

## Impact of Digital Payments on Small Businesses in Tirunelveli District

Dr. J. Leelavathy Packiathai<sup>1</sup>

### Abstract

The rapid evolution of digital payment systems is transforming business operations globally, including in India. This study explores the impact of digital payments on small businesses in Tirunelveli District, based on a survey of 145 business owners, such as shopkeepers and micro-entrepreneurs. Findings reveal that the Unified Payments Interface (UPI) and mobile wallets are preferred options, with many respondents reporting increased sales and improved operational efficiency after adopting these methods. Data shows a significant link between digital payment adoption and enhanced business performance. However, challenges like digital literacy, infrastructure issues, and security concerns remain. To maximise benefits, we recommend investing in digital literacy, improving infrastructure, and implementing secure payment solutions.

**Keywords:** Digital Payments, Small Businesses, Tirunelveli District, UPI, Mobile Wallets, Business Performance

### 1. Introduction:

The rapid advancement of digital technology has significantly changed how we handle financial transactions worldwide. Nowadays, digital payment systems offer a convenient, quick, and secure alternative to cash-based transactions. As smartphones become more common, internet connectivity expands, and government initiatives push for a cashless economy, digital payments are increasingly woven into the fabric of daily business operations.

In India, we've seen a remarkable acceleration in the adoption of digital payments, thanks to initiatives such as Digital India and the rise of platforms like the Unified Payments Interface (UPI), mobile wallets, and online banking services. These innovations have opened up exciting opportunities for small businesses to boost their efficiency, reach more customers, and enhance financial transparency. Small businesses, which are the backbone of India's economy, are turning to digital payment methods to stay competitive in a fast-changing market.

In Tirunelveli District, Tamil Nadu, you can find a vibrant mix of small businesses, from local retail shops to service providers and small enterprises. The transition from cash to digital transactions here mirrors broader national trends but also highlights some unique challenges and opportunities specific to the region. Local factors such as digital literacy, infrastructure availability, and customer preferences play a crucial role in how businesses adopt and benefit from digital payment systems.

This study aims to explore the impact of digital payments on small businesses in Tirunelveli District. We'll look into how adopting these payment methods affects business performance, customer satisfaction, operational efficiency, and financial management. Furthermore, we want to uncover the challenges small business owners face when integrating digital payment technologies and provide helpful insights to make the most of these tools.

---

<sup>1</sup> Assistant Professor of Commerce Sarah Tucker College (Autonomous) Tirunelveli – 7 Affiliated to Manonmaniam Sundaranar University Tirunelveli – 627 012, Tamil Nadu, India  
Email ID: [leelajacob@gmail.com](mailto:leelajacob@gmail.com)

## 2. Review of Previous Studies:

**Devi (2025)** examined how digitisation and the Unified Payments Interface (UPI) are transforming the landscape for small informal businesses in India. The study highlighted several positive developments, including improved financial transparency and better cash-flow management, which can help these businesses thrive. Plus, with digital payments, they could reach more customers than ever before. However, Devi also pointed out real hurdles, including low digital literacy, security concerns, and unreliable internet connections, which make it difficult for many to embrace this shift fully.

**Paul's (2025)** research, which examined the economic effects of UPI on small businesses, particularly in urban and semi-urban areas, was conducted in the same year. His findings were promising, showing that adopting UPI led to increased sales and faster transactions, greatly improving overall convenience for customers. That said, he noted a gap: while businesses in urban settings were reaping the benefits, those in semi-urban areas faced challenges like insufficient infrastructure and a lack of technical know-how.

**Bhosale and Khaire (2025)** explored how UPI is driving growth among small businesses. They found that moving towards digital payments not only cuts down transaction costs but also boosts operational efficiency and scalability. A significant advantage of this shift is that it reduces reliance on cash and promotes financial inclusion, both of which are vital for many small enterprises looking to expand.

**Shaun (2025)** specifically focused on small and medium enterprises (SMEs) in Jabalpur. Using surveys, he discovered that the use of digital payments has surged. Key factors driving this adoption include the ease of use, convenience, and supportive government initiatives aimed at encouraging more businesses to go digital. Overall, it's clear that while there are some bumps in the road, the shift towards digital payments is opening up new opportunities for small businesses across India.

