



The role of digital payment systems in promoting MSME growth and financial inclusion

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Abstract

Digital payment systems have become a key driver of business efficiency, financial inclusion, and economic growth among Micro, Small, and Medium Enterprises (MSMEs) in India. This study examines the role of digital payment systems in promoting MSME growth and financial inclusion using secondary data from government reports, industry publications, and peer-reviewed literature published between 2018 and 2025. The findings indicate that digital payments improve operational efficiency, financial transparency, customer accessibility, and access to formal financial services. The study concludes that strengthening digital infrastructure, digital literacy, and supportive policies is essential for accelerating MSME growth and fostering an inclusive digital economy.

Keywords: Digital payment systems, msme, financial inclusion, digital economy, unified payments interface (upi), financial technology (fintech)

Introduction

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as the backbone of the Indian economy due to their significant contribution to employment generation, industrial production, exports, and inclusive economic development. The sector plays a vital role in promoting entrepreneurship, reducing regional economic disparities, and supporting sustainable economic growth. According to the Ministry of Micro, Small and Medium Enterprises, MSMEs contribute substantially to India's Gross Domestic Product (GDP), manufacturing output, and exports, making them an indispensable component of the nation's economic framework.

The rapid advancement of digital technologies has transformed the way businesses conduct financial transactions. The emergence of digital payment systems—including Unified Payments Interface (UPI), mobile wallets, internet banking, Point-of-Sale (POS) terminals, QR code-based payments, and contactless payment solutions—has revolutionized commercial activities by enabling secure, faster, and more convenient transactions. Government initiatives such as Digital India, the Pradhan Mantri Jan Dhan Yojana (PMJDY), and the growing digital payment infrastructure have accelerated the transition towards a cashless and digitally inclusive economy. These initiatives have encouraged MSMEs to adopt digital payment platforms, thereby improving their operational efficiency and financial accessibility.

Digital payment systems offer numerous benefits to MSMEs, including reduced transaction costs, enhanced transparency, improved financial record-keeping, faster cash flow, and expanded customer reach. By creating reliable digital transaction histories, these systems also improve access to formal banking services, institutional credit, and government financial assistance, thereby strengthening financial inclusion. Furthermore, the increasing adoption of smartphones and affordable internet connectivity has made digital payment solutions more accessible to enterprises operating in both urban and semi-urban areas.

Despite these advantages, the adoption of digital payment systems among MSMEs continues to face several challenges. Limited digital literacy, cybersecurity concerns, inadequate digital infrastructure, connectivity issues in rural areas, and resistance to technological change remain significant barriers to widespread adoption. Addressing these challenges is essential for ensuring that MSMEs fully benefit from digital financial services and actively participate in the formal digital economy.

Although several studies have examined digital payments and MSME development independently, relatively few have comprehensively analyzed how digital payment systems contribute simultaneously to MSME growth and financial inclusion using recent secondary evidence. This study seeks to bridge this gap by synthesizing data from government reports, industry publications, and scholarly literature published between 2018 and 2025. It examines the role of digital payment systems in enhancing business performance, promoting financial inclusion, and supporting the sustainable growth of MSMEs in India. The findings are expected to provide valuable insights for policymakers, financial institutions, researchers, and MSME entrepreneurs in designing strategies that strengthen digital financial ecosystems and foster inclusive economic development.

Statement of the Problem

Digital payment systems have become an essential component of India's digital economy, offering significant opportunities for the growth and financial inclusion of Micro, Small, and Medium Enterprises (MSMEs). Despite the increasing adoption of digital payment platforms, existing studies provide fragmented evidence on their impact on MSME development. There is a need to consolidate and analyze recent secondary data from government reports, industry publications, and scholarly literature to understand how digital payment systems influence business growth and financial inclusion. Therefore, this study seeks to examine the role of digital payment systems in promoting MSME growth and financial

inclusion through a comprehensive analysis of secondary data.

Objectives of the Study

1. To examine the role of digital payment systems in promoting the growth of MSMEs in India.
2. To analyze the contribution of digital payment systems towards financial inclusion among MSMEs.
3. To identify the major benefits and challenges associated with the adoption of digital payment systems by MSMEs.
4. To suggest measures for enhancing the adoption and effective utilization of digital payment systems among MSMEs.

