

THE DIGITAL DISRUPTION OF BANKING: A FINANCIAL PERFORMANCE ANALYSIS OF FINTECH'S IMPACT ON LEGACY BANKING SYSTEMS

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ABSTRACT

The disruptive forces of FinTech organisations and challenger banks are causing seismic shifts in the financial services industry. This paper investigates the multi-dimensional implications of FinTech on technological advancement, changing consumer behaviour, regulatory dynamics, and investment. It evaluates the financial efficiency of the FinTech companies and their traditional banking counterparts based on profitability, operating efficiency, and innovation prowess. The research also considers the impact of FinTech disruption on traditional business models and revenue systems. It illustrates challenges, such as digital transformation, FinTech partnerships, and customer-centric drivers, and also competitive strategies pursued by traditional banks to survive and thrive in a FinTech dominated environment. The paper ends by reflecting on what this means for all of the actors in these dramatic changes, and speculates that the future may be a hybrid model industry, one of the marriage between the old resources of stability and tradition in the established institutions with the new agility and innovation from the emergent players in the industry, bubbled by a combination of collaboration, regulation and constant innovation.

Keywords: FinTech, Traditional Banking, Digital Transformation, Financial Disruption, Consumer Behavior

JEL Classification: G21 – Banks; Other Depository Institutions; Micro Finance Institutions; Mortgages, O33 – Technological Change: Choices and Consequences; Diffusion Processes, L51 – Economics of Regulation

1. INTRODUCTION

There has been a significant transformation in the global banking landscape due to fast paced digitization. Traditional banks that used to base their activities on branches of bricks and tradition IT legacy systems are starting to incorporate new tech to update processes and streamline procedures to be more competitive and efficient. This transition is powered by Firm 's technological innovations such as mobile banking, cloud computing, big data analytics and block chain (Kanchepu, 2023; Pilkington, 2016). In the financial services industry, these technologies have changed the way financial institutions work, customers experience, and the very business models themselves operate.

Fintech, an abbreviation for financial technology, has become one of the most dominant disruptors in traditional banking. In contrast to legacy financial institutions, common to have been shackled to legacy infrastructure, FinTech's work nimbly, and they have been

historically prone to using cutting-edge technologies to provide customer focussed, cost-effective and efficient solutions (Gomber et al., 2018; Ashta & Biot-Paquerot, 2018). Decentralized innovations like peer-to-peer lending, mobile wallets, robo-advisory and embedded finance has disrupted mainstream banking channels (Sieber & Guibaud, 2022; Wewege & Thomsett, 2019). The core competence of Fintech is providing personalized, on-demand services on a large scale, mainly in underbanked markets (Reyes-Mercado, 2021; Bollaert et al., 2021).

The Fintech innovation story is well documented, but the real measure is financial success - claims. Measures such as ROA, ROE, cost-to-income ratio and net interest margin are important in determining the likelihood of sustainability for both Fintech companies as well as incumbent banks in a disrupted market (Sayani et al., 2017; Klaassen & van Eeghen, 2015). With banks embracing digital capabilities, or teaming up with Fintechs, it is important for investors, regulators, and policymakers to understand the financial effects of such decisions (Krasonikolakis et al., 2020; Alt & Huch, 2022).

The aim of this review paper is to consolidate existing literature about how Fintech is influencing conventional banking sector, particularly concerning financial performance implications. It is a forum that examines the empirical reports, theoretical domains, methodologies employed and the practical applications of research findings in the general field of commerce. The paper thus provides insight into the changing relationships between conventional banks and Fintech challengers by examining the ways in which digital disruption manifests in material financial terms. The focus is on global operations but this is placed in the context of the Indian banking industry which is undergoing extensive Fintech adoption due to support for regulation and high mobile penetration (Gupta & Xia, 2018; AllahRakha, 2023).