## 3. Profile of Study Area:

Tirunelveli District, located in the southern part of Tamil Nadu, is a vibrant area steeped in rich cultural traditions and a strong sense of community. Renowned for its lush landscapes, the district thrives on agriculture, which is the backbone of its economy. Beyond farming, Tirunelveli is home to a growing number of small businesses, from neighbourhood shops and local vendors to various service providers. These small enterprises are the heartbeat of the local economy, creating jobs and fostering a sense of self-sufficiency among the residents. The district boasts a well-developed network of roads and railways that connect rural and urban areas, enhancing trade and commerce. As the digital landscape in India evolves, Tirunelveli has been gradually entering the digital age. Many people are gaining access to smartphones and internet services, paving the way for new opportunities. In recent times, small businesses in Tirunelveli have begun embracing digital payment methods, such as mobile wallets, UPI, and card payments. This shift is exciting, but it's important to note that not everyone is on the same page. There's a noticeable gap in the adoption of these digital tools between urban areas, where resources and awareness are higher, and rural regions, where challenges such as lower digital literacy and limited infrastructure persist. This dynamic environment makes Tirunelveli District a fascinating place to explore the impact of digital payments on small businesses. It reflects both the opportunities that come with digital transformation and the hurdles to be overcome in semi-urban and rural settings.

## 4. Objectives of the study:

- ← To analyse the level of adoption of digital payment methods among small businesses.

← To study the effect of digital payments on sales and business performance.

## **5. Research Methodology:**

In this study, we're taking a closer look at how digital payments are affecting small businesses in the Tirunelveli District. Our goal is to understand not just the adoption of these payment systems but also the benefits they bring and the challenges they pose for small business owners.

### **a. Data Collection**

To gather our insights, we relied on primary data collected through a structured questionnaire. We designed this questionnaire to capture a range of information, including how often digital payments are used, their impact on business performance, customer satisfaction, and any obstacles respondents face.

### **b. Sampling**

In our study, we focused on small business owners and merchants based in the Tirunelveli District, specifically those who actively utilise digital payment systems or have encountered them in their operations. To gather valuable insights, we distributed 150 questionnaires to gauge participants' experiences and perspectives on these financial technologies. We were delighted to receive 145 fully completed responses, reflecting a remarkable response rate that bolsters our confidence in the validity and reliability of our findings. This strong participation underscores the relevance of our research within the local business community.

### **c. Sampling Technique**

To select our respondents, we used convenience sampling. This approach allowed us to engage with individuals based on their availability and eagerness to take part in our research.

### **d. Data Analysis:**

We analysed the collected data using straightforward statistical tools, including percentages, tables, and charts. This helped us interpret the results clearly and meaningfully.

### **e. Tools and Techniques**

For our analysis, we employed basic analytical tools, such as frequency distributions and percentages. These techniques helped us to evaluate the responses effectively and draw insightful conclusions about the impact of digital payments on small businesses in the area.

## **5. Scope of the study:**

This study explores the impact of digital payments on small businesses in Tirunelveli District. As technology advances, more local shop owners, service providers, and vendors are adopting systems like UPI, mobile wallets, and card payments. We gathered insights from 145 business owners to understand their experiences, focusing on how digital payments influence sales, customer convenience, business efficiency, and financial management. The research also highlights challenges, including digital literacy, technical issues, and security concerns. While the findings are specific to Tirunelveli, they shed light on the growing importance of digital payments for small businesses in the community.

## **6. Null Hypotheses:**

**H<sub>01</sub>:** There is no significant relationship between the selected factors and the adoption of digital payment methods among small businesses.

**H<sub>02</sub>:** There is a significant relationship between the selected factors and the adoption of digital payment methods among small businesses.

**7. Limitations;**

- ← Geographical Limitation: The study focuses on small businesses in Tirunelveli District, which may affect the generalizability of the findings to other areas with varying conditions.
- ← Sample Size: Only 145 respondents were included, which may not represent all small businesses in the district.
- ← Response Bias: The reliance on self-reported data may lead to socially desirable answers or inaccurate recall.

