gomber et al., 2018). In the global context, FinTech has

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disrupted the traditional payments, lending and wealth management services, and even the insurance system and market infrastructure, which were previously dominated by the incumbent banks (Thakor, 2020; Goldstein, Jiang & Karolyi, 2019).

India is a specific case in point. In just 10 years the country has shifted from a cash-dominant, branch-led economy to having real-time digital payments become a normal part of the lives of a significant portion of its populace. This shift was spearheaded by a conscious policy shift: the launch of the Aadhaar digital identity, the digital account drive initiative of Pradhan Mantri Jan Dhan Yojana (2014), establishment of payments banks and small finance banks, launch of UPI by National Payments Corporation of India (2016), demonetisation episode (2016) and so on. Banks, non-banking financial institutions and large technology firms now compete and collaborate on this common infrastructure, with FinTech start-ups playing a crucial role.

Although tremendous change has taken place, three gaps still remain in the literature. Second, most global FinTech research is focused on private, platform-based disruption, and relatively few studies focus on state-led digital public infrastructure as the main source of transformation. Secondly, Indian studies tend to focus on one product (e.g., mobile payments) and/or one outcome (e.g., adoption), rather than linking inclusion, efficiency and regulation together. Thirdly, there is less conceptual work that connects the changes in Indian FinTech history to the circumstances in which it produces (or fails to produce) inclusive outcomes.

The paper fills this gap by (i) outlining the evolution of FinTech in India, (ii) consolidating the literature from the year 2018 to 2024, and (iii) presenting a framework with testable hypotheses. The literature review, objectives, research questions and hypotheses, methodology, analysis and interpretation, findings, suggestions, conclusion, future scope and limitations are continued in the paper.

2. Literature Review (2018-2024)

2.1 Conceptualising Fin Tech and its disruptive potential

Gomber, Kauffman, Parker and Weber (2018) see this FinTech revolution as a combination of innovation, disruption and transformation forces and claim digital technologies are “unbundling and rebundling” financial services. Goldstein, Jiang and Karolyi (2019) summarize the impact of FinTech for financial intermediation, including its impact on payments, credit allocation and market structure. Thakor (2020) reviews the literature on FinTech and banking and summarises the evidence as follows: FinTech complements banks in some activities and competes with them in others, thus having implications for stability and regulation. Allen et al. (2021) reviews recent research and policy debates about FinTech, drawing on the literature to reveal the positive aspects of efficiency and inclusion, and the potential dangers of data abuse, cyber risks and regulatory arbitrage.

2.2 FinTech, BigTech and credit

Frost et al (2019) demonstrate that BigTech firms leverage data benefits and network effects to move into the financial intermediation sector, and what this means for competition. Cornelli et al. (2020)

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report on the development of the FinTech and BigTech credit globally and connect it with the regulatory and market context. A digital footprint can predict default and is complementary to traditional credit scores, as shown by Berg, Burg, Gombovic and Puri (2020), who have significant implications for thin-file borrowers. Evidence of efficiency gains exists, as do elasticity of response and speed of processing of mortgage applications by FinTech lenders relative to conventional lenders, according to Fuster, Plosser, Schnabl and Vickery (2019). According to Chen, Wu and Yang (2019), markets are incentivized by FinTech innovation and it is important to firm performance, specifically in payments products and lending.

2.3 FinTech and financial inclusion

Ozili (2018) has stated that while digital finance can provide a pathway for inclusion and stability, it also presents challenges like frauds and exclusion of the 'digitally unskilled'. Philippon (2019) argues that FinTech could reduce the cost of intermediation and increase accessibility, but that will rely on competition and data governance. Sahay et al. (2020) have found that during the Coronavirus period, FinTech has made financial services more accessible, but the benefits of this can be delivered with supporting infrastructure, digital literacy and consumer protection. Arner, Buckley, Zetzsche and Veidt (2020) identify the theme of sustainable development and inclusion in relation to FinTech, and highlight the importance of regulatory coherence. The report on Global Findex 2021 (Demirguc-Kunt et al., 2022) shows significant increase in account ownership and use of digital payments in developing economies, particularly India since 2014.

2.4 Evidence from India

Singh, Sahni and Kovid (2020) examine FinTech adoption in India through an extended technology acceptance model and conclude that perceived usefulness, ease of use, trust and associated factors affect adoption. Rastogi, Panse, Sharma and Bhimavarapu (2021) study UPI as a digital innovation and relate it to economic development and financial inclusion. The Reserve Bank of India (RBI, 2021) Working Group on Digital Lending highlights the rapid growth of digital lending, along with concerns over unregulated lending apps, data privacy, transparency of charges and recovery practices that then informed regulatory guidelines. Indian evidence suggests fast adoption and extended access, alongside new consumer-protection and governance challenges.

