

An Empirical Study on Impact of Fintech on Banking Industry



ISBN: 978-1-943295-22-7

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The financial technology sector's (fintech) rapid advancements, which have revolutionized numerous industries, have had a particularly large impact on the banking industry. This study intends to examine both the advantages and disadvantages of fintech's extensive effects on the banking sector. The study uses a mixed-approaches approach that combines qualitative and quantitative research methods. Key issues surrounding the impact of fintech on banking are highlighted and examined through a thorough literature review. Surveys are another method of gathering insights primary data to obtain more in-depth viewpoints. The study's findings point out several significant impacts that fintech has had on the banking industry. The paper, however, also point out some difficulties and dangers related to the adoption of fintech in the banking industry. Concerns around data privacy, cyber security, regulatory issues, and the possible instability of conventional banking institutions are a few of them. This study provides a thorough examination of how fintech has affected the banking sector as a whole, describing the benefits, drawbacks, and outcomes of this technological revolution. It encourages further research into how fintech is influencing the future of banking and creates the foundation for subsequent investigations.

Keywords: Banking Industry, Fintech, Impact

1. Introduction

The term "financial technology" (Fintech) refers to new technology that aims to automate and improve the delivery and use of financial services. By utilizing specialized software and algorithms that are utilized on computers and, increasingly, smart phones, Fintech helps businesses, business owners, and consumers better manage their financial operations, processes, and lives. "Financial technology" and "fintech" are combined in the term "fintech." In the 21st century, the technology used in established financial institutions' back-end systems was first referred to as "fintech." However, services that are more focused on the needs of customers have evolved since then, necessitating a more consumer-focused definition.

Fintech now encompasses a variety of sectors and industries, including education, retail banking, nonprofit fundraising, investment management, and others. The improvement of innovations filled in as a motor for the change of macroeconomics. The introduction of new financial technologies, which appear as a result of conservative financial management when utilizing digital technologies, has become the key segment in the development of financial markets. The financial technology sector has grown significantly over the past few years, but despite this rapid growth, no precise definition of fintech has yet been established. Digital, mobile payments and transfers, e-wallets, online lending, P2P platforms, crowd funding, online funds, online insurance, and other advanced areas are all examples of fintech—financial technologies—a business direction that makes use of new technologies and innovations in the financial services marker. Finance is undergoing a profound transformation.

The COVID-19 epidemic has expedited the transformation of payments, loans, insurance, and wealth management brought about by digital technologies. Even though this is hurting financial services in many economies. It makes markets more concentrated, varied, competitive, efficient, and inclusive. New hazards could also develop to a number of important public policy objectives. To evaluate the implications of digital innovation for market structure and related policies, such as financial and competition legislation, this article focuses on the fundamental economics of financial services and their industrial organization

Economic forces like economies of scale and scope and economic frictions like information asymmetries serve as the main organizing foundation for the topic. Market structure is shaped by these dynamics and frictions, which also give rise to financial intermediaries. We demonstrate that, although technological advancements are not new to the banking industry, digital innovation has brought about significant gains in system connection, computing power, and cost, leading to the creation of vast amounts of new and useful data. These changes have reduced frictions, muddled firm and industry lines, and new business ideas, pushed limits, and more. Services have been unbundled by new, frequently smaller, and specialized financial technology (fintech) businesses. Traditional economic dynamics are still relevant, though. Digital platforms and cloud computing have strong economies of scale and network effects. In addition to encouraging re-bundling, these scale effects and economies of scope enable new entrants and huge technology companies to make deeper inroads into the core financial goods.

Key Areas in Fintech

Fintech has fundamentally altered how payments and money transfers are carried out. Thanks to mobile payment apps, digital wallets, peer-to-peer (P2P) payment platforms, and block chain-based solutions, transactions are now quicker, more secure, and more practical.

Online lending and crowdfunding: Fintech platforms have posed a challenge to the traditional lending industry by providing alternative borrowing options. Online lenders and crowdfunding platforms connect investors and borrowers by cutting out middlemen and accelerating the financing process.

