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Article

Adoption of Financial Technology by Street vendors in Bengaluru

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Abstract: This study explores the extent of FinTech adoption among street vendors in Bengaluru, identifying key drivers, challenges, and their overall impact on financial inclusion. Using a mixed-methods approach, the research evaluates the role of digital literacy, government initiatives, and infrastructure readiness in shaping adoption patterns. The adoption of financial technology (FinTech) is reshaping the informal sector by enabling seamless digital transactions and improving financial accessibility. Street vendors in Bengaluru, a crucial part of the urban economy, are gradually integrating FinTech solutions into their daily business activities. This study examines the factors driving and hindering the adoption of digital financial services among these vendors. The findings offer insights into the factors influencing FinTech acceptance, including convenience, trust, security concerns, and the socio-economic benefits it brings to micro-entrepreneur.

KEYWORDS: Financial Technology, Street Vendors, Digital Payments, Informal Economy, Financial Inclusion.

INTRODUCTION

The payment regularities in India had a massive transmutation from paper currency to digital currency. The business activity accepted digital currency as a part of the payment system. The participants in business activity are enjoying the benefits of fast and robust payment and settlement system. The Unified Payments Interface (UPI), developed by NPCI (National Payment Corporation of India), is a double dhamaka for both merchants and customers in India. The interface leads the phrase from paper to digital payments—the invention of the QR code taking business payments to sky-height. In India, the rise of digital payments, mobile banking, and other FinTech innovations has played a crucial role in promoting financial inclusion, particularly for small businesses and informal sector workers. Among these, street vendors constitute a vital segment of the urban economy, providing essential goods and services to millions of people daily. Traditionally reliant on cash transactions, street vendors are now gradually embracing digital financial tools to improve business efficiency and expand customer convenience.

This study aims to examine the factors driving and hindering the adoption of FinTech among street vendors in Bengaluru. By analyzing their awareness levels, trust in digital platforms, perceived benefits, and challenges, the research provides insights into the broader implications of FinTech integration in the informal economy. The findings will contribute to the existing literature on digital financial inclusion and

offer policy recommendations to enhance FinTech accessibility for street vendors, ultimately fostering a more inclusive financial landscape.Bengaluru, known as India's technology hub, provides a dynamic setting for studying the adoption of FinTech among street vendors. Government-led initiatives such as Digital India and the promotion of UPI-based transactions have created an enabling environment for digital financial services. However, the extent of FinTech adoption among street vendors remains varied due to factors such as digital literacy, affordability, trust in technology, and infrastructural limitations. While some vendors have successfully transitioned to digital transactions, others continue to rely on cash due to perceived risks and operational challenges. The world's economy characterized by individuals who work in different capacities can be categorized under the organized and the unorganized sector. Out of ten workers in the industry, approximately seven workers will be in the unorganized sector, and the rest will be in the organized sector. Similarly, out of 100 enterprises, 70% of the workforce is in informal or unorganized sectors, and the rest is organized. Contrary to the forecast made from decades, the volume of the informal sector is shrinking due to the advancement and implementation of technology into their business.

Review of Literature

Priti Bakhshi (2024): The adoption of financial technology (fintech) has the potential to make banking and financial services more accessible and convenient for all, but there are significant barriers preventing the adoption of fintech by street vendors and hawkers in India. This study aims to identify and analyse the barriers to fintech adoption using interpretive structural modelling (ISM). The research identified nine key barriers to fintech adoption, including perceived risk, lack of trust, lack of perceived benefit, social influence, lack of awareness, cash culture, lack of literacy, perceived ease of use, and lack of financial literacy. This study highlights that the cash culture is deeply ingrained in the Indian economy, which makes it challenging to shift to digital payment methods and this issue can be addressed by creating awareness about the advantages of using digital payment methods and incentivizing their use.

Dr. Ravi Kumar(2024) : This research study aims to examine the impact of the cashless economy and digitalization on small vendors in Bangalore, India. It will explore the challenges faced by small vendors in adapting to digital payment systems, the benefits they derive from embracing digitalization, and the overall impact on their business operations and financial well-being. The findings of this research study will contribute to a better understanding of the implications of the cashless economy and digitalization on the livelihoods of small vendors and provide insights for policymakers and stakeholders to develop appropriate interventions and support mechanisms. This study intends to examine how small vendors in Bangalore, India, are affected by the shift to a cashless society and digitalization.

