

Street Vending in the Age of UPI: A Survey on Digital Payment Adoption in Kalaburagi

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Abstract: The rise of Unified Payments Interface (UPI) has transformed India's digital economy by enabling financial inclusion across informal sectors. In Kalaburagi, a Tier-2 city in Karnataka, India, street vendors have increasingly adopted digital payment methods due to smartphone access and changing customer preferences. This study surveyed 50 vendors from key areas like Super Market, Kirana Bazar, Vegetable Market, and near Gulbarga University, using a mixed-method approach of questionnaires and short interviews. Findings show that over 80% now use apps like PhonePe, Google Pay, and Paytm, benefiting from faster transactions and increased customer trust. However, issues such as limited digital literacy, poor connectivity, and fear of fraud persist. The paper suggests that regional language training and simplified UPI interfaces could enhance digital inclusion and support the growth of the informal economy in semi-urban India.

Keywords: Unified Payments Interface (UPI), JAM trinity (Jan Dhan, Aadhar, and Mobile), QR code (Quick Response code).

1. INTRODUCTION

India's digital transformation, spearheaded by initiatives like Digital India and JAM trinity (Jan Dhan, Aadhaar, and Mobile), has seen exponential growth in mobile-based financial services. A pivotal development in this transformation was the launch of the UPI by the National Payments Corporation of India (NPCI), which now facilitates billions of transactions each month. While its adoption in urban India is well documented, the spread of digital payment practices into smaller cities and informal sectors, such as street vending, remains relatively under-researched.

Street vendors, often categorized under the informal sector, contribute significantly to the urban economy by providing accessible and affordable goods and services. They typically operate on narrow margins, lack formal identification, and are largely excluded from institutional banking services. In 2014, the

Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act recognized their economic significance and aimed to regulate and support their rights. However, despite their numbers and importance, these vendors face several socio-economic challenges, especially in semi-urban areas.

With the rise of mobile wallet services and UPI-based payment solutions, even these small vendors now have an opportunity to participate in the formal financial ecosystem. The COVID-19 pandemic further accelerated the need for contactless transactions, pushing many vendors to adapt QR code systems. Yet, the extent of this adoption, especially in non-metro cities like Kalaburagi, and its impact on vendor livelihood and business behavior, remains a question worth exploring.

Kalaburagi (formerly Gulbarga), a growing Tier-2 city in Karnataka, presents a unique setting to study this transformation. It is marked by a diverse mix of traditional markets, food stalls, mobile vendors, and small kiosks that form the backbone of daily commerce. Understanding how these vendors are embracing digital payment technologies, and the benefits or barriers they encounter, can provide valuable insights into the future of inclusive digital finance.

This research is guided by four key objectives: to analyse the adoption rate of digital payments, particularly UPI apps, among street vendors in Kalaburagi; to evaluate the perceived benefits such as faster transactions, improved customer trust, and increased sales, along with challenges like technical difficulties, fraud risks, and language barriers; to examine how digital payments influence vendor-customer relationships, marketing behaviour, and record-keeping practices; and finally, to offer practical recommendations for government bodies, NGOs, and startups to enhance digital literacy and promote financial inclusion among street vendors.

Through a combination of structured surveys and qualitative interviews with vendors in key areas like Super Market, Kirana Bazar, Vegetable Market, and near Gulbarga University, this paper captures the lived experiences of vendors navigating the shift toward a digital economy. The study adds to the growing body of literature on financial technology (FinTech) and the informal sector in India, particularly focusing on semi-urban geographies where digital transformation is underway but uneven.

The remainder of the paper is organized as follows: Section 4 reviews the existing literature and research studies on digital payments and informal vendors in India. Section 5 details the research design and methodology used in this study. The final sections provide conclusions, references, recommendations, and suggestions for further research.

2. BACKGROUND LITERATURE

The rapid expansion of digital payment systems in India has emerged as one of the most transformative components of the country's broader economic digitization agenda. The launch of the Unified Payments Interface (UPI) by the National Payments Corporation of India (NPCI) in 2016 marked a turning point, offering a real-time, interoperable, and mobile-first platform that enables both peer-to-peer and merchant transactions with unprecedented speed and security (NPCI, 2023). This innovation, backed by the Indian government's flagship initiatives such as Digital India, Jan Dhan Yojana, and the Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) scheme, has significantly accelerated the goal of achieving universal digital financial inclusion (Mehta et al., 2021; MoHUA, 2022).

Research conducted by Chakravorti & Chaturvedi (2020) and Bhattacharya et al. (2021) highlights that UPI has become one of the fastest-growing digital payment ecosystems globally. As of May 2024, India processed more than 12.2 billion UPI transactions in a single month, according to data from the Reserve Bank of India (RBI, 2024). This exponential growth has had a significant downstream impact, particularly on small businesses and micro-enterprises operating within the informal sector, which were previously underserved by traditional financial services.

India's informal sector, comprising around 93% of the total workforce and contributing over 50% to the national GDP (ILO, 2020; NITI Aayog, 2021), is inherently marked by vulnerabilities such as low-income predictability, limited capital access, and minimal exposure to formal financial tools. Street vendors—who play a crucial role in the urban informal economy—have historically relied on cash transactions due to barriers including lack of awareness, poor digital literacy, and minimal institutional outreach (SEWA Bharat, 2021).

