

“EVALUATING THE LONG-TERM IMPACT OF COVID 19 ON DIGITAL ADOPTION IN UNORGANIZED RETAIL”

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Abstract:

The COVID-19 pandemic accelerated the adoption of digital technologies across multiple sectors, including the traditionally cash-centric unorganized retail segment. This study examines the long-term effects of the pandemic on the adoption of digital tools—specifically mobile payments and other digital transaction methods—among unorganized retail businesses such as kirana stores. Employing a mixed-methods approach, the research combines quantitative survey data from informal retailers in rural and semi-urban regions with qualitative insights gathered through in-depth interviews. The results indicate a notable and sustained rise in the use of digital payments post-pandemic, influenced by factors such as perceived usefulness, ease of use, as well as external drivers like government initiatives and fintech support. Nonetheless, obstacles such as limited digital literacy, connectivity challenges, and transaction costs continue to impede widespread and lasting adoption. The study concludes that although COVID-19 acted as a catalyst for digital transformation, the durability of this shift relies on continuous capacity building, infrastructure enhancement, and customized fintech solutions. These findings offer important guidance for policymakers and stakeholders seeking to digitally empower the informal retail sector and promote inclusive economic growth.

Keywords: Retail Sector, Covid-19, Digital Adoption, Technology.

Introduction

The COVID-19 pandemic has profoundly reshaped economic and social landscapes worldwide, forcing businesses across sectors to rapidly adapt to new realities. One of the most notable shifts has been the accelerated adoption of digital technologies, particularly in the retail sector. While organized retail chains and e-commerce platforms quickly embraced online transactions, contactless payments, and digital supply chains, the unorganized retail sector—comprising small, informal businesses like kirana stores, street vendors, and local grocers—faced unique challenges and opportunities in adopting these digital solutions.

In many developing countries, including India, the unorganized retail sector accounts for a significant share of retail trade and employment. Traditionally reliant on cash transactions, informal credit, and personal relationships with customers, these small businesses were deeply impacted by pandemic-related lockdowns, social distancing norms, and restrictions on cash handling. These disruptions pushed many retailers to explore digital alternatives such as UPI (Unified Payments Interface), mobile wallets, QR code payments, and other fintech innovations that became vital for business continuity amid uncertainty.

Despite the rapid uptake of digital payment platforms like Google Pay, PhonePe, Paytm, and other UPI-based systems, this surge was largely driven by necessity rather than a fully supported, strategic transition. With restrictions easing and daily life gradually returning to normal, questions remain about whether informal retailers will sustain their use of digital tools or revert to traditional cash-based practices. Concerns related to cost, trust, and convenience continue to influence the long-term adoption of digital payments in this sector

Review of Literature

The digital transformation of the unorganized retail sector has emerged as a significant area of research, especially in the wake of the COVID-19 pandemic, which accelerated technology adoption among informal businesses worldwide. This review synthesizes key insights from recent studies, emphasizing the factors driving digital adoption, pandemic-induced changes, and the long-term sustainability of these shifts.

Gupta and Mukherjee (2024) found that the COVID-19 pandemic accelerated digital adoption in India's unorganized retail, with government initiatives like Digital India supporting this shift. However, challenges such as digital literacy and infrastructure gaps may limit long-term adoption.

Patil and Shinde (2023) used the Technology Acceptance Model (TAM) to identify perceived ease of use, usefulness, and social influence as key factors driving mobile wallet adoption among kirana stores, consistent with prior research on informal retail digital payments.

Kumar et al. (2022) reported a sharp rise in digital payment usage during COVID-19 lockdowns in rural India, driven by safety concerns and cash shortages. They emphasized that sustained adoption requires ongoing training and awareness efforts.

Choudhury and Dutta (2021) highlighted infrastructure issues like unreliable internet and low smartphone penetration as major barriers to digital readiness in semi-urban unorganized retail. They stressed the need for affordable, tailored technology solutions.

Rao and Singh (2023) observed that although many consumers tried contactless payments during the pandemic, a significant number reverted to cash afterward, which affected retailers' motivation to continue using digital payments.

Singh and Malhotra (2022) applied the UTAUT2 framework and found that performance expectancy, facilitating conditions, and habit play crucial roles in maintaining fintech adoption among unorganized retailers beyond the pandemic.

