Role Of Fintech Adoption on Banking Sector Efficiency: A Survey Based Research Approach

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Abstract

Comparing financial technology businesses during the fourth industrial age to their counterparts, this study investigates the effects of these companies adhering to effective manufacturing practices. The objective is to offer actual proof of the operational effectiveness of FinTech companies and how business efficiency affects market performance. FinTech has to pass through different business models to attain the maturity as a successful pure player actor. This demonstrates that FinTech innovations improve banks' performance using several panel data estimators, including panel-corrected standard errors for linear regression, fixed effects, and random effects. Furthermore, it also show that the proportion of capital that is adequate, earnings capacity, total assets, and yearly GDP growth rate of banks also have a noteworthy beneficial influence on bank performance. By using a balanced scorecard to examine financial points of view, customer perspectives, business internal perspectives, education and growth perspectives, and competitive advantage in services growth and development, monetary advantage, and economic inclusion when implementing FinTech, this study seeks to understand the impact of these factors on banks' performance. A sample of 259 respondents was collected from people working in banking sector. The variables that identify the role of Fintech adoption on banking sector efficiency are Financial Inclusion, Data Analytics and Insights, Cost Reduction, and Improved Customer Experience.

Keywords- FinTech, Banks, Financial Inclusion, Competitive Advantage, Commercial Banks, Performance.

1. Introduction

Researchers and financial organizations have recently given the topic of fintech a lot of attention. Blockchain, big data, cloud computing, internet of things, artificial intelligence, and other digital fintech technologies have revolutionized the financial services industry. As a result, mobile phones were able to access these services. Following the 2008 financial crisis, fintech businesses showcased their services based on cutting-edge digital technologies. FinTech services have drawn a lot of customers, particularly from the younger generation, who are eager to use technology in financial services.

This is the reason why a lot of banks and other financial organizations, in particular, considered implementing FinTech and offering their services. These banks are regarded as the pioneering institutions of knowledge for banking and finance. Investigations on the use of FinTech in banks have started to be conducted by researchers (Dmour et al., 2021). On the other hand, research on the effects of FinTech adoption benefits on banks' performance is severely lacking. The goal of the current study is to close the research gap and give banks a comprehensive understanding of the benefits of using FinTech and how it affects performance.
Among banks' top priorities is to maximize earnings while minimizing expenses. When FinTech services are implemented in banks, clients can use their phones to make financial transactions whenever and wherever they like (Ashta & Biot-Paquerot, 2018). This is the essence of the services that FinTech offers. Daily financial operations, such cash payments, are now more difficult due to Apple Pay's takeover as an online frictionless payment system. FinTech, then, is the term for the new financial model that uses technology as the provider of financial services, including cloud computing, mobile payments, financial management, and other cutting-edge scientific and technological methods. Significant changes within banks have been sparked by the FinTech revolution. Banks nowadays have a unique chance to interact with customers by supporting savings, purchases, and investments using Fintech innovation. For example, banks are improving their digital services by using anti-fraud technologies, mobile banking, and online banking. Furthermore, the results show that banks have made extensive use of user-friendly banking apps that integrate the systems needed for data management and cashless transactions as well as to guarantee

sustainable banking (Abdul et al.,2022). These days, Fintech and digital financial services, or DFS, are becoming more and more important on a global scale as a means of promoting financial inclusion and lowering poverty. As a matter of fact, the World Bank Group will concentrate on providing Fintech solutions that improve financial services, reduce risks, and promote steady, equitable economic growth in response to countries' demands for greater access to financial markets. The development of fintech and its effects on the conventional financial system have been covered in numerous studies (Shari & Lokhande, 2023).
Even though a lot of research on Fintech and the new opportunities it offers has been released by academic publications, there is still a lack of adequate information concerning the connections between Blockchain and financial inclusion.

2. Literature Of Review

Hur & Akram (2023) said that new financial intermediaries have emerged and gained popularity recently, even though banks and other conventional banking organizations are still the primary source of money for people and enterprises in the majority of markets. The conventional company establishment of fintech has significantly impacted banking system paradigms. Financial technology is currently widely used in many financial areas, such as loans, deposits, capital raising, payments, and investments. The concept of FinTech has proved successful in terms of internationalization and advanced technology, bringing benefits and problems to the various aspects of finance.