Research Gap

Existing studies show that digital payment systems improve business efficiency and financial inclusion. However, most research examines either digital payment adoption or MSME development separately. There is limited research that comprehensively analyses the combined impact of digital payment systems on MSME growth and financial inclusion using recent secondary data. This study addresses this gap by analysing secondary data from 2018–2025 to provide an updated understanding of how digital payment systems contribute to MSME growth and financial inclusion in India.

Significance of the Study

Micro, Small, and Medium Enterprises (MSMEs) are essential to India's economic growth, employment, and entrepreneurship. Digital payment systems have improved business efficiency by enabling secure, fast, and transparent financial transactions. This study examines the role of digital payments in promoting MSME growth and financial inclusion using secondary data. The findings will help policymakers, financial institutions, MSME entrepreneurs, and researchers understand the benefits, challenges, and policy implications of digital payment adoption for sustainable economic development.

Scope of the Study

This study examines the role of digital payment systems in promoting MSME growth and financial inclusion in India using secondary data. The analysis is based on reports from the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), Ministry of MSME, NITI Aayog, the World Bank, industry reports, and peer-reviewed journals. The study covers the period from 2018 to 2025, focusing on the adoption of digital payment methods such as UPI, mobile wallets, internet banking, QR code payments, and POS systems. It evaluates their impact on MSME growth, operational efficiency, and financial inclusion. As the research is based solely on secondary data, the findings are limited to published sources and do not include primary data from MSME entrepreneurs.

Review of Literature

The adoption of digital payment systems has significantly transformed the financial landscape of India, particularly for Micro, Small, and Medium Enterprises (MSMEs). Existing literature highlights that digital payments enhance operational efficiency, financial inclusion, business competitiveness, and access to formal financial services. A review of relevant studies is presented below.

1. **Reserve Bank of India (2024)** ^[7]: examined the evolution of India's digital payment ecosystem and reported that the rapid expansion of digital payment infrastructure, particularly the Unified Payments Interface (UPI), has significantly enhanced payment accessibility, reduced transaction costs, and promoted financial inclusion. The report also highlighted the importance of initiatives such as the Payments Infrastructure Development Fund (PIDF) and the Expanding and Deepening of Digital Payment Ecosystem (EDDPE) programme in increasing merchant acceptance across the country.
2. **World Bank (2022)** ^[10]: reported that digital financial services improve financial inclusion by expanding access to affordable financial products, encouraging formal banking participation, and supporting small businesses in developing economies.
3. **Ministry of MSME (2024)**: observed that digitalisation has enabled MSMEs to improve productivity, increase market access, and strengthen business resilience through technology-enabled financial services.
4. **National Payments Corporation of India (2024)** ^[7]: reported continuous growth in UPI transactions, demonstrating increasing acceptance of digital payments among businesses and consumers and contributing to India's transition towards a cashless economy.
5. **RBI (2022)**: in its benchmarking report on payment systems, concluded that India has emerged as one of the global leaders in digital payment adoption due to improvements in payment infrastructure, regulatory support, and technological innovation.
6. **Deloitte (2023)** ^[2]: found that digital payment solutions improve operational efficiency, reduce cash-handling costs, and strengthen customer relationships for MSMEs.
7. **PwC India (2023)** ^[3]: highlighted that fintech innovations have accelerated MSME digital transformation by providing convenient payment solutions and facilitating access to digital credit.
8. **KPMG India (2022)** ^[5]: reported that QR-code payments and mobile-based transactions have increased significantly among small businesses due to their affordability and ease of use.
9. **EY India (2023)** ^[3]: emphasized that digital payment systems improve financial transparency and simplify compliance with taxation and accounting requirements.
10. **OECD (2021)**: stated that digital financial technologies contribute to productivity growth, innovation, and financial inclusion among small enterprises.

Research Design

The study adopts a descriptive and analytical research design. The descriptive approach explains the growth of digital payment systems, while the analytical approach examines their impact on MSME growth and financial inclusion.

