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A STUDY ON EFFECTIVENESS OF E-PAYMENT TOOLS IN BHIWANDI

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ABSTRACT

The sudden spurt in the use of digital payments has changed the way people make financial transactions in India, with urban cities such as Bhiwandi experiencing major payment pattern changes. This research focuses on the utility of e-payment instruments in Bhiwandi, a city known for increasing digital connectivity and a diverse range of users. The research evaluates the drivers behind the adoption of e-payment channels, usage frequency, user satisfaction, and consumers' and vendors' problems.

The surveys were used to gather data from a diverse population sample of Bhiwandi, with an emphasis on the users' knowledge of platforms like Google Pay, PhonePe, Paytm, and Amazon Pay. From the key findings, it was reported that younger people, especially those in the 15–25 years age bracket, have a high rate of adoption, with 60.8% of the respondents in this age bracket regularly using e-payment systems. Google Pay was the leading platform, followed by PhonePe, while other platforms demonstrated limited penetration. Bill payments and retail shopping came out as the major use cases for e-payment tools, with convenience and transaction speed being the most valued benefits.

In spite of the popularity, security issues were at the forefront, with more than half of the respondents having fallen victim to fraud or unauthorized transactions at least once. This underlines the necessity for increased security features to promote higher confidence. Moreover, a large segment of the population was dissatisfied with the transaction speed and the absence of adequate rewards, including cashback and discounts.

The research provides a number of suggestions for enhancing the effectiveness of e-payment instruments in Bhiwandi. These include enhancing security features, especially fraud prevention, enhancing transaction processing speeds, and providing more enticing rewards to encourage higher adoption, particularly among older or less frequent users. In addition, there is a requirement for wider awareness campaigns to improve digital literacy, especially in rural regions where adoption may still be low.

In summary, although e-payment instruments in Bhiwandi show high prospects for enhancing convenience and minimizing cash reliance, their usefulness is based on surmounting security issues as well as meeting users' calls for speedier transactions and additional incentives. This research offers useful insights for policymakers, companies, and financial institutions to enhance the digital payment system in developing nations.

Keywords: Digital Payment, E-Payment, UPI, BHIM, Effectiveness Of E-Payment, E-Payment Tools, Digital Wallets.

I. INTRODUCTION

Payment apps or e-wallets are mobile-based services that permit the facility of online transactions by the customers replacing conventional means such as cash, cheques, and cards. The mobile apps holding debit and credit card information are increasingly becoming popular worldwide, especially in developing nations, providing bank services to the bank-less population. Paytm, Google Pay, Amazon Pay, PhonePe, etc., are some of the widely used mobile wallets in India, providing a facility of many types of transactions such as payments, recharges, and bill payments.

Types of E-payment Tools/Apps

India's digital economy has experienced explosive growth, especially post-demonetization in 2016, with mobile payments and wallets leading the way. India is now the second-largest mobile phone market, and with growing internet penetration, the government's initiative towards a cashless economy, and mobile-first solutions such as UPI, digital payments are growing exponentially. UPI, created by NPCI, has helped dramatically increase India's payment volumes and is adopted largely because of the mobile-first philosophy. India's digital wallet and payments space are expected to rise five times as large by the year 2022.

1. Paytm: A major wallet offering payments, bill recharges, and e-commerce services. It also allows users to pay for services in various sectors like travel and retail.

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2. Amazon Pay: Amazon's payment system allows transactions on third-party sites, with EMI options for purchases.

3. Google Pay: Bank-linked app for sending money, paying bills, and shopping, with no wallet reloading required.

4. PhonePe: A UPI-based app for payments, recharges, transfers, and bill payments, with a simple and secure user interface.

5. MobiKwik: A mobile wallet for recharges, bill payments, shopping, and expense tracking, with partnerships across online and offline retailers.

6. Yono by SBI: SBI's wallet for money transfers, bill payments, shopping, and more, with support for 13 languages.

7. Citi MasterPass: A digital wallet for faster online shopping, storing cards and shipping info for quicker checkouts.

8. ICICI Pockets: A mobile wallet linked to any bank account, allowing transfers, recharges, and shopping with a virtual card.

9. HDFC PayZ app: A payment app for mobile recharges, bill payments, shopping, and sending money, with one-click features.