Fintech has led to the creation of neo banks, often known as digital banks. These financial institutions just have websites and mobile applications, and they conduct all of their business solely online. Digital banks typically provide a faultless user experience, tailored financial management tools, and competitive rates.

Wealth management and robo-advising: Automated investment advisory services are provided by robo-advisors, a subset of fintech. These AI-driven platforms use algorithms to analyse user data and provide individualized financial advice, portfolio management, and automated rebalancing, increasing wealth management's accessibility and affordability.

Through the use of data analytics, AI, and automation, fintech has totally transformed the insurance industry by improving underwriting, claims processing, risk assessment, and client engagement. Innovative insurance products, personalized insurance plans, and simplified insurance procedures are offered by insures companies.

Financial institutions' regulatory challenges and compliance requirements have also been addressed by fintech solutions. Businesses in the reg tech sector employ technology to automate compliance processes, monitor for fraud and money laundering, and ensure that regulatory standards are adhered to.

Crypto currencies like Bitcoin and Ethereum, as well as block chain technology, have grown in prominences a result of fintech. Supply chain management, smart contracts, and digital currencies are just a few uses for block chain, which enables safe, transparent, and decentralized transactions.

Investors, consumers, and governments from all across the world are paying close attention to fintech. It could change the financial sector, increase financial inclusion, and promote economic expansion. But it also raises issues with data security, privacy, and regulatory compliance, necessitating a strong infrastructure and digital literacy.

2. Review of Literature

Nguyen (2022) financial institutions or fintech companies should create more user-friendly fintech products and services so that even older people can use them. Additionally, customer safety ought to be a top priority for governments in developing nations, where people are thought to be less financially savvy.

Shubham Goswami (2022) As Fintech Mobile Money and Digital Wallets address the economic infrastructure vacuum with an innovative technology solution and enable customers to conduct financial transactions affordably and dependably by eliminating spatial barriers, they can be used to bridge the gap between banked and unbanked. Fintech projects, which are regarded as some of the most significant advancements in the financial sector, have also clearly been driven by the growth of digital transformation. This paper researches the basic

Jain and Bansal (2022) the biggest social benefit of fintech is financial inclusion, which has offered access to financial services to a lot of small and medium-sized firms and low-income people.

Mohammad Asif, et al., (2023) demonstrates how the government's focus on enhancing financial services and the rise of bank accounts in India have improved financial inclusion. Financial inclusion has been greatly aided by fintech companies, especially among the middle class. The results provide insightful information for decision-makers working to integrate everyone into India's organized financial system.

Vineet Chouhan, et al., (2023) investigates the effect of financial technology (fintech) on India's traditional banking sector. The impact of fintech on banking services, including customer happiness and value propositions, is examined using regression analysis and customer questionnaires. The results show that banks have benefited from fintech, which has improved service levels and increased their product offers. This study adds to our understanding of the function that fintech plays in the banking sector and offers suggestions for further research.

3. Objectives of the Study

To know the factors influencing the usage of fintech.

To analyses the customer satisfaction in using fintech products.

To know the usage frequency of fintech products or services

4. Scope of the Study

The scope of studying the impact of FinTech in the banking industry is vast and multifaceted. Technological advancements such as mobile banking, digital payments, block chain, and artificial intelligence have disrupted conventional banking services. FinTech has influenced the way financial products and services are delivered, challenging traditional banking models. The regulatory and legal implications of FinTech in banking are also crucial to explore. The adoption of FinTech raises questions regarding consumer protection, data privacy, cyber security, and compliance. Examining how regulators are responding to these challenges and adapting their frameworks to accommodate technological advancements is essential. The study should also address the risks and security concerns associated with FinTech adoption. Assessing its role in promoting

financial inclusion and understanding the challenges faced in achieving inclusive outcomes will provide valuable insights. Finally, the study should provide insights into the future outlook of FinTech in the banking industry. Identifying emerging trends, technologies, and potential disruptions will help stakeholders prepare for the evolving landscape. Recommendations for banks, regulators, and policymakers should be offered based on the findings, aiming to maximize the benefits of FinTech while addressing associated risks and challenges.