2.5 Synthesis and research gap

The literature suggests that FinTech can widen access, reduce intermediation costs and increase competition, but also raise risks of data misuse, over-indebtedness and regulatory gaps. However, state-led digital public infrastructure is rarely treated as the central causal driver in studies and few studies integrate inclusion, efficiency and regulation conceptually in the Indian setting. This paper fills this gap.

3. Evolution of FinTech in India

The evolution of Indian FinTech can be understood in four overlapping phases.

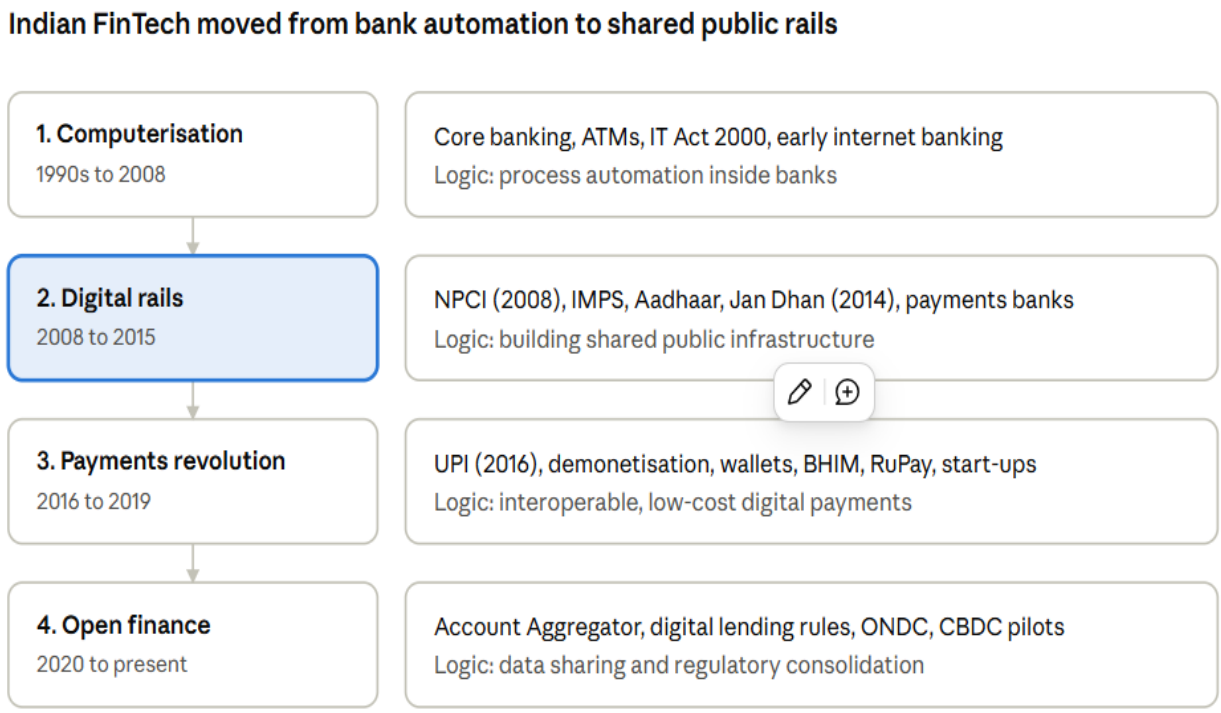
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Phase	Period (approx.)	Key developments	Dominant logic
1. Computerisation and core banking	1990s-2008	Bank computerisation, ATMs, core banking solutions, Information Technology Act 2000, early internet banking	Process automation within banks
2. Digital rails and identity	2008-2015	NPCI (2008), IMPS (2010), Aadhaar, mobile banking, Jan Dhan accounts (2014), payments banks and small finance banks	Building shared infrastructure
3. Payments revolution	2016-2019	UPI launch (2016), demonetisation, wallets, BHIM, RuPay, rise of start-ups and BigTech apps	Interoperable, low-cost digital payments
4. Data-led and open finance	2020-present	Account Aggregator framework, digital lending, buy-now-pay-later, regulatory sandbox, digital lending guidelines, ONDC, central bank digital currency pilots	Data sharing, credit expansion and regulatory consolidation

The unique feature of this path is the layering of private innovation on public rails, which is often referred to as digital public infrastructure. The state and its agencies built open and interoperable systems (identity, payments, data-sharing), and private FinTechs and banks innovated on top of them, breaking entry barriers and speeding up scale.