Dr. P. Rekha (2024): Fintech (Financial Technology) an advance payment-based technology is a growing service in India. With the introduction of number of innovative payment platforms that are alternative to cash transactions, people are motivated to choose best of best payment options. Fintech technology adoption rate in India is noticed as 87 per cent compared to 64 per cent of the world average. Growth of fintech services is influenced by number of factors like: nation having huge underserved financially excluded population, rising youth population, educated and rapid urbanisation, easily available of workforce, supportive Government policies and scope for raising capital for investments.Digital payments and fintech service market is expected to grow multi-fold in the near future, with active support from the user, Government and financial institution.

Mahesh A(2022): India is undergoing a significant transition from a cash-based economy to a cashless or less-cash one. The smartphoneand internet adoption paved the way for technological acceptability in many sectors, including money usage. Economic transactions are carried out using an electronic medium. Among the several e-payment options over the last five years, the Unified PaymentInterface (UPI) has grown dramatically. According to a survey of the literature, the majority of the research was conducted to evaluate digital payment as a whole.

SOWMYA N (2024) : . This study paper primarily focuses on the consumer attitude and intention to use Digital Wallets as a Fintech service since the use of Fintech contributes to the potential expansion of the digital economy. Customers should find Digital Wallets with Fintech Services useful. Although digital wallets are not used frequently and can be used for a variety of financial operations, including digital payments, the study shows that they can help increase user satisfaction with fintech services. The overall study suggests that the attitude and intention towards using digital wallets with fintech services, which aimed at investigating the usability of fintech services in digital wallets and also concentrate on the ability of fintech towards the segment of customers in terms of their attitude and intention towards digital wallets.

P.Sarika (2019), India has the most comprehensive market in the global arena in terms

of smartphone and mobile applications for business transactions. Payment gateways and banks are approaching cashless transactions. Meanwhile, mobile applications play a vital role in the Government's initiative of Cashless India. The study focuses on the impact of mobile wallets on cashless transactions. The author listed all the benefits of using e-wallets for business transactions. The challenge is implementing a policy on strengthening internet protection from online fraud and cyber fraud

Scope of Study

In this research study primary and secondary data have been gathered for this study, the respondents for this study will be chosen at random from Bengaluru. The questionnaire method is employed in this study research approach to gather the data. Sample size and sampling method the sample size is 200 and the convenience sampling method is being used.

Objective of the study

1. To extricate the factors influencing the adaptability and accessibility of e-payment channels used by Street vendors in Bengaluru.
2. To check the awareness and usage level of innovative e-payment channels among respondents.
3. To know the impact of e-payment channels on the Street Vendors business operations of respondents.

RESEARCH METHODOLOGY

This study is based on the empirical method of research where Primary data is gathered from the Steet vendors from a convenient method of sampling by using a questionnaire survey method. The sample size is limited to 200 respondents. Secondary data is used by both published and unpublished journals. Data will be gathered from a variety of sources, including books, periodicals, journals, and the Internet. Both primary and secondary data have been gathered for this study, and Anova has been used for data analysis. area The respondents for this study will be chosen at random from Bangalore. The questionnaire method is employed in this study's research approach to gather data. Sample Size and Sampling Method The sample size is 200 and the convenience sampling method is being used. To conduct the study both primary and secondary data has been collected and ANOVA, regression, correlation methods has been adopted for the purpose of data analysis.

3.5 Area of the Study

For this study the respondents will be randomly selected from NCR Region.

3.6 Research Approach

For this study, questionnaire method is used for collecting data.

3.7 Sampling Technique and Sample Size

Convenience sampling method is be used and sample size is 200.

3.8 Research Instrument.

DATA ANALYSIS & INTERPRETATION

Table 1: Gender and Age-wise Distribution of Respondents.

