

Research Paper

A systematic study of the impact of FinTech on bank performance using the Preferred Reporting Items for Systematic Reviews and Meta- Analyses (PRISMA)

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Abstract

This paper examines the impact of financial technology (FinTech) on bank performance through a documentary study of national and international authoritative databases published between 2020 and 2025, and seeks to answer five research questions. To address the research questions, the present study uses a systematic literature review methodology designed to provide observable, objective, and replicable findings from the review process. Through searches, the paper enumerates key terms and phrases and answers five key questions, including research trends, influential authors and sources, geographical impacts, notable research clusters, and aspects of bank performance impacted by FinTech. It was also mentioned in this article that Iran is among the countries that have conducted numerous researches in the field of FinTech and their impact on banking performance and the future of the banking industry in the last decade. However, Iran's situation in the field of FinTech is still far from the desired situation due to economic, political and technological conditions. The paper suggests four future research directions, including examining alternative bank performance measures, a greater regional focus, exploring emerging themes such as financial inclusion and the role of entrepreneurship, and advancing methodologies. At the end of this article, it was concluded that views regarding the impact of FinTech on various indicators of bank performance differ; however, research results show that the benefits of FinTech outweigh its disadvantages.

Keywords:

Bank performance,
financial technology,
FinTech, PRISMA.

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Extended Abstract

Introduction

The rapid development of digital technologies has fundamentally transformed the structure and operation of the financial services industry. Financial technology (FinTech) has emerged as one of the major drivers of this transformation by introducing innovative solutions in digital payments, mobile banking, digital lending, open banking, blockchain-based services, regulatory technology, digital wallets, and other technology-enabled financial services. These developments have challenged traditional banking models while creating new opportunities for operational efficiency, cost reduction, service innovation, financial inclusion, and improved customer experience.

At the same time, the expansion of FinTech has raised important concerns regarding bank profitability, liquidity, risk-taking, financial stability, cybersecurity, competition, and the changing role of traditional financial intermediaries. Consequently, the relationship between FinTech and bank performance cannot be characterized as exclusively positive or negative. Rather, it is multidimensional and strongly influenced by technological infrastructure, market conditions, regulatory environments, institutional characteristics, and consumer behavior.

Although the academic literature on FinTech and banking has expanded rapidly, existing studies remain fragmented across different dimensions of bank performance, geographical contexts, theoretical perspectives, and methodological approaches. Some studies focus primarily on profitability and operational efficiency, whereas others emphasize financial inclusion, risk management, customer behavior, innovation, competition, or changes in banking business models. Therefore, a systematic synthesis of the available evidence is required to identify the major research trends, influential scholars and sources, geographical patterns, thematic clusters, and the principal dimensions through which FinTech affects bank performance. The present study addresses this need through a systematic literature review based on the PRISMA framework.

Research Objective

The main objective of this study is to systematically investigate the impact of FinTech on bank performance and to identify the intellectual, geographical, and thematic structure of the relevant literature. The study addresses five research questions concerning: (1) research trends in FinTech and bank performance; (2) the most influential authors and sources; (3) the geographical distribution of research; (4) major research clusters and their characteristics; and (5) the dimensions of bank performance affected by FinTech and the indicators used to measure these effects.

Methodology

This study employs a systematic literature review methodology. The PRISMA framework was adopted to ensure transparency, methodological rigor, traceability, and replicability throughout the review process.

These apparently contradictory findings demonstrate that the consequences of FinTech depend on the type of technology, the characteristics of the banking institution, market conditions, regulatory frameworks, and the specific performance indicator being examined.

The most frequently examined indicators of bank performance include efficiency, transparency, service quality and speed, liquidity creation, competitive advantage, profitability, stability, risk-taking, liquidity, growth, and capital adequacy. Other dimensions, including customer satisfaction, technology adoption, environmental sustainability, and social impact, have also been considered. This suggests that bank performance in the FinTech era should be evaluated through a multidimensional framework rather than through traditional financial indicators alone.

Discussion and Conclusion

The findings demonstrate that FinTech has become a major force in the transformation of the banking industry. Nevertheless, technological development does not automatically translate into higher bank performance. FinTech can increase efficiency, reduce costs, improve customer experience, and stimulate service innovation, while simultaneously increasing competitive pressure and creating challenges for profitability, liquidity, and risk management.