10. BHIM Axis Pay: A UPI-based app for instant money transfers and mobile recharges.

11. FreeCharge: A growing wallet for bill payments and recharges, compatible across Android, iOS, and Windows.

12. State Bank Buddy: SBI's wallet for transfers, bill payments, and reminders in multiple Indian languages.

13. LIME: Axis Bank's wallet for payments, shopping, and banking, available for both account holders and non-account holders.

14. Airtel Money: Airtel's wallet for payments, recharges, and money transfers, supporting Android, iOS, and Windows.

Objectives:

1. To study the various e-payment tools used by citizens of Bhiwandi
2. To understand the frequency of usage of e-payments tools in Bhiwandi.
3. To find out the effectiveness of e-payment tools in Bhiwandi.
4. To educate citizens for effective use of tools in Bhiwandi.
5. To recommend safety and security measures.

Hypothesis:

H1- Bhiwandi Citizens are aware about various E-payment tools.

H2- Bhiwandi Citizens are frequently used E-payment tools.

H3-Bhiwandi Citizens are aware about E-payment tools and positive effective on people.

H4- Educate Citizens in Bhiwandi very effective used e-payment tools.

II. LITERATURE REVIEW

Prof. Sana Khan, Ms. Shreya Jain: Technology has altered consumer behavior, making businesses use online platforms for expansion. E-payments, variety, and discounts increase trust and loyalty. Security and privacy concerns still linger. IoT and AI can strengthen security via biometric authentication, increasing consumer confidence and enhancing user experience.

K. Suma Vally, K. Hema Divya: Digital payments in India's banking system have increased performance and facilitated the transition to a cashless society. Awareness regarding technology use and security is important for future growth.

Dr. V. Josephine Lourdes De Rose: E-payments are convenient, private, and timely in bill payments. They minimize stress associated with cash handling, making society smarter and more efficient.

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S. Fatonah, A. Yulandari, F. W. Wibowo: Additional research is required on establishing trust in e-payment systems, interest of users, and security as a priority. Future research must address current issues and enhance electronic payment systems.

Muddassir Masihuddin, Burhan Ul Islam Khan, M. Mueen Ul Islam Mattoo, Rashidah F. Olanrewaju: E-payment systems, despite their popularity, have security concerns, particularly with payment gateways. The essay underlines the necessity of comprehending security mechanisms for enhanced customer satisfaction.

Mostafa A. Ali, Nazimah Hussin, Ibtihal A. Abed: An electronic payment system that is secure, utilizing technologies such as cryptography or steganography, is vital to secure customer information and avoid fraud. The article brings out the importance of having more secure systems in e-payments.

Mamta, Dr. A. P. J. Abdul Kalam, Prof. Hariom Tyagi, Dr. Abhishek Shukla: Electronic payments, including credit/debit cards and e-wallets, do away with the use of cash. Security issues such as data theft and fraud are dealt with by implementing technologies such as electronic signatures. Various payment modes provide different levels of privacy and security, meeting user needs.

III. RESEARCH METHODOLOGY

The study will assess the performance of e-payment instruments in Bhiwandi, including user satisfaction, security, speed of transaction, ease of access, and their effects on local enterprises.

Research Design: A descriptive research design that incorporates both qualitative and quantitative methods will be applied.

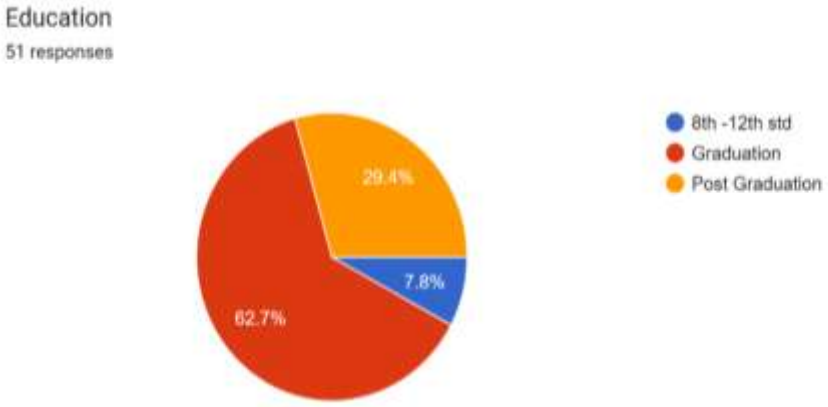
Primary Data: Primary data will be gathered from surveys Android data through Google form sent to consumers and enterprises, in-depth interviews, and focus groups with small business owners.

