



Enhancing User Experience: Investigating Customer Insights on Unified Payments Interface (UPI) in Pune District, India

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ABSTRACT:

The Unified Payments Interface (UPI) has revolutionized the way people in India make digital payments. This study aims to gain valuable customer insights into the usage and perception of UPI as a payment system. By analyzing customer preferences, satisfaction levels, and challenges associated with UPI, this research aims to provide a comprehensive understanding of customer attitudes towards this innovative payment platform. The Unified Payments Interface (UPI) has emerged as a prominent digital payment system in India, transforming the way customers make financial transactions. This study investigates customer insights towards UPI, aiming to uncover their preferences, satisfaction levels, and challenges associated with its usage. Through surveys, interviews, and data analysis, this research provides a comprehensive understanding of customer attitudes towards UPI, offering valuable insights for UPI providers, policymakers, and stakeholders in enhancing the user experience and addressing concerns.

The findings contribute to the growth and development of UPI as a dominant payment platform in India's digital ecosystem. In recent years, the Unified Payments Interface (UPI) has emerged as a transformative force in the Indian financial landscape, revolutionizing the way people conduct digital transactions. This research paper aims to investigate the customer insights towards UPI usage within Pune District, shedding light on the factors that influence its adoption, the benefits perceived by customers, and the challenges faced by users in utilizing this innovative payment system.

1. INTRODUCTION:

The NPCI states that the "Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application, merging various banking features, seamless fund routing, and merchant payments into one hood." UPI's overall significance stems from the government and RBI's strong aim to develop a cheap, straightforward, and secure digital payment system that will be used by the nation's enormous population in reference to the study of (Shaju). The Unified Payments Interface (UPI) is a revolutionary payment system introduced in India in 2016. Developed by the National Payments Corporation of India (NPCI), UPI enables seamless and instant fund transfers between different banks using mobile phones. It has emerged as a game-changer in the country's digital payment landscape, transforming the way individuals and businesses conduct transactions. UPI operates on a simple and user-friendly platform, allowing users to link multiple bank accounts to a single mobile application. With UPI, users can initiate payments, receive funds, and make peer-to-peer transfers with just a few taps on their smartphones. It has effectively eliminated the need for traditional methods of transferring money, such as entering bank details or using cumbersome payment gateways. The Unified Payments Interface (UPI) is a real-time payment system developed by the National Payments Corporation of India (NPCI) that enables users to instantly transfer funds between banks using their mobile phones. UPI has witnessed remarkable growth since its introduction in 2016 and has become a preferred mode of payment for individuals and businesses across the country. However, despite its increasing popularity, there is a need to understand the customer perspective and experiences associated with UPI usage, particularly within specific geographical areas such as Pune District.

2. OBJECTIVE OF THE STUDY:

- The primary objective of this research paper is to gain insights into the customer perception, acceptance, and usage patterns of UPI within Pune District.
- By identifying the factors that influence UPI adaptation, understanding the benefits perceived by customers, and addressing the challenges faced by users, this study aims to provide valuable recommendations for improving the user experience and further driving the adaptation of UPI in Pune District.

3. RESEARCH METHODOLOGY:

The study is descriptive in nature. Firstly, a comprehensive literature review was conducted to explore existing studies, reports, and relevant publications on UPI adoption, customer perception, and challenges faced. Secondly, the primary data was collected through structured questionnaires which were distributed among a sample of UPI users through Google Forms. The study was restricted to Pune District. The convenient sample method was used. The questionnaire covered aspects such as user demographics, UPI usage patterns, perceived benefits, and challenges encountered.

4. REVIEW OF LITERATURE:

"Unified Payment Interface—An Advancement in Payment Systems" written by Rahul Gochhwal, published by American Journal of Industrial and Business Management, Vol.7 No.10, 2017 (Gochhwal, 2011-2023) This low penetration of acceptance infrastructure (POS machines) for digital payments has made ATM machines as the focal point for dispensing cash which is then used for transactions. An interesting data point in this regard is that value of transactions using a debit card at ATM Machines is about Rs. 26,000 billion per annum versus Rs. 4,140 billion at POS machines i.e. consumers withdraw 6.2 times more money at ATMs and then pay cash to the merchants to transact. This is primarily due to the lack of POS machines with Merchants. Thus, UPI was conceptualized to enable a universal, low-cost digital payment system both for consumer to make digital payments with ease and merchants and businesses to collect digital payments in a cost-effective manner without the need for any POS machines.