5. Research Methodology

Research Design: Quantitative Research Design

Data Collection: Primary Data through Structured Questionnaire, collected using Google forms

Secondary Data: Secondary data collected from Journals, Magazines, Websites etc.

Sampling Techniques: Convenience sampling techniques were used for the study.

Sample Size: The study is based on the opinion of a group of Bank Customers and Bank Employees. The total number of samples taken for the study is 144 respondents.

Statistical Tools: Percentage Analysis, Multiple Regression, Correlation, Chi Square

6. Limitation of the Study

- The sample size used for data collection may have been limited, potentially leading to a lack of representation.
- The information provided by the respondents may be biased.
- The respondents busy schedule may also have some influence

Data Analysis & Interpretation

Factor Analysis

In a factor analysis, communalities represent the proportion of variance in each variable that is accounted for by the extracted factors. The initial communalities show the total variance accounted for by each variable before the factor analysis, with all variables initially set at 1.000. The extraction communalities, on the other hand, represent the proportion of variance in each variable that is explained by the extracted factors. These values range from 0 to 1, with higher values indicating a stronger relationship with the factors.

Table Factors Influencing the Adoption of Fintech Products

Communalities		
	Initial	Extraction
Convenience	1.000	.861
Time saving	1.000	.857
Lower fees	1.000	.467
Security	1.000	.749
Better User experience	1.000	.911
Speed and efficiency	1.000	.944
Innovation	1.000	.944
Accessibility	1.000	.348
Extraction Method: Principal Component Analysis.		

Inferences

Convenience: The variable "Convenience" has an extraction communality of .861, indicating a moderate relationship with the extracted factors.

Timesaving: The variable "Timesaving" has an extraction communality of .857, suggesting a similar moderate relationship with the extracted factors.

Lower fees: The variable "Lower fees" has a relatively low extraction communality of .467, indicating a weaker relationship with the extracted factors compared to the other variables.

Security: The variable "Security" has an extraction communality of .749, suggesting a moderate relationship with the factors.

Better User Experience: The variable "Better User Experience" has a high extraction communality of .911, indicating a strong relationship with the extracted factors.

Speed and Efficiency: The variable "Speed and Efficiency" has a high extraction communality of .944, indicating a strong relationship with the factors.

Innovation: The variable "Innovation" also has a high extraction communality of .944, suggesting a strong relationship with the extracted factors.

Accessibility: The variable "Accessibility" has a relatively low extraction communality of .348, indicating a weak relationship with the factors.

Table Total Variance Explained

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.935	49.191	49.191	3.935	49.191	49.191	3.909	48.867	48.867
2	2.145	26.813	76.003	2.145	26.813	76.003	2.171	27.136	76.003
3	.777	9.716	85.719						
4	.653	8.163	93.882						
5	.476	5.948	99.830						
6	.013	.160	99.990						
7	.001	.010	100.000						
8	1.301E-16	1.626E-15	100.000						

Extraction Method: Principal Component Analysis.

Inference

Initial Eigen values: This column represents the eigen values associated with each component. Eigen values reflect the amount of variance explained by each component. The first eigen value is 3.935, the second is 2.145, and the third is 0.777, and so on. **% of Variance:** This column indicates the proportion of variance explained by each component. The first component explains 49.191% of the total variance, the second explains 26.813%, the third explains 9.719%, and so on. The cumulative % of variance represents the accumulated variance explained by all the previous components. For example, the first three components explain a cumulative variance of 85.719%. **Extraction Sums of Squared Loadings:** This column displays the sums of squared loadings for each component after extraction. Loadings represent the correlations between the variables and the components. The squared loadings provide insight into the amount of variance in the variables that is explained by each respective component. Specifically, the first component has a sum of squared loadings of 3.935, while the second component has a sum of squared loadings of 2.145. **Rotation Sums of Squared Loadings:** This column presents the sums of squared loadings after rotation. Rotation aims to simplify the component structure and enhance interpretability. The first component has a sum of squared loadings of 3.909 after rotation, the second has 2.171.

