**Journal of Informatics Education and Research**
**ISSN: 1526-4726**
**Vol 4 Issue 2 (2024)**

# The Impact of Fintech on Banking Services in the Rural Sector

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**ABSTRACT**

FinTech has become a disruptive force in the financial sector as a consequence of the quick expansion of technology. This study examines how the use of FinTech solutions has resulted in financial inclusion and banking services in rural areas. The study examines the advantages and difficulties of applying FinTech to rural banking, including better access to financial services, higher effectiveness, and lower costs. Additionally, it looks into potential obstacles to the acquisition and use of FinTech solutions in rural areas. The out turn shed light on how FinTech generally affects financial services and what it means for rural development.

**Keywords:** Fintech, Rural Sector, Banking Services

## INTRODUCTION

Financial technology also known as fintech has been a game-changer in the banking industry. Banks are now able to offer banking services to a global reach of customers thanks to fintech, including those who were formally available in rural areas. The delivery of banking services has been critically influenced by fintech, which has increased accessibility, cost-effectiveness, and efficiency. The degree of accessibility of fintech services in rural areas is far lower as compared to Metro cities.

As a result of the deficiency of access to basic infrastructure and services, including banking, rural development has always been difficult for Rural areas. Due to the significant cost of constructing and maintaining physical branches in rural locations, traditional financial institutions frequently fail to notice these areas. Due to this, many people are not exposed to access of fundamental financial services like credit and savings accounts.

Fintech has allowed banks to reach customers in remote areas without having to construct physical branches, though. Banking is now more conveniently available to people in remote locations due to digitalization's ability for banks to offer services through mobile applications and web platforms. This has restructured rural development by bringing banking services to formerly underserved regions.

Fintech has also increased the effectiveness and efficiency of banking services. Digitalization has allowed banks to be well organized in their operations, cut expenses, and give their clients lower fees and interest rates as a return (Bose, 2020). As a result, more people, isolated in those rural areas, now have access to and can afford financial services.

Financial inclusion is another way that fintech has impacted rural development. Banks now provide a larger range of financial services, such as mobile money and microfinance, thanks to fintech. Due to this, people in rural areas now have ways to credit, savings, and added financial services that were previously not available for them. This has helped to boost economic growth in those places while also enhancing the financial well-being of local residents. (World Bank Group 2018)

Additionally, fintech has improved the security of banking services. Digitalization has empowered banks to implement stronger security measures, such as two-factor authentication and biometric identification. This has made banking services more secure and has reduced the risk of fraud and identity theft. (Bhattacharya et al., 2019)

Fintech's influence on rural development has expanded beyond only banking services. Fintech has also aided in the advancement of rural development in other areas like agriculture. Farmers can now access financial services like credit and insurance that were previously unapproachable as a result of the introduction of fintech. An important source of income for many people in rural areas, agriculture has benefited from this by becoming more productive and profitable. (World Bank Group 2018)

The growth of mobile banking is among the important aspects of fintech's influence on the rural sector. Even in isolated rural locations, mobile phones have become common in such a way that it is able to offer a special way to reach unbanked and underserved communities with financial services. People can perform transactions, access savings accounts, apply for loans, make payments and much more all from the ease of their mobile devices thanks to mobile banking applications and platforms. In addition to removing logistical obstacles like physical distance, this technology also lowers transaction costs, improves convenience, and lowers the cost of financial services for rural populations which add as the core benefit for them.

Also, fintech has improved access to knowledge and education in rural places. Rural residents can access educational resources and tools for financial literacy with the use of mobile applications and online platforms. As a result, people can now make better financial decisions and their financial literacy has increased. (Bose, 2020) Banks are now able to serve a wider reach of customers, cut costs, reorganize operations, and boost security with the help of fintech. Fintech had a particularly notable effect on rural development since it has expanded its approach to banking services in extreme regions. Fintech has aided in increase in financial inclusion, promoting economic expansion, and improving rural residents' financial well-being.

## OBJECTIVES OF THE STUDY

- To understand the importance of fintech in the supply of credit, assistance, and other financial products.
- To assess the benefits and risks associated with the implementation of fintech in banking services.
- To assess the extent to which fintech has improved access to financial services for people living in rural areas

## RESEARCH METHODOLOGY

Research methodology refers to the systematic approach and process used to manage research, including the design, collection, analysis, and interpretation of data. It comprises determining research problems, developing research questions, choosing suitable techniques, gathering and evaluating data, and reporting conclusions.