Nature of the Study

The research is based entirely on secondary data.
Sources of Data

Secondary data were collected from

- Reserve Bank of India (RBI) Reports
- National Payments Corporation of India (NPCI) Statistics
- Ministry of MSME Reports
- NITI Aayog Reports
- World Bank, IMF, and ADB Reports
- Industry Reports (PwC, Deloitte, KPMG, EY)
- Scopus and Web of Science indexed journals
- Government publications and policy documents

Period of the Study

The study covers the period 2018–2025.

Data Collection Method

Relevant reports, journal articles, statistical databases, and policy documents were reviewed and classified into themes such as digital payment adoption, MSME growth, financial inclusion, and government initiatives.

Analytical Techniques

- Trend Analysis
- Percentage Analysis
- Comparative Analysis
- Content Analysis
- Thematic Analysis
- Tabular and Graphical Analysis

Growth of Digital Payment Transactions in India

Financial Year	Digital Payment Transactions (Crore)	Growth Trend
2017–18	2,070.9	Base Year
2018–19	3,133.6	Increasing
2019–20	4,571.7	Rapid Growth
2020–21	5,553.8	Pandemic-led Growth
2021–22	8,839.1	Significant Increase
2022–23	13,462.4	Strong Growth
2023–24	18,736.5	Exceptional Growth

Source: Department of Financial Services, Government of India; RBI; NPCI.

Interpretation

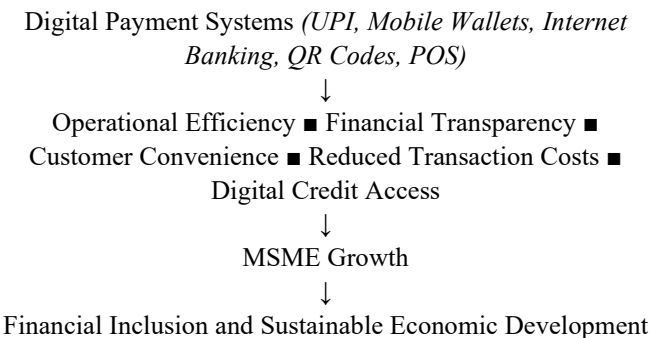
Table 1 indicates that digital payment transactions in India increased from 2,070.9 crore in 2017–18 to 18,736.5 crore in 2023^[3]–24, representing nearly a nine-fold increase. This remarkable growth reflects the success of policy initiatives promoting digital payments and the rapid expansion of digital payment infrastructure. Increased merchant acceptance, smartphone penetration, internet accessibility, and fintech innovation have encouraged individuals and MSMEs to adopt digital payment systems. The data demonstrates that digital payments have become an integral component of India's financial ecosystem.

Growth of UPI Transactions in India

Financial Year	UPI Transaction Volume (Crore)	Growth Trend
2018–19	539	Initial Expansion
2019–20	1,252	Rapid Growth
2020–21	2,233	Pandemic-led Adoption
2021–22	4,597	Strong Expansion
2022–23	8,375	Accelerated Growth
2023–24	13,113	Record Growth
2024–25*	Continued Strong Growth	Increasing

2024–25 reflects continued expansion based on official monthly statistics.

Conceptual Framework



Data Analysis

Growth of Digital Payments in India

India has witnessed an unprecedented increase in digital payment transactions over the past decade due to government initiatives such as Digital India, increasing smartphone penetration, affordable internet services, and the rapid expansion of digital payment infrastructure. The introduction of the Unified Payments Interface (UPI), Bharat QR, Aadhaar Enabled Payment System (AePS), Immediate Payment Service (IMPS), and mobile wallets has significantly transformed India's payment ecosystem. The COVID-19 pandemic further accelerated the adoption of contactless and digital payment methods among consumers and businesses, particularly MSMEs.

Growth of UPI Transactions (2018–2025)

Unified Payments Interface (UPI) has emerged as India's most widely used real-time payment system. Developed by the National Payments Corporation of India (NPCI), UPI enables instant bank-to-bank transfers using mobile applications. The widespread adoption of QR-code payments, interoperability among banks, and zero-cost transactions have made UPI the preferred payment mode for MSMEs and consumers.

