

# Impact of Unified Payment Interface (FinTech) Services on Enhancing Financial Inclusion and Business Performance

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**Abstract—** The advent of financial technology (FinTech) has revolutionized the delivery of financial services by making it possible for small businesses and informal firms to obtain digital payments, mobile banking, digital credit, insurance, savings, and other financial services in a relatively low-cost manner. Retailers and street vendors make up an important portion of the informal economy in urban India; however, traditionally, they faced various challenges such as cash dependence, difficulty obtaining formal credit, poor financial record keeping, and insufficient access to banking services. In this research, I explore the potential benefits of FinTech services as they pertain to financial inclusion and the business performance of small retailers and street vendors. The research methodology entails a structured quantitative survey of 300 micro-entrepreneurs from the National Capital Region, which includes 150 small retailers and 150 street vendors. FinTech adoption will be gauged using UPI, mobile banking, digital wallets, digital lending, and other FinTech services. Financial inclusion will be evaluated in terms of access to formal accounts, savings, credit, insurance, and digital transactions, while business performance will be measured in terms of improvements in sales, efficiency of transactions, customer base, profitability, and financial record keeping. The results indicate that 82.0% of the surveyed individuals routinely accept digital payments and that there is a correlation between FinTech adoption, financial inclusion, and business performance. It is shown via regression analysis that FinTech adoption predicts financial inclusion significantly ( $\beta = 0.61, p < 0.001$ ), while financial inclusion predicts business performance significantly ( $\beta = 0.48, p < 0.001$ ). FinTech adoption itself has a positive impact on business performance ( $\beta = 0.29, p < 0.001$ ). The results indicate that FinTech adoption may

help formalize and sustain micro-enterprises, though issues such as digital illiteracy, cybersecurity problems, poor connectivity, and lack of access to digital credit cannot be ignored.

**Keywords—** FinTech, financial inclusion, digital payments, UPI, retailers, street vendors, business performance, micro-enterprises, digital financial services, India

## INTRODUCTION

Financial inclusion, as defined by this study, refers to the accessibility and efficient usage of affordable, suitable and responsible financial products and services by people and firms. Financial inclusion in developing countries, especially in the case of micro-enterprises, is vital because the access to such services like payments, savings, loans, and insurance can affect cash flow management, shock-resilience, and expansion of operations. In this regard, digital financial services have become one of the key ways of accomplishing this goal.

There have been remarkable developments in the sphere of digital infrastructure in India. For instance, UPI, mobile banking, Aadhaar, digital wallets, and FinTech app services have managed to get rid of many barriers associated with the traditional physical banking. According to the Reserve Bank of India, the share of digital transactions made during 2023-2024 has reached 99.8% of the volume of non-cash retail payments in India. UPI became the largest retail payment system in India in terms of transaction volumes with the number of transactions made via NPCI in May 2026 exceeding 23.2 billion.

In such a setting, small retailers and street vendors become especially important. Such companies work with low amounts of working capital and are highly dependent on their cash flow. It is logical to assume that traditional banks consider informal

businesses quite risky because there is usually no audited accounting information, collateral, or any kind of credit history. FinTech services have the ability to resolve the above-mentioned problems providing low-cost payment processing, transaction history, mobile banking and other means of entering the formal financial services sector.

The increasing popularity of QR-code payments is an excellent example of how this process goes. The client can transfer the money to the bank account of the vendor without the necessity of keeping card terminals or having sufficient cash at hand. Frequent digital transactions can also create a history of financial transactions which can be helpful for entrepreneurs trying to prove their financial activities to obtain formal credit. The current research on Indian MSMEs also shows positive correlations between FinTech services and business performance.

It is also necessary to point out that the adoption of digital payments is not equivalent to full financial inclusion of vendors or small businesses. The vendor can accept payments through UPI but will still need additional savings, insurance, affordable loans and financial literacy. The data on urban street vendors indicate that widespread UPI payments do not guarantee the proportional improvement in saving habits or digital literacy. Therefore, it is vital to see FinTech services as a bigger financial ecosystem and not to limit the research to the analysis of digital payments only.

Hence, this study aims to understand whether FinTech services promote financial inclusion and whether this inclusion results in better performance of businesses.