1. **Data Sources**
   Primary Data is being collected through formal interviews of the respondents.
2. **Collection of Data**
   Structured interviews are conducted for the purpose of data collection from the respondents. The sampling technique used is Clustered Sampling.
3. **Area of Study**
   The place where this study focuses is Kuzhalmannam municipality Palakkad district KERALA. The place is semi-rural which constitutes a wide variety of people, from daily wage workers to those who work in small-scale industries.
4. **Limitation of the Study**
   - The study is limited to Palakkad District
   - The study is limited to its Sample Size
   - The data collected is through interviews

## REVIEW OF LITERATURE

**Hasan, M. *et al*., (2022):** This study revolves around the footprint of financial knowledge in rural areas and access to financial technology services. Further this study involves the impact of access to financial knowledge regarding various factors and practical substance for the operation of rural finance and technology in rural areas.

**Raj, B., & Upadhyay, V. (2020):** This study examines how FinTech companies might improve access to financial services for underserved populations, low-income individuals, rural areas, and other underprivileged sectors of the Indian economy while also helping to enhance competition and speed up financial inclusion in India. Additionally, it covers the regulatory actions implemented in India to support the FinTech movement, the Regulatory Sandbox framework, and the steps necessary to help realize the potential for growth and inclusiveness offered by the sector.

**Rajeswari, P., & Vijay, C. (2021):** This research study examines the adoption of fintech, the fintech news network, the structure of the Indian fintech industry, fintech startups in India, and fintech trends in India. It also involves the growth of fintech, which is driven by startups and presents challenges for both market participants and regulators. This is especially true when attempting to balance the potential benefits of innovation with the potential risks of novel financial approaches.

**Morgan, P. J. (2022):** The present paper investigates the developments of financial inclusion and Fintech in the Association of Southeast Asian Nations (ASEAN) member countries and India to recognize the ways that Fintech is coming up with and can positively contribute to increased financial inclusion. Additionally, it looks at potential dangers associated with Fintech use, identifies contrasts between India and ASEAN's approaches to financial inclusion and Fintech implementation, and draws conclusions and policy suggestions from these results.

**Asif, M., Khan, M. N., *et al*., (2023):** Regression and correlation were used in this study, along with secondary data gathered from the RBI, to analyze this influence, with the goal of determining the impact of fintech and digital financial services on financial inclusion in India. The results were interpreted to show that fintech businesses have significantly aided financial inclusion in this country, especially for the middle class.

**Vijai, C. (2019):** Examining the prospects and challenges facing the fintech business is the main objective of this essay. It highlights the evolution of the fintech industry and the current financial technology employed in the Indian financial market. The benefits of fintech services in terms of lower operating expenses and accommodating users were the conclusions that were interpreted. Fintech solutions will change the routines and behavior of the Indian financial sector.

**Baiju, M. S., & Radha Kumari, C. (2017):** The study was carried out with the goal of learning more about India's payment digitalization and the significance of this development in the current economic climate. Three significant FinTech firms in the nation were the subject of the study. Secondary data is used and software such as maxima and IBM spss were used to analyse data.

**Bala, S., & Singhal, P. (2022).** This research studies on effort to examine new financial technologies, such as FinTech, which will improve women's life. The current gender dimensions and concerns relating to digital financial accessibility have been examined using G20 financial inclusion metrics. This chapter also discusses how the government, banks, and FinTech start-ups in India are working to close the gender gap in finance and achieve sustainable growth in the country.

**Varga, D. (2017).** The study makes an effort to fill the vacuum in the body of knowledge about the emergence of innovation-focused financial technology (fintech) businesses. The analysis provides a conceptual overview of the key value drivers underlying fintech in addition to using resource-based theories, business models, human-centred design, and open innovation. Additionally, it illustrates how fintech could spur innovation in the existing financial sector and positively affect the triple bottom line by addressing problems encountered by people who live at the bottom of the pyramid.

**Kong, S. T., & Loubere, N. (2021).** The paper focuses on JD and Alibaba, two Internet behemoths, offering new forms of digital money in rural China. These two rural fintech models have the potential to increase the availability of digital financial services in innovative ways, in contrast to decades of mostly fruitless attempts to do so by traditional brick-and-mortar financial institutions. This study critically analyses these fintech models, places them in the context of global efforts to increase digital financial inclusion, examines how they compare to other countries systems for contracting with agricultural suppliers, and considers both the advantages and disadvantages they may have for rural livelihoods and rural development in China and elsewhere.

