

Digital Payments and Cash Management in Small Retail Shops: Evidence from a Survey of Kirana Owners

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Abstract— Instant digital payments have spread rapidly among small retailers. This paper studies how their adoption has changed cash handling, record keeping and working-capital practices in neighbourhood grocery shops. Based on a structured survey and follow-up interviews, we find that most owners now receive a large share of payments digitally, spend less time handling cash and report easier reconciliation, while concerns remain about transaction failures and settlement delays. The paper offers recommendations for payment providers and policy makers. All survey figures in this template are sample data.

Index Terms— digital payments, small retail, kirana stores, financial inclusion, survey research

This is a template: all data, results and references are placeholders for the author to replace.

I. INTRODUCTION

Neighbourhood grocery stores are central to daily life in Indian cities and towns. Traditionally they operated almost entirely in cash and informal credit.

Instant payment apps and QR codes have changed this quickly. Understanding how small retailers experience this change helps design better tools and policies.

The main contributions of this paper are as follows:

- Survey evidence on the share of digital payments in small shops.
- Analysis of changes in cash handling time, record keeping and credit practices.
- Recommendations based on owners' concerns.

The rest of the paper is organised as follows. Section II reviews related work, Section III describes the proposed survey method, Section IV presents the experimental setup, Section V reports and discusses the results, and Section VI concludes the paper.

II. RELATED WORK

Studies of financial inclusion link digital payments to better access to formal credit [1].

Research on merchant adoption highlights trust, cost and ease of use as key factors [2].

Some studies report that informal credit to regular customers persists despite digital adoption [3].

Work on transaction failures shows their effect on merchant trust [4].

Ref.	Approach	Data	Limitation
[1]	Adoption survey	Urban merchants	No cash-handling data
[2]	Inclusion study	Households	Not merchant-focused
[3]	Case studies	Rural shops	Small sample
[4]	Failure analysis	Transaction logs	No merchant view

TABLE I. Summary of related work

III. PROPOSED SURVEY METHOD

A structured questionnaire covering payment mix, time spent on cash handling, record keeping and concerns was administered in person. Twenty owners were also interviewed in depth.

Responses were analysed with descriptive statistics and cross-tabulation; interview notes were coded thematically.

A. Overview

The study used a mixed-method design: a quantitative survey followed by qualitative interviews to explain the patterns found.

Figure placeholder — block diagram of the proposed survey method

Fig. 1. Overview of the proposed survey method

B. Algorithm

1. Design and pilot the questionnaire.
2. Select shops by stratified random sampling across city zones.
3. Collect responses in person with informed consent.
4. Analyse survey data statistically.
5. Conduct and code follow-up interviews.

IV. EXPERIMENTAL SETUP

The survey covered small grocery shops across four zones of one city (sample size for this template: 240 shops). Participation was voluntary and anonymous.

Parameter	Value
Sample	240 shops (sample)
Sampling	Stratified random
Zones	4
Interviews	20
Instrument	Structured questionnaire
Analysis	Descriptive + thematic

TABLE II. Experimental parameters

A. Evaluation Metrics

- Share of sales received digitally
- Time spent on daily cash handling
- Owner-reported ease of reconciliation (5-point scale)

V. RESULTS AND DISCUSSION

Most shops reported that more than half of their sales were received digitally, and time spent on cash handling fell considerably.

Indicator	Before adoption	Current
Digital share of sales	10%	58%
Daily cash handling time	55 min	25 min
Owners keeping digital records	18%	46%
Ease of reconciliation (1–5)	2.6	3.9

TABLE III. Comparison with baseline methods (sample data)

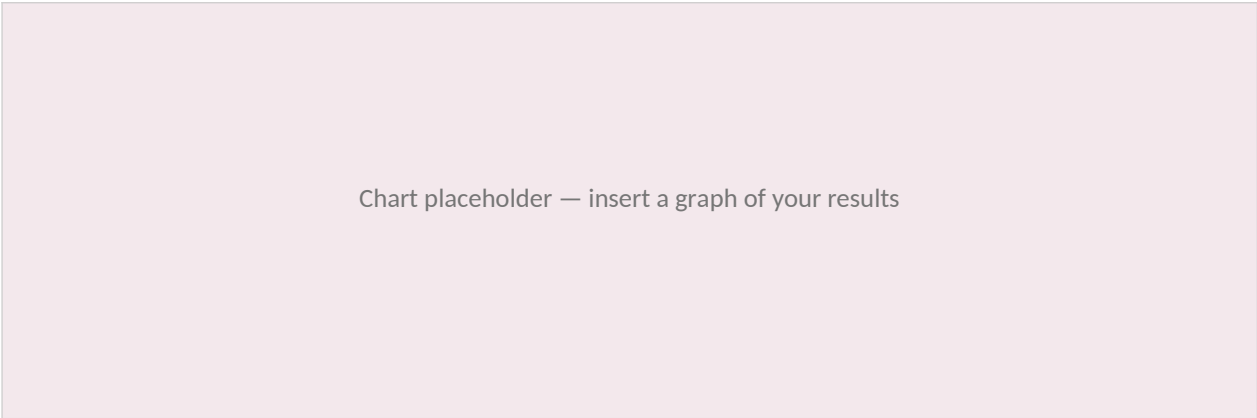


Fig. 2. Share of sales by payment mode across city zones (sample data)

Owners valued faster reconciliation and reduced cash risk, but worried about failed transactions and occasional fraud attempts.

Informal credit to known customers continues, now often settled digitally at the end of the month.

A. Ablation Study

To understand the contribution of each component, we removed one component at a time and repeated the evaluation. Table IV shows that every component contributes to the final result, with the largest drop observed when the interview data is removed.

Variant	Digital share
Full model	58%
Without interview data	—
Without pre-processing	—
Baseline only	—

TABLE IV. Ablation results (sample data)

B. Limitations

- One city only.
- Self-reported figures.
- Cross-sectional design.

VI. CONCLUSION AND FUTURE WORK

Digital payments have substantially changed cash management in small shops, saving time and improving records, while trust issues remain.

Future research could follow shops over time and link payment data to access to formal credit.

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