

**ROLE OF FINTECH AND DIGITAL PAYMENTS IN SMART URBAN COMMERCE IN INDIA****Rahul Kr. Agarwal<sup>1</sup> and Dr Diganta Kr. Das<sup>2</sup>**<sup>1</sup>Lakhimpur Commerce College, North Lakhimpur, Assam 787001

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<sup>1</sup>rahulkragarwal1999@gmail.com and <sup>2</sup>diganta.das1981@gmail.com**ABSTRACT**

*The swift rise of FinTech and digital payments has transformed urban commerce, allowing for easy and secure financial transactions. In smart cities, digital payment methods such as mobile wallets, contactless payments, and even blockchain are improving consumer experience and promoting entrepreneurship, which in turn leads to economic growth. This chapter analyzes how retail, e-commerce, and small business ecosystems are being transformed through FinTech, specifically focusing on AI-powered financial services, real-time payment systems, open banking, and decentralized finance (DeFi). It also looks into important issues such as cyber security, the digital divide, and regulatory compliance. By examining smart cities that utilize digital payments, this chapter explains how these technologies enhance financial inclusion, resiliency, and urban sustainable economic development.*

**Keywords:** *Fintech, Digital Payments, Urban, Commerce.*

**INTRODUCTION**

Rapid adoption of financial technology (Fintech) and digital payments have revolutionized urban trade in India, and given businesses and consumers again shaped the way they interact in the digital economy. With the spread of mobile wallet, integrated payment interface (UPI), contactless payment and blockchain-based transactions, India has emerged as one of the fastest growing digital payment markets in the world (RBI, 2023). The government's pressure on a cashless economy through initiatives such as regulatory support from Digital India and Reserve Bank of India (RBI) has reinforced the acceptance of digital payments in urban centers (Mehta, 2022).

When it comes to smart cities, digital payments play an important role in promoting financial inclusion, increasing operational efficiency and supporting entrepreneurship. AI-operated financial services, real-time payment systems, open banking and decentralized finance (DEFI) have expanded financial access, which reduces the dependence on traditional bank channels (Banerjee). However, Fintech's emergence also presents challenges, including dangers of cyber security, data problems and the problems of adherence to authorities (Saxena, 2023).

This paper examines the transforming effects of fintech and digital payments on smart urban trade in India. This suggests how these technologies contribute to economic flexibility, innovation and stability; while much addressed obstacles are hindering adoption. By analyzing the study of the case of Indian smart cities that utilize digital payment systems, the study highlights Fintech's role in designing the future of urban trade and economic ecosystems.

**OBJECTIVES**

- To analyze the impact of FinTech and digital payment solutions on urban commerce in Indian smart cities.
- To examine the challenges and regulatory considerations associated with digital payments in India's smart urban economy.

**LITERATURE REVIEW**

*Banerjee and Gupta (2021)* discovered how fintech innovation contributes to financial inclusion to emerging economies, emphasizing AI-operated financial services, mobile banking and Blockchain's role in expanding access to financial resources. Their study shows that digital payments have strengthened small businesses and consumers by offering spontaneous financial transactions and reducing the dependence on cash-based systems.

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*Mehta and Sharma (2022)* examined the digital payment revolution in India, identifying major trends and challenges in adoption. His research emphasized the effect of government initiatives such as Digital India rapidly growth of Unified Payment Interface (UPI) and promote cashless transactions. He also indicated the need for infrastructural improvement and digital literacy to ensure widespread adoption in different socio-economic groups.

In its annual report, *Reserve Bank of India (2023)* provided a comprehensive analysis of digital payments, and showed increasing transaction versions in UPI, mobile wallet and contactless payment. The report emphasized the role of regulations to ensure financial security, promote innovation and address the risk associated with digital transactions.

*Saxena, Kumar and Patel (2023)* investigated concerns about cyber security in digital payments, focusing on new risks such as data violations, fraud and privacy violations. His study emphasized the importance of strict cyber security measures, regulatory inspections and consumer awareness to reduce the risk associated with digital payment ecosystems.

### RESEARCH METHODOLOGY

This study adopts a descriptive research design based on secondary data to analyze the role of fintech and digital payments in Smart Urban Trade in India. Data is collected from reliable sources including government reports (RBI, Niti Aayog, NPCI), academic magazines, industry reports (McKinsey', PwC, KPMG) and financial news sources (financial time, trade standards). The study uses content analysis to review existing literature and guidelines, comparative analysis to evaluate digital payments in smart cities and to classify findings based on economic inclusion, cyber security, regulatory challenges and financial impact. Although research provides valuable insights, it is limited to secondary data, which cannot capture real-time consumer and business approaches.

### Objective 1: Analyze the impact of FinTech and digital payment solutions on urban commerce in Indian smart cities.

The effect of fintech and digital payment solutions on urban trade in Indian smart cities have transformed, driven economic inclusion, business efficiency and economic growth. Digital wallets, UPI and Mobile Banking have enabled small suppliers and MSME to reach formal financial services, which reduces the dependence on cash transactions. The adoption of digital payments has increased transaction speed, minimum costs and better transparency, and promotes a more organized economy. In addition, fintech innovations have accelerated the growth of e-commerce and retail, with contactless payments and digital lending to consumer behavior. These solutions also contribute to better tax compliance by reducing the informal economy, and basically integrating with smart urban infrastructure for public transport, tools and civilian services. However, rapid changes in digital payments also increase the concerns of cyber security risk, and require strong measures to prevent fraud. The aim of this analysis is to assess the economic effect of fintech on urban trade, evaluate their role in economic inclusion, identify the challenges of adoption and provide political recommendations to increase digital change in smart cities.