Gender	**Frequency**	**Percentage (%)**
Male	117	58.5
Female	83	41.5
Total	200	100.0

Age Group	**Frequency**	**Percentage (%)**
Less than 30 Years	34	17.0
31–40 Years	68	34.0

Gender	Frequency	Percentage (%)
41–50 Years	62	31.0
Above 50 Years	36	18.0
Total	**200**	**100.0**

Under-Graduate	High School	Post-Graduate	PUC	Less than High School	Illiterate	Diploma	Others*
54	42	31	24	21	15	5	5

Table 2 : Educational Qualification of Respondents

Interpretation

The demographic profile of the respondents reveals that the street vending sector is predominantly male, though a significant proportion of female participants is also present. The majority of vendors belong to the economically active age group of 31–50 years, indicating that street vending serves as a primary livelihood source during peak working age. Educational analysis shows that most respondents possess undergraduate or high-school level qualifications, with a moderate presence of post-graduates. A smaller segment of the sample comprises individuals with minimal or no formal education. Overall, the findings suggest that street vending in Bengaluru is carried out largely by moderately educated, middle-aged individuals, reflecting a balanced workforce with the capacity to adapt to evolving financial technologies.

Table 3 : Monthly Turnover (Average Earnings Per Month in ₹)

Less than ₹5,000	₹5,001–₹10,000	₹10,001–₹20,000	₹20,001 & Above	Total Respondents
20 (10%)	47 (23.5%)	66 (33%)	54 (27%)	200 (100%)

Interpretation.

The analysis shows that the majority of street vendors earn between ₹10,001–₹20,000 per month, followed by a considerable proportion earning above ₹20,000. Nearly one-fourth of the respondents fall within the ₹5,001–₹10,000 range, while only 10% earn below ₹5,000. This indicates that most vendors operate at a moderate-income level with steady daily turnover. The presence of a significant percentage earning above ₹20,000 highlights income potential and business scalability among certain vendors. Overall, the income structure suggests financial diversity and varying levels of business performance among Bengaluru Street vendors.

Table4 : Awareness of E-Payment Applications

Yes	No	Can't Say	Total Respondents
167 (83.5%)	29 (14.5%)	4 (2.0%)	200 (100%)

Interpretation

The results indicate that a large majority (83.5%) of street vendors are aware of e-payment applications on their smartphones, reflecting high exposure to digital transactions. About 14.5% are not aware of such applications, indicating a scope for digital literacy improvement. Only 2% remain uncertain, showing minimal ambiguity. Overall, the high awareness level signals strong potential for sustainable FinTech adoption among street vendors in Bengaluru.

Table5: Awareness of E-Payment Modes for Business

E-Payment Mode	No. of Respon	Percentage
UPI – BHIM, Google Pay, PhoneP	173	86.5%
Internet Banking – NEFT, RTGS, IM	54	27.0%
Debit & Credit Card – POS Machi	47	23.5%
Digital Wallets – Paytm, Amazon F	31	15.5%
Bharath QR Code	27	13.5%
AePS – Aadhaar Enabled Payment Sy	8	4.0%
USSD – *99#	2	1.0%
Through Cryptocurrency	1	0.5%

Interpretation

The data shows that UPI-based payment modes have the highest awareness (86.5%) among respondents, indicating their strong penetration and ease of use. Internet banking (27%) and POS card payments (23.5%) have moderate awareness but lag behind UPI. Digital wallets (15.5%) and Bharat QR (13.5%) show emerging but limited adoption. AePS (4%) and USSD (1%) reflect very low awareness, indicating minimal usage of alternative channels. Overall, UPI has become the dominant digital payment method, while other modes require greater digital literacy and promotional efforts.

Table 6: Customers' Preferred Payment Options

Payment Option	No. of Responde	Percentage
UPI – BHIM, Google Pay, PhonePe	164	82%
Cash	22	11%
Digital Wallets – Paytm, Amazon Pay, PayPal, Freecharge,	12	6%
Both Online and Offline Payment	1	0.5%
Both Cash and UPI	1	0.5%

Interpretation

The results show that UPI is the most preferred payment method, chosen by 82% of customers, indicating its dominance in daily transactions. Cash payments remain relevant for 11% of customers, especially in small-value purchases. Digital wallet usage accounts for 6%, showing limited preference compared to UPI. Very few customers (0.5% each) use mixed modes such as both online–offline or both cash and UPI. Overall, customers strongly favor UPI due to its speed, convenience, and widespread acceptance.