Table Component Matrix

	Component	
	1	2
Convenience	.922	-.106
Time saving	.920	-.107
Lower fees	.662	-.170
Security	.864	-.046
Better User experience	.953	-.052
Speed and efficiency	.253	.938
Innovation	.253	.938
Accessibility	-.135	.574

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

Component1

- Variables with high positive loadings: Convenience (.922), Time saving (.920), Security (.864), Better User experience (.953)
- Variable with a moderate positive loading: Lower fees(.662)
- Variable with a negative loading: Accessibility (-.135)

Component2

- Variables with high positive loadings: Speed and efficiency(.938), Innovation(.938)
- Variable with a moderate positive loading: Accessibility (.574)
- Variable with a negative loading: Lower fees (-.170)

In summary, the factor analysis suggests that the first component captures factors related to convenience, time saving, security, and user experience, while the second component represents factors associated with speed, efficiency, and innovation. The variables of lower fees and accessibility show mixed relationships with the components, with lower fees having a weaker association and accessibility having a moderate positive relationship.

Table Rotated Component Matrix

	Component	
	1	2
Convenience	.928	.006
Time saving	.926	.005
Lower fees	.677	-.090
Security	.864	.059
Better User experience	.952	.063
Speed and efficiency	.139	.961
Innovation	.139	.961
Accessibility	-.203	.554

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. ^a

a. Rotation converged in 3 iterations.

Component 1

- **Variables with High Positive Loadings:** Convenience (.928), Time saving (.926), Security (.864), Better User experience (.952)
- **Variable with a Moderate Positive Loading:** Lower fees(.677)
- **Variable with a Negative Loading:** Accessibility(-.203)

Component 1 represents factors related to convenience, time saving, security, and better user experience. Higher scores on this component indicate a higher level of these factors. The variable of lower fees has a moderate positive loading, suggesting a weaker association with this component. On the other hand, the variable of accessibility has a negative loading, indicating a potential inverse relationship with the other variables in this component.

Component 2

- Variables with high positive loadings: Speed and efficiency(.961), Innovation(.961)
- Variable with a moderate positive loading: Accessibility (.554)
- Variable with a negative loading: Lower fees (-.090)

Component 2 represents factors associated with speed, efficiency, and innovation. Higher scores on this component indicate a higher level of these factors. The variable of accessibility also has a moderate positive loading, indicating a moderate positive relationship with this component. However, lower fees have a negative loading, suggesting a weaker association with this component.

Table Component Transformation Matrix

Component Transformation Matrix		
Component	1	2
1	.993	.120
2	-.120	.993

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Component 1

The transformation matrix indicates that Component 1 is primarily composed of a linear combination of the original variables from Component 1 and a small contribution from Component 2.

The coefficient for Component 1 in Component 1 is 0.993, signifying that Component 1 is strongly represented by itself.

The coefficient for Component 2 in Component 1 is 0.120, suggesting a minor positive contribution from Component 2 to Component 1.

Component 2:

The transformation matrix indicates that Component 2 is primarily composed of a linear combination of the original variables from Component 2 and a small contribution from Component 1.

The coefficient for Component 1 in Component 2 is -0.120, suggesting a minor negative contribution from Component 1 to Component 2.

The coefficient for Component 2 in Component 2 is 0.993, indicating that Component 2 is strongly represented by itself.

Table Variable Entered/Removed

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	Emerging trends, Positive impact, Banking experience, Significance of fintech products, Increasing usage in the future ^b		Enter

a. Dependent Variable: Overall customer satisfaction
b. All requested variables entered.

