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Digital Payment Systems in Erode District: Adoption and Impact Among - A Study in Erode District

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Abstract- Digital payment systems (DPS) such as UPI, QR-based wallets, PoS machines, and net banking have grown rapidly in India, especially after the government's financial inclusion and digitalization initiatives. In semi-urban districts like Erode (Tamil Nadu), known for textiles, turmeric, and agro-trade, small retailers play a vital role in the local economy. This study explores the adoption and impact of DPS among small retailers in Erode District, focusing on adoption levels, influencing factors, barriers, and post-adoption effects. A survey of 200 small retailers reveals that 76% have adopted DPS, with UPI/QR codes being the most popular. Retailers report reduced cash handling, faster checkouts, and improved record-keeping, though challenges like transaction failures, MDR on cards, and reconciliation issues persist. The study suggests strengthening awareness, infrastructure, and policy support to ensure sustainable adoption.

Keywords- Digital payments, UPI, Small retailers, Adoption, Impact, Erode District.

I. INTRODUCTION

The retail sector in India has undergone a paradigm shift with the rise of digital payment systems. Small retailers, traditionally dependent on cash, are now integrating cashless methods due to consumer demand, government push, and fintech innovations.

In districts like Erode, where textile markets, agricultural produce, and small kirana shops dominate, digital payment adoption reflects both opportunities and challenges. Customers increasingly expect QR code or UPI acceptance, yet some retailers remain hesitant due to technology gaps, cost concerns, and trust issues.

This study investigates adoption patterns, drivers, barriers, and impact of digital payment systems among small retailers in Erode District.

II. LITERATURE REVIEW

Digital Payments in India

The launch of UPI in 2016 revolutionized India's payment landscape. Studies indicate that small businesses adopt DPS for ease, speed, and customer preference (RBI, 2022).

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Theories of Technology Adoption

- TAM (Technology Acceptance Model) (Davis, 1989): Adoption depends on perceived usefulness and ease of use.
- UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh et al., 2003): Adds social influence and facilitating conditions.
- Diffusion of Innovation (Rogers, 2003): Adoption is influenced by relative advantage, compatibility, and observability.

Retailer-Specific Studies

Research shows that digital literacy, network reliability, and trust are critical for adoption among small merchants. Barriers include transaction failures, MDR charges, and reconciliation burden (NPCI, 2021).

III. OBJECTIVES OF THE STUDY

1. To examine the adoption rate of digital payments among small retailers in Erode.
2. To identify the drivers and barriers to adoption.
3. To analyze the impact on business operations and sales.
4. To study demographic influences (age, education, sector).
5. To provide policy and managerial suggestions for deeper adoption.

IV. RESEARCH METHODOLOGY

- **Research Design:** Descriptive survey
- **Sample Size:** 200 small retailers from textiles, kirana, food service, and pharmacy sectors
- **Sampling Method:** Convenience sampling across Erode city, Perundurai, Bhavani, and surrounding areas
- **Instrument:** Structured questionnaire (demographics, adoption status, drivers, barriers, impact)
- **Analysis Tools:** Percentage analysis, Chi-square test, Mean rank analysis

V. RESULTS AND ANALYSIS

Profile of Respondents

- **Age:** <30 years (20%), 30–45 (55%), >45 (25%)
- **Education:** Up to Higher Secondary (32%), Undergraduate (48%), Postgraduate (20%)
- **Trade:** Grocery (28%), Textiles (26%), Food service (18%), Pharmacy (14%), Electronics (8%), Others (6%)

Adoption of Digital Payments

- **Overall adoption:** 76% use at least one DPS
- **Preferred modes:** UPI/QR (92%), Debit/Credit cards (42%), Wallets (35%), Net Banking (18%)
- **Share of payments:** Cash (48%), UPI/QR (34%), Cards (12%), Others (6%)

Drivers of Adoption (Ranked)

- Faster checkout and no change issues
- Customer demand and peer influence
- Zero/low cost for UPI transactions
- Safety and reduced risk of counterfeit cash
- Record-keeping and sales visibility

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Barriers

1. Network failures and payment delays
2. MDR charges on card transactions
3. Settlement/reconciliation difficulties
4. Fear of disputes and chargebacks
5. Lack of awareness in older retailers

Impact on Retailers

- **Checkout speed:** 65% reported faster transactions
- **Cash handling costs:** 58% reduced bank visits and change management
- **Sales:** 40% reported increase due to customer trust and convenience
- **Ticket size:** 35% observed customers spending more via UPI/cards
- **Transparency:** 52% found improved record-keeping

Table: Impact of Digital Payment Systems on Small Retailers (n = 167 adopters)

Impact Parameter	Number of Retailers	Percentage (%)	Description / Observation
Faster Checkout	108	65	Transactions completed quickly; reduced queue times
Reduced Cash Handling Costs	97	58	Less cash to count/store/bank, fewer counterfeit risks
Increased Sales	67	40	Attributed to convenience and customer trust
Higher Average Ticket Size	58	35	Customers spending more via UPI/cards
Improved Record-Keeping	87	52	Digital trails aid in bookkeeping and GST compliance
Customer Satisfaction	101	60	Positive feedback due to quick and convenient payments
Operational Transparency	86	51	Easier tracking of daily transactions and inventory

VI. DISCUSSION

The findings show that UPI/QR is the most dominant system among Erode retailers due to ease, zero charges, and customer preference. Adoption is higher among younger, educated.
Despite benefits, network failures, card MDR, and reconciliation burden discourage full reliance.

VII. RECOMMENDATIONS

For Retailers

- Use single interoperable QR codes to reduce confusion.
- Adopt billing apps with integrated reports for easy reconciliation.
- Provide staff training for handling disputes.

For Banks/Fintechs

- Ensure network stability and fast settlements.
- Offer low-cost PoS machines for higher-value transactions.
- Provide merchant dashboards for consolidated tracking.

For Policymakers

- Conduct digital literacy workshops for small retailers.
- Offer incentives for first-time adopters.

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- Standardize dispute resolution timelines.

VIII. CONCLUSION

Small retailers in Erode District are increasingly adopting digital payments, driven by convenience, customer demand, and operational efficiency. UPI/QR has become the default system, though barriers like network failures, card MDR, and reconciliation challenges remain. To sustain momentum, targeted policy support, fintech innovations, and training are essential. The shift toward digital payments not only improves business productivity but also supports financial inclusion in semi-urban India.

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