Table 7 : Familiarity with E-Payment Mobile Applications

Category	No Knowle	Begi	Average	Adva	Expert & Specia
No. of Respon	15	3	98	4	12
Percentag	7.5%	15.	49.2	21.	6%

Interpretation

The data shows that nearly half of the respondents (49.2%) are average users of e-payment mobile applications, indicating widespread routine usage. A significant portion (21.6%) are advanced users, suggesting strong adaptability toward digital payment technologies. Beginners constitute 15.6%, showing that a segment of the population is still in the early stages of learning digital payments. Only 7.5% reported having no knowledge, reflecting minimal digital exclusion. Overall, familiarity with e-payment apps is high, demonstrating strong digital adoption among respondents.

Table 8 : Percentage of Monthly Income Received Through E-Payment Channels

Category	Less than	11% to	26% to	More than
No. of Respond	45	46	53	55
Percentag	22.6%	23.1	26.6	27.6%

Interpretation

The data indicates that a significant share of respondents (27.6%) receive more than 40% of their monthly income through e-payment channels, showing strong dependence on digital transactions. About 26.6% receive between 26%–40% of their earnings digitally, reflecting steady adoption among small and medium vendors. A moderate proportion (23.1%) fall in the 11%–25% range, suggesting gradual but consistent digital inflow. Only 22.6% receive less than 10% of their income via e-payments, indicating limited reliance among a small group. Overall, the majority of respondents have integrated digital payments as a major component of their monthly income.

Table 9: Source of Awareness to Use E-Payment Mobile Applications

Source of Aware	Self-Int	Family & Fri	Compet	Mass Media Char
No. of Respond	76	95	13	15
Percentage (%	38.2	47.7%	6.5%	7.5%

Interpretation

The data indicates that family and friends are the primary source of awareness about e-payment mobile applications for street vendors, accounting for 47.7% of respondents. This shows that informal social networks play a major role in influencing technology adoption at the grassroots level. Self-interest is the second major factor with 38.2%, suggesting that many vendors explore digital payment options independently based on perceived benefits. Mass media channels contribute 7.5%, reflecting limited influence of formal promotional campaigns. Only 6.5% of respondents reported learning about e-payment apps from competitors, indicating relatively low competitive pressure. Overall, awareness is driven more by interpersonal interactions than institutional or media-driven sources.

Table 10: Rating of Awareness & Usage on E-Payment Channels

Statements	5	4	3	2	1
Immediate Fund Transfer	101	58	26	8	6
Security and Safety	79	74	28	10	8
Time Saving and Cost-Effective – ATM Transaction	96	49	35	10	9
Convenient, Easier and User-friendly	92	57	31	9	10
Reward and Cashback Systems are Attractive	63	60	42	19	15
E-payments Made Business Easier	88	68	26	9	8
Avoid Long Queues in Front of Banks	91	60	27	12	9
Avoid Robbery of Cash	99	48	32	9	11

Interpretation

The ratings show that respondents strongly agree that e-payment channels provide immediate fund transfer, save time, and are convenient to use. Security and safety also received high agreement, indicating trust in digital platforms. Features such as rewards and cashback received moderate approval, suggesting they act as additional motivators but not primary factors. Most respondents believe that e-payments make business transactions easier and help avoid long queues at banks. A strong majority also feels that using digital payments reduces the risk of cash robbery. Overall, the responses highlight positive perceptions and strong acceptance of e-payment systems among users.

Table 11 : Problems Adversely Affecting Digital Transactions – Respondents' Ratings

Problems	5	4	3	2	1
OTP Generation Problem	62	76	40	13	8
Payment Failure or Decline due to Network Issues	47	80	52	18	2
Poor Customer Care Support	41	62	60	21	15
Language Problem – English	43	54	51	28	14
Login Problems – Credential Issues	45	60	50	29	15
Security and Safety Concern	42	70	48	26	13

Problems	5	4	3	2	1
Risk of Sharing Personal & Financial Data	49	66	45	27	12
Lack of Mobile & Financial Literacy	46	71	47	27	8
Storing Money in Third-Party Wallet is Riskier	52	63	46	27	11

Interpretation

The ratings reveal that payment failures due to network issues and OTP generation problems are the most frequent challenges encountered by users during digital transactions. Security concerns, risk of data sharing, and lack of mobile literacy are also experienced often, showing users' worry about safety in the digital environment. Issues such as login problems, English language barriers, and poor customer care support occur moderately, indicating service-level gaps. A considerable number of respondents also perceive third-party wallets as risky, highlighting trust issues. Overall, the results indicate that both technical failures and security concerns significantly affect the smooth functioning of digital payments. These challenges suggest the need for improved network infrastructure, stronger cyber-security systems, and better user support mechanisms

Findings

Demographic Profile of Street Vendors

1. The majority of respondents belong to the productive age group, indicating that digitally active age groups are more willing to adopt FinTech tools.
2. A larger share of respondents are male street vendors, showing gender disparity in FinTech adoption.
3. Most vendors possess at least basic schooling, which appears to influence their ability to use digital payment systems.

