



The Role of Disruptive Innovation Theory and the Growth of Fintech Ecosystems

Article History

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Abstract: The rapid growth of Financial Technology (FinTech) has fundamentally transformed the structure, delivery, and governance of financial services worldwide. While early research largely examined FinTech through the lens of technology adoption and firm-level disruption, growing evidence suggests that FinTech innovation increasingly operates within complex, collaborative ecosystems. This study aims to examine the evolution and growth of FinTech ecosystems through the perspective of Disruptive Innovation Theory, with particular emphasis on the transition of FinTech firms from pure disruptors to collaborative partners of traditional financial institutions. Using a conceptual and theory-driven methodology, the study combines insights from disruptive innovation theory, technology adoption models, and ecosystem literature to develop an integrated conceptual framework. The proposed model identified and used disruptive innovation as an antecedent, FinTech ecosystem characteristics as a mediating mechanism, and ecosystem growth outcomes as dependent variables. The discussions highlight that post-introduction FinTech growth is enabled by ecosystem-level factors such as digital platforms, regulatory support, network effects, and cooperative relationships between beneficiaries and FinTech firms. Furthermore, the study underscores the role of FinTech ecosystems in advancing economic and social sustainability by improving financial inclusion, operational efficiency, and service accessibility. By reconceptualizing FinTech disruption as an ecosystem-driven and collaborative process, this paper contributes to theory development and provides a foundation for future empirical research on sustainable digital finance and ecosystem evolution.

Keywords: FinTech, Disruptive innovation Theory, Digital disruption, Fintech Ecosystem

INTRODUCTION

The design and delivery of financial services are facilitated by the integration of advanced digital innovations, including artificial intelligence, blockchain, big data analytics, and mobile banking technologies, known as Financial Technology (FinTech) [1]. It incorporates a wide range of technology-enabled solutions that are designed to enhance the accessibility, affordability, efficiency, and inclusivity of financial products and services. Arner DW, Barberis J, Buckley RP [2], Ma Y, Liu D [3], Zalan T, Toufaily E [4]. The disintermediation of conventional financial institutions is facilitated by a variety of FinTech applications, such as crowdfunding, venture capital, peer-to-peer lending, private equity, robo-advisory platforms, and algorithmic credit scoring [5]. The quantity of FinTech companies has surged significantly over the past twenty years, with investment rising as more FinTechs expand their operations [6,7]. In modern practice, FinTech represents a fundamental transformation in the operational and strategic models of financial services firms, where technology is employed not only as an instrument but as a primary factor in the creation of value and

transformation of institutions Prawirasasra KP [8]; Suryono RR, Budi I, Purwandari B, [9]. In comparison to conventional banking systems, financial institutions that effectively incorporate FinTech solutions exhibit superior performance in areas such as service delivery speed, customer personalisation, and cost efficiency [7]. As a result, FinTech has transformed from a niche innovation to a systemic force that is reshaping global financial ecosystems, challenging legacy infrastructures, and concurrently facilitating regulatory adaptation and financial democratisation [10]. Today, the financial sector is the target of disruptive action by several FinTech companies that are innovating and changing financial services. Since 1995, the term disruptive innovation has become widely used to describe the way of operating and market conquest of many, primarily technological, start-up companies that have achieved global success. FinTech companies initially were perceived as a minor threat to established companies, even though they provide services that target neglected market segments. Financial institutions that are fully digitalised and offer products and services that are both cost-effective and have a significant market share [11]. This paper aims to examine

the development of fintech ecosystems through the perspective of Disruptive Innovation Theory and investigates the transition of fintech firms from pure disruption to collaboration with conventional financial institutions.