Secondary Data: Secondary data will be collected from newspapers, e-magazines, websites, e-journals and case studies of e-payment adoption.

Sampling Size: For this research study, a sample size of 51 respondents was selected randomly from Bhiwandi, Maharashtra. Responses across different age groups (15–65 years) were considered. It includes Customers of Bhiwandi using e-payment tools to make their daily transactions, and entrepreneurs (particularly small and medium-scale businesses) as a respondent.

Statistical methods (descriptive and inferential) will be used for analysis of quantitative data, and thematic analysis for analysis of qualitative data. The study will give a holistic account of e-payment usage and challenges in Bhiwandi.

IV. FINDINGS AND DATA ANALYSIS AND INTERPRETATION



The survey respondents were 62.7% are graduate, 29.4% are post graduate and 7.8% are 8th-12th std educated, indicating graduates are slight overrepresentation of males compared to females. The combined percentage of graduates and postgraduates (62.4% + 29.4% = 91.8%) represents a very high proportion of the population with higher education. Relatively Small Portion with Secondary Education, the percentage of individuals with education levels between 8th and 12th standard is quite small (7.8%).

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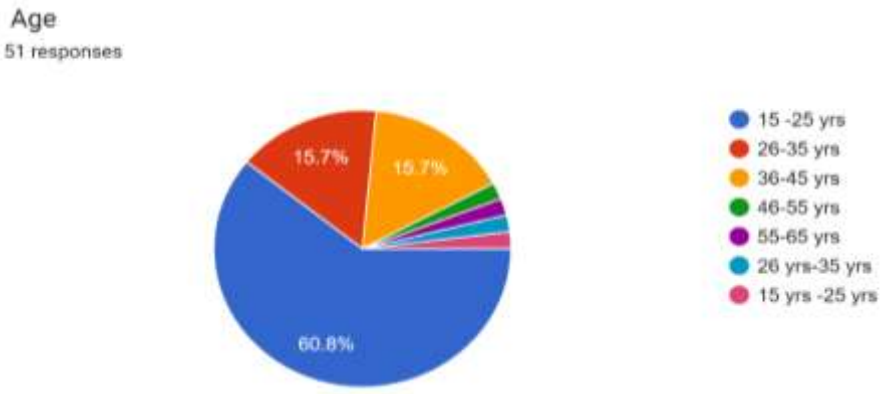
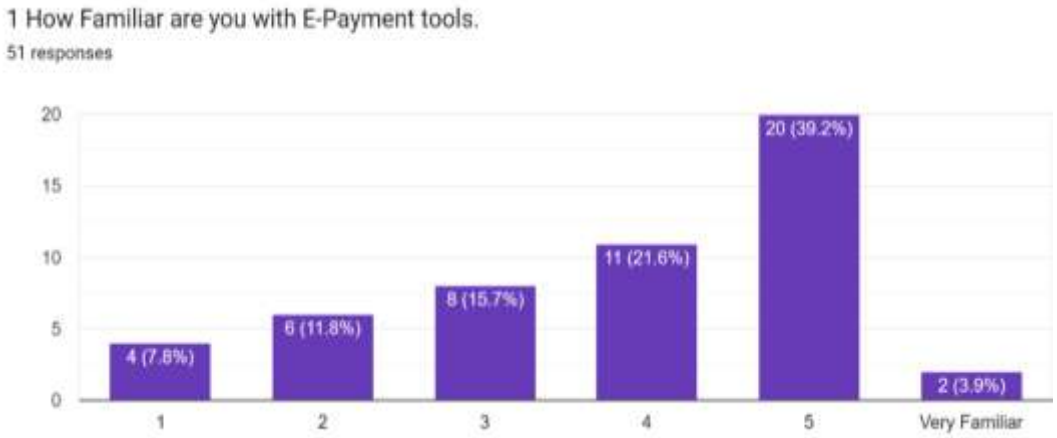
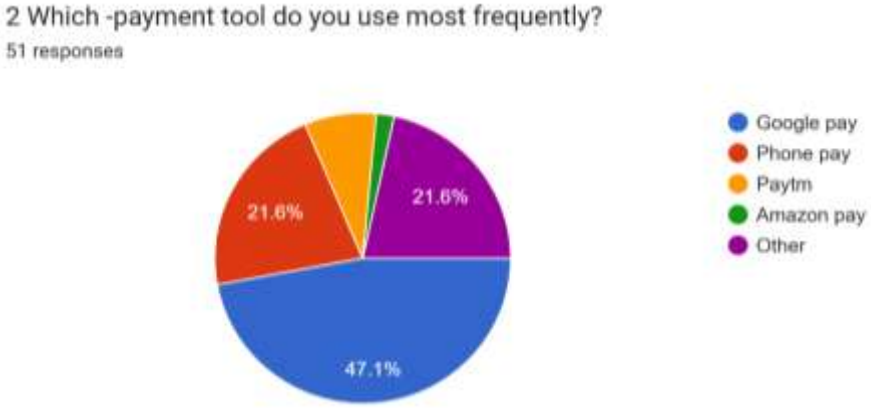


