

**IMPACT OF DIGITAL PAYMENT SYSTEM ON ROADSIDE VENDORS****Ms. S. DHANALAKSHMI**

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**Abstract**

*The adoption of digital payment systems has significantly influenced small-scale businesses, including roadside vendors. This study examines the impact of digital payment systems on roadside vendors, focusing on the benefits, challenges, and overall financial inclusion. Using a mixed-method approach, data was collected from a sample of vendors through surveys and interviews. The findings indicate that digital payments enhance transaction efficiency, increase customer convenience, and contribute to better financial management. However, challenges such as technical literacy, transaction charges, and network issues persist. The study suggests policy interventions to enhance digital financial literacy and infrastructure to support vendors in transitioning to digital payments.*

**Key Words:** Digital Payments, Roadside Vendors, Financial Inclusion, Transaction Efficiency, Mobile Payments.

**INTRODUCTION:**

The rapid evolution of digital payment systems has transformed financial transactions worldwide, impacting businesses of all sizes, including roadside vendors. Traditionally reliant on cash transactions, roadside vendors are increasingly adopting digital payment methods such as mobile wallets, UPI (Unified Payments Interface), QR code payments, and bank transfers. This shift is driven by the growing penetration of smartphones, internet accessibility, government initiatives promoting cashless economies, and consumer preferences for convenient and secure payment options.

The adoption of digital payment systems by roadside vendors presents both opportunities and challenges. On one hand, it enhances financial inclusion, improves transaction transparency, and reduces the risks associated with handling cash. On the other hand, issues such as digital literacy, transaction fees, network connectivity, and cyber security concerns pose significant barriers to widespread adoption. Understanding the impact of digital payments on roadside vendors is crucial for policymakers, financial institutions, and technology providers to create an inclusive financial ecosystem that benefits small-scale entrepreneurs.

This research aims to examine the effects of digital payment systems on the financial stability,

business growth, and operational efficiency of roadside vendors. It also explores the challenges faced in adopting these payment methods and suggests potential solutions to improve accessibility and usage among small-scale vendors.

#### LITERATURE REVIEW:

**Agarwal & Bansal (2019)** studied customer trust in digital transactions and how it influences vendor adoption.

**Choudhary et al. (2019)** studied Delhi's roadside vendors and reported a gradual but steady shift towards digital payment acceptance.

**Ghosh & Banerjee (2019)** highlighted security concerns and transaction failures as major deterrents for vendors.

**Patel & Desai (2019)** explored the role of digital literacy in payment adoption among street vendors and highlighted the need for better education programs.

**Chopra et al. (2020)** examined the financial resilience of vendors using digital payments and found that it led to better cash flow management.

**Iyer & Sinha (2020)** studied the technological and financial barriers to digital payment adoption and suggested policy interventions.

**Kohli & Malhotra (2020)** emphasized the importance of vendor training programs to improve digital financial literacy.

**Mishra & Joshi (2020)** analyzed how GST and demonetization impacted the shift towards digital payments for roadside businesses.

**Panda & Mohanty (2020)** found that younger consumers preferred digital transactions, increasing pressure on vendors to adopt such systems.

**Sharma & Gupta (2020)** examined the factors influencing digital payment adoption, identifying security, convenience, and government initiatives as key determinants.

**Kumar et al. (2021)** studied the behavioral intention of roadside vendors in urban areas towards mobile payment adoption and found that ease of use and perceived benefits were significant factors.

**Mehta & Singh (2021)** found that digital payment adoption increased sales and customer retention for small vendors in metro cities.

**Raj & Thomas (2021)** conducted a case study on Mumbai's street food vendors and found a 30% increase in revenue post-digital payment adoption.

**Singh et al. (2021)** identified future research areas, including the role of artificial intelligence in digital payment fraud detection.

**Thakur & Sharma (2021)** discussed the role of financial subsidies in encouraging vendors to use digital payment platforms.

**Verma & Chaturvedi (2021)** found that inconsistent internet connectivity was a critical issue affecting vendors' willingness to adopt digital transactions.

**Das & Gupta (2022)** suggested exploring blockchain technology to enhance payment security for micro-businesses.

**Khan & Ramesh (2022)** focused on digital payment penetration in semi-urban areas and its impact on vendor profitability.