Interpretation

Table 2 shows that UPI transaction volume increased dramatically from 539 crore transactions in 2018–19 to 13,113 crore transactions in 2023–24, highlighting its rapid acceptance among businesses and consumers. The availability of user-friendly mobile applications, QR-code payments, interoperability across banks, and government support have made UPI the dominant retail payment platform in India. For MSMEs, UPI has reduced dependence on cash, lowered transaction costs, improved payment efficiency, and enabled better financial record-keeping. The continued rise in UPI transactions during 2024–25 further demonstrates the growing confidence of businesses and consumers in digital payment systems.

Growth of MSMEs in India

The MSME sector plays a significant role in India's economic development by contributing to industrial output, employment generation, exports, and GDP. The increasing adoption of digital technologies and digital payment systems has improved the competitiveness and resilience of MSMEs by enabling access to wider markets, faster financial transactions, and formal financial services.

Importance of the MSME Sector in India

Indicator	Latest Available Estimate
Estimated Number of MSMEs	Approximately 6.3 crore
Share in GDP	Around 30%
Share in Manufacturing Output	Approximately 36%
Share in Merchandise Exports	Approximately 45%
Employment Generated	More than 26 crore persons

Source: Ministry of MSME Annual Reports and Government of India publications.

Interpretation

highlights the strategic importance of MSMEs in the Indian economy. With approximately 6.3 crore enterprises, the sector contributes around 30% of GDP, 36% of manufacturing output, and 45% of merchandise exports, while providing employment to more than 26 crore people. The growing adoption of digital payment systems has enabled MSMEs to enhance operational efficiency, improve customer experience, maintain transparent financial records, and strengthen access to institutional finance. Consequently, digital payments have become an important driver of MSME growth and financial inclusion.

Overall Analysis of Part 4A

The secondary data clearly demonstrate that India has experienced rapid growth in digital payments, with UPI emerging as the country's leading retail payment platform. Simultaneously, MSMEs continue to play a pivotal role in national economic development. The expansion of digital payment infrastructure has enabled MSMEs to improve business efficiency, increase transparency, reduce transaction costs, and integrate more effectively into the formal financial system. These trends indicate a strong positive relationship between digital payment adoption and the growth and financial inclusion of MSMEs in India.

Contribution of MSMEs to India's GDP

The MSME sector is one of the major contributors to India's economic development. It plays a crucial role in industrial production, exports, employment generation, and Gross Domestic Product (GDP). The increasing adoption of digital

payment systems has enabled MSMEs to improve financial transparency, enhance productivity, and participate more effectively in the formal economy.

Contribution of MSME Gross Value Added (GVA) to India's GDP

Year	MSME GVA as a Percentage of India's GDP
2017–18	29.7
2018–19	30.5
2019–20	30.5
2020–21	27.3
2021–22	29.6
2022–23	30.1

Source: Ministry of Statistics and Programme Implementation, Ministry of MSME.

Interpretation

Table 4 shows that MSMEs consistently contributed around 30% of India's GDP during the study period. Although the contribution declined to 27.3% in 2020–21 because of the COVID-19 pandemic, it recovered to 30.1% in 2022–23. This recovery reflects improved business activity, policy support, greater formalisation, and increasing adoption of digital technologies. Digital payment systems have contributed to this progress by enabling faster transactions, better financial record-keeping, and easier access to banking and credit.

MSME Employment in India

Employment generation is one of the most important contributions of the MSME sector. As more enterprises become digitally connected and formally registered, employment opportunities also increase.

Employment Generated by Registered MSMEs

Indicator	Latest Available Data
Employment generated through Udyam Registration and Udyam Assist Portal	20.39 crore persons*

Source: Ministry of MSME, Government of India. As reported up to 16 July 2024.

Interpretation

The MSME sector provides employment to more than 20 crore persons through enterprises registered on the Udyam Registration Portal and Udyam Assist Platform. Digital payment systems indirectly support employment growth by improving business continuity, expanding customer markets, reducing operational costs, and strengthening access to institutional finance. As enterprises become financially stronger, they are better positioned to generate additional employment.

Financial Inclusion Indicators

Financial inclusion refers to providing individuals and businesses with affordable access to useful financial products and services. Digital payment systems have become one of the most effective instruments for promoting financial inclusion among MSMEs.