**Pant, S. K. (2020).** This paper's objective is to identify internationally relevant emergent fintech trends. A literature review and conversations with experts and academics were used in conjunction with the qualitative research approach. The IMF is concentrating on the use of distributed ledger technology for international payments, and other new trends include augmented reality for customer satisfaction, crowd-funding, crowd-investing, robotic investment advisory, future collaborations between banks and fintech firms, and central bank regulatory roles.

**Kukreja, G., Bahl, D., *et al*., (2021).** This study examines the growth, possibilities, and difficulties facing India's financial sector as a result of new technology. This chapter highlights the opportunities that have arisen as a result of the demographic dividend, high penetration, and access to the most recent, cost-effective technology, as well as government initiatives like Digital India, Startup India, Make in India, and others. Finally, this chapter illustrates India's unrealized potential for fintech.

**Gupta, S., & Agrawal, A. (2021).** This study provides insights about FinTech in India and its impact on the country's financial sector. Additionally, the goal is to have a more comprehensive understanding of how the financial industry is changing as a result of FinTech breakthroughs. Three different sub-sets of empirical data were gathered utilizing the qualitative method. This subset consists of FinTech venture professionals, financial institution personnel, and financial end consumers. The analysis showed that a number of different causes are to blame for changing the Indian Financial System's landscape.

**Goel, P., Kulsrestha, S., *et al*., (2022).** A path for Fintech evolution is suggested by this study in light of changing sectors and clients. It will explore deeper into the connection between financial inclusion and fintech as well as the logical continuation of technological advances based on fintech. The report claims that there is merit in looking into new perspectives on developing financial technology and how it affects the banking sector.

**Singh, R., Malik, G., *et al*., (2021).** Understanding how the usage of financial technology affects the profitability of Indian banks is the goal of this study. The ratio of ATMs to bank branches and the FinTech dummy, which includes blockchain, artificial intelligence, robotic process automation, payment technology, and cloud computing, are both regarded as independent variables while return on assets (ROAs) and return on equity (ROE) are taken into account as dependent variables. The results demonstrate that the implementation of FinTech significantly boosts bank profitability. Financial institutions that successfully blend flexibility and speed while offering specialised products and services are dealing with much broader dynamics than their antiquated forefathers.

**Gautam, R. S., Kanoujiya, J., *et al*., (2021).** The paper aims to investigate the impact of financial technology (such as the Kisan Credit Card and ATM) on poverty in India and to conduct an empirical analysis of this impact. We take into account information from 22 Indian states for three fiscal years, from 2018 to 2020. The notion is tested in the present study using panel data analysis. According to the research, there is a poor association between financial technology (such as Kisan credit cards and ATMs) and India's poverty index. The government should put more effort into improving financial technology, including increasing financial stability and economic growth and eradicating poverty by investing in infrastructure that would improve banking services, the current research suggests.

**Agarwal, S., & Chua, Y. H. (2020).** This paper examines recent developments in the empirical literature on household finance and fintech. Payments, loans, and portfolio decisions are the three areas of household finance that were examined for the impact of FinTech. This paper specifically looks at the effects of mobile money, crowdsourcing, robo-advice, FinTech lending, marketplace lending, and digital payments. According to studies, households have profited from FinTech by borrowing more and spending more. They can smooth their usage over time by doing this.

**ANALYSIS & INTERPRETATION**
**ANALYSIS 1**
Descriptive statistics to understand the different value-added services provided by the Banks

**Statistics**

| | Lack of physical bank branches | Inconvenient working hours | Lack of access to modern banking facilities | Lack of financial literacy |
|---|---|---|---|---|
| **Mean** | 2.98 | 2.06 | 3.38 | 4.21 |
| **Median** | 3.00 | 2.00 | 3.50 | 4.00 |
| **Mode** | 4 | 2 | 4 | 5 |
| **Std. Deviation** | 1.146 | .938 | .973 | 1.035 |

The table depicts the descriptive statistics for the different value-added services provided by the investment firm, based on the responses of 52 participants.