Lim et al., (2019) described that these days, technology seems to have an impact on every facet of financial services. FinTech development is still in its infancy, but a lot of academics and professionals think it will define and shape the direction of the financial sector going forward. The researcher plans to investigate the factors that influence bank customers' acceptance of FinTech services. According to previous research, the study suggested utilizing a theoretical framework derived from that body of work by testing the important variables influencing the decision to adopt FinTech services using Diffusion of innovations theory (DOI) and variables related to the Technology Acceptance Model (TAM).

Singh et al.,(2021) detailed that the notion of fintech is still in its early stages and has not yielded much historical evidence or statistically meaningful data from time series for analysis. Currently, the theoretical underpinning for the concept is being worked on or funded by large consultancy companies. With the intention of better understanding the future prospects for universal banks, strategic consultancy firms have already placed the burgeoning Fintech phenomenon at the very forefront of their agendas. Although there is a wealth of theoretical literature regarding the global implications of rising FinTech, quantitative analysis is still lacking. The purpose of the research is to determine how the use on FinTech (financial technology) affects Indian banks' profitability.

Sunardi & Tatariyanto (2023) presented that FinTech is promoting financial inclusion in the financial markets of industrialized nations, but its uptake by consumers in poorer nations is slower. At the same time, a lot of economies appear to be around the bottom of the innovation in finance spectrum. FinTech's future is secured by the worldwide push toward the Internet of Things. Research indicates that widespread use of FinTech has the potential to transform financial inclusion, especially in developing nations. Thanks to fintech, public options for financial inclusion have expanded. FinTech development is expected to propel the expansion of the e-commerce industry. Disintermediation results in a large reduction in both the cost of transactions and transaction time. However, the realization of FinTech's greatest potential depends on end users adopting it; otherwise, FinTech's influence will be negligible.

Wang et al., (2019) showed that FinTech adoption at ASE by listed commercial banks in Jordan in an effort to improve the way they perform financially and see if this adoption affects banks' overall financial performance. According to the study, the total deposits, total loans, and net profit margin of commercial banks have all been found to be statistically significantly impacted by the implementation of financial technology. The results of this study will help banks adopt and use technology for banking to improve relevant financial indicators and clients by making them more conscious of technological financial activities. Future research might therefore focus on the scope of the study and particular circumstances to include more variables and fully evaluate the effect of technological innovations on enhancing banks' financial performances.

Xie et al., (2021) detailed that to stay competitive and focused on stakeholders, financial institutions and banking can leverage internet-based digital technology to adapt and change over time. FinTech is the term for the application of Internet-based digital technology in the banking and financial services industry, which leads to the development of new services and business models. FinTech services in the banking sector include digital cash, digital currency, digital payments, the internet invoicing, crypto currency, digital mortgage, digital the transfer, digital expenditures digital leasing, management of cash, digital advising, technological factoring, digital insurance, crowd funding, and digital lending. Numerous research works have examined the connection between competitiveness and FinTech.

Yan et al., (2022) described that the organizations must act proactively in today's unstable business settings if they are to survive. Innovation and creativity are powerful drivers of business volatility and competitiveness. Regardless of the degree of competition, creativity and invention have a major role in a company's efficiency and success. Moreover, excellent business growth is stimulated by creativity and innovation.When it comes to fostering creativity and innovation in individuals or groups, as well as developing and putting into practice new ideas, leadership plays a crucial role. An climate of risk tolerance is created by leadership, allowing the organization to embrace creative and useful strategies. In addition to effectively embracing and utilizing technological advances and innovation, leaders facilitate the extraction of innovation from people's imaginative ideas.

Zhao et al., (2022) said that the global economy is constantly evolving due to advancements in technology and innovation. Owing to the recent disruption that digital technology has caused in the banking industry, banks are increasingly shifting their business strategies to emphasize e-banking. Fintech is the use of new technology to develop innovative business models based on a variety of imaginative ideas. In order to better meet customer needs at the most competitive price, it has created new services. Fintech companies, which at first drove away banks with lower operating costs, are now working with them to expand their customer base and revenue.

Alsmadi et al., (2023) detailed that the modern existence is evolving as a whole due to the advancement of technologies. Numerous new technologies are being introduced to the world, and they have the potential to completely transform how we view the world and its phenomena. This latest shift has been greatly aided by the fintech phenomena. Many academics express some concern about the large sums of money that financial institutions are investing in order to implement new technology that could fundamentally alter how their clients live their lives by enabling faster, more seamless, anywhere, anytime banking.

