

# Contribution of Financial Technology and Inclusion in Economic Development: A Case Study of Khagaria District, Bihar

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## *ABSTRACT*

Financial technology (Fin Tech) has emerged as a trans-formative force in promoting financial inclusion, particularly in developing countries like India. This study examines the role of Fin Tech in enhancing access to financial services and its contribution to economic development in Khagaria district, Bihar. The research is based on both primary data, collected through surveys and interviews from local households, students, farmers, and small entrepreneurs, and secondary data from government reports, RBI publications, and World Bank databases. The findings reveal that Fin Tech has expanded financial accessibility by enabling rural households to open bank accounts, use digital payment platforms, and access credit facilities. Students and entrepreneurs have adopted mobile wallets, UPI, and online banking services more effectively, contributing to entrepreneurship and income generation. However, the study also highlights challenges such as poor digital literacy, inadequate internet connectivity, lack of awareness, and fear of fraud among rural populations, which limit the full potential of financial inclusion. The research concludes that while Fin Tech plays a significant role in promoting inclusive growth, addressing infrastructural and social barriers is essential for its success in Khagaria. Strengthening digital literacy programs, improving connectivity, and building trust in digital financial services can accelerate the process of financial inclusion and ensure sustainable economic development in rural Bihar.

**Keywords:** *Financial Technology, Financial Inclusion, Digital Payments, Rural Development, Bihar, Economic Growth, Digital Literacy*

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## **Introduction**

Economic development in the 21st century is increasingly driven by innovations in financial technology (Fin Tech) and the expansion of financial inclusion. Financial technology has revolutionized the delivery of banking and financial services by making them more accessible, efficient, and transparent. At the same time, financial inclusion, which refers to providing affordable and reliable financial services to the underserved and unbaked population, has emerged as a key instrument for promoting inclusive growth. Together, these two forces contribute significantly to reducing poverty, empowering marginalized communities, and strengthening local economies. In the context of India, initiatives such as Digital India,

Jan Dan Yojana, Adhara-enabled payment systems, Unified Payments Interface (UPI), and mobile banking have played a trans formative role in connecting rural populations to the formal financial system. These measures not only improve access to credit, savings, insurance, and remittances but also enhance opportunities for entrepreneurship, employment, and socioeconomic development. Khagaria district of Bihar presents a relevant case for examining this relationship, as it is predominantly rural with a large section of the population dependent on agriculture and informal labor. Limited financial literacy, infrastructural gaps, and poverty have historically restricted access to formal financial services

in this region. However, with the rapid expansion of digital platforms and government-led financial inclusion programs, Khagaria has witnessed new opportunities for integrating its rural economy with mainstream development processes. Therefore, studying the contribution of financial technology and inclusion in Khagaria district is crucial for understanding how these initiatives impact local economic development, empower disadvantaged groups, and bridge regional disparities. This case study will highlight both the progress achieved and the challenges that remain, offering insights for policymakers, financial institutions, and development practitioners.

### Literature Review

Chakrabarty (2013) highlighted the Reserve Bank of India's efforts toward financial inclusion through policy interventions like priority sector lending and the expansion of rural banking infrastructure. He underlined the importance of financial literacy for making inclusion effective Kumar and Joseph (2014) studied the impact of mobile banking in rural India and concluded that digital financial services improve access to credit and remittances, particularly for migrant workers and small farmers. World Bank (2017), in its Global F index Database, reported that India made significant progress in financial inclusion due to Jan Dan Yojana and Adhara-enabled services, but gaps remained in terms of women's access and digital literacy. Sadhu and Raj (2018) examined financial inclusion in Bihar and found that despite rapid policy-driven growth, rural districts continue to face infrastructural constraints, weak banking penetration, and lack of awareness. Earner, Barbers, and Buckley (2020) in "The Evolution of Fin Tech" argued that financial technology is reshaping global financial

systems, enabling efficiency, transparency, and accessibility, particularly in underserved regions. NITI Aayog (2021) reported that digital payments and fin tech innovations like UPI, mobile wallets, and micro-credit platforms have accelerated rural financial participation, boosting local entrepreneurship and small-scale trade. Singh and Gupta (2022) conducted a study on Bihar's rural districts and observed that while digital finance adoption is increasing, factors like poor internet connectivity, low literacy, and income inequalities still limit its potential.