Nonetheless, the growing digital penetration across Indian cities is beginning to reshape this reality. In a study conducted by Kaur & Sharma (2021), UPI adoption among street vendors was linked to enhanced customer satisfaction, improved levels of trust, and even a boost in repeat purchases. Likewise, Singh et al. (2022) observed that the use of digital payments allowed vendors to maintain transaction records more accurately, contributing to better daily income tracking and financial management. Research by Mehta & Gupta (2021) further revealed that the COVID-19 pandemic brought about a shift in consumer behavior, with a sharp increase in demand for contactless, hygienic modes of payment. This shift pushed even the most reluctant vendors to begin experimenting with mobile-based financial tools.

Despite these documented benefits, multiple barriers to adoption continue to exist. Reports by NABARD (2021) and the World Bank (2022) identify key challenges such as lack of digital skills, intermittent internet connectivity, unfamiliar language in mobile app interfaces, and widespread fear of fraud or scams. These issues are especially pronounced in semi-urban and rural areas, where infrastructural and educational constraints are more severe. Mukherjee & Sinha (2023) emphasize that most street vendors still rely on informal guidance—from customers, children, or peers—rather than receiving structured or professional training on how to use UPI and related tools.

Further analysis by Sridhar et al. (2020) and Chavan (2022) underscores the need for simplifying digital finance tools, especially for first-generation smartphone users. The regional disparity in adoption is another concern. Studies by Rai & Jain (2023) and Kumar & Desai (2021) point out that while metropolitan cities are moving toward mature digital ecosystems, smaller urban centres like Kalaburagi

continue to lack targeted studies and localized policy interventions.

The PM SVANidhi scheme, which aims to empower street vendors through microcredit support, has shown potential to further link digital transactions with credit scoring and loan eligibility (MoHUA, 2023; IFMR LEAD, 2021). However, the impact remains limited in Tier-2 and Tier-3 cities, primarily due to low awareness and digital readiness among beneficiaries.

Thus, while national-level statistics portray a promising trajectory for digital adoption, a critical research gap remains in understanding how these transitions play out on the ground—particularly in underrepresented regions. This study seeks to bridge that gap by focusing on Kalaburagi, a semi-urban city in Karnataka, to examine how local street vendors are navigating the digital shift and what targeted support systems and interventions are essential to enable equitable and sustainable participation in the digital economy.

3. METHODOLOGY

To understand the real-world impact of digital payments on street vendors in Kalaburagi, we conducted a ground-level exploration of the city's most vibrant commercial zones. Over several days, we visited bustling areas such as Super Market, Kirana Bazar, the Vegetable Market, the vicinity of Gulbarga University, and the crowded lanes near the central bus stand. These areas are home to a diverse array of street vendors who cater to thousands of customers daily, ranging from college students and daily wage workers to office-goers and residents.

We engaged in informal, conversational interviews with around 50 street vendors, including fruit and vegetable sellers, tea stall owners, flower vendors, mobile accessory retailers, fast food cart operators, and seasonal item sellers. The goal was to keep the discussions approachable and stress-free, without intimidating them with formal questionnaires or academic jargon. Instead, we asked open-ended questions: *“When did you start using UPI?”*, *“Which app do you prefer?”*, *“Did anyone teach you how to use it?”*, *“What’s the biggest issue you face with it?”* These questions often led to lively conversations, with many vendors sharing personal anecdotes and proudly showing the QR codes taped neatly to their stalls, umbrellas, or tiffin boxes.

One memorable interaction was with Shobha bai, a middle-aged woman selling jasmine garlands near the bus stand. She shared how she was initially hesitant to use UPI, fearing fraud and confusion. But after her college-going daughter taught her to use Google Pay, she not only started accepting digital payments but also began checking her balance and transaction history daily. She recalled an incident where a customer left without paying in cash but later sent the amount via UPI, saying, *“If I didn’t have Google Pay that day, I would have lost that sale.”* Today, nearly 40% of her daily transactions are digital. *“Now I tell others—don’t fear the mobile, it helps you earn,”* she said with a smile.

We also observed and recorded basic demographic information like age, gender, type of business, and digital confidence levels. These informal insights were later organized into key themes such as benefits (e.g., faster payments, wider customer reach), challenges (e.g., network issues, lack of smartphones), sources of learning (family, neighbours, customers), and shifts in customer behavior (preference for cashless convenience).

This grounded, human-centric approach helped us move beyond just numbers—it revealed the lived realities, aspirations, and anxieties of Kalaburagi’s street vendors as they navigate India’s digital economy. Their stories highlight that while technology adoption in smaller cities may face initial resistance, curiosity, peer learning, and necessity are powerful drivers of change.