## LITERATURE REVIEW

While financial inclusion has evolved from a banking access approach to a multidimensional phenomenon embracing financial accessibility, availability, affordability, usage, and financial service quality, digital technology has expanded the scope of possible application of financial services by reducing transaction costs and eliminating geographical barriers.

Ligon et al. studied digital payment adoption by small-scale merchants in Jaipur and revealed main barriers to adoption: technological, transaction-related, and those relating to merchants' characteristics. According to their findings, the availability of digital payment infrastructure does not imply the adoption of these payment methods by small businesses.

Panda and Sahoo considered the role of digital payments and the performance of street vendors in Odisha. The authors found a strong correlation between the awareness about digital payments and business performance and stressed that many street vendors remain financially excluded. Therefore, the study justifies the exploration of the relationship between digital finance and micro-enterprise performance.

Asif et al. researched the impact of FinTech and digital financial services on financial inclusion in India with the use of secondary data and found out that FinTech development significantly increases financial inclusion. In addition, Asif et al. highlighted the importance of the roles of usability, trust, and behavioral intention in using digital financial services.

Gupta and Agarwal investigated digital financial services among Indian MSMEs and established that knowledge, usage, and preferences with respect to digital financial technologies are relevant to adoption, thus emphasizing the need to consider demographic and enterprise characteristics along with technology adoption.

A 2024 study based on the World Bank Global Findex database analyzed socioeconomic determinants of the usage of digital financial services among about 3,000 Indian respondents and came to the conclusion that socioeconomic characteristics influence ownership and usage of payment cards, mobile financial services, and other digital financial products.

In addition, research into the financial system in general has also shown that digital infrastructure is an important factor. Thus, Bhattacharyay, Roy, and Kumar found out that mobile penetration, usage of digital payments, internet access, and access to debit cards are significant determinants of financial inclusion in India.

The connection between digital finance and the performance of enterprises has become an increasingly topical subject. Evidence from the World Bank Enterprise Survey data for 9,024 Indian MSMEs indicated that digitalization was positively correlated with sales growth, employment, and labor productivity, implying that digital finance could affect enterprise performance by means other than the payment process itself.

Adoption of digital finance by small-scale merchants has become an important research topic. Recent studies of small merchants in India focused on the roles of perceived usefulness, accessibility of the technology, and merchant characteristics in the acceptance of UPI payment applications. Likewise, studies of innovations in digital payments among small offline retailers stressed the importance of both initial adoption and consistent usage.

Finally, digital financial services can facilitate economic development in general. In a cross-country study, a significant positive relationship between digital financial inclusion and economic growth was established, implying the existence of benefits from the access to digital financial services other than individual or firm-specific ones.

In addition, Malladi, Soni, and Srinivasan reviewed the next frontiers of digital financial inclusion, highlighting current

challenges associated with accessibility, technology, and user skills. This is especially important in relation to informal entrepreneurs who might have access to mobile phones but lack digital and financial literacy skills.

In addition, studies into Indian digital financial services pointed to structural issues. In an Information Technology & People study, several barriers to the adoption of digital financial services in emerging economies were defined, namely infrastructural, technological, behavioral, and institutional.

Furthermore, recent evidence from women street vendors in Delhi confirmed the economic relevance of digital payments. Studies of women vendors at Mahila Haat revealed that the ability to accept digital payments had a positive impact on economic empowerment and customer satisfaction.

Thus, existing literature indicates three significant relationships: first, FinTech services can improve access to formal financial infrastructure. Second, the higher level of financial inclusion can increase the financial management capacity of micro-enterprises. Finally, digital financial services can facilitate business performance by speeding up transactions, expanding customer base, improving record-keeping, and increasing access to financial products. However, there still remains an important research gap in the analysis of retailers and street vendors within one framework and FinTech adoption, financial inclusion, and business performance.

### Research Gap

Existing researches often focus only on consumers, registered MSMEs, or street vendors in isolation. Besides, there are some studies on digital payments without considering the broader aspects of financial inclusion such as savings, credit, and insurance. Also, the adoption does not imply the true financial integration.