Objectives of the Study

- To understand the concept of Disruptive Innovation Theory in the context of fintech
- To analyze the growth and evolution of fintech ecosystems
- To examine the dual role of fintech as a disruptor and collaborator
- To propose a conceptual framework for fintech ecosystem development

Literature Review

The global financial services landscape has been significantly altered by the rapid advancement of digital technologies, resulting in the emergence of the concept of Financial Technology (FinTech). Firms could participate in linked activities and access a wealth of data through digital infrastructure [12,13]. Combined with automation, this gives challenger firms opportunities to compete with incumbents by offering easily accessible and easily scalable services at low prices (CFTE 2021). Fintech has emerged as a strategic enabler of accessibility, efficiency, affordability, and innovation within the financial sector over the past decade [14]. The primary focus of early financial innovation research was the technological modernisation of banking systems [15]. However, more recent research has viewed fintech as a disruptive force that has the potential to transform traditional financial intermediation. The exponential growth of scholarly interest in fintech is indicative of its growing impact on regulatory compliance, wealth management, lending, and payments [16]. The development of fintech research has gradually transitioned from technology-oriented discourse to broader considerations of ecosystem development, organisational performance, and customer experience [15]. A thorough bibliometric examination of fintech literature demonstrates that research in this field has undergone distinct developmental stages. The digitalisation of banking operations and the utilisation of information technology to improve service delivery were the primary focus of early fintech research. Later, the emphasis shifted to the comprehension of consumer acceptance, trust, and gratification in mobile and online banking environments. The most recent phase of fintech research has placed a greater emphasis on the emergence of integrated fintech ecosystems, performance enhancement, and collaboration between banks and fintech firms. In recent years, there has been a substantial increase in scholarly interest in critical topics, including blockchain, mobile finance, crowdfunding, and digital

payments. This transformation demonstrates the evolution of fintech from a support technology for banks to an independent and influential sector that drives financial innovation and competition.

Technology adoption theories, particularly the Technology Acceptance Model (TAM) and its ensuing extensions, serve as the foundation of a prevalent stream of fintech research. Davis initially proposed TAM, which elucidates user acceptance of new technologies through two primary constructs: perceived usefulness (PU) and perceived ease of use (PEOU). These constructs collectively influence behavioural intention and actual system utilisation. Over time, this model has been expanded to accommodate the growing complexity of digital environments. In order to more accurately represent real-world technology adoption behaviour, TAM2 and TAM3 incorporated supplementary variables, including social influence, facilitating conditions, trust, and perceived risk. This perspective was further enriched by the Unified Theory of Acceptance and Use of Technology (UTAUT), which included performance expectancy, effort expectancy, social influence, and facilitating conditions as critical determinants of technology use. These models have become the most frequently employed theoretical frameworks in fintech research, particularly in the context of elucidating consumer adoption of online financial services, digital payments, and mobile banking [17].

Although TAM-based models offer robust micro-level explanations of user behaviour, fintech transformation necessitates an understanding of innovation from a macro-level perspective [15]. Disruptive Innovation Theory provides a powerful perspective for examining the manner in which fintech firms introduce low-cost, technology-driven, and customer-centric alternatives [6], thereby challenging traditional financial institutions. Digital wallets, peer-to-peer lending platforms, robo-advisory services, and neobanks are examples of fintech innovations that exhibit the fundamental attributes of disruptive technologies: affordability, accessibility, and simplicity [18]. Nevertheless, recent research indicates that fintech is not only a disruptive threat to banks but also a collaborative partner [1]. Fintech firms are forming integrated fintech ecosystems by engaging in strategic alliances, open banking initiatives, and API-based partnerships, rather than completely replacing traditional institutions [19]. This change suggests that fintech ascension is more effectively comprehended as a blend of cooperation and disruption, rather than a simple displacement.

Recent fintech research underlines the significance of ecosystem and institutional perspectives in elucidating the evolution of fintech, in addition to innovation and adoption theories. Banks, fintech entrepreneurs, technology providers, regulators, and consumers are all involved in the interconnected digital ecosystems within which modern financial services operate. Scholars

contend that fintech expansion is indicative of a disruptive ecosystem, in which value is generated through data-driven innovation, network effects, and platform-based collaboration. The continuous evolution of fintech ecosystems through technological integration and co-creation is illustrated by the emergence of AI-enabled financial services, blockchain-based platforms, embedded finance, and open banking [20]. These developments underscore the fact that fintech transformation cannot be fully captured through individual-level adoption models alone; rather, it necessitates a multi-level theoretical approach that incorporates technology acceptance, innovation theory, and ecosystem dynamics.