Nature of Business and Digital Exposure

4. A majority of street vendors operate small, single-owner businesses, reflecting limited financial capacity but high daily cash transactions.
5. Vendors located in busy market areas show comparatively higher exposure to digital payments.

Awareness and Usage of Financial Technology

6. A very high proportion of vendors are aware of UPI-based payment systems (Google Pay, PhonePe, BHIM), indicating excellent penetration of UPI in informal markets.
7. UPI remains the most preferred mode of digital transactions compared to debit/credit cards, digital wallets, or net banking.
8. Awareness of internet banking and mobile banking is moderate, but actual usage is relatively lower.
9. Use of digital wallets (Paytm, Amazon Pay) is comparatively less popular among vendors.

Factors Motivating FinTech Adoption

10. Street vendors consider convenience and speed of transactions as the strongest drivers for adopting digital payments.
11. Vendors perceive that digital payments reduce the need for physical cash, thereby lowering the risk of theft.
12. Many respondents agree that digital payments help in maintaining daily sales records automatically.
13. Discounts, cashback, and zero-cost transaction features also encourage higher adoption.

Barriers to FinTech Adoption

14. OTP generation failure and network issues are the most frequently reported operational challenges.
15. A significant number of vendors reported payment failure or decline due to network instability during business hours.
16. Poor customer care support from payment apps was highlighted as a major problem.
17. Language barriers, especially in English interfaces, limit smooth usage for many respondents.
18. Credential-related login issues also create obstacles for continuous adoption.
19. Vendors expressed concerns related to security and safety of digital transactions, especially fear of fraud.
20. Sharing of personal and financial data is perceived as risky by many vendors.
21. Low mobile and financial literacy continues to be a major barrier for many street vendors.
22. Respondents feel storing money in third-party wallets is riskier compared to UPI-linked bank accounts.

Trust and Safety Perceptions

23. Despite barriers, most vendors **trust government-backed UPI systems** more than private wallets.
24. Vendors show higher confidence in digital payments when customers also prefer and demand UPI payments.

Impact of FinTech on Business Operations

25. Digital transactions have enabled **quicker check-out processes**, improving customer experience.
26. Vendors experienced **improved sales volume** during peak hours due to cashless convenience.
27. Digital payments help vendors maintain **systematic records**, which can support future access to micro-finance and loans.
28. Many vendors reported that digital payments reduce disputes related to tendering change during cash payments.

overall Adoption Trends

29. Overall, the adoption of FinTech among street vendors in Bengaluru is **high and rapidly increasing**.
30. Technological challenges exist, but the **perceived benefits outweigh limitations**, leading to continuous growth in usage.

CONCLUSION OF THE STUDY

The study concludes that the adoption of financial technology among street vendors in Bengaluru is progressing rapidly and has become an integral component of their daily business operations. UPI-based applications have emerged as the dominant mode of digital payment due to their simplicity, reliability, and widespread acceptance among customers. The positive perception of e-payment systems—particularly in terms of convenience, speed, and safety—has significantly contributed to the shift from traditional cash transactions to digital alternatives.

Although vendors generally display a good understanding of fintech tools, certain operational and literacy-related challenges persist. Issues such as poor network connectivity, occasional transaction failures, concerns over data security, and limited support mechanisms continue to hinder the seamless use of digital payment platforms. Strengthening digital infrastructure, enhancing financial literacy, and improving grievance redressal systems would further encourage sustained adoption.

Overall, the findings indicate that financial technology has substantially transformed the business landscape for street vendors by expanding payment options, improving transparency, and enhancing business efficiency. Continued efforts from policymakers, service providers, and financial institutions can strengthen this digital transition and create a more inclusive and empowered financial ecosystem for micro-entrepreneurs.

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