Accordingly, the relationship between FinTech and bank performance should be understood as multidimensional, dynamic, and context-dependent. Traditional banks are not necessarily required to choose between competing with FinTech firms and withdrawing from emerging markets. Strategic cooperation, partnerships, development of customized FinTech solutions, and the adoption of open-banking frameworks may provide alternative strategies for adapting to the changing financial environment. The interaction among banks, FinTech companies, and consumers constitutes an evolving ecosystem in which technological innovation, institutional adaptation, and consumer behavior jointly shape bank performance.

Implications and Recommendations

From a policy perspective, regulators should develop adaptive and risk-based regulatory frameworks that simultaneously encourage innovation and control systemic risks. Regulatory sandboxes, risk-based supervision, cross-border regulatory coordination, consumer protection, cybersecurity, and digital financial literacy are among the measures that can support responsible FinTech development.

From a strategic perspective, traditional financial institutions should reconsider their operating models and develop appropriate responses to FinTech competition and collaboration. Developing dedicated FinTech solutions, establishing strategic alliances with FinTech start-ups, and utilizing open-banking frameworks can contribute to improved service efficiency and customer experience. Since the effects of FinTech vary across geographical and institutional contexts, a uniform policy approach is unlikely to be effective. Strategies should therefore be adapted to the economic, technological, and regulatory characteristics of individual markets.

Future research should particularly focus on four areas: developing alternative and multidimensional measures of bank performance; conducting more region-specific and comparative studies; examining emerging themes such as financial inclusion and

entrepreneurship; and advancing research methodologies to provide a more precise understanding of the complex relationship between FinTech and bank performance.

The research procedure consisted of four main stages: identifying the research gap and formulating the research questions; developing and refining search strategies and keywords; screening and selecting eligible studies; and analyzing and reporting the findings.

Relevant studies were searched in national and international academic databases, including the national journal database, Web of Science, Emerald, and ScienceDirect. The search strategy included keywords and combinations related to bank financial performance, financial institutions, FinTech, digital finance, online and mobile finance, RegTech, WealthTech, InsurTech, financial inclusion, digital currencies, blockchain, and peer-to-peer lending. The inclusion criteria consisted of studies published between 2020 and 2025, written in Persian or English, available in full text, and directly related to the interaction between FinTech and bank performance. Studies that were not sufficiently related to the research objectives, title, abstract, or keywords were excluded.

Findings

The PRISMA-based search and screening process resulted in 214 relevant articles addressing the impact of FinTech on bank performance. The study also analyzed the contributions of 570 authors and identified leading researchers according to publication productivity, H-index, institutional affiliation, and country of origin. Cheng Maoyong from China and Bana Hassanul from the United Kingdom were among the most productive authors, with four relevant publications each. Cheng's research primarily examined FinTech innovation, operational efficiency, risk management, and customer adoption in the Chinese banking system, whereas Bana's studies focused more strongly on Islamic banking and ASEAN countries.

The geographical analysis indicates that China, the United Kingdom, India, Malaysia, the United States, Italy, Vietnam, Ukraine, Australia, Germany, Jordan, South Africa, Spain, Tunisia, Indonesia, Saudi Arabia, France, and Ghana were among the major countries represented in the literature. These geographical differences reflect the influence of regulatory environments, technological infrastructure, cultural conditions, market maturity, and institutional factors on FinTech development and adoption. Iran has also generated a considerable body of research on FinTech and its relationship with banking performance during the past decade; nevertheless, the country's FinTech ecosystem remains constrained by economic, political, and technological conditions.

The co-occurrence and thematic cluster analysis identified three major research clusters. The first cluster, Bank Performance Measures, focuses on measurable dimensions such as efficiency, profitability, competition, market dynamics, credit assessment, risk management, and growth. Studies in this cluster commonly employ econometric models, regression analysis, and panel-data techniques. The second cluster, Industry Transformation, emphasizes innovation, technology adoption, business-model transformation, the integration of FinTech solutions into traditional banking, and the development of competitive advantage. The third cluster, Consumer Perspective, addresses user adoption, perceived risk, consumer behavior,



trust, intention to adopt, service quality, and usability. Together, these clusters represent the interconnected roles of banks, FinTech companies, and consumers within the emerging financial ecosystem.

The empirical evidence indicates that the impact of FinTech on bank performance is heterogeneous rather than uniform. Several studies report positive effects, including improved operational efficiency, faster service delivery, lower operating costs, greater transparency, improved access to financial services, enhanced customer experience, and, under certain conditions, improved bank stability and reduced credit risk. Conversely, other studies identify negative effects on profitability and liquidity or increases in bank risk-taking. Some findings also suggest that greater FinTech development may reduce banks' capacity to create liquidity.