Table Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951 ^a	.905	.901	.422

a. Predictors: (Constant), Emerging trends, Positive impact, Banking experience, Significance of fintech products, Increasing usage in the future

Inference

The Model Summary indicates that the multiple regression model is a good fit for predicting overall customer satisfaction. The high R value 0.951 and R Square value 90.5% suggest a strong relationship between the independent variables and customer satisfaction. The adjusted R Square value 90.1% accounts for the complexity of the model, and the standard error of the estimate of 42.2% provides an estimate of the average prediction error.

7. Findings

- The survey sample consisted of a higher number of female respondents, comprising 54.2%, compared to male respondents, which made up 45.8%. Ensuring diverse representation and perspectives in surveys is valuable.
- The survey reveals that 50% of the respondents use fintech products or services multiple times a week.
- 48.6% of respondents agree that fintech has positively impacted financial inclusion by providing services.
- 56.3%, agree that fintech products or services have made banking more accessible to a wide range of customers.
- 36.8% strongly agrees that the traditional banking industry will eventually be replaced by fintech companies.
- Among the surveyed individuals, the majority (51.4%) agrees that fintech will play a significant role in the banking industry in the future.
- 45.1%, agrees that there will be an increase in the usage of fintech services in the future.
- 57.6% say the adoption of fintech has somewhat improved the overall banking experience.
- 56.9%, are highly satisfied with fintech products or services.
- The chi-square test indicates a statistically significant association between the types of fintech services and the satisfaction level of the respondents, suggesting that the choice of fintech service influences user satisfaction.
- The analysis indicates a significant positive correlation ($r = 0.699$, $p < .001$) between the adoption of replacing traditional banking and adaptation towards emerging trends.
- The findings suggest that convenience and accessibility, enhanced security measures, lower fees or cost, time-saving, and better user experience are significant predictors of the usage frequency of fintech products, with convenience and accessibility having the strongest positive impact and time-saving and better user experience having the strongest negative impact.

8. Suggestions

- Enhance digital payment options constantly to provide simple, secure transactions. For quicker and more effective payments, this can involve integrating mobile wallets, contactless transactions, and cutting-edge technology like block chain.
- To safeguard client information and transactions, make significant investments in cyber security. Use modern encryption techniques, biometric authentication, and multi-factor authentication to protect online banking and financial transactions.
- Giving underprivileged communities access to banking services will help to foster financial inclusion. To reach unbanked people, create mobile banking solutions that operate in places with poor connectivity and provide streamlined account creation procedures.
- According to the results of the regression research, increasing positive impact, addressing fintech product issues, expanding the banking experience, and adopting emerging trends can all help to raise customer satisfaction levels.
- It is essential to continuously monitor customer feedback, adapt strategies accordingly, and prioritize customer-centric

approaches to meet and exceed customer expectations.

- The results indicate that utilising Fintech to improve financial inclusion and alter the finance industry requires a proactive regulatory strategy, together with complementary government initiatives.

9. Conclusion

The study on how financial technology is impacting the banking industry concludes by highlighting the transformative effects fintech has on the provision of traditional banking services. Significant advancements in fintech have altered various aspects of banking operations and customer relations. The findings demonstrate the increasing importance and widespread usage of online and mobile banking services, providing customers with easy access to financial management tools. The popularity of digital payment methods has surged due to their secure and efficient transactional choices. Innovative services that have benefited from fintech development include peer-to-peer payments, digital wallets, and robo-advisory services. These technologies have created new avenues for financial transactions, asset management, and investment advice in response to evolving customer expectations. The study underscores the significance of cybersecurity safeguards and data protection as the banking industry increasingly integrates fintech. The security of customer data and ensuring secure transactions are crucial considerations for banks embracing fintech technologies. The main conclusion of the study is that fintech has fundamentally altered traditional banking services, providing customers with access to more efficient, customized, and effective financial experiences. To stay competitive in the rapidly expanding financial technology market, banks must embrace fintech innovations, collaborate with fintech firms, and continuously improve their digital offerings to meet changing client expectations.

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