Table 6: India's Financial Inclusion Index (FI-Index)

Year	FI-Index Score
March 2023	60.1
March 2024	64.2

Source: Reserve Bank of India Annual Report 2024 ^[7]–25.

Interpretation

The Financial Inclusion Index increased from 60.1 in March 2023 to 64.2 in March 2024, indicating continued improvement in access to and usage of formal financial services. The growth reflects expanding digital banking, increased UPI usage, wider merchant acceptance, and greater financial literacy initiatives. For MSMEs, improved financial inclusion facilitates easier access to savings

accounts, digital payments, formal credit, insurance, and government support schemes.

Digital Payment Modes Used by MSMEs

MSMEs utilise various digital payment methods depending on the nature of their business, customer preferences, and technological infrastructure.

Major Digital Payment Modes Used by MSMEs

Digital Payment Mode	Business Application	Major Advantages
Unified Payments Interface (UPI)	Retail and merchant payments	Instant settlement, low cost, ease of use
QR Code Payments	Small retail businesses	Contactless transactions, simple setup
Mobile Wallets	Daily business transactions	Convenience and quick payments
Internet Banking	Business-to-business transactions	Secure fund transfers and account management
Point-of-Sale (POS) Machines	Card-based customer payments	Increased payment flexibility
Aadhaar Enabled Payment System (AePS)	Rural and banking correspondent services	Financial inclusion in underserved areas

Source: RBI, NPCI, Ministry of MSME reports.

Interpretation

Among the available digital payment modes, UPI has emerged as the most widely adopted platform because it offers real-time fund transfers, interoperability across banks, and minimal transaction costs. QR code payments are particularly popular among micro and small enterprises because they require little infrastructure investment. Internet banking and POS terminals continue to play an important role in business transactions, while AePS extends digital financial services to rural areas. Together, these payment modes improve operational efficiency, customer convenience, and financial transparency.

Overall Analysis of Part 4B

The secondary data indicate that MSMEs remain a vital pillar of the Indian economy, contributing around 30% of GDP while generating employment for over 20 crore people through registered enterprises. The steady improvement in the RBI's Financial Inclusion Index demonstrates that digital financial services are becoming more accessible and widely used. The rapid adoption of UPI, QR-code payments, internet banking, and other digital payment solutions has enabled MSMEs to enhance business efficiency, improve transparency, strengthen customer relationships, and increase participation in the formal financial system. These findings reinforce the conclusion that digital payment systems are an important driver of MSME growth and financial inclusion in India.

Discussion

The findings of the study indicate that digital payment systems have become a major catalyst for the growth and financial inclusion of Micro, Small, and Medium Enterprises (MSMEs) in India. The analysis of secondary data from government reports, RBI publications, NPCI statistics, and previous research demonstrates that the widespread adoption of digital payment platforms such as Unified Payments Interface (UPI), QR code payments, mobile wallets, internet banking, and Point-of-Sale (POS) systems has transformed the way MSMEs conduct financial transactions.

The remarkable increase in digital payment transactions between 2018 and 2025 reflects India's rapid transition towards a digitally driven economy. The expansion of digital infrastructure, increasing smartphone penetration,

affordable internet services, and supportive government initiatives have significantly encouraged MSMEs to adopt digital payment technologies. These developments have improved operational efficiency by reducing transaction processing time, minimizing cash handling costs, and facilitating secure financial transactions.

The study also reveals that digital payment systems have strengthened financial inclusion by enabling MSMEs to access formal banking services, digital lending platforms, insurance, and government welfare schemes. The availability of digital transaction records has enhanced the creditworthiness of enterprises, allowing financial institutions to assess credit risk more effectively and extend formal credit to small businesses. Consequently, digital payment systems have contributed to business expansion, increased customer confidence, and improved financial transparency.

Despite these positive outcomes, several challenges continue to affect the effective adoption of digital payment systems. Limited digital literacy, inadequate digital infrastructure in rural areas, cybersecurity threats, internet connectivity issues, and concerns regarding digital fraud remain significant barriers. Addressing these issues through policy interventions, digital awareness programmes, and improved technological infrastructure is essential to ensure the long-term sustainability of digital payment adoption among MSMEs.