**8. Data Analysis and Interpretation:****Table 1: Type of Business**

Type of Business	No. of Respondents	Percentage (%)
Retail Shops (Grocery, Textiles, Stationery)	70	48.30%
Service Providers (Salons, Repair Shops, Restaurants)	50	34.50%
Micro-Entrepreneurs / Street Vendors	25	17.20%
<b>Total</b>	<b>145</b>	<b>100</b>

The distribution of respondents in Tirunelveli District showcases a diverse range of small businesses. Retail shops, including grocery and textile outlets, constitute the largest segment, with 70 respondents (48.30%), reflecting strong engagement in traditional retail and a shift towards digital payments. Service providers, such as salons and restaurants, follow with 50 respondents (34.50%), benefiting from mobile payment adoption due to frequent customer interactions. Micro-entrepreneurs and street vendors represent the smallest group with 25 respondents (17.20%), yet their participation signifies progress in financial inclusion within the informal sector. Overall, the data highlights that digital payment systems are more prevalent in organised businesses, while also expanding among micro-entrepreneurs and street vendors.

**Table 2: Years of Operation**

Years of Operation	No. of Respondents	Percentage (%)
Less than 3 years	34	23.45%
3–7 years	62	42.76%
More than 7 years	49	33.79%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

The classification of respondents by years of operation in Tirunelveli District highlights their business experience. Most businesses (62, 42.76%) have been operating for 3–7 years, indicating a growth phase and a higher likelihood of adopting digital payment systems. Those with over 7 years of operation, 49 respondents (33.79%), are well-established and may transition to digital payments to stay current. The least represented are newer businesses, 34 respondents (23.45%), which tend to adopt digital methods quickly due to their flexibility. Overall, this data reflects a diverse mix of businesses at various stages of their life cycles in terms of digital payment adoption.

**Table 3: Number of Employees**

Number of Employees	No. of Respondents	Percentage (%)
1–5 employees	104	71.72%
6–10 employees	33	22.76%
More than 10	8	5.52%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

In Tirunelveli District, the business landscape is primarily composed of very small enterprises. A significant number of business owners—about 104, or 71.72%—operate with just 1 to 5 employees, highlighting the prevalence of micro and small businesses in the area. Following this, 33 businesses, representing around 22.76%, have between 6 and 10 employees. Lastly, only a small fraction of businesses—8 respondents, or 5.52%—employ more than 10 people. This distribution clearly reflects the predominance of smaller-scale operations in the region.

**Table 4: Average Monthly Turnover**

Turnover Range (₹)	No. of Respondents	Percentage (%)
Less than 50,000	42	28.97%
50,001–100,000	64	44.14%
More than 100,000	39	26.90%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

The turnover patterns of businesses in Tirunelveli District reveal important insights into the local economic landscape. A significant number of respondents—64 (44.14%)—report annual turnovers between ₹50,001 and ₹1,00,000, indicating many operate at a moderate-income level. Meanwhile, 42 respondents (28.97%) earn less than ₹50,000, highlighting the presence of low-income micro-enterprises vital to the local economy. Additionally, 39 respondents (26.90%) report earnings exceeding ₹1,00,000, highlighting successful small businesses that contribute positively to the district's economy. Overall, these findings illustrate the diverse financial performance of businesses in Tirunelveli.

**Table 5: Level of Adoption of Digital Payment Methods**

Digital Payment Method	No. of Users	Percentage (%)
UPI	67	46.21%
Mobile Wallets	35	24.14%
Debit/Credit Cards	24	16.55%
Online Banking	19	13.10%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

The study on digital payment adoption among small businesses in Tirunelveli District shows a clear preference for convenient options. It is found that 67 small business owners (46.21%) have adopted UPI (Unified Payments Interface), which is favoured for its ease of use and instant transactions. Mobile wallets follow with 35 users (24.14%), indicating their utility for smaller transactions. Debit and credit cards are used by 24 respondents (16.55%), likely limited by the need for POS infrastructure. Online banking is the least popular, with only 19 users (13.10%). Overall, small businesses are choosing digital payment methods that prioritise simplicity and speed.

**Table 6: Effect of Digital Payments on Sales**

Response	No. of Respondents	Percentage (%)
Significant Increase	61	42.07%
Moderate Increase	49	33.79%
No Impact	29	20.00%
Decline	6	4.14%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

The impact of digital payments on small businesses in Tirunelveli District has been mostly positive. About 61 business owners (42%) reported a significant increase in sales after adopting digital payment methods. Additionally, 49 respondents (33.79%) noted a moderate sales boost. However, 29 individuals (20%) indicated no change in sales, and 6 respondents (4.14%) experienced a decline, possibly due to operational issues or a preference for cash payments. Overall, while many businesses are benefiting from the shift to digital payments, some still face challenges.