2. LITERATURE REVIEW & RESEARCH GAP

The Financial Service business is on the disruptive threshold of a revolution that is being driven by the increased penetration of financial technology (FinTech) that is changing the way banks have been doing business for the last few centuries. The financial markets and product provision are characterized for many centuries by a selection of old-fashioned banks with large structures and historical systems where they offer services such deposits, loans, and payment instruments through brick and mortars branches (Edwards & Mishkin, 1995). Now they face very different circumstances: the high cost of doing business, the limited room to manoeuvre, and the customers who are hungrier for frictionless digital options than ever before (DeYoung & Rice, 2004). And slow pace of digitalization in addition to regulatory burden and bureaucratic incompetence makes traditional banks less competitive compared to agile and technology adjusted FinTech players (Khan et al., 2017).

FinTech is attracting interest due to its capability of offering personalized, value-added and low-cost financial services (Gomber et al., 2018). Innovationery is happening in other sectors as well; digital payment, blockchain, peer-to peer lending, robo-advisory and Insurtech (Catalini et al. 2016). Leveraging the big data, AI and the model of platform economy, FinTech companies are catering to digitally-aware yet unserved clients where traditional institutions have left major service gaps.

Scada, the disintermediating impulse of FinTech is technological: but it is also be *habitual, and institutional. The shift from relationship banking to digital interfaces has altered the way customers view value and convenience. As reported by Mei (2022), on-demand services, a high degree of transparency and ease of access resulted in changed customers expectations on

FinTech platform. The old banks cannot perform at these levers because of their structures and conservatism. Moreover trust in FinTech defies established trust mechanisms, which were historically grounded in physical availability and facial exposure (Alt and Huch 2022). The trust system of most platforms, the trust relationships between users, the role of data protection and security and its user interface, the “digitalization of trust”³, is a major departure from traditional models.

Consumer trust in FinTech’s, despite the lack of agents to promote the provision of services, is increasing through usage of the digital ecosystem. Trusted relationship can be digitally reconstructed through powerful cyber defence, open practice and user empowerment as well (Chiu, 2016). However, how and to what extent could digital trust fully substitute for direct interpersonal relationships has not been quite clear yet, particularly in complex financial services. That’s particularly so in emerging markets, like India, where bankers say traditional notions of trust still influence consumer thinking.

Supervising to the burgeoning FinTech expansion has also been highlighted. Several FinTech solutions also operate in a regulatory no-man's land, with issues around data protection, financial stability and systemic risk all raising concerns. As Didenko (2020) points out, the evolution of regulatory models has become less visible compared with the pace of evolution of technology. Even legacy banks aren't watching the disruption happen in front of them and doing nothing. 2 Banks are confronted with competition from various FinTech providers and sped up digitalization programs, including cloud-based, IA technology-based services, open bank APIs (Gomber et al., 2018). Accordingly, a few years ago, some banks decided to join forces with finance-based start-ups, buy technology businesses and create in-house innovation labs. Kotler et al. (2021) bring the concept of “Marketing 5.0” to mind, which suggests that the banking system needs to pursue the reconciliation of technology with human-centred values to reclaim both their relevance and the trust of consumers. But the success is uneven, and many banks continue to wrestle with cultural and structural challenges around innovation.

Even though the literature is growing on FinTech innovations there are still empirical voids. Most of the papers are focused on the Western markets and, at most, some comparisons are made in the emerging economies – i.e. in the context of a nascent FinTech environment, like in India –. Also, there is a lack of a full comparison study on the financial performance between traditional bank and FinTech firms as measured by operational efficiency, profitability and customer acquisition (AlMomani & Alomari, 2021) along with the scarce study on the banks’ modus operandi to reallocate their resource base in the wake of FinTech disruption, also an area that relies on the resource-based view too extensively (Barney, 1991).

Another under-researched possibility is the use of consumer behaviour models such as the TAM Model (Davis, 1989) to explain what make users switch loyalty from banks to FinTechs. While perceived ease of use and perceived usefulness have been found to influence adoption, we have a limited knowledge of the effect of the demographic, psychological, and cultural factors throughout this process. Furthermore, the literature is relatively non-longitudinal and distantly observe the evolution of long-term FinTech-led disruptions and change in banks’ strategies to stay competitive.

It seeks to fill this void by providing a comprehensive and comparative study of FinTech and traditional banking in the financial, behavioural and strategic perspectives. It also shines a spotlight on the Indian context, in which digital financial inclusion is taking off in a big way and in which traditional banks must adapt or die. Based on these concepts -on the theory of the disruptive innovation (Christensen, 1997), and in the resource-based view and the

technology adoption models as well, this paper proposes a multi-level analysis of the customers and financial services of the future.