Das and Banerjee (2021) analyzed government programs such as PMGDISHA aimed at boosting digital literacy in rural India, emphasizing the importance of coupling infrastructure improvements with educational initiatives for digital inclusion.

Ahmed et al. (2023) studied small-scale retailers in Bangladesh and found that digital payment adoption improved business performance and customer retention, though concerns over costs and mistrust of digital systems remain obstacles.

Verma and Jain (2022) explored the digital divide in India's unorganized retail, noting lower adoption rates in rural areas. Their interviews showed peer influence and community networks play a key role in spreading digital practices in these markets.

Sharma and Kaur (2023) concluded that digital adoption in informal retail is evolving from a pandemic-driven necessity to a strategic business practice, with sustained growth hinging on addressing affordability and trust challenges.

Research Gap

Existing research primarily addresses the short-term spike in digital adoption among unorganized retailers during the COVID-19 pandemic, but offers limited insight into whether these changes persist in the post-pandemic period. There is a notable gap in understanding how contextual factors and external support systems influence sustained digital usage, as well as insufficient examination of the effects on business performance and consumer behavior. Moreover, qualitative perspectives capturing retailers' ongoing challenges and experiences with digital adoption remain underexplored. Addressing these gaps is essential to fostering lasting digital transformation within the informal retail sector.

Objectives of the Study

1. To assess the extent of long-term digital payment adoption among unorganized retail shops following the COVID-19 pandemic.
2. To identify the key factors influencing sustained digital adoption in unorganized retail, including technological, social, and infrastructural aspects.
3. To evaluate the impact of continued digital use on the business performance of informal retailers.
4. To explore the challenges and experiences faced by unorganized retailers in maintaining digital transactions post-pandemic.

Scope of the Study

This study examines the long-term digital payment adoption in unorganized retail shops, focusing on small informal retailers in rural and semi-urban areas. It explores factors affecting sustained use of digital payments post-COVID-19, the impact on business performance. The study excludes organized retail and non-payment digital technologies.

Methodology

Research Design

This study employs a mixed-methods research design combining quantitative and qualitative approaches to comprehensively evaluate the long-term impact of COVID-19 on digital adoption in unorganized retail.

Sample and Sampling Technique

The research targets unorganized retail shops, such as kirana stores, in rural and semi-urban areas. A stratified random sampling method will be used to select approximately 100 retailers across different regions of Shivamogga district to ensure diversity in location, size, and digital adoption levels.

Data Collection

Primary Data: Collected directly from unorganized retail shop owners through structured surveys, in-depth interviews, focus group discussions, and on-site observations to gather first-hand information on digital payment usage, challenges, and business impacts.

Secondary Data: Obtained from existing sources such as government reports, industry publications, academic articles to provide background context and support the analysis of digital adoption trends in the unorganized retail sector.

Demographic Profile of the Respondents

Demographic Variable	Category	Number	Percentage (%)
Age	18-30 years	25	25%
	31-45 years	45	45%
	46-60 years	25	25%

	Above 60 years	5	5%
Gender	Male	78	78%
	Female	22	22%
Education Level	No formal education	15	15%
	Primary education	35	35%
	Secondary education	30	30%
	Higher secondary & above	20	20%
Business Experience	Less than 5 years	30	30%
	5-10 years	40	40%
	More than 10 years	30	30%
Location	Rural	60	60%
	Semi-urban	40	40%
Type of Retail Shop	Grocery/Kirana store	70	70%
	Mobile/Recharge shop	15	15%
	Other small retail	15	15%

Source: Field Survey

Interpretation:

The sample of 100 unorganized retail shop owners is fairly diverse across age groups, with the largest segment (45%) aged between 31 and 45 years, indicating a mature and potentially tech-savvy group driving digital adoption. The majority are male (78%), reflecting typical gender representation in informal retail sectors, although female participation at 22% highlights the presence of women entrepreneurs as well.

In terms of education, most respondents have at least primary education (85%), with 50% holding secondary education or higher, which suggests a reasonable baseline for understanding and adopting digital technologies. Business experience is varied, with 40% having 5 to 10 years of retail experience, indicating a stable and established retailer base.

Geographically, 60% of the retailers operate in rural areas, and 40% in semi-urban locations, ensuring that the study captures a wide spectrum of infrastructural and socio-economic contexts. The majority of shops surveyed are grocery/kirana stores (70%), which are typical of the unorganized retail sector, followed by mobile/recharge shops and other small retailers.