These theories, such as TAM, TAM2, TAM3, UTAUT, and Disruptive Innovation Theory, are integrated to establish a comprehensive framework for comprehending finance from the perspectives of both users and industry. Trust, perceived benefits, simplicity of use, and behavioural intention are the primary factors that TAM-based models consider when explaining why consumers adopt fintech services. In contrast, Disruptive Innovation Theory elucidates the way fintech transforms financial markets, business models, and competitive structures. Recent research has underscored the fact that the successful adoption of fintech is contingent upon the collaborative capabilities, regulatory support, and organisational preparedness of financial institutions, in addition to technological features [21]. The convergence of these perspectives is indicative of the escalating complexity of fintech research, which is influenced by the interaction between technological innovation, institutional strategy, and consumer behaviour in order to determine the outcomes of digital finance.

Considering the significant growth of fintech studies, there are still numerous critical problems. Initially, the majority of studies treat the adoption of technology concepts and disruptive technology perspectives separately, with limited integration between micro-level user adoption models and macro-level fintech ecosystems. Secondly, despite the widespread recognition of fintech as an ecosystem-driven phenomenon, empirical studies that elucidate the way disruptive innovation characteristics are translated into collaborative fintech ecosystems are still scarce. Third, the current body of research is primarily focused on developed economies, which results in a limited comprehension of the dynamics of fintech in emerging markets. Additionally, there is a lack of empirical research on the impact of fintech adoption on long-term organisational performance, regulatory adaptation, and financial inclusion. Consequently, it is imperative to conduct research that integrates Disruptive Innovation Theory with TAM, TAM2, TAM3, and UTAUT to establish a comprehensive comprehension of the evolution of ecosystems, fintech ascension, and cooperation ecosystems [20].

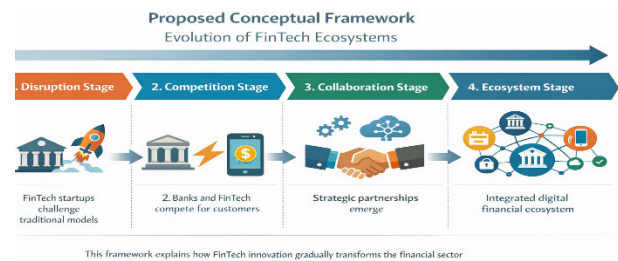


Figure 1: Conceptual Framework

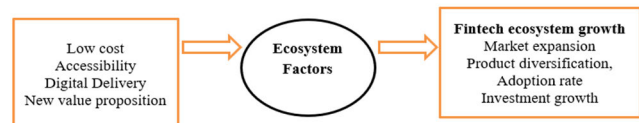


Figure 2: Evaluation of Ecosystem

Evolution of Fintech Ecosystems

The proposed conceptual framework elucidates the gradual process of fintech evolution, which progresses from disruption to ecosystem integration. This model, which comprises disruption, competition, collaboration, and ecosystem stages, reflects the transition in fintech from isolated technological innovations to interconnected digital financial. In other words, fintech innovation transforms traditional financial institutions, rather than replacing them. The framework is consistent with current fintech research, which emphasises that viable fintech expansion is contingent upon strategic partnerships and collaborative relationships between traditional banks and fintech firms (Figure 1).

Proposed Conceptual Model

The study proposes Disruptive Innovation Theory as an antecedent, FinTech ecosystem characteristics as a mediating variable, and ecosystem growth outcomes as dependent variables (Figure 2).

MATERIALS AND METHODS

This study employs a conceptual methodology that is founded on a systematic and theory-based literature review to develop and improve a proposed model that elucidates the role of Disruptive Innovation Theory in the post-introduction expansion of fintech ecosystems. A theory formulation and model-building process is implemented in the methodological approach, which involves the inductive extraction of essential constructs and relationships from the literature and their integration into a cohesive conceptual framework. The study utilises comparative analysis to identify frequent trends, mechanisms, and interactions that clarify the expansion of the fintech ecosystem. The study does not employ primary empirical data; rather, it contributes to the development of a theoretical framework and the integration of theory, thereby establishing a foundation for future empirical testing and validation.