3. OBJECTIVES OF THE STUDY

The specific objectives guiding this research are:

Table 1 : Objectives and Research Questions

Objective	Research Question
1. To explore the evolution of FinTech and traditional banking, highlighting their operational strengths, weaknesses, and changing roles in the modern financial ecosystem.	What are the key operational differences, strengths, and weaknesses of FinTech and traditional banking systems?
2. To identify research gaps through a comprehensive review of literature comparing traditional banking and FinTech, and examining factors driving disruption such as technological advancements, regulatory changes, and shifting consumer expectations.	What factors are driving the disruption in traditional banking by FinTech, and what research gaps exist in the current academic literature?
3. To conduct a comparative financial analysis of FinTech firms and traditional banks, evaluating their performance, profitability, and impact on the financial services industry.	How do FinTech firms and traditional banks compare in terms of financial performance and profitability metrics?
4. To analyze the strategic implications of FinTech disruption for traditional banks, and to suggest adaptive strategies for sustaining competitiveness in a rapidly evolving digital environment.	What challenges and opportunities does FinTech disruption present for traditional banks, and what strategies can they adopt to remain competitive?

4. METHODOLOGY USED

It adopts two approaches as the systematic literature review, and the financial performance analysis. The review section consists of a study of academic journal articles, industry studies, and regulatory papers on de-intermediation or disintermediation of traditional banking practices by FinTech in order to chart the terrain of ex-post knowledge. The comparative financial analysis is then performed between some of the traditional banking companies and FinTechs using some selected financial ratios. The financial analysis draws its data from annual report, investors' presentation and reputable financial databases over the course of five years. This integrative framework attempts to provide theoretical rationale and empirical evidence that can be utilized to examine the emerging endogenous competitive characteristics in financial services.

5. EVOLUTION OF TRADITIONAL BANKING VS. FINTECH

Conventional banks are based on physical bricks-and-mortar locations, centralized decision making and standard financial products as well as customer networks via branches and manual working practices. These historical models, while successful, were problematic because their scalability, agility, and responsiveness to customers were limited (DeYoung & Rice, 2004; Klaassen & van Eeghen, 2015). On the other hand, the rise of Fintech (motivated

by breakthroughs in digital infrastructure where consumers seek convenient access to transactions) has dramatically changed the dynamics of financial services on the Indian as well as global stage (Gomber et al., 2018; Gupta et al., 2018). The spark in the Fintech revolution was brandished with initiatives like Digital India and UPI in India which brought a new wave of FinTech revolution in terms of digital payments, lending, and financial inclusion (Kanchepu, 2023; AllahRakha, 2023). Internationally, Fintech companies disrupted traditional financial intermediation with technology proofs of concepts for lean and low cost user friendly services (Ashta & Biot-Paquerot, 2018; Chishti & Barberis, 2016). The major technological breakthroughs that underlie this disruption are blockchain for secure, decentralized transactions (Pilkington, 2016; Nguyen, 2016), artificial intelligence and machine learning for fraud prevention and personalized banking (Okatta et al., 2024b), API to create open banking ecosystems (Sieber & Guibaud, 2022), and mobile banking platforms that have democratized access to financial services (Wewege, 2017; Reyes-Mercado, 2021). With the maturity of these advancements regulatory bodies around the world began updating compliance frameworks to respond to new forms of risk, but also encouraging innovation. In India, the Reserve Bank of India (RBI) has been at the forefront of designing fintech regulations including Sandboxes for experimentation, while globally, regulators have been tinkering around finding a middle road between data privacy, consumer protection and innovation (Chiu, 2026; Igbinenikaro & Adewusi, 2024a; Shandilya et al., 20204). The two-pronged development of financial technology and conducive policy are fostering a fiercely competitive, yet collaborative landscape in which traditional banks have no choice but to implement Fintech-tested strategies or coalesce with digital-native companies in order to remain competitive.