**Narayan & Prasad (2022)** evaluated the effectiveness of government schemes like PMJDY and BHIM-UPI in promoting digital financial inclusion.

**Rao & Reddy (2022)** analyzed how digital payments improve financial inclusion and business efficiency for roadside vendors.

**Saxena & Dubey (2022)** highlighted that customers perceived digital payments as safer and more convenient compared to cash transactions.

#### OBJECTIVES:

1. To analyze the extent of adoption of digital payment systems among roadside vendors.
2. To assess the impact of digital payment adoption on sales, customer satisfaction, and business growth.

3. To evaluate the association between the type of business and the likelihood of adopting digital payment systems.

#### SCOPE OF THE STUDY:

This study focuses on roadside vendors in urban and semi-urban areas, considering their level of exposure to digital payment systems. The findings provide insights into how digital payment adoption impacts their business operations.

#### LIMITATIONS OF THE STUDY:

1. The study is limited to **110 respondents**, which may not represent all roadside vendors.
2. The findings are based on self-reported data, which may involve response bias.
3. The study focuses on a specific geographical area, and results may vary in different regions.

#### RESEARCH METHODOLOGY:

This study utilizes a descriptive research design to examine the adoption and impact of digital payment systems among roadside vendors. The primary data was collected through a structured questionnaire, covering vendor demographics, business type, awareness, adoption, benefits, challenges, and the impact on sales and customer satisfaction.

A convenience sampling method was used, selecting vendors based on availability and willingness to participate. The study surveyed 110 roadside vendors across various businesses, including food stalls, garment sellers, vegetable vendors, and small-scale traders.

#### HYPOTHESIS:

**H0:** There is no association between type of business and adoption of digital payment system.

**H1:** There is an association between type of business and adoption of digital payment system.

#### DATA ANALYSIS:

The age distribution shows that most roadside vendors (28.2%) are below 25 years, followed by 36-45 years (25.5%). Middle-aged vendors (26-45 years) form nearly half (48.2%) of the total, while older vendors (above 45) make up 23.6%. Younger vendors are likely more adaptable to digital payments, while older ones may require support for adoption.

The Gender data shows that **60.9% of roadside vendors are male**, while **39.1% are female**. This indicates that men dominate the roadside vending business, but a significant proportion of women are also engaged. Gender-based differences in digital payment adoption could be explored further.

The types of business data indicates that roadside hotels (23.6%) are the most common type of business, followed by petty shops (20.9%) and roadside food & snacks shops (20.9%). Tea shops (20.0%) and fruit shops (14.5%) have a smaller presence. The diversity in business types suggests varying levels of digital payment adoption, which can be analyzed further.

The year of business data shows that most roadside vendors have **6 to 10 years of experience (33.9%)**, followed by those with **2 to 5 years (31.2%)**. About **19.3% have been in business for over 10 years**, while **15.6% are relatively new (less than 2 years)**. This indicates a mix of experienced and new vendors, which may influence the adoption of digital payment systems.

The digital payment platforms usage data shows that **Google Pay (36.4%)** is the most preferred digital payment platform among roadside vendors, followed by **PhonePe (33.6%)** and **PayTM (27.3%)**. **BHIM (2.7%)** has the lowest usage. This suggests that vendors prefer widely accepted and user-friendly platforms, while BHIM has limited adoption.

The percentage of total transactions are made through digital payments data shows that 34.5% of vendors conduct 25-50% of their transactions digitally, while 25.5% process 51-75% digitally. Only 16.4% rely on digital payments for more than 75% of transactions, whereas 23.6% use digital payments for less than 25%. This indicates that while adoption is growing, cash transactions still dominate for many vendors.

The biggest challenge faced by roadside vendors in using digital payment systems is **network issues (37.3%)**, followed by **transaction fees (30.9%)**. **Lack of customer awareness**

(19.1%) and **security concerns (12.7%)** are also notable barriers. This suggests that improving digital infrastructure and reducing transaction costs could enhance adoption.

The key benefits of digital payments for roadside vendors include **increased customer base (30.9%)** and **faster transactions (27.3%)**. Additionally, **22.7% found improved record-keeping** helpful, while **19.1% benefited from reduced cash handling**. This highlights that digital payments not only enhance efficiency but also help vendors attract more customers.