**Table 7: Effect on Business Performance**

Impact on Performance	Number of Respondents	Percentage (%)
High Improvement	55	37.93%
Moderate Improvement	65	44.83%
No Improvement	20	13.79%
Decline	5	3.45%
<b>Total</b>	<b>145</b>	<b>100.00%</b>

The adoption of digital payments has significantly impacted small businesses in Tirunelveli District. Recent feedback shows that 44.83% of business owners reported moderate performance improvements, while 37.93% noted high performance improvements. This shift has streamlined daily operations and enhanced customer satisfaction. However, not all have benefited equally: 13.79% experienced no change, and 3.45% reported a decline. Overall, the trend indicates a positive response to technology among local businesses.

**Table 8: Multiple Regression Analysis on Factors Influencing Adoption of Digital Payments**

Variables	Beta Coefficient ( $\beta$ )	Std. Error	t-value	p-value	Result
Constant	1.215	0.432	2.812	0.006	Significant
Awareness and Knowledge	0.312	0.085	3.671	0.000	Significant
Ease of Use	0.276	0.092	3.010	0.003	Significant
Cost of Transactions	-0.198	0.078	-2.538	0.012	Significant
Availability of Infrastructure	0.221	0.089	2.483	0.014	Significant
Customer Preference	0.305	0.094	3.245	0.002	Significant
Security and Trust	0.187	0.081	2.309	0.022	Significant
Business Size and Nature	0.142	0.073	1.945	0.054	Not Significant
Government Initiatives and Support	0.256	0.088	2.909	0.004	Significant
Digital Literacy	0.338	0.091	3.714	0.000	Significant
Perceived Benefits	0.367	0.095	3.863	0.000	Significant

The Multiple Regression Analysis exploring what drives small businesses in Tirunelveli District to adopt digital payment methods has uncovered some compelling insights.

The findings show that many of the factors we examined significantly affect whether these businesses adopt digital payments, with p-values below 0.05 for most variables. This gives us confidence in the validity of our regression model.

The analysis highlights two key factors: Perceived Benefits (beta coefficient = 0.367) and Digital Literacy (beta coefficient = 0.338). Essentially, businesses are more inclined to embrace digital

payments when they clearly see the benefits and have the skills needed to navigate these systems effectively.

Awareness and Knowledge (0.312) and Customer Preference (0.305) also play major roles. This suggests that having the right information and understanding customer desires are crucial in encouraging businesses to leap into digital payments. Other factors, such as Ease of Use, Availability of Infrastructure, Government Initiatives, and Security and Trust, also contribute positively and are statistically significant, emphasising how convenience, support, and a sense of trust are vital for adoption.

On the flip side, we found that the Cost of Transactions (with a beta of -0.198) significantly hinders adoption. This indicates that when transaction costs are high, small businesses may hesitate to switch to digital payment systems.

Interestingly, the analysis showed that Business Size and Nature (beta of 0.142,  $p = 0.054$ ) did not have a strong independent effect on the decision to adopt digital payments in this study. This suggests that factors related to a business's type or size may be less influential than we might have assumed.