Shree, S., Pratap, B., Saroy, R. et al. Digital payments and consumer experience in India: a survey based empirical study. J BANK FINANC TECHNOL 5, 1–20 (2021). (Shree, 2021) When compared to the female counterparts, men are more likely to use wholly digital or a mix of cash and digital instruments for transactions. There is compelling evidence that elderly people are less inclined to use digital payment methods while purchasing online. Cash on delivery may be preferred by populations with lower incomes. When choosing a payment method for mid- and high-value transactions, occupation and residency are important factors.

"Demographic Perception towards UPI: Indian Perspective" by Dr. Kapil Khatter, Jitender Soni, published by Social Science Journal (Khatter, 2023) According to recent surveys, the introduction and spread of Covid-19 in India has caused nearly half of Indian consumers to become more concerned about digital payment fraud than they did when the new corona virus first arose. Some security parameters that are at risk with the use of UPI for digital payments include the virtual payment addresses of the individuals, the digital identities of the individuals, transaction information—the data over the UPI network, and the financial information of the individuals that increase susceptibility to financial frauds.

"Analysis of Online Customer Reviews Toward Interest Using Blibli as Online Marketplace in UPI Students" by Rachmat Hidayat. (Hidayat, 2020). Online services are expanding quickly. The market on the internet is practically ideal. Since buyers can compare products offered by sellers worldwide and all information is instantaneously accessible, the large user base of internet-based technologies advantages online businesses in profound ways. Online businesses are becoming increasingly competitive as the number of enterprises grows and they all compete with one another. industrial conditions that are getting more competitive, one of which happens in sectors centered on online services.

"Redefining Payment Systems – A Study Based on UPI Applications in India". (Jose, 2023) E-wallets, or digital payment systems, were one of the most useful inventions in this new era of mobile and smart phone technology. The launch of the Unified Payment Interface brought India one step closer to becoming a society without cash (UPI). Thanks to this new payment system, the Indian banking system has experienced a metamorphosis. When it was originally introduced on April 11, 2016, the RBI Governor, Dr. Raghuram G. Rajan, claimed that India had the world's most user-friendly public payments infrastructure. UPI can be used 24/7 without a digital wallet, credit card, or debit card. Online payments are getting a great deal easier. NPCI (National Payment Corporation of India) and IBA (Indian Banks Association) launched UPI with help from the RBI.

"Antecedents for the adoption of upi and the problems faced by its users upi". (Joseph, 2023) generated 800 million transactions worth Rs 1330 billion in March 2019, an increase from 93,000 transactions worth Rs 30 million in August 2016. 1.94 million IPO mandates were recorded by UPI in June 2021, and 7.66 In July, million. Since the Securities and Exchange Board of India required UPI for domestic retail investors engaging in the IPO process, this was the highest level ever. By the end of August 2020, UPI will have eclipsed American Express in India with 18 billion annual transactions. According to NITI Aayog, UPI is anticipated to surpass Visa and Mastercard by 2023. UPI took three years to reach 1.14 billion in October 2019, but by the end of October 2020, the payment system had processed 2.07 billion transactions. The In 2020, the UPI platform will have transmitted Rs457 billion, or 15% of India's GDP.

A total of 567,345 million rupees worth of transactions totaling 432.5 million were recorded by UPI as of July 2021, with the greatest average daily transaction amount exceeding 100 million, which is twice as much as it was in July 2020. 10% will come from UPI as of August 2021, of all retail payments in India. With market shares of 45.94% and 34.45%, respectively, PhonePe and Google Pay each had 1 billion transactions in August within the UPI payment ecosystem, while Paytm had 11.94% of the market with 387.85 million transactions.

Different UPI Apps used in India:

Table 1: List of popular UPI applications available in India

Google pay	Paytm	SBI Pay	UBER
Phone pe	BHIM	Axis Pay	Google Tez
Mobi Kwik	Yono	iMobile	BOB UPI

Source: (Tungare, 2018)