The survey shows that the age group of 15-25 years constitutes the majority (60.8%), indicating that the younger generations are the primary users of e-payment tools. 26-35 years and 36-45 years age groups each constitute 15.7%. Though they are less than the previous age group, they still constitute a substantial number of users. Only 2% users belong to the age group of 46-65 years. This reflects low e-payment tool adoption by older generations, perhaps because of They are unfamiliar with technology.



The survey shows respondents High Familiarity (60.8%) [39.2% (Very Familiar) + 21.6% (Most Familiar) = 60.8%] means more than 60% of those surveyed have strong knowledge of e-payment instruments. Somewhat Familiar (15.7%) indicates that they have used e-payment tools but are unsure or not regular users. 11.8% (Less Familiar) + 7.8% (Least Familiar) indicates that almost 1 in 5 respondents find it difficult to use digital payments.



The survey shows that GPay is the Market Leader (47.1%) Nearly half of the respondents use Google Pay, and it is the most popular e-payment tool. PhonePe has a Substantial Share (21.6%) Second most popular tool, utilized by over 1 in 5 respondents. Paytm's Lower Adoption (7.8%) Though it was an early market leader in digital payments, Paytm is less used than GPay or PhonePe. Amazon Pay's Limited Usage (2%) Least popular e-

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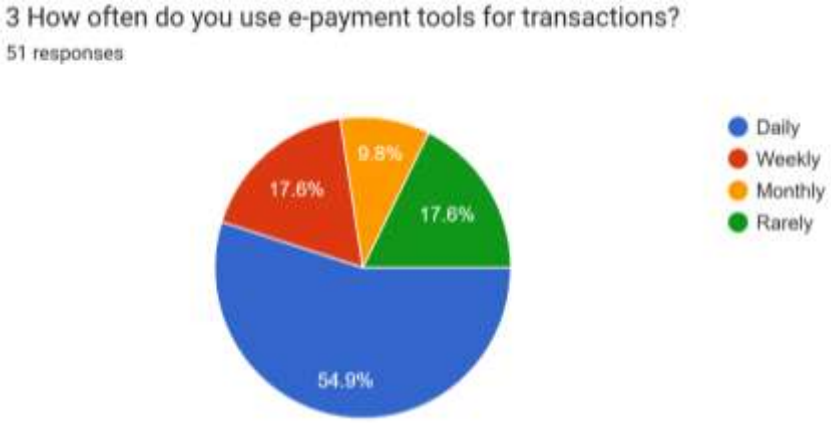
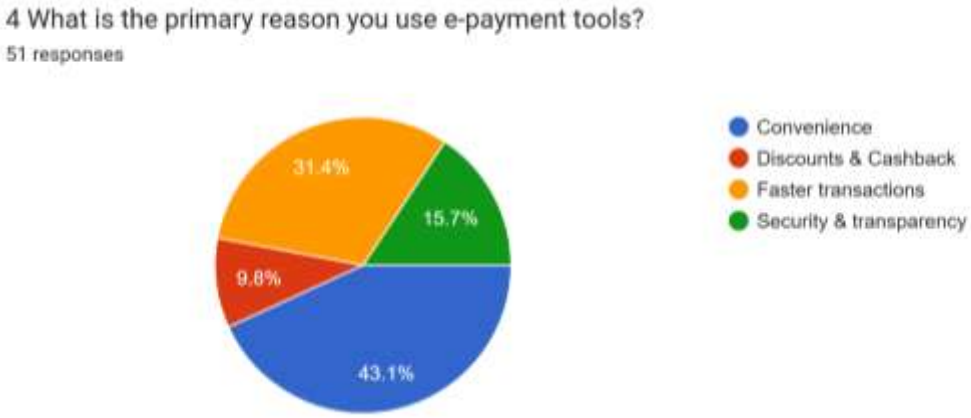
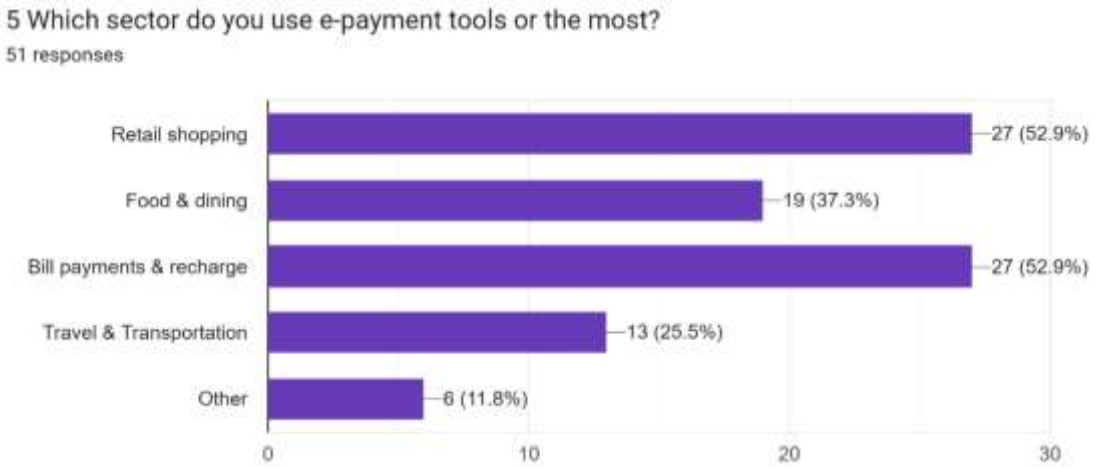
payment tool among the respondents and Other Payment Tools (21.6%)1 out of every 5 consumers use bank UPI apps, Mobikwik, BharatPe, and other fintech options.



The survey indicates that Majority are Daily Users (54.9%), Over half of the respondents (54.9%) utilize e-payment tools on a daily basis. Moderate Usage (Weekly - 17.6%, Monthly - 9.8%) Weekly Users (17.6%): Most likely use e-payments for periodic payments (subscription, grocery, etc.). Monthly Users (9.8%), Possibly utilize digital payments for bills, rent, or the odd online purchase. Low Adoption (Rarely Used - 17.6%) 1 out of 6 respondents use e-payments sparingly, means Preference for cash payments.



The survey shows that Convenience is the Leading Motive (41.3%), A substantial 41.3% of users favor e-payments due to ease of use. Faster Transactions are a Substantial Driver (31.4%) 1 in every 3 users (31.4%) values speed. Security & Transparency are Important (15.7%) Certain users care about security & transparent records of transactions. Cashback & Discounts Have Minimal Impact (9.8%), a mere 1 in 10 users favor e-payments primarily for offers.