Overall, the findings support the view that digital payment systems have become an important driver of MSME competitiveness, business growth, and financial inclusion, thereby contributing to India's broader objective of building an inclusive and digitally empowered economy.

Findings

Based on the analysis of secondary data, the following major findings are identified:

1. Digital payment transactions in India have increased substantially between 2018 and 2025, indicating rapid digital transformation.
2. UPI has become the most widely used digital payment platform due to its speed, convenience, interoperability, and low transaction cost.
3. Digital payment systems have significantly improved operational efficiency among MSMEs by enabling faster and secure financial transactions.

4. Digital payment adoption has reduced dependence on cash and improved transparency in financial transactions.
5. MSMEs contribute nearly 30 percent to India's GDP and remain one of the largest employment-generating sectors.
6. The increasing use of digital payments has strengthened financial inclusion by improving access to banking services, digital credit, and government support programmes.
7. Digital transaction records have enhanced the creditworthiness of MSMEs, facilitating easier access to institutional finance.
8. Government initiatives such as Digital India, UPI, BHIM, PMJDY, and the Payments Infrastructure Development Fund have accelerated digital payment adoption.
9. Digital literacy, cybersecurity risks, internet connectivity, and technological infrastructure remain major challenges affecting MSME digitalisation.
10. Overall, digital payment systems have positively contributed to MSME growth, competitiveness, and sustainable economic development.

Suggestions

Based on the findings of the study, the following recommendations are proposed:

1. The Government should continue expanding digital infrastructure, particularly in rural and semi-urban regions, to improve access to digital payment services.
2. Digital literacy and financial awareness programmes should be regularly organised for MSME owners and employees.
3. Financial institutions should simplify digital banking procedures and introduce MSME-specific digital financial products.
4. Cybersecurity measures should be strengthened through advanced fraud detection systems and regular awareness campaigns.
5. Banks and fintech companies should collaborate to develop affordable and user-friendly digital payment solutions for small businesses.
6. Government agencies should provide incentives and subsidies to encourage MSMEs to adopt digital payment technologies.
7. Digital transaction histories should be effectively utilised for providing collateral-free loans and faster credit approval.
8. Continuous improvements should be made in payment infrastructure to ensure secure, reliable, and uninterrupted digital transactions.
9. Awareness regarding emerging digital payment technologies should be promoted through workshops, training programmes, and entrepreneurship development initiatives.
10. Strong coordination among government departments, financial institutions, fintech companies, and MSMEs is essential for achieving sustainable digital financial inclusion.

Conclusion

Digital payment systems have significantly transformed the MSME sector by improving operational efficiency, financial transparency, and access to formal financial services. The

rapid growth of UPI and other digital payment platforms, supported by government initiatives, has accelerated digital adoption and strengthened financial inclusion among MSMEs. Secondary data indicate that digital payments have reduced cash dependency, enhanced business competitiveness, and facilitated easier access to digital credit and banking services. However, challenges such as limited digital literacy, cybersecurity risks, and inadequate digital infrastructure continue to hinder widespread adoption, particularly in rural areas. Therefore, strengthening digital infrastructure, promoting financial literacy, and implementing supportive policy measures are essential to maximize the benefits of digital payment systems. Overall, digital payments play a vital role in fostering MSME growth, financial inclusion, and sustainable economic development in India.

Limitations of the Study

1. The study is based entirely on secondary data collected from published reports, journals, and government publications.
2. The findings depend on the accuracy and reliability of available secondary sources.
3. Primary data from MSME owners, entrepreneurs, or financial institutions were not collected.
4. The study is limited to the Indian context and the period between 2018 and 2025.
5. Rapid technological developments may influence future trends beyond the scope of the present study.

Future Scope

1. Future studies may collect primary data from MSME entrepreneurs to validate the findings.
2. Comparative studies can be conducted across different Indian states or sectors.
3. Future research may examine the impact of artificial intelligence and fintech innovations on MSME digital payments.
4. Researchers may investigate customer perceptions regarding digital payment security and trust.
5. Longitudinal studies can analyse the long-term impact of digital payment adoption on MSME profitability, sustainability, and business resilience.
6. Cross-country comparative studies can provide broader insights into digital financial inclusion and MSME development.

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