### 9. Findings:

- ← Retail shops, including grocery and textile outlets, lead with 70 respondents (48.3%), showing strong traditional retail engagement and a shift to digital payments. Service providers such as salons and restaurants follow with 50 respondents (34.5%), capitalizing on mobile payment adoption. Micro-entrepreneurs and street vendors are the smallest group, with 25 respondents (17.2%).
- ← Most businesses (62, 42.76%) have operated for 3–7 years, suggesting they are in a growth phase and are likely to adopt digital payment systems. Of those with over 7 years of operation, 49 respondents (33.79%) are well-established and may adopt digital payments to stay current. The fewest respondents are from newer businesses, 34 (23.45%), which tend to embrace digital methods quickly.
- ← 71.72% of business owners operate with 1 to 5 employees, indicating a prevalence of micro and small businesses. About 22.76% have 6 to 10 employees, while only 5.52% employ more than 10 people.
- ← Out of 64 respondents, 44.14% have annual earnings between ₹50,001 and ₹1,00,000, indicating moderate income. Meanwhile, 28.97% earn less than ₹50,000, representing low-income micro-enterprises vital to the local economy. Additionally, 26.90% earn above ₹1,00,000, indicating successful small businesses that contribute to the district's economy.
- ← A study found that 67 small business owners (46.21%) use UPI for its ease and instant transactions. Mobile wallets are used by 35 respondents (24.14%) for smaller transactions, while debit and credit cards are used by 24 (16.55%), likely due to limitations in POS infrastructure. Online banking is the least popular, with only 19 users (13.10%).
- ← Around 61 business owners (42%) reported a significant sales increase after adopting digital payments, while 49 (33.79%) noted a moderate boost. Conversely, 29 individuals (20%) saw no change, and 6 (4.14%) experienced a decline, likely due to operational issues or a preference for cash.
- ← About 44.83% of business owners reported moderate performance improvements, and 37.93% noted great improvements, leading to streamlined operations and better customer satisfaction. However, 13.79% saw no change, and 3.45% experienced a decline.
- ← Digital payment adoption is influenced by perceived benefits, digital literacy, awareness, and customer preference, with cost as a barrier. Structural and behavioural factors significantly impact adoption, while business size is less decisive.

### 10. Conclusion:

The study on the impact of digital payments on small businesses in the Tirunelveli District reveals some exciting changes in how these businesses operate. It turns out that many small shops and

service providers have embraced digital payment methods, with UPI becoming a clear favourite among them. This adoption is especially strong among businesses that are still growing and those with moderate sales, showing that digital payments are becoming the norm for a wide range of business sizes.

The positive effects of digital payments are hard to miss! Many business owners reported seeing increased sales and overall improved performance thanks to these modern transaction methods. This move towards digital is not just about convenience; it has also led to faster transactions, happier customers, and greater transparency in operations.

The analysis pointed out several key factors that encourage businesses to adopt digital payments. These include the perceived benefits of going digital, the level of digital literacy among business owners, overall awareness of these payment options, customer preferences, and ease of use. Interestingly, while transaction costs can be a barrier for some, business size doesn't significantly influence the extent to which they adopt these methods.

In conclusion, the study highlights that digital payments are a fantastic opportunity for small businesses to grow and modernise. They play a crucial role in promoting financial inclusion and steering the economy towards a cashless future. There's still room for improvement, though—enhancing digital infrastructure, boosting awareness, and lowering transaction costs could help even more small businesses jump on board.

## 11. Reference:

1. Arner, D. W., Barberis, J., & Buckley, R. P. (2016). *The evolution of FinTech: A new post-crisis paradigm*. *Georgetown Journal of International Law*, 47(4), 1271–1319.
2. Bhosale, S., & Khaire, A. (2025). Role of UPI payments in small business growth. *Journal of Neonatal Surgery*, 14(3), 120–125.
3. Devi, P. (2025). Impact of digitisation and Unified Payments Interface (UPI) on small informal businesses in India. *Journal of Applied Management Studies*, 5(2), 45–53.
4. Donovan, K. (2012). *Mobile money for financial inclusion*. In T. Kelly & M. Minges (Eds.), *Information and Communications for Development 2012* (pp. 61–73). World Bank.
5. Kumar, R., & Kaur, R. (2019). *Digital payment systems and their impact on small businesses in India*. *International Journal of Research and Analytical Reviews*, 6(2), 234–240.
6. Mukhopadhyay, B., & Gupta, S. (2019). *Digital payments in India: Trends, issues and challenges*. *Journal of Internet Banking and Commerce*, 24(3), 1–12.
7. Narayanan, S. (2019). *Impact of demonetization on digital payments in India*. *International Journal of Economics and Financial Issues*, 9(1), 45–50.
8. Reserve Bank of India. (2023). *Report on the trend and progress of banking in India*. Mumbai: RBI.
9. Sahun, M. (2025). Adoption of digital payment systems among SMEs in Jabalpur. *International Journal of Information Technology and Management*, 12(1), 78–85.
10. Singh, N., & Rana, N. P. (2017). *Adoption of mobile wallets in India: A study of consumer behaviour*. *International Journal of Bank Marketing*, 35(6), 944–965.