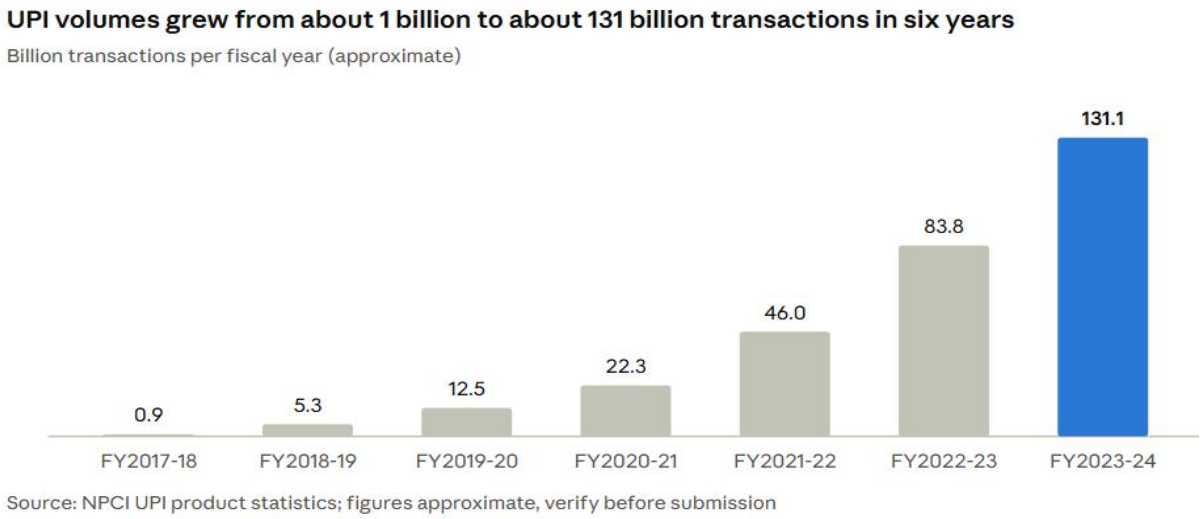
Figure 1. Evolution of FinTech in India, 1990s to present



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Figure 2. Growth of UPI transaction volume, FY2017-18 to FY2023-24



4. Theoretical Foundation

The framework is guided by three lenses. The diffusion of innovation theory (DIT) (Rogers, 2003) sheds light on the drivers of dissemination of digital financial services, that is, relative advantage, compatibility and network effects. Disruptive innovation theory (Christensen, 1997) describes the process that sees new players enter niche markets by providing a more basic, lower-cost solution and now gradually attack the incumbents. The technology acceptance model (TAM) (Davis, 1989) is a model used to explain individual adoption via perceived usefulness, ease of use and trust, which was extended in FinTech studies by Singh et al. (2020). They help to answer the questions of why FinTech spreads and who benefits first, and the importance of user perceptions for adoption.

5. Objectives, Research Questions and Hypotheses

5.1 Objectives

To understand the growth of FinTech in India and the influencing factors of the structure of the Indian financial system that has changed due to FinTech.

To explore how FinTech can improve financial inclusion and how it can improve financial operations and the role of regulation in achieving this.

5.2 Research Questions

RQ1: How ways has the landscape of Financial Technology (FinTech) and in particular Digital Public Infrastructure (DPI) changed the access and delivery of financial services in India?

RQ2: What is the combined effect of the adoption of FinTech, regulatory support and digital readiness on financial inclusion and outcomes of financial efficiency in the Indian financial system?

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5.3 Hypotheses

The following hypotheses are proposed for further empirical testing:

H1: There is a significant positive relation between the adoption of FinTech and financial inclusion in India.

H2: The adoption of FinTech has a strong positive impact on the efficiency of financial service providers, and this impact is bolstered by favourable regulation and digitalisation.

6. Research Methodology

The study is designed in a conceptual and theory-building approach for a structured narrative review and abductive reasoning, which is in line with the accepted design approach for conceptual papers in the field of finance and management.

The articles, working papers and institutional reports were collected from different sources, including Scopus, Web of Science, EBSCO, Google Scholar and various regulatory bodies including the Reserve Bank of India, NPCI, World Bank and Bank for International Settlements, using keywords like "FinTech", "India", "financial inclusion", "UPI", "digital lending" and "financial intermediation", from 2018 through 2024.