4. RESULTS

After interacting with 50 street vendors across various parts of Kalaburagi, several key patterns emerged regarding digital payment usage. Out of the total, around 36 vendors confirmed that they currently accept digital payments, with Google Pay being the most widely used app, followed by PhonePe and Paytm. Many vendors stated that the shift to digital payments was largely driven by customer demand. In fact, one young vendor mentioned, *“Customers kept asking if I had a QR code, so I had to learn.”*

Age played a noticeable role in the adoption curve. Younger vendors, particularly those in the age group of 20 to 35, showed greater ease and confidence in using smartphones and digital payment apps. They viewed UPI as a necessary tool to stay relevant and

avoid losing customers. One pani puri seller humorously shared, “Even kids scan and pay now!”

Most vendors cited similar benefits of using UPI apps. These included faster transactions, reduced stress over handling and storing loose change, and the ability to show proof of payment in case of disputes. Many found this transparency reassuring, both for themselves and their customers.

However, the adoption wasn't without challenges. Several vendors expressed frustration with not being able to immediately confirm whether a transaction was successful, especially during busy hours. Others spoke about the increasing misuse of fake screenshots—where customers would pretend to pay by showing old or edited transaction images. Additionally, the fact that most apps use English interfaces made it difficult for older or less-educated vendors to navigate them confidently.

A noticeable digital divide was observed among older vendors; many of whom said they don't use UPI simply because they find it confusing or don't trust the system. Some feared they might “press the wrong button” and lose their money. Their concerns highlight the need for structured support and awareness programs.

Interestingly, only a small number of vendors said they had received any formal help or training on using digital payment platforms. Most learned through trial and error, or with the help of customers, children, or relatives. Despite the challenges, the overall sentiment was that UPI is becoming an integral part of business in Kalaburagi's street economy, driven largely by customer behavior and informal peer learning.

5. DISCUSSIONS

The increasing adoption of UPI in Kalaburagi clearly indicates that digital payments have expanded far beyond shopping malls, supermarkets, or large retail outlets. Today, even small-scale vendors operating from street corners—be it a tea stall, flower vendor, or pani puri cart—are becoming active participants in India's growing digital economy. What is driving this change is not government push or technical training, but primarily customer demand. Many vendors admitted that they began using UPI simply because customers, especially younger people and working

professionals, preferred it and frequently asked for QR payment options.

However, this digital shift has not been inclusive for all. During our fieldwork, it became evident that digital inclusion is uneven. Vendors who are older, less educated, or unfamiliar with smartphone technology still tend to rely heavily on cash transactions. Their hesitation is rooted in genuine concerns—many fears losing money due to pressing the wrong button, falling prey to fake payment screenshots, or being unable to verify whether a transaction went through. These concerns reflect a significant trust and knowledge gap that must be addressed through targeted training and localized digital literacy initiatives.

From a marketing and customer engagement perspective, vendors who accept UPI payments are perceived as more modern, trustworthy, and customer-friendly. Several shared that customers now often prefer stalls that visibly display QR codes because of the convenience it offers. This subtle shift in consumer behavior is gradually giving digital vendors a competitive edge—leading to more footfall, faster service, and stronger word-of-mouth in their neighbourhoods.

What becomes increasingly clear is that digital payments are not just about convenience—they are about trust and empowerment. When a vendor successfully uses UPI, it boosts their confidence, increases customer satisfaction, and creates a smoother, more transparent transaction process. In this way, UPI is not merely a technology—it's a symbol of credibility and connection in the evolving ecosystem of small businesses.

6. CONCLUSION AND SUGGESTIONS

The digital wave is undoubtedly making its way to the streets of Kalaburagi. A significant number of street vendors have already embraced UPI-based payment apps such as Google Pay, PhonePe, and Paytm, while many others are open to the idea of going cashless—provided they receive the right kind of guidance and support. This shift is largely being driven by customer expectations. As more people, especially the younger generation, prefer digital payments for convenience, vendors are beginning to see the value in offering cashless options.

Despite this encouraging trend, certain barriers remain. Not every vendor finds it easy to understand how UPI app's function. Common issues include confusion over app navigation, difficulty in verifying whether a payment has gone through, and the problem of fraudulent payment screenshots. In addition, the dominance of English in many digital apps poses a challenge for vendors who are more comfortable with local languages like Kannada. These obstacles have slowed down digital adoption for a portion of the vendor community, especially among the older and less tech-savvy.

To bridge these gaps, a few simple but impactful measures can make a big difference. For instance, organizing free digital awareness sessions in Kannada at local markets or near busy locations like the bus stand could empower vendors with practical knowledge. Fintech companies also have a role to play—they can enhance their apps with features like regional language options, audio guides, or visual cues to make navigation simpler and more intuitive. Moreover, local youth or college students can be mobilized as digital volunteers to help older vendors learn how to use UPI safely, particularly how to check their transaction history and verify payments correctly. Vendors can also be encouraged to display visible signs such as “We Accept UPI” to build trust with customers and normalize the use of digital payments.

With a collaborative effort involving local authorities, community organizations, fintech startups, and educational institutions, Kalaburagi's street vendors can do more than just adapt to the digital economy—they can flourish in it. Digital empowerment at the grassroots level not only benefits vendors but also contributes to a more inclusive, resilient, and transparent economic ecosystem in Tier-2 cities like Kalaburagi.

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