Ferdiana & Darma (2019) stated that the researchers and financial organizations have recently given the topic of fintech a lot of attention. Blockchain, big data, cloud computing, internet of things, artificial intelligence, and other digital fintech technologies have revolutionized the financial services industry. As a result, mobile phones were able to access these services. Following the financial crisis, fintech businesses showcased their services based on cutting-edge digital technologies. FinTech services have drawn a lot of customers, particularly from the younger generation, who are eager to use technology in financial services. This is the reason why a lot of banks and other financial organizations, in particular, considered implementing FinTech and offering their services.

Friedline et al., (2020) told that the performance of banks could also be evaluated and contrasted with Bahrain using a range of geographical areas. A thorough investigation might focus on the ways that FinTech influences bank performance and the ways in which banks might adjust various regional strategies to enhance performance. FinTech can be evaluated and analyzed from several angles, including information technology and cyber security technologies.

3. Objective

To identify the "Role of Fintech Adoption on Banking Sector Efficiency".

4. Study's Methodology

259 respondents are considered for this study which was collected from people working in Banking sector. Random sampling method was used to collect data and examined by "Explanatory Factor Analysis" for results.

5. Findings of the Study

Below table shows demographic details of participants it shows that 53.28% are male, and 46.72% are female participants. Regarding age of the respondents, 35.91% are between 28 to 32 years, 32.82% are 32 to 36 years, and 31.27% are above 36 years of age. About type of bank, private banks are 51.35%, and public banks are 48.65%.

Details of Participants

Variable	**Participants**	**% age**
Gender		
Male	138	53.28
Female	121	46.72

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Total	**259**	**100**
Age in years		
28 to 32	93	35.91
32 to 36	85	32.82
Above 36	81	31.27
Total	**259**	**100**
Type of Bank		
Private Banks	133	51.35
Public Banks	126	48.65
Total	**259**	**100**

"Factor Analysis"

"KMO and Bartlett's Test"

"Kaiser-Meyer-Olkin Measure of Sampling Adequacy"		.791
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	3939.058
	df	91
	Significance	.000

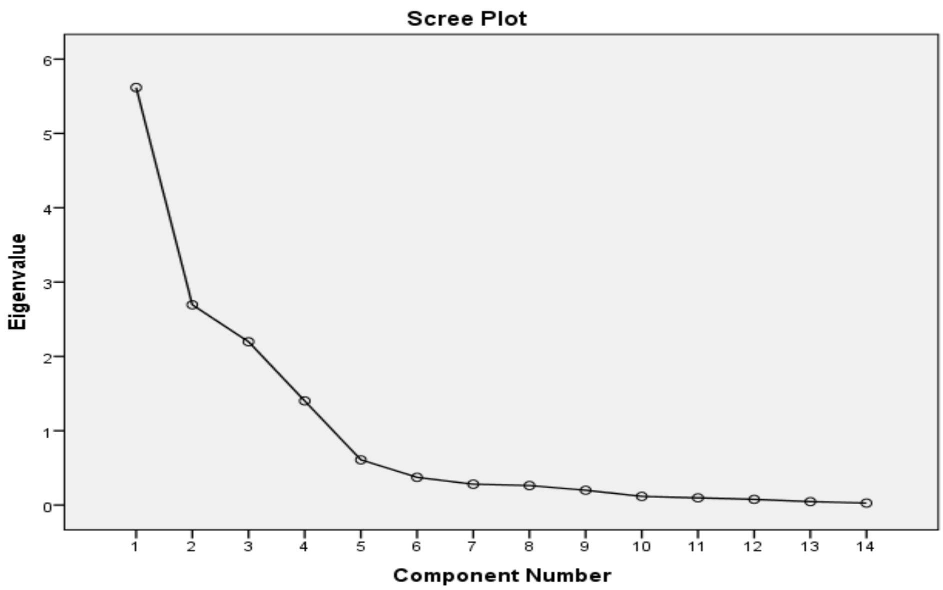
In above table "KMO and Bartlett's Test" above, KMO value found is .791

"Total Variance Explained"

"Component"	**"Initial Eigenvalues"**			**"Rotation Sums of Squared Loadings"**		
	"Total"	**"% Of Variance"**	**Cumulative %**	**"Total"**	**"% Of Variance"**	**Cumulative %**
1.	5.618	40.126	40.126	**3.762**	26.869	26.869
2.	2.694	19.244	59.370	**3.573**	25.524	52.393
3.	2.197	15.696	75.066	**2.435**	17.396	69.789
4.	1.402	10.012	85.078	**2.140**	15.289	**85.078**
5.	.609	4.346	89.425			
6.	.373	2.666	92.091			
7.	.281	2.009	94.100			
8.	.263	1.876	95.976			
9.	.200	1.427	97.402			

10.	.117	.833	98.235			
11.	.097	.695	98.930			
12.	.077	.548	99.478			
13.	.047	.332	99.811			
14.	.027	.189	100.000			

All the four factors are making contribution in explaining total 85.078% of variance. The variance explained by Financial Inclusion is 26.869%, Data Analytics and Insights is 25.524%, Cost Reduction is 17.396%, and Improved Customer Experience is 15.289%.