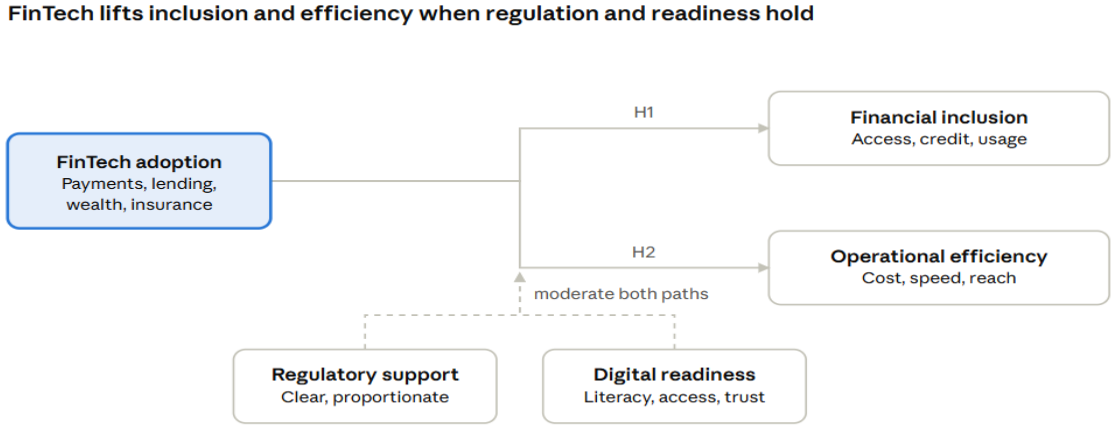
Inclusion: Studies were selected if they both conceptually and/or empirically examined the capacity of FinTech to play a role in payments, credit, inclusion, efficiency or regulation, and given the focus on innovation, preference was given to studies from India and emerging markets.

Findings were organized using thematic analysis: access, efficiency, risk and regulation.

Themes were incorporated into diffusion and disruption theories along with technologies acceptance theory to lead to the generation of constructs, relationships and hypotheses.

No primary data is gathered, it is a theoretical integration and proposition building.

Figure 3. Proposed conceptual framework



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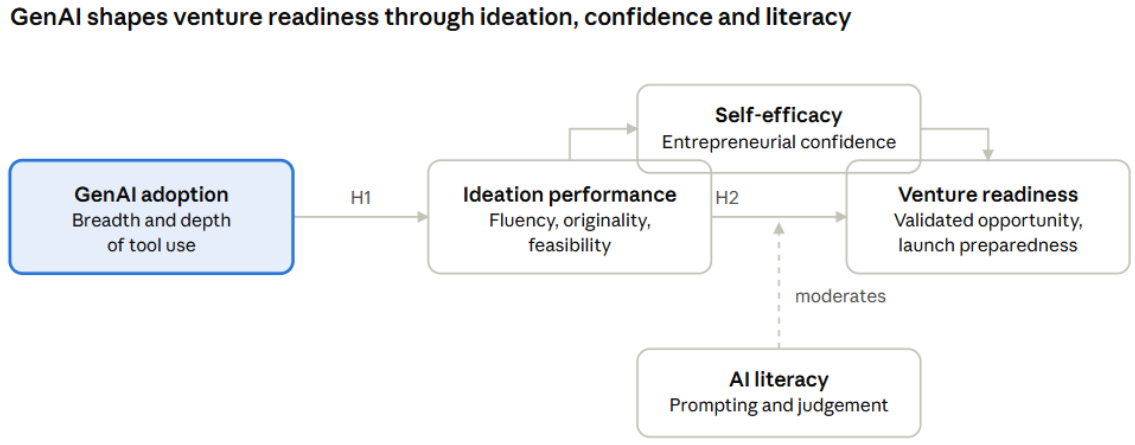
7. Analysis and Interpretation

7.1 Conceptual framework

The framework identifies FinTech adoption (use of digital payments, digital lending, wealth and insurance technology, and open-finance services) as the core driver. It affects two outcome constructs: financial inclusion (account ownership, access to credit and savings, usage of formal services) and operational efficiency (lower transaction cost, faster processing, wider reach). Regulatory support (clear, proportionate and consumer-protective regulation) and digital readiness (digital literacy, connectivity and trust) act as enabling conditions.