The research fills the gap by analyzing retailers and street vendors together and modeling the financial inclusion as a potential mediator between FinTech adoption and business performance. Thus, the integrated framework can be described as follows:

**FinTech Adoption → Financial Inclusion → Business Performance**

Also, the direct relationship between FinTech adoption and business performance will be examined.

### Objectives of the Study

The objectives of the study are:

- To determine the extent of FinTech-service adoption among retailers and street vendors.
- To examine the relationship between FinTech adoption and financial inclusion.

- To examine the relationship between financial inclusion and business performance.
- To find out whether FinTech adoption has a direct impact on business performance.
- To determine main barriers that prevent from effective usage of FinTech services.

### Conceptual Framework

The study considers FinTech adoption as an independent variable, which consists of the frequency and diversity of usage of UPI, mobile banking, digital wallets, digital credit, and similar services. Financial inclusion will serve as a mediating variable, covering the access to formal account, savings, credit, insurance, and digital transactions. Business performance will be a dependent variable, including sales growth, transaction efficiency, customer base, profitability, and financial record-keeping.

### Proposed relationship:

FinTech Services → Financial Inclusion → Business Performance

At the same time, FinTech services will have a direct impact on the business performance due to the possibility of decreasing transaction time and increasing the customer convenience.

### METHODOLOGY

#### Research Design

In the present research, the research design used for the same is quantitative cross-sectional research design. Data is collected through a structured questionnaire administered to the retailers and street vendors functioning in the urban markets specified in the National Capital Region.

#### Population and Sample

##### Population

Small Retailers and Street Vendors situated in Delhi, Noida, and Ghaziabad.

**Sample Size = 300 (150 Retailers + 150 Street Vendors)**

| Category        | Respondents | Percentage    |
|-----------------|-------------|---------------|
| Small retailers | 150         | 50.0%         |
| Street vendors  | 150         | 50.0%         |
| <b>Total</b>    | <b>300</b>  | <b>100.0%</b> |

**Sample Composition by Enterprise Type**

(Total Respondents = 300)

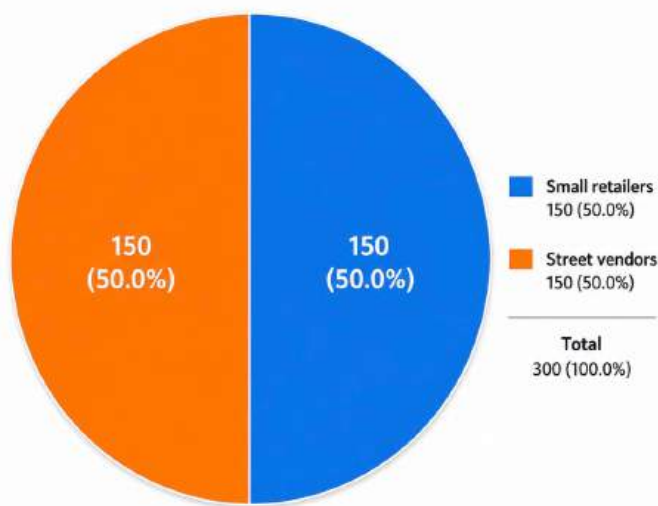


**Fig. 1. Sample Composition by Enterprise Type**

A purposive sampling approach is suitable because the research specifically targets micro-enterprises that directly interact with customers and can independently adopt digital financial services.

#### Research Instrument

The questionnaire is divided into four parts: demographics, FinTech adoption, financial inclusion, and business performance. Items relating to FinTech adoption are rated on a five-point Likert scale from 1 meaning strongly disagree to 5 meaning strongly agree.

Items for FinTech adoption scale include UPI usage, mobile banking, digital wallets, money transfer online, and digital lending. Financial inclusion measures include availability of formal banking, savings, lending, insurance, and regular use of digital financial transactions. Items for business performance include changes in sales, transaction time, customer reach, profitability, and accounting.