<u>ScreePlot</u>

"Rotated Component Matrix"

S. No.	Statements	Factor Loading	Factor Reliability
	Financial Inclusion		**.978**
1.	Fintech has the potential to bring financial services to unbanked and underbanked populations	.964	
2.	Fintech solutions enable banks to reach a broader customer base	.950	
3.	By leveraging mobile technology and alternative data sources, it has contributed towards financial inclusion	.950	
4.	Digital financial services are important as a means of promoting financial inclusion and lowering poverty	.936	
	Data Analytics and Insights		**.961**

1.	Fintech allows banks to harness the power of big data analytics	.960	
2.	Analyzes vast amounts of customer data, to gain insights into customer behavior, preferences, and needs.	.929	
3.	This data-driven approach enables banks to offer more targeted and personalized services	.909	
4.	Personalized services lead to increased customer satisfaction and loyalty	.878	
	Cost Reduction		**.883**
1.	Fintech solutions have the potential to significantly reduce operational costs for banks	.900	
2.	Processes that were previously labor-intensive can now be automated	.856	
3.	Automation would lead to cost savings in terms of manpower, paperwork, and physical infrastructure	.841	
	Improved Customer Experience		**.787**
1.	Digital banking applications, personalized financial management tools, and chatbots provide convenience	.888	
2.	It has drawn a lot of young customers, who are eager to use technology in financial services	.815	
3.	In order to better meet customer needs at the most competitive price, it has created new services	.745	

6. Factors and the associated variables

The first factor of the study is Financial Inclusion, the variables included under this factor are Fintech has the potential to bring financial services to unbanked and underbanked populations, Fintech solutions enable banks to reach a broader customer base, by leveraging mobile technology and alternative data sources, it has contributed towards financial inclusion, and Digital financial services are important as a means of promoting financial inclusion and lowering poverty. Data Analytics and Insights is the second factor of the study, it includes variables like, Fintech allows banks to harness the power of big data analytics, analyzes vast amounts of customer data, to gain insights into customer behavior, preferences, and needs., This data-driven approach enables banks to offer more targeted and personalized services, and Personalized services lead to increased customer satisfaction and loyalty. The third factor is Cost Reduction, the variables that comes under this factor are Fintech solutions have the potential to significantly reduce operational costs for banks, Processes that were previously labor-intensive can now be automated, and Automation would lead to cost savings in terms of manpower, paperwork, and physical infrastructure. Improved Customer Experience is the fourth factor, the variables it includes are Digital banking applications, personalized financial management tools, and chatbots provide convenience, it has drawn a lot of young customers, who are eager to use technology in financial services, and in order to better meet customer needs at the most competitive price, it has created new services.

“Reliability Statistics”

“Cronbach's Alpha”	“Number of Items”
.877	14

Total reliability of 14 items that includes variables for Role of Fintech Adoption on Banking Sector Efficiency is 0.877

7. Conclusion

The term "fintech," which stands for financial innovation, refers to the growing financial services industry of the twenty-first century. FinTech companies and new ventures are seeing a significant increase in the number of initiatives, and this divide is taking place with a high degree of love for the financial world, creating an environment that is conducive to stimulating creative thinking and research. Numerous financial industries may now operate with greater flexibility, convenience, and speed thanks to recent technological advancements. Nowadays, a lot of people use financial technologies. This kind of finance is becoming more and more preferred by banks for business, retail, or credit purposes. Financial technology adoption requires an infrastructure with sophisticated features and cutting-edge applications, like monetary transactions and commercial risk management. With these considerations in mind, technological advancement has contributed to the global banking industry's transition into a new era and has produced a number of innovations. The variables that identify the “Role of Fintech adoption on banking sector efficiency” are Financial Inclusion, Data Analytics and Insights, Cost Reduction, and Improved Customer Experience.

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