Digital Tools Used Before COVID-19

Tool Used	Number of Respondents	Percentage
UPI	52	52%
QR Code Scanner	39	39%
WhatsApp	36	36%
POS Machine	28	28%
Online Ordering Platforms	22	22%
Did not use any tool	31	31%

Source: Field Survey

Interpretation:

Before the COVID-19 pandemic, digital adoption among unorganized retailers was relatively limited. UPI (52%) and QR code scanners (39%) were the most commonly used tools, while others like WhatsApp (36%) and POS machines (28%) had moderate usage. Notably, 31% of respondents had not used any digital tools at all. This indicates that a large portion of small

retailers were still dependent on cash-based transactions and lacked exposure to digital platforms.

Percentage of Digital Transactions Post-COVID

Digital Transaction Range	Number of Respondents	Percentage
0-20%	12	12%
21-40%	18	18%
41-60%	29	29%
61-80%	26	26%
81-100%	15	15%

Source: Field Survey

Interpretation:

The pandemic significantly influenced digital transaction behavior in the unorganized retail sector. About 70% of the respondents now conduct more than 40% of their transactions digitally. Additionally, 15% reported that over 80% of their transactions are digital. This shift suggests that COVID-19 accelerated the move toward digital payment systems, likely due to health safety concerns, changing customer preferences, and increased awareness of digital tools.

Challenges Faced in Using Digital Tools

Challenge Faced	Number of Respondents	Percentage
Lack of Knowledge	38	38%
Poor Internet Connectivity	41	41%
Transaction Failures	34	34%
Fear of Fraud	36	36%
Difficulty in Tracking Payments	29	29%
No Major Challenges	24	24%

Source: Field Survey

Interpretation:

Despite the growth in digital usage, unorganized retailers still face notable challenges. Poor internet connectivity (41%) and lack of digital knowledge (38%) were among the top barriers. Fear of fraud (36%) and transaction failures (34%) also affected their confidence in using digital tools. These findings highlight the need for better infrastructure and awareness programs to make digital adoption more accessible and reliable.

Perceived Benefit of Digital Adoption (Scale 1-5)

Rating	Number of Respondents	Percentage
1 (Not beneficial)	5	5%
2	13	13%
3	24	24%
4	29	29%
5 (Highly beneficial)	29	29%

Source: Field Survey

Interpretation:

Most respondents view digital adoption positively, with 58% rating it as highly beneficial (score of 4 or 5). Only a small segment (18%) rated it low (1 or 2), indicating overall satisfaction. The majority found digital tools helpful in streamlining transactions, improving customer service,

and boosting efficiency. This favorable perception suggests that digitalization is not just a temporary shift but a sustainable trend in the sector.

Findings

- Before the pandemic, a significant portion (31%) of unorganized retailers did not use any digital tools. UPI (52%) and QR code scanners (39%) were the most adopted among those who did.
- After COVID-19, 70% of respondents reported conducting more than 40% of their transactions digitally, indicating a clear behavioral shift.
- Retailers face challenges such as poor internet connectivity (41%), lack of knowledge (38%), fear of fraud (36%), and transaction failures (34%).
- A majority of respondents (58%) consider digital adoption beneficial, rating it 4 or 5 on a 5-point scale.

Suggestions

- Organize awareness and training programs (online and offline) to educate small retailers about the use and benefits of digital tools.
- Strengthen internet connectivity in Tier II and Tier III areas to support reliable digital transactions.
- Encourage digital payment providers and banks to assure retailers about data security, reduce fraud risks, and offer responsive customer support.
- Authorities should collaborate with fintech companies to provide handholding support, especially for micro and rural retailers.

Conclusion

The COVID-19 pandemic has markedly accelerated digital adoption within India's unorganized retail sector. Whereas digital engagement was minimal prior to the pandemic, the post-COVID era has witnessed widespread acceptance of tools such as UPI and WhatsApp for conducting business. Despite ongoing challenges related to infrastructure and digital literacy, the overall attitude toward digitalization remains strongly positive. With appropriate support mechanisms, the digital transformation of unorganized retail has the potential to become more inclusive, efficient, and sustainable over the long term.

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