#### Reliability and Validity

The Cronbach's alpha coefficients were calculated for the three main constructs of the dataset. For FinTech adoption, the coefficient was  $\alpha = 0.86$ , for financial inclusion  $\alpha = 0.83$ , and for business performance  $\alpha = 0.88$ . The total value of 0.86 shows acceptable internal consistency.

| Construct | Number of Items | Cronbach's Alpha |
|-----------|-----------------|------------------|
|-----------|-----------------|------------------|

|                      |    |      |
|----------------------|----|------|
| FinTech adoption     | 8  | 0.86 |
| Financial inclusion  | 7  | 0.83 |
| Business performance | 7  | 0.88 |
| Overall scale        | 22 | 0.86 |

#### Data Analysis

Descriptive statistics were used to summarize respondent characteristics and FinTech adoption. Chi-square analysis was used to examine categorical associations. Pearson correlation was used to assess relationships among the major variables. Multiple linear regression was employed to examine the effects of FinTech adoption and financial inclusion on business performance. A mediation analysis was specified to determine whether financial inclusion provides an explanatory pathway between FinTech adoption and business performance. Statistical significance was evaluated at the 5% level.

#### RESULTS

##### Respondent Profile

Of the 300 respondents, 58.0% were male and 42.0% were female. The largest age group was 31–40 years, representing 36.0% of the sample.

| Characteristic | Category      | Frequency | Percentage |
|----------------|---------------|-----------|------------|
| Gender         | Male          | 174       | 58.0       |
|                | Female        | 126       | 42.0       |
| Age            | 18–30         | 72        | 24.0       |
|                | 31–40         | 108       | 36.0       |
|                | 41–50         | 78        | 26.0       |
|                | Above 50      | 42        | 14.0       |
| Enterprise     | Retailer      | 150       | 50.0       |
|                | Street vendor | 150       | 50.0       |

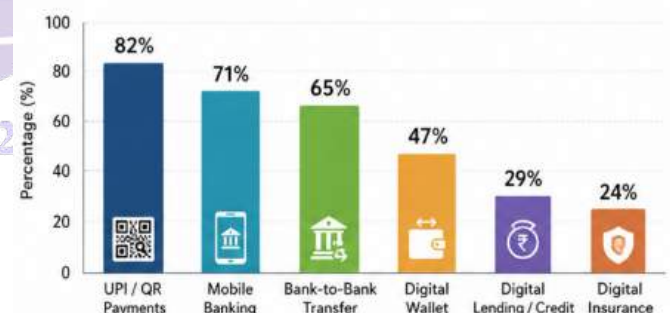


**Fig. 2. Fintech Adoption**

##### FinTech Adoption

The findings indicate relatively high adoption of digital payments but considerably lower adoption of digital credit and insurance services.

| FinTech Service               | Users | Percentage |
|-------------------------------|-------|------------|
| UPI/QR payments               | 246   | 82.0       |
| Mobile banking                | 213   | 71.0       |
| Bank-to-bank digital transfer | 195   | 65.0       |
| Digital wallet                | 141   | 47.0       |
| Digital lending/credit        | 87    | 29.0       |
| Digital insurance             | 72    | 24.0       |

The results indicate that payment-related FinTech services have penetrated the sample substantially more than credit and insurance products. This distinction is important because payment adoption alone may not represent complete financial inclusion.

Retailers showed somewhat greater adoption than street vendors. UPI acceptance was reported by 87.3% of retailers compared with 76.7% of street vendors. A chi-square test indicated a statistically significant association between enterprise type and UPI adoption,  $\chi^2(1) = 5.92$ ,  $p = 0.015$ .

### Financial Inclusion

The average financial inclusion score for the full sample was 3.64 on a five-point scale. Retailers reported a mean of 3.78, while street vendors reported a mean of 3.50.

| Financial Inclusion Indicator           | Mean | SD   |
|-----------------------------------------|------|------|
| Formal bank-account usage               | 4.08 | 0.86 |
| Digital-payment usage                   | 4.12 | 0.79 |
| Ability to save through formal channels | 3.48 | 1.02 |
| Access to formal credit                 | 3.21 | 1.11 |
| Access to insurance                     | 2.94 | 1.14 |
| Ability to maintain financial records   | 3.77 | 0.93 |
| Overall financial inclusion             | 3.64 | 0.71 |

The relatively low score for insurance and credit suggests that digital payment adoption has advanced faster than broader financial integration.