Construct	Role	Logic	Supporting literature
FinTech adoption	Independent	Lowers cost and distance; unbundles services	Gomber et al. (2018); Thakor (2020)
Financial inclusion	Outcome 1	Extends accounts, credit and payments to underserved groups	Philippon (2019); Sahay et al. (2020); Demirguc-Kunt et al. (2022)
Operational efficiency	Outcome 2	Faster, cheaper, data-driven intermediation	Fuster et al. (2019); Chen et al. (2019)
Regulatory support	Moderator	Builds trust, limits misuse, supports competition	RBI (2021); Arner et al. (2020)
Digital readiness	Moderator	Determines ability and willingness to use services	Singh et al. (2020); Ozili (2018)

Figure 3. Proposed conceptual framework



7.2 Interpretation of H1

India's experience demonstrates that the introduction of low-cost and interoperable rails like UPI along with identity and basic accounts is achievable to making the service available to customers who were not economic for branch banking in the past (Rastogi et al., 2021; Demirguc-Kunt et al.,

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2022). Alternative-data credit models are designed to provide credit to "thin-file borrowers" (Berg et al., 2020). According to the concept of disruptive innovation, FinTech starts with simple products to address underserved markets. Therefore, an expected positive relationship between the adoption and inclusion is anticipated. But inclusion should be measured more than just in terms of account ownership, as low usage and dormant accounts can inflate the actual level of inclusion.

7.3 Interpretation of H2

Data from lenders show that digital technologies can be used to speed up the loan process and reduce friction (Fuster et al., 2019), and the market is willing to reward FinTech innovation (Chen et al., 2019). Real time payments, e-KYC and data sharing via the Account Aggregator framework lower the cost of onboarding and verification for Indian providers. However, the efficiency benefits rely on regulatory clarity and consumers' readiness: unregulated lending apps and inadequate data governance (RBI, 2021) may undermine trust and benefit, and user low digital literacy may not be aware of the efficiency gains (Singh et al., 2020).

7.4 Interpretation of the research questions

The phased evolution is a good model for RQ1 because the initial investment in infrastructure by the state facilitated private innovation, thereby driving widespread and quick transformation. For RQ2, outcomes are jointly dependent on adoption and supportive regulation and readiness, but adoption is required and is a necessary condition.

8. Findings

These are propositions that are theoretically derived from the synthesised evidence, not empirical results.

The unique driving force behind Indian FinTech is public infrastructure, with common digital platforms and payment systems reducing the barriers to entry and allowing private innovation to flourish at scale. FinTech improves financial access, particularly for underserved groups, via low-cost digital payments and alternative financial data credit, enabling H1. It also enables better operational efficiency and benefits, including substantial speed gains and cost savings, especially in payments and customer onboarding; improvements to credit and insurance require data quality and effective risk management, which is supported by H2. The rapid expansion of digital lending has highlighted gaps in consumer protection and consequently, more stringent regulatory measures are being enforced, with regulation being a critical moderating influence. Trust and responsible innovation thus require balanced regulation. Digital readiness also has implications for the distribution of benefits; limited financial and digital literacy, inadequate connectivity and lack of trust can add to a new digital divide. In addition, a new pattern of FinTech companies collaborating with traditional banks, and even co-lending, is taking over from pure competition. With these advantages comes threats to FinTech, such as cyber fraud, data misuse, over-indebtedness, and the power of a handful of dominant players that dominate the market.

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9. Suggestions

a. For policymakers and regulators: continue with proportional, activity-based regulation to safeguard consumers without hampering innovation; enhance data protection and grievance redressal; and keep an eye on concentration in digital payments; and expand regulatory sandboxes.
b. For banks and NBFCs: collaborate with FinTechs for distribution and analytics; invest in cybersecurity, fraud detection and responsible credit assessment; re-imagine low ticket, vernacular products for new-to-credit customers.
c. For FinTech companies: embrace clear pricing models, ethical data use and responsible collection; put trust in the disclosure; and focus on product engagement rather than customer acquisition.
d. For government and educators: expand financial and digital literacy initiatives, particularly in rural communities, for women and senior citizens; enhance connectivity; and encourage assisted-digital channels for financial and digital literacy for new users.
e. Consumers: check the regulatory status of lenders and apps, and remember to take precautions when sharing information and consenting to data use.