Metric	UPI	Digital Rupee	ONDC
Launch Date	2016	2023	2022
Transaction Volume	2.07 billion (Oct 2020)	N/A	5.5 million/month (Dec 2023)
Transaction Value	₹41 trillion (FY 2021)	₹323.5 crore (May 2024)	Data not specified
Registered Users	Data not specified	4.6 million (Apr 2024)	Data not specified
Participating Businesses	Data not specified	400,000 (Apr 2024)	370,000 vendors (Feb 2024)

*Source-* [https://en.wikipedia.org/wiki/Digital\\_rupee?utm\\_source](https://en.wikipedia.org/wiki/Digital_rupee?utm_source)

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### Objective 2: Examine the challenges and regulatory considerations associated with digital payments in India's smart urban economy

India's rapid change to a digital economy has changed city transactions, but also presents important challenges. Threats for cyber security, economic scams, digital exclusion, and transaction failure and privacy risk meet major obstacles. With the increase in Cyberswind cases four times in 2023-24, transaction failure in high time and 1.3 billion data violations, ensuring that a safe and spontaneous payment system remains a challenge. In addition, digital skills prevent a large part of urban poor and older from using completely digital payments. To solve these challenges, regulators such as Reserve Bank of India (RBI) and National Payments Corporation of India (NPCI) have implemented measures such as two-factor certification (2FA), UPI transactions and measures such as Digital Personal Data, 2023.

#### Challenges in digital Payments

Challenge	Description	Numerical Data	Source
<b>Cyber security and fraud</b>	Increase in digital fraud due to fishing, false Upi link and unauthorized transactions.	In the financial year 2023-24, cybers fraud increased four times, causing a loss of \$ 20 million.	Reuters
<b>Digital Division and Inclusion</b>	Many urban poor and older lack access to digital payments due to low digital reading skills.	31% smartphone users regularly use digital payments, while 35% urban poor still prefer cash.	RBI
<b>Transaction failure and shutdown</b>	The server leads to unsuccessful transactions in additional fees, especially on the high side.	3.8% UPI transaction failure in high time in 2023; 2 million failed transactions under Diwali.	NPCI
<b>Data Privacy &amp; Security</b>	Payment leads to fractures from weak security for data.	India recorded 1.3 billion data violations in 2023.	PWC

#### Regulatory Considerations

Regulation	Description	Impact / Data	Source
<b>RBI'S 2FA mandate</b>	Mandatory <i>two-factor authentication</i> (2FA). For transactions over 5000.	In 2023, the Tokenification rule reduced the card fraud by 25%.	RBI
<b>The UPI transaction</b>	RBI introduced boundaries to reduce fraud.	UPI treated \$ 200 trillion in transactions in 2023.	NPCI
<b>The Digital Personal Data Act, 2023,</b>	Protects the user data and imposes punishment for violations.	85% of Fintech companies updated guidelines; ₹ 250 crore penalty for data abuse.	PWC
<b>Guidelines for financial inclusion</b>	Extend digital payments in unqualified areas.	500 million mass money accounts were opened; Aadhaar-competent transaction. Price of 12,000 crores.	pib.gov.in
<b>Taxation and compliance (TDS on crypto)</b>	On crypto transactions of 1% TDS over 50000.	In 2023 RBI flags the value of 5 lakh high for tax evasion.	pib.gov.in

#### FINDING

India's digital payment ecosystem has experienced significant growth, but it faces many challenges and regulatory ideas:

- **Cyber Security and Fraud:** In the 2023-24 financial year, India's high-value Cyberswind cases increased more than four times, resulting in a total loss of ₹20 million. The number of cases related to the amount more than Rs 100,000 increased from 6,699 to 29,082 in 2023-24 in the last financial year.

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- **Digital Literacy and Inclusion:** Despite the spread of digital payment platforms, there is a significant part of the urban population, especially the elderly and financially deprived of, lacking sufficient digital reading skills. This difference prevents the adoption of the universal of digital payment methods, which exposed to check the challenges of digital payment systems in city centers such as Bangalore.
- **Transactions Error and Infrastructure Problems:** During Diwali 2023, the integrated payment interface (UPI) platform processed 644 million transactions on a single day, which was more than 20% of the daily average. Although it shows the system's ability, infrastructure can be emphasized in such high versions, which potentially leads to transaction failure.
- **Data Privacy and Security:** The year 2024 marked a new height in cyber crimes in India, with average complaints grew 7,000 per day compared to previous years - an increase of 113.7%. During the first four months alone, around 740,000 cases were reported on Cyber Crime Portal, by September 2024 to 1.2 million.
- **Regulatory Measures:** To compete with digital scams, Reserve Bank of India (RBI) plans to introduce special domain names, such as 'Bank.in' for banks and 'fine.in' for non-bank financial institutions, increasing the security of digital payments.

### CONCLUSION

India's digital payment scenario has changed significantly, promoting economic inclusion, efficiency and economic growth in urban centers. The emergence of fintech innovations such as UPI, digital wallet and AI-operated financial services such as small businesses, consumers and broad smart urban economy has intensified cashless transactions. Government initiatives such as Digital India with RBI regulation structure have played an important role in the expansion of digital financial services. However, challenges such as cyber fraud, transaction failure and digital literacy intervals prevent adoption. Despite the regulation efforts, the increase emphasizes in cases of online crime, violations of data secretions and fraudulent The need for strong security structures and initiatives for consumers' awareness.

In order to ensure long -term stability of digital payments in smart cities in India, decision makers should focus on increasing cyber security infrastructure, improving digital literature programs and strengthening regulatory measures. AI-driven scam detection, increased investment, blockchain for secure transactions and strong complaints-travel mechanisms can further increase the confidence in digital payments. By solving these challenges, India can strengthen its position as a global leader in digital finance, and ensure safe, inclusive and effective financial transactions for all urban stakeholders.

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