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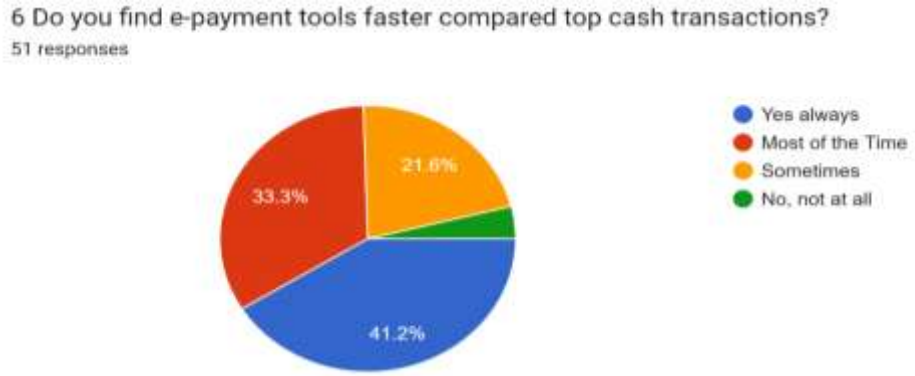
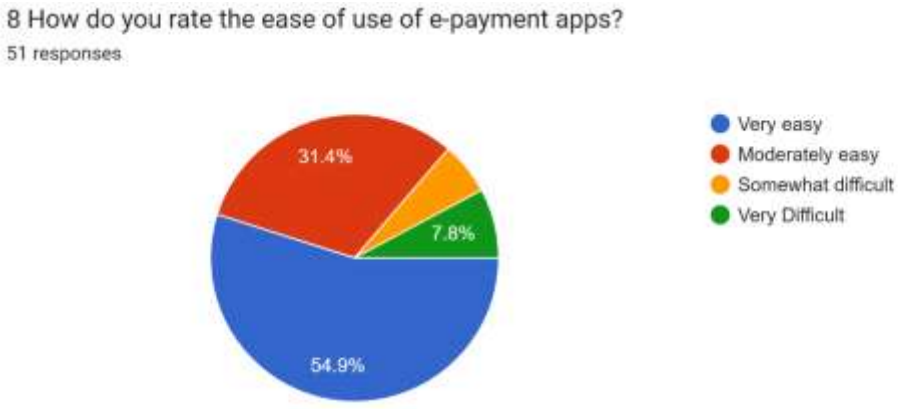
The survey indicate that Retail Shopping & Bill Payments Dominate (52.9%) it means More than half of respondents use e-payment tools for shopping & bill payments. Indicates a shift from cash to digital payments in these sectors. Food & Dining is a Major Use Case (37.3%) More than 1 in 3 users pay digitally at restaurants, cafes, and food delivery apps (Zomato, Swiggy). Travel & Transportation Adoption is Moderate (25.5%) 1 in 4 consumers pay for cab fares, fuel pumps, metro, train, and flight reservations. Other industries observe minimal usage (11.8%) Paying for education, healthcare, entertainment, and business.



The survey indicate that Most E-Payments are Quicker (74.5%) i.e. [41.2% (Always) + 33.3% (Most of the Time) = 74.5%] think that e-payments are always quicker than cash. Mostly It is Sometimes Quicker (21.6%), Some people (21.6%) think e-payments are quicker sometimes, but not always. Very few Consider Cash as Being Quicker (3.9%) and very few (3.9%) think that cash is always quicker.

The Survey shows that Significant Number of Users Face Frequent Issues (21.6%) More than 1 in 5 users experience regular transaction failures. Occasional Failures (15.7%) Some users face intermittent issues, Majority Rarely Face Issues (47.1%) Nearly half of respondents (47.1%) say failures are rare, meaning most transactions go smoothly. A Small Percentage Never Experienced Failures (15.7%)



The survey indicate that Majority Find E-Payments Easy to Use (86.3%) i.e.[54.9% (Very Easy) + 31.4% (Moderately Easy) = 86.3%] of the respondents believe e-payment tools are relatively easy to use. A Small