6. FINANCIAL PERFORMANCE INDICATORS AND METRICS

Bank and Fintech firms financial performance shall be measured by means of widely recognized indicators of profitability, efficiency and risk. Popular performance ratios are the Return on Assets (ROA), which reflects the profitability generated on total assets; Return on Equity (ROE), which calculates the return earned for shareholders' equity invested in the bank; Net Interest Margin (NIM), indicating the efficiency of interest-earning operations, and the cost-to-income ratio to measure operational efficiency (Sayani et al., 2017; Klaassen and van Eeghen, 2015). Traditional banks have stable incomes, but they also face the problem of high overhead costs because of their branch-based operations and their legacy systems (DeYoung & Rice, 2004; Krasonikolakis et al., 2020). In contrast, Fintech companies often work in less bureaucratic structures, allowing for lower cost-to-income ratios and greater scalability, even though some of them have to cope with profitability variations linked to early-stage investments and regulatory instability (Iyelolu & Paul, 2024; Moro-Visconti et al., 2020). Comparative research shows that, although incumbent banks have the edge as far as customer's trust and compliance standards are concerned, Fintechs score higher in terms of customer acquisition velocity, digital efficiency, and innovation-based income (Bollaert et al, 2021; Gomber et al, 2018). Berg et al. (2022) discovered that Fintech lenders employ alternative data and machine learning models to improve credit risk models, which leads to more inclusive, but also effective, loan practice. However the durability of the Fintechs' financial performance is still a question mark particularly slim capital base, operating without lending history of a long-standing years (Chiu, 2016; Igbinenikaro & Adewusi, 2024b). And yet, there are digital-first banks and neobanks that have already reached ROA and ROE figures that are positive, which shows that tech-powered financial models are gaining more and more relevance as businesses. These relative observations highlight the changing

benchmark needs and, indeed, the importance of comprehensive test regimes to match digital agility with steadiness of finance.

Table 2 : Comparative Summary: FinTech vs. Traditional Banks

Criteria	FinTech Firms	Traditional Banks
Business Model	Agile, tech-driven, customer-centric	Diversified, risk-averse, regulation-heavy
Revenue Streams	Transaction fees, subscriptions, licensing	Interest income, service fees, trading
Customer Experience	Personalized, mobile-first, seamless	Standardized, less flexible
Innovation Approach	Disruptive, iterative, fast-paced	Incremental, cautious
Efficiency	Lean operations, lower overhead	Higher operating costs, legacy systems
Profitability	Often low in early stages, scalable later	Generally stable and consistent
Risk Exposure	Regulatory uncertainty, tech risks	Credit, market, and compliance risks
Growth Potential	High in niche segments and underserved areas	Moderate, constrained by legacy limitations
Regulatory Relationship	Emerging frameworks, evolving compliance	Well-defined, heavily regulated

7. CHALLENGES AND CONCERNS

Fintech has revolutionised the banking scene in many ways however, it raises a few problems that must be solved in order to offer return for the future and trust to the consumers. The critical issue is one of cybersecurity, i.e., the sense of safety and security for client data and information as the expansion of automation in the emerging digital world exposes both the clients and service providers to cyber-attacks, identify theft and data breaches (Ganguly et al., 2017). Fintech platforms in particular, tend to aggregate large volumes of sensitive personal data that demand matured security measures and encryption standards that may not be well-developed in start-up services (Shandilya et al., 2024). Another significant hurdle is the ever-changing framework, and the need to conform to the regulation. Given that Fintech operate across multiple jurisdictions and commonly introduce innovative products, regulators sometimes ‘find it challenging’ to strike a balance between innovation, and consumer protection on one hand, and systemic risk on the other (Chiu, 2016; Igbinenikaro & Adewusi, 2024b). Lack of uniform international standards compounds the challenges in regulation, particularly with respect to cross-border Fintech services (Igbinenikaro & Adewusi, 2024a). Moreover, the technical and strategic obstacle of interoperability between Fintech and legacy banking systems still exists. A lot of legacy banks are based on archaic core banking systems, and integrating with API-based, cloud-native Fintech systems is very challenging and expensive (Krasnikoulakis et al., 2020; Kanchepu, 2023). This not only retards the pace of adoption of innovation but also caps the level of subjectivist interaction between incumbents and upstart disruptors. Lastly, although Fintech can increase financial inclusion, a risk is that it may inadvertently exacerbate digital exclusion, especially in rural or poor regions where possibilities for access to the internet are still limited, digital literacy is low, and trust in digital platforms is low (Jenik et al., 2017; Reyes-Mercado, 2021). Unless tackled through

inclusive design and specific policies, these gaps could leave behind an isolated class and even new financial exiles in an otherwise interconnected economy.

8. IMPLICATIONS AND FUTURE OUTLOOK OF FINTECH DISRUPTION ON TRADITIONAL BANKING

Being impacted by the emergence of FinTech, the traditional banking industry has been experiencing tremendous shocks: the competition structure of banks, customers' conduct and regulatory rules are being reshaped. FinTech disruptors – nimble companies built on a foundation of data and frequently customer-centric—are offering alternatives faster, cheaper, and more convenient than the products of the old financial guard. This has given rise to greater competition particularly in payments, lending, and investment management (Arner et al., 2016; Gomber, et al., 2018). Consequently, banks find themselves under pressure in terms of revenues, as traditional sources of income (i.e., transaction fees, net interest margins, and wealth management fees) are threatened (Lee & Shin, 2018). Disintermediation risks are also taking form as FinTech platforms disintermediate traditional institutions and reach out customers directly (Zalan & Toufaily, 2017).

A much more profound consequence is the change in consumer behavior. Customers in the digital-first world not only expect a simple, mobile-first, and hyper-personalized banking experience. This change in behavior is forcing incumbent banks to reassess how they engage customers, and to further accelerate their digital transformation (PwC, 2023). But the FinTech wave isn't just disruptive, it is also strategic, creating opportunities for banks. Established firms will be able to use the trust they have and the experience they possess in regulatory compliance and their relationship with their customers to build hybrid financing models that encourage innovative activities while ensuring stability (Igbinenikaro & Adewusi, 2024b).

In the future The future of the financial services industry is therefore set to embrace innovation, collaboration, and competition. It's anticipated that FinTech companies will be the flagbearers in artificial intelligence, blockchain and open banking, building responsive financial ecosystems around customers (Chishti & Barberis, 2022). In return, traditional banks are goaded into the need to modernize aging core banking systems, embrace cloud-native architecture and remodel business models to stay competitive (Kanchepu, 2023). The rise of digital-native banking will also require more robust cyber-security protocols, more real-time anti-fraud tools and more dynamic compliance processes (Ganguly et al., 2017) (Didenko, 2020).

In the end, the future of banking might not be a either/or between FinTechs and incumbents, but a both/and. This may be through new models of collaboration through partnership arrangements, joint ventures and API-driven integration to develop hybrid financial ecosystems, where traditional banks' scale, trust and regulatory experience is combined with the speed, innovation and customer centricity of Fintech companies (Nicoletti, 2017). “The next generation of the financial services industry is emerging, increasingly being shaped from the ground up, providing better financial services for communities around the world” “As regulatory environments develop that find the right equilibrium between innovation and consumer protection, the global financial industry has the potential to become more inclusive, resilient and technology-driven.”

9. CONCLUSION

FinTech has most definitely modernized financial services and shifted away from traditional banks reigning supreme and completely transformed the way financial products and services

are consumed. Powered by rapid technological advances, evolving consumer behaviour and a surge in investor interest, these alternative finance companies have cut down on bureaucracy and opened up an infinite number of opportunities for consumers and institutions to gain access to capital. What banks really want- beyond banking: Bankers need great scale, trust, and regulatory competencies: even the biggest of banks will find it near impossible to be both nimble and digital to keep pace in faster moving ecosystem. This article analyzed the drivers of FinTech disruption, compared the financial performance vis-à-vis traditional banks, and investigated implications on market share, efficiency, profitability and innovation. It also delved into how the two sectors were adapting — whether through strategic alliances, technology investments or laws and regulations. At the end of the day, the future is not a game of zero sum where FinTech wins vs banks rather an endosymbiotic joining of both, each playing to its strengths. This will be determined by how fast they can adapt, innovate and deliver for people a frictionless, secure and personalized financial experience. The financial services sector is on the threshold of a more open, agile and resilient world with digital becoming the way of life.

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