### Objectives:

To study the role of financial technology in promoting financial inclusion in Khagaria district.

To identify the challenges faced by people in using digital financial services in rural areas.

### Research Methodology

**Research Design:** This study will adopt a descriptive and analytical research design. The descriptive part will focus on identifying the current level of financial inclusion through Fin Tech in Khagaria district, while the analytical part will highlight the challenges faced by people in using digital financial services.

### Data Collection

1. Primary Data Source: Collected through field survey, interviews, and questionnaires from respondents in Khagaria district. Respondents: Rural households, small entrepreneurs, farmers, daily wage earners, and local bank/post office officials. Sample Size: Around 100–150 respondents from different blocks of Khagaria. Sampling Technique: Stratified random sampling (ensuring representation from different socioeconomic groups).

**Table-1**

**Gender-wise Primary Data Distribution in Khagaria District**

Category of Respondents	Male NO.	Female No	Total Respondance	Male %	Female %	Category % of 115
Farmers	20	10	30	66.7%	33.3%	26.1%
Small						
Entrepreneurs/ Shopkeepers	18	7	25	72.0%	28.0%	21.7%
Students/Youth	15	10	25	60.0%	40.0%	21.7%
Daily Wage Labours	14	6	20	70.0%	30.0%	17.4%
Bank Officials & Service Providers	10	5	12	66.7%	33.3%	13.1%
<b>Total</b>	<b>77</b>	<b>38</b>	<b>115</b>	<b>66.9%</b>	<b>33.1%</b>	<b>100%</b>

(source: Field sample survey 2025)

Interpretation: Overall, males (66.9%) dominate the sample compared to females (33.1%), which matches rural Khagaria's socioeconomic conditions. Highest female participation is among students (40%), showing digital finance awareness is growing among young women. Farmers, daily wage laborers, and shopkeepers still have low female representation (28–33%), reflecting barriers in digital and financial access. In banking/service providers, female share is 33%, showing gradual gender inclusion in formal financial institutions.

2. Secondary Data: Reports of Reserve Bank of India (RBI), NABARD, NITI Aayog. Census of India and District Statistical Handbook of Khagaria. World Bank Global Findex Database. Published articles, government schemes (PMJDY, UPI, Aadhaar-enabled Payment Systems).

Data Analysis :Both quantitative and qualitative analysis will be used. Tools Percentage analysis, simple averages, bar charts, pie diagrams, and cross-tabulation.

**Table- 2**  
**Awareness and Usage of Financial Technology in Khagaria**

Category of Respondents	NO. of Respondents	Bank Account %	Use of Mobile Banking %	Use of UPI Apps. %	Digital Saving Deposits%	Digital Credit (%)
Farmers	40	70%	35%	25%	20%	10%
Daily Wage						
Labours	30	60%	20%	15%	10%	5%
Small						
Entrepreneurs	20	90%	60%	70%	50%	40%
Student /youth	30	80%	55%	75%	25%	10%
<b>Total 120</b>	<b>120</b>	-	-	-	-	-

Source: ministry of department of finance government of Bihar and Bihar economy sarvey 2024-25)

**Table - 3**  
**Challenges in Using Digital Financial Services**

Challenges Faced	Farmers (%)	Daily Wage (%)	Entrepreneurs (%)	Students (%)	Overall (%)
Poor Internet	45%	50%	30%	40%	42%
connectivity					
Transaction	55%	60%	20%	25%	40%
Failures/Delays					
Transaction Failures/	30%	25%	35%	20%	28%
Delays					
Fear of Fraud/	20%	15%	25%	30%	22%
Cybercafe					
Lack of Trust in Technology	35%	40%	15%	10%	25%

(Source: ministry of department of finance government of Bihar and bihar economy sarvey 2024-25)

**Expected Findings:**

Financial technology is playing a growing role in promoting financial inclusion in Khagaria (especially among youth and entrepreneurs). Farmers and daily wage workers are still less aware and less comfortable with digital finance. The main challenges are poor internet connectivity, lack of literacy, and low trust in digital system's.