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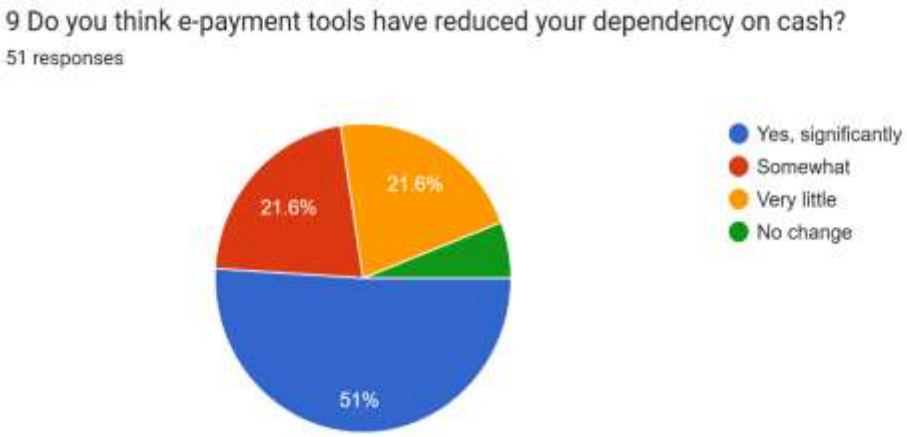
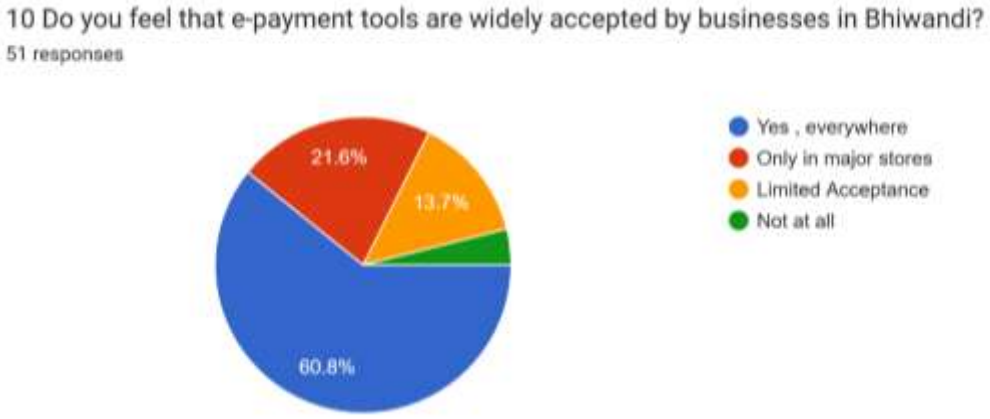
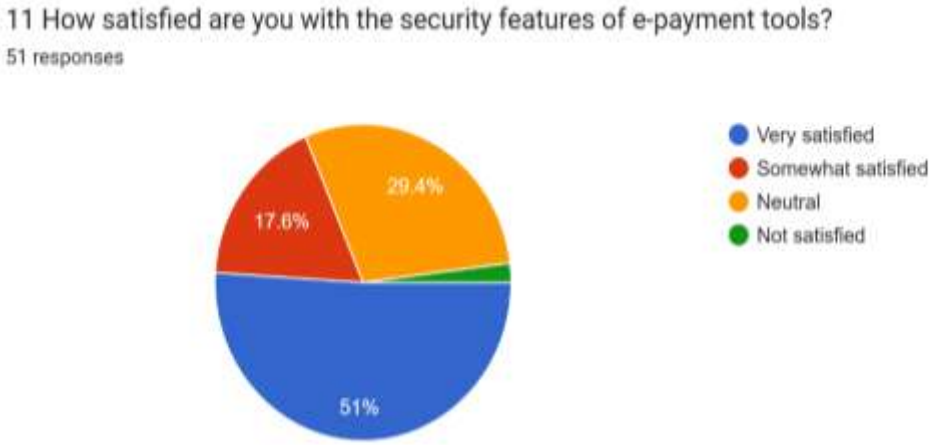
Percentage Faces Challenges (13.7%) i.e. [5.9% (Somewhat Difficult) + 7.8% (Very Difficult) = 13.7%] of users have difficulty with e-payment tools.



The survey shows that Most Reduced Cash Dependency (51%), More than half (51%) of consumers think e-payment instruments have made a very significant shift towards replacing cash. Partial Shift in Cash Dependency (21.6%), Minimal Change for Some Users (21.6%) These users may continue to use cash and Very Few Notice No Change (5.9%) means a small number (5.9%) think e-payment tools haven't affected their use of cash.



The survey indicates that Strong Digital Payment Adoption (60.8%), Over half (60.8%) indicate e-payments are accepted everywhere in Bhiwandi. Limited to Major Stores for Some (21.6%)1 out of 5 respondents report e-payment tools accepted mostly in big retail stores, supermarkets, and mall. Partial or Limited Adoption (13.7%) Some firms selectively accept digital payments, Very Few Businesses Do Not Accept (3.9%) Few people say e-payment is not accepted at all.