10. Conclusion

This paper identified four stages of FinTech journey in India viz. Bank Computerisation, Data-driven Financial Services, Rules-based FinTech, and Open Finance; and proposed a framework where the connection between the adoption of FinTech and financial inclusion/operational efficiency is moderated by the role of regulations and digital readiness. It synthesized literature from 2018 to 2024, and concluded that India's transition is unique in that it supported private innovation at scale through state-built digital public infrastructure. While the benefits are great, they are contingent – requiring trust, literacy, consumer protection, proportionate regulation. This paper provides a cross-sectoral, state-infrastructure-centred perspective on FinTech, and presents two hypotheses and two research questions for empirical tests. The policy dilemma is as FinTech develops; how to maintain a balance between innovation and inclusion, stability and consumer interests.

11. Scope for the Study

a. Empirical testing: SEM based on survey data or PLS-SEM and panel regressions using RBI and NPCI data to test H1 and H2.
b. Studies on segmenting rural and urban users, women, MSMEs, gig workers and senior citizens.
c. Sectors with depth: digital lending, insurtech, wealthtech, buy-now-pay-later and open finance.
d. Stability and risk: impact of FinTech on bank profitability, systemic risk, fraud and over-indebtedness.

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e. Emerging technologies including artificial intelligence, central bank digital currency (CBDC) and blockchain in Indian finance.
f. Competitive research: India vs. Brazil (Pix), China and African mobile-money markets.
g. Longitudinal and qualitative work: depth of usage and user experience interviews.

12. Limitations

Study is conceptual (no empirical support), so hypotheses need to be tested before causal claims. The FinTech ecosystem and Indian regulations evolve rapidly and some developments might become outdated. The review is not a full systematic review and may not include relevant studies. There is a lot of international evidence, predominantly from developed or other emerging markets, which may not be applicable to the Indian context. Sources are from policy and institutional sources and may convey official views. Lastly the scope of the framework is limited, as there are other constructs that could also be relevant like competition, cyber security, culture and macro-economic conditions.

AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this manuscript.

CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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REFERENCES

Allen, F., Gu, X., & Jagtiani, J. (2021). A survey of fintech research and policy discussion. *Review of Corporate Finance, 1*(3-4), 259-339.

Arner, D. W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and financial inclusion. *European Business Organization Law Review, 21*, 7-35.

Berg, T., Burg, V., Gombovic, A., & Puri, M. (2020). On the rise of FinTechs: Credit scoring using digital footprints. *Review of Financial Studies, 33*(7), 2845-2897.

Chen, M. A., Wu, Q., & Yang, B. (2019). How valuable is FinTech innovation? *Review of Financial Studies, 32*(5), 2062-2106.

Christensen, C. M. (1997). *The innovator's dilemma*. Harvard Business School Press.

Cornelli, G., Frost, J., Gambacorta, L., Rau, P. R., Wardrop, R., & Ziegler, T. (2020). *Fintech and big tech credit: A new database* (BIS Working Paper No. 887). Bank for International Settlements.

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Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Demirguc-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank.

Frost, J., Gambacorta, L., Huang, Y., Shin, H. S., & Zbinden, P. (2019). BigTech and the changing structure of financial intermediation. *Economic Policy, 34*(100), 761-799.

Fuster, A., Plosser, M., Schnabl, P., & Vickery, J. (2019). The role of technology in mortgage lending. *Review of Financial Studies, 32*(5), 1854-1899.

Goldstein, I., Jiang, W., & Karolyi, G. A. (2019). To FinTech and beyond. *Review of Financial Studies, 32*(5), 1647-1661.

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems, 35*(1), 220-265.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review, 18*(4), 329-340.

Philippon, T. (2019). *On fintech and financial inclusion* (NBER Working Paper No. 26330). National Bureau of Economic Research.

Rastogi, S., Panse, C., Sharma, A., & Bhimavarapu, V. M. (2021). Unified Payment Interface (UPI): A digital innovation and its impact on financial inclusion and economic development. *Universal Journal of Accounting and Finance, 9*(3), 518-530.

Reserve Bank of India. (2021). *Report of the Working Group on Digital Lending including Lending through Online Platforms and Mobile Apps*. RBI.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Sahay, R., von Allmen, U. E., Lahreche, A., et al. (2020). *The promise of fintech: Financial inclusion in the post COVID-19 era* (IMF Departmental Paper No. 20/09). International Monetary Fund.

Singh, S., Sahni, M. M., & Kovid, R. K. (2020). What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision, 58*(8), 1675-1697.

Thakor, A. V. (2020). Fintech and banking: What do we know? *Journal of Financial Intermediation, 41*, 100833.

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