**Result and Discussion:**

The analysis of primary data revealed that a majority of respondents in Khagaria district now have access to a bank account, mainly due to Pradhan Mantri Jan Dhan Yojana (PMJDY). However, active use of financial technology varies across occupational groups. Farmers and daily wage laborers show relatively low adoption of digital banking and UPI services, while small entrepreneurs and students exhibit a much higher level of usage. The findings suggest that financial technology has helped in expanding access to savings, payments, and remittances, especially among younger and educated sections. Entrepreneurs reported using UPI and mobile banking for business transactions, which indicates that Fin Tech is playing a role in promoting local economic activities. Secondary data also supports this trend, as the number of Jan Dhan accounts, Adhara-linked bank accounts, and UPI transactions in Bihar (including Khagaria) has steadily increased over the past few years. This reflects that digital finance is gradually bridging the gap between the formal financial system and rural households. The data shows that while access has increased, usage is still limited by several barriers. The most common challenges reported were: Poor Internet Connectivity in rural areas, which restricts smooth digital transactions. Low Digital Literacy, particularly among older generations and less-educated farmers, who often depend on middlemen for financial services. Trust Issues and Fear of Fraud, as some respondents expressed concerns about losing money through mobile apps or fraud attempts. Transaction Failures and Delays, which reduce confidence in digital banking systems. These challenges indicate that mere access to accounts is not enough; active and safe usage requires better infrastructure, awareness campaigns, and consumer protection mechanisms.

**Discussion:**

The results confirm that financial technology has become a key driver of financial inclusion in Khagaria district, but its effectiveness depends on socioeconomic factors such as education, income, and occupation. Younger and urbanized groups are leading in adoption, while rural farmers and daily wage earners remain behind. The findings align with earlier studies (Demiurge-Kunt & Klapper, 2012; Sahu & Raj, 2018) which argue that regional disparities and literacy gaps slow down financial inclusion in states like Bihar. Therefore, while Fin Tech is contributing to economic development by improving access to credit, savings, and digital transactions, policy interventions are still needed to address infrastructural gaps, enhance financial literacy, and build trust among rural populations.

**Statement of Limitations**

Although this study provides valuable insights into the role of financial technology and inclusion in promoting economic development in Khagaria district, certain limitations must be acknowledged:

**1. Restricted Geographical Scope:** The study is confined to Khagaria district only. Therefore, the findings cannot be generalized to other districts of Bihar or to India as a whole, where socioeconomic conditions may differ.

**2. Sample Size and Coverage:** Due to resource and time constraints, the sample size was limited. A larger and more diverse sample could have provided a more comprehensive picture of financial inclusion.

**3. Time-Bound Study:** Data collection was carried out within a short period. Seasonal and temporal variations in income, expenditure, and financial usage were not fully captured.

**4. Reliance on Respondent Perceptions:** Much of the primary data depends on self-reported responses, which may sometimes involve recall errors, personal bias, or social desirability bias.

**5. Rapidly Changing Nature of Fin Tech :** Financial technology is dynamic and constantly evolving. New applications, policies, and digital payment innovations may emerge, making some findings less relevant over time.

**6. Infrastructure Challenges:** Poor internet connectivity and limited access to banking infrastructure in rural areas not only affected respondents' usage of digital services but also posed challenges for smooth data collection.

### Conclusion:

The present study highlights the growing role of financial technology (Fin Tech) and financial inclusion in driving economic development in Khagaria district, Bihar. The findings indicate that government initiatives such as Pradhan Mantri Jan Dhan Yojana (PMJDY), Adhara-enabled payment systems, and UPI-based digital platforms have expanded access to banking services and encouraged rural households to participate in the formal financial system. The results show that students and small entrepreneurs are the most active users of digital financial services, utilizing UPI, mobile wallets, and online banking for payments, savings, and business transactions. This demonstrates that Fin Tech has not only facilitated access to financial services but also supported entrepreneurship and local economic activities. However, the study also reveals persistent challenges such as poor internet connectivity, lack of digital literacy, trust issues, and fear of fraud, particularly among farmers and daily wage laborers. These barriers reduce the effectiveness of financial technology and prevent a large section of the rural population from fully benefiting from financial inclusion initiatives. Therefore, it can be concluded that financial technology is a powerful tool for inclusive growth, but its success in rural areas like Khagaria depends on addressing infrastructural gaps, strengthening digital literacy, and enhancing trust in digital finance. With adequate policy support, improved infrastructure, and targeted awareness programs, Fin Tech can significantly contribute to reducing poverty, promoting entrepreneurship, and achieving sustainable economic development in Khagaria district.

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