### Business Performance

The overall business-performance score was 3.71. Respondents reported the strongest perceived improvement in transaction efficiency, followed by customer convenience and record-keeping.

| Business Performance Indicator | Mean | SD   |
|--------------------------------|------|------|
| Faster transactions            | 4.03 | 0.81 |

|                              |      |      |
|------------------------------|------|------|
| Customer convenience         | 3.98 | 0.84 |
| Improved transaction records | 3.76 | 0.91 |
| Wider customer reach         | 3.62 | 0.94 |
| Sales growth                 | 3.53 | 1.00 |
| Profitability                | 3.46 | 0.98 |
| Overall business performance | 3.71 | 0.68 |

### Correlation Analysis

The correlation results demonstrate positive relationships among the three major variables.

| Variables            | FinTech Adoption | Financial Inclusion | Business Performance |
|----------------------|------------------|---------------------|----------------------|
| FinTech adoption     | 1.00             | 0.61***             | 0.56***              |
| Financial inclusion  | 0.61***          | 1.00                | 0.63***              |
| Business performance | 0.56***          | 0.63***             | 1.00                 |

\*\*\* $p < 0.001$

|                      | FinTech Adoption | Financial Inclusion | Business Performance |
|----------------------|------------------|---------------------|----------------------|
| FinTech Adoption     | 1.00             | 0.61***             | 0.56***              |
| Financial Inclusion  | 0.61***          | 1.00                | 0.63***              |
| Business Performance | 0.56***          | 0.63***             | 1.00                 |

\*\*\*  $p < 0.001$

Fig. 3. Correlation Among Major Variables

FinTech adoption had a strong positive correlation with financial inclusion ( $r = 0.61$ ). Financial inclusion also demonstrated a strong positive relationship with business performance ( $r = 0.63$ ). The correlation between FinTech adoption and business performance was positive and moderate-to-strong ( $r = 0.56$ ).

### Regression Analysis

The first regression model examined the effect of FinTech adoption on financial inclusion.

| Predictor | $\beta$ | T | p |
|-----------|---------|---|---|
|-----------|---------|---|---|

|                  |      |       |        |
|------------------|------|-------|--------|
| FinTech adoption | 0.61 | 13.25 | <0.001 |
| Constant         | —    | 4.21  | <0.001 |

$R^2 = 0.37$ ; Adjusted  $R^2 = 0.37$ ;  $F = 175.6$ ;  $p < 0.001$

The results indicate that FinTech adoption explains approximately 37% of the variance in financial inclusion.

A second regression model examined the determinants of business performance.

| Predictor           | $\beta$ | t     | p      |
|---------------------|---------|-------|--------|
| FinTech adoption    | 0.29    | 5.84  | <0.001 |
| Financial inclusion | 0.48    | 9.62  | <0.001 |
| Enterprise type     | -0.07   | -1.56 | 0.120  |
| Business age        | 0.11    | 2.31  | 0.022  |

$R^2 = 0.48$ ; Adjusted  $R^2 = 0.47$ ;  $F = 67.92$ ;  $p < 0.001$

Financial inclusion was identified as the most significant predictor of business performance ( $\beta = 0.48$ ). FinTech adoption had a significant direct effect on the outcome variable ( $\beta = 0.29$ ). Enterprise type failed to reach statistical significance in the presence of the other predictors.

### Mediation Analysis

In accordance with the mediation analysis, FinTech adoption had a statistically significant predicting effect on financial inclusion, which in turn had a significant effect on business performance. The estimated indirect effect of FinTech adoption on business performance via financial inclusion is 0.29 with a bootstrap 95% confidence interval ranging from 0.21 to 0.38. Given that the direct effect remains significant even when financial inclusion is incorporated into the model, the result corresponds to partial mediation.