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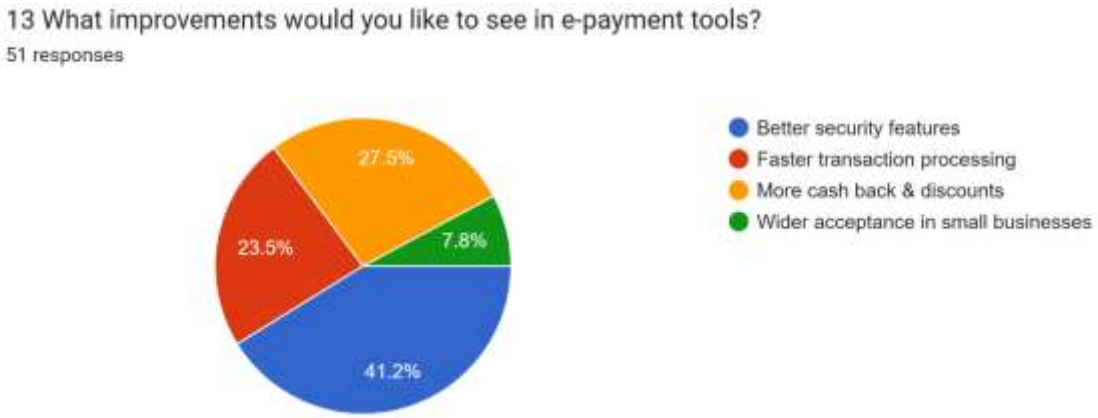
The survey shows that Majority Trust Security of E-Payment Tools (68.6%) i.e.[51% (Very Satisfied) + 17.6% (Somewhat Satisfied) = 68.6%]are confident in the security features of e-payment tools. Large Neutral Segment (29.4%) Nearly 1 in 3 customers are neither extremely satisfied nor dissatisfied with security. Very Few Users Are Dissatisfied (2%) means Just 2% of respondents express that security is not sufficient.

The survey shows that More Than 50% of Users Have Experienced Fraud (51%) i.e.[19.6% (More than Once) + 31.4% (Once or Twice) = 51%] of users have ever experienced fraud or unauthorized transactions personally. One Quarter of Users Are Ambivalent (25.5%) 1 in 4 users are "Not Sure" whether they have encountered fraud, 23.5% Have Never Encountered Fraud.



The survey indicates that Security is the Top Priority (41.2%) Security is the largest area of improvement users anticipate. Faster Transactions Needed (23.5%) Almost 1 in 4 users desire faster transactions. Demand for More Cashback & Discounts (27.5%) means Cashback & discounts drive digital payment usage. Bro

V. LIMITATIONS

Sampling Bias: Most of the respondents were from cities; rural voices can be underrepresented.

Self-Reported Data: Respondents' experiences can have personal biases.

Limited Business Insights: Study is more focused on users than small business owners' views.

Technological Factors: Effects of network problems and infrastructural issues were not thoroughly examined.

VI. RECOMMENDATIONS AND SUGGESTIONS

1. Improve Security Measures Deploy AI-based fraud prevention and enhanced biometric authentication. Enhance customer support for resolving fraud.

2. Streamline Transaction Speed & Reliability Enhance bank server power & UPI infrastructure. Make offline UPI available in places with low connectivity.

3. Increase Digital Payment Awareness Provide training sessions for small shopkeepers & senior citizens. Provide multi-language guidelines for new consumers.

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4. Boost Merchant AcceptanceLower transaction costs for small enterprises to promote acceptance. Encourage QR code & mobile wallet implementation in unorganized sectors.

5. Improve User Experience & Rewards Expand cashback offers & loyalty rewards. Provide customized offers based on spending behaviour.

VII. CONCLUSION

The study highlights that e-payment tools are widely adopted in Bhiwandi, especially among younger users, with Google Pay and PhonePe leading the market. The majority find e-payments convenient and faster than cash transactions. However, security concerns, occasional transaction failures, and lack of merchant adoption in small businesses remain challenges.

In order to further advance e-payment acceptance, security strengthening, transaction acceleration, small vendor acceptance expansion, and rewards enhancement are crucial. These areas should be addressed in order to facilitate a more secure, efficient, and more broadly accepted digital payments system in Bhiwandi.

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