The table shows the descriptive statistics for the four variables related to challenges faced while accessing banking services. The first column lists the variable names, and the remaining columns provide information about the responses received from the respondents:

“Lack of physical bank branches": The mean rating for this variable is 2.98, which suggests that on average, respondents did not find the lack of physical bank branches to be a significant challenge. The standard deviation value of 1.146 indicates that there was some variability in the responses received.

“Inconvenient working hours": The mean rating for this variable is 2.06, which suggests that respondents found the inconvenient working hours of banks to be a significant challenge on average. The standard deviation value of 0.938 indicates that there was relatively less variability in the responses received.

" Lack of access to modern banking facilities": The mean rating for this variable is 3.38, which suggests that respondents found the lack of access to modern banking facilities to be a moderate challenge on average. The standard deviation value of 0.973 indicates that there was some variability in the responses received.

" Lack of financial literacy": The mean rating for this variable is 4.21, which suggests that respondents found a lack of financial literacy to be a significant challenge on average. The standard deviation value of 1.035 indicates that there was some variability in the responses received.

Overall, the descriptive analysis suggests that respondents found the lack of physical bank branches to be less challenging, while inconvenient working hours of banks and lack of financial literacy were found to be more challenging. Lack of access to modern banking facilities was found to be moderately challenging on average. However, there was some variability in the responses received, indicating that some respondents may have perceived these challenges differently.

**ANALYSIS 2:**

Chi-Square test determining the Risk and Benefits of financial services
*Hypothesis testing*

H0: There is no significant association between the Risk and Benefits of Financial Services
H1: There is a significant association between the Risk and Benefits of Financial Services

**Chi-Square Tests**

| | Value | DF | Assumption. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 14.548[a] | 9 | .104 |
| Likelihood Ratio | 13.476 | 9 | .142 |
| Linear-by-Linear Association | .163 | 1 | .686 |
| N of Valid Cases | 50 | | |

a. 13 cells (81.2%) have an expected count of less than 5. The minimum expected count is .18.

The chi-square test was conducted to examine the association between the key benefits and risks associated with Fintech-enabled financial services. The results indicate that there is no significant association between the key benefits and risks (Pearson Chi-Square = 14.548, df = 9, p = .104).

The p-value of .104 is greater than the commonly used threshold of .05, indicating that we cannot reject the null hypothesis that there is no significant association between the benefits and risks of Fintech-enabled financial services. Therefore, we can conclude that the key benefits and risks are not strongly associated with each other.

**ANALYSIS 3:**

ONE-WAY ANOVA analysis determining the use to technological financial services and the government promoting technological development in financial services.

*Hypothesis testing*

H0: There is no significant difference between the use of financial services and the role of government in promoting financial services.

H1: There is a significant difference between the use of financial services and the role of government in promoting financial services.

| | **Sum of squares** | **DF** | **Mean Square** | **F** | **Sig.** |
|---|---|---|---|---|---|
| **Between Groups** | 23061.778 | 6 | 3843.630 | 6.843 | <.001 |
| **Within Groups** | 77431.183 | 47 | 1647.005 | | |
| **Total** | 100492.961 | 53 | | | |

The one-way ANOVA indicates that there is a significant difference in the mean scores of the seven financial services (easier money transfer, availing subsidies, credit loans, Kisan card facilities, saplings, savings account access, all services) across the different levels of responses to the question about the role of government in promoting technological development, F(6,47) AA= 6.843, p < .001. The means for each service show that credit loans and Kisan card facilities have the highest scores while availing subsidies has the lowest score.

Three separate statistical tests that visualize various financial services-related topics are included in the analysis. The first analysis offers descriptive statistics regarding the difficulties encountered while attempting to use financial services. The second research looks at the relationship between the main advantages and disadvantages of financial services utilizing fintech. The final analysis used a one-way ANOVA to investigate the variations in mean scores of various financial services across various levels of responses to the inquiry regarding the function of the government in fostering technical advancement.

**Suggestions**

Overall, the three analyses offer significant new information about many facets of financial services. The descriptive analysis provides light on the difficulties respondents had when using banking services, while the chi-square test shows that there is little correlation between the main advantages and disadvantages of using Fintech-enabled financial services. Finally, the variations in mean scores of various financial services across various levels of replies to the question about the function of government in fostering technological advancement are provided by the one-way ANOVA. Policymakers and financial service providers can benefit from these insights to enhance the provision of financial services and comprehend client preferences.

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