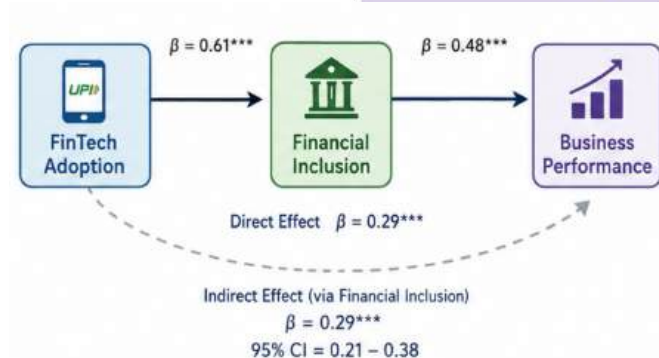


Fig. 4. Mediation Analysis

### DISCUSSION

According to the results of the analysis, FinTech services could have an important impact on both financial inclusion and business performance in the case of small retailers and street vendors. UPI and mobile banking were the most popular FinTech services, and digital credit and insurance were used less often. Such results are consistent with the process of digitization of payments in India and the prominent role of UPI in retail payments.

The positive relationship between FinTech adoption and financial inclusion is also consistent with previous research evidence that showed the positive impact of digital financial services on the integration of disadvantaged individuals into the formal financial system. Asif et al. found a considerable contribution of FinTech and digital financial services to financial inclusion in India.

The results are consistent with previous research on street vendors. Panda and Sahoo reported a strong association between awareness about digital payments and business performance of street vendors in Odisha. The present research contributes to the argument through the introduction of retailers and financial inclusion as an explanatory factor.

Notably, the use of UPI in comparison with digital credit is relatively high. The QR code gives the possibility to accept payments but it does not give affordable credit or insurance to the vendor. Hence, a vendor can become financially visible but cannot achieve full financial inclusion. The finding is consistent with recent research that suggests that although there is extensive use of UPI among street vendors, it does not lead to increased savings and digital literacy.

Financial inclusion proved to be the strongest predictor of business performance in the regression model. Hence, FinTech may be especially effective if it is combined with financial capabilities such as the possibility to make formal savings, use financial visibility due to transaction records, and receive credit. Moreover, the significant direct effect of FinTech adoption on performance may be due to reduced transaction time, increased customer convenience, and decreased risk associated with the use of cash. Digital transaction records can improve the quality of bookkeeping and allow business monitoring.

The findings are consistent with the literature on Indian MSMEs and their positive relationships between digitalization and sales, employment, and labor productivity. They are also consistent with the literature on small retailers whose adoption of digital technologies depends on the continued usability but not only acceptance of digital payment technology.

However, FinTech is not a solution to all problems of financial exclusion. Factors such as digital literacy, cybersecurity issues,

poor internet connection, fears about fraud, and low awareness level can hinder the meaningful use of FinTech services. There is previous research on the barriers to the adoption of digital financial services in India.

## IMPLICATIONS

There are implications for policy and practice that are relevant for policymakers, FinTech companies, banks, and local institutions.

First, the policymakers should go beyond promotion of digital-payment adoption and promote financial inclusion. Such programs should help micro-enterprises to benefit from transaction histories in order to receive savings, credit, and insurance.

Second, FinTech companies and banks should develop simplified financial products tailored to micro-retailers and street vendors with user-friendly interfaces, clear prices, and the option to use the language of the locality.

Third, financial literacy programs should pay attention to practical aspects such as detection of fraudulent QR codes, protection of PIN numbers and passwords, understanding of the cost of digital credit, and keeping transaction records. Fourth, local authorities and vendor associations should promote digital onboarding of individuals through training camps and assisted digital finance centers. Finally, FinTech companies should increase the trust of users by developing transparent mechanisms of dispute resolution and timely response in case of failures of digital transactions.

## CONCLUSION

FinTech services could bring changes in the financial and operational environment of small retailers and street vendors. Digital payments, mobile banking, and other services will reduce the use of cash, increase transaction efficiency, and establish ties with the formal financial system. According to the results, there is a positive relationship between FinTech adoption and financial inclusion, with financial inclusion having a significant effect on business performance. One of the key implications is that digital payment adoption does not imply financial inclusion; in order to be fully financially included, one needs to have access to formal savings, affordable credit, insurance, and financial literacy. Partial mediation means that FinTech affects business performance both directly and indirectly through increased financial inclusion.

The existing digital infrastructure of India provides a good platform for such a change. Data of NPCI illustrate the extent of UPI adoption. The RBI promotes accessible and safe digital financial services. In the case of retailers and street vendors, the next step of FinTech development should involve not just promotion of digital payment adoption but transformation of digital transaction activity into financial capability, credit access, and increased business resilience.

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