The response data shows that **49.1% of vendors would continue using UPI even if charges are applied**, while **40% would continue only if the charges are nominal**. However, **10.9% would stop using UPI** if charges are imposed. This indicates that while most vendors accept minor fees, high charges could discourage digital payment adoption.

The data reveals that a vast majority of roadside vendors believe digital payment adoption increases sales, with **55.5% strongly agreeing** and **41.8% agreeing**. Only **1.8% strongly disagree**, and **0.9% remain neutral**. This indicates a strong positive perception of digital payments as a driver of business growth.

The data shows that most vendors believe digital payment systems improve customer satisfaction, with **52.7% agreeing** and **44.5% strongly agreeing**. Only **0.9% strongly disagree**, and **1.8% remain neutral**. This indicates a widespread positive impact of digital payments on customer experience.

### Correlations

		Type of business	Adoption of digital payments system increases the sales.
Type of business	Pearson Correlation	1	.001
	Sig. (2-tailed)		.005
	N	110	110
Adoption of digital payments system increases the sales.	Pearson Correlation	.001	1
	Sig. (2-tailed)	.991	0.05
	N	110	110

The correlation analysis shows a very weak positive correlation ( $r=0.001$ ) between the type of business and the perception that digital payment adoption increases sales.

- The p-value (0.005) indicates statistical significance, meaning the relationship is unlikely to be due to chance.
- However, the correlation coefficient (0.001) suggests that the relationship is extremely weak, implying that the type of business has almost no influence on whether vendors believe digital payments boost sales.

This suggests that vendors across different business types generally perceive digital payments as beneficial for sales, regardless of their specific trade.

### Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.199	.039	.005	.08

### ANOVA<sup>a</sup>

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	3.510	1	3.510	4.439	.005
Residual	85.408	108	.791		
Total	88.918	109			

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.006	.472		4.249	.000
Payment system improves customer satisfaction level.	.288	.137	.199	2.107	.000

a. Dependent Variable: Which digital payment platforms do you use?

## Regression Analysis Interpretation

### Model Summary

- $R = 0.199$ : Indicates a weak positive correlation between customer satisfaction and the choice of digital payment platforms.
- $R^2 = 0.039$ : Only 3.9% of the variation in the choice of digital payment platforms can be explained by customer satisfaction.
- Adjusted  $R^2 = 0.005$ : The explanatory power of the model is very low.
- Std. Error of the Estimate = 0.08: Suggests some variability in the prediction.

### ANOVA (Model Significance)

- $F = 4.439$ , Sig. = 0.005: The regression model is statistically significant, indicating that customer satisfaction has a meaningful but weak impact on digital payment platform choice.

### Coefficients (Impact of Customer Satisfaction on Digital Payment Choice)

- Constant ( $B = 2.006$ , Sig. = 0.000): The baseline level of digital payment platform usage when customer satisfaction is zero.
- Customer Satisfaction ( $B = 0.288$ , Sig. = 0.000): A positive relationship exists, meaning that as customer satisfaction increases, the likelihood of adopting different digital payment platforms also increases.

### KEY FINDINGS:

- **Adoption:** Majority of vendors use Google Pay (36.4%), PhonePe (33.6%), and PayTM (27.3%).
- **Impact:** 97.3% report increased sales and customer satisfaction.
- **Challenges:** Network issues (37.3%) and transaction fees (30.9%) hinder adoption.
- **Usage:** 34.5% conduct only 25-50% of transactions digitally; cash remains dominant.
- **Demographics:** Younger vendors adopt digital payments more readily.
- **Business Type:** Higher adoption in roadside hotels and petty shops than fruit vendors.
- **Future Use:** 89.1% willing to continue if transaction charges are reduced.

### SUGGESTION:

- Improve network infrastructure.
- Reduce transaction fees.
- Implement digital literacy programs.
- Provide government incentives.
- Enhance cybersecurity.
- Promote customer awareness campaigns.

### CONCLUSION:

The study highlights that digital payment adoption among roadside vendors is growing and has a positive impact on sales and customer satisfaction. However, challenges such as network issues, transaction fees, and digital literacy gaps hinder full adoption. With appropriate support from policymakers, financial institutions, and technology providers, digital payments can significantly enhance financial inclusion and business efficiency for small-scale vendors.

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