DISCUSSIONS

The proposed model is supported by Disruptive Innovation Theory, which explains how fintech innovations initially enter the financial services sector by targeting customer segments through a simplified, low-cost, and digitally enabled solutions strategy. However, consistent with recent literature, the model extends beyond firm-level disruption and positions fintech as a systemic innovation embedded within an ecosystem of interdependent mechanisms. Larsson, B., *et al.* [5] argue that fintech disruption occurs at the ecosystem level, where platforms, complementary services, and competitive dynamics collectively enable disruption to scale. This supports the model's assumption that disruptive innovation attributes are not sufficient; rather, their impact on growth is amplified when embedded within a supportive fintech ecosystem.

The mediating role of ecosystem components such as digital platforms, regulatory frameworks, and investors is central to explaining post-introduction growth. Ryoo emphasizes that the interaction between disruptive innovation and ecosystem development determines the evolution of the fintech industry, as ecosystems facilitate resource sharing, knowledge diffusion, and rapid innovation recombination. Similarly, empirical insights from emerging markets show that regulatory support and platform infrastructure enable fintech firms to expand into multiple product categories, reinforcing ecosystem-wide growth rather than isolated firm success. These findings substantiate the model's proposition that ecosystem characteristics mediate the relationship between disruptive innovation and fintech ecosystem growth. Furthermore, the model aligns with evidence that fintech disruption does not necessarily eliminate incumbents but often leads to co-evolution and hybrid innovation model. Studies highlight that traditional financial institutions increasingly collaborate with fintech firms, contributing to ecosystem stability and scalability. This reinforces the model's outcome variable fintech ecosystem growth as a multidimensional construct reflected in market expansion, diversification of services, and increased adoption. By integrating Disruptive Innovation Theory with ecosystem theory, the proposed model responds directly to calls in the literature to reconceptualise disruption as a collective, ecosystem-driven process, offering a robust theoretical foundation for future empirical validation.

CONCLUSION

This conceptual study advances the understanding of fintech ecosystem growth by extending Disruptive Innovation Theory (DIT) from a firm-centric perspective to an ecosystem-level framework. Consistent with prior research, the study argues that fintech disruption materializes through coordinated interactions among startups, incumbents, regulators, platforms, and investors

rather than isolated technological innovations. The proposed model demonstrates that post-introduction growth is driven by ecosystem mechanisms such as regulatory support and network effects, which collectively enable fintech innovations to scale and diversify [6]. From a sustainability perspective, fintech ecosystems contribute to economic and social sustainability by improving financial inclusion, lowering transaction costs, and enhancing efficiency in financial service delivery, particularly for underserved populations. These ecosystem-driven efficiencies support more resilient and inclusive financial systems, aligning fintech innovation with long-term sustainability objectives.

Despite its theoretical advances, this study has shortcomings that need discussion. As a conceptual paper, the proposed model has not been empirically validated, and its explanatory power may vary across different regulatory, institutional, and geographical contexts. In addition, reliance on secondary literature may not fully reflect the rapid pace of fintech innovation, particularly in emerging markets. Future research should empirically test the model using qualitative case studies or quantitative approaches such as survey-based structural equation modeling to assess the strength of the proposed relationship between variables. Further studies could also extend the framework by integrating environmental sustainability dimensions, such as green fintech, sustainable finance platforms, and ESG-driven digital financial solutions, thereby deepening understanding of how fintech ecosystems can support holistic sustainability transitions in the financial sector. The research indicates that fintech originated as a disruptive entity but is progressively evolving into a collaborative partner for traditional financial institutions. The emergence of fintech ecosystems signifies a new stage in the growth of the financial sector, characterized by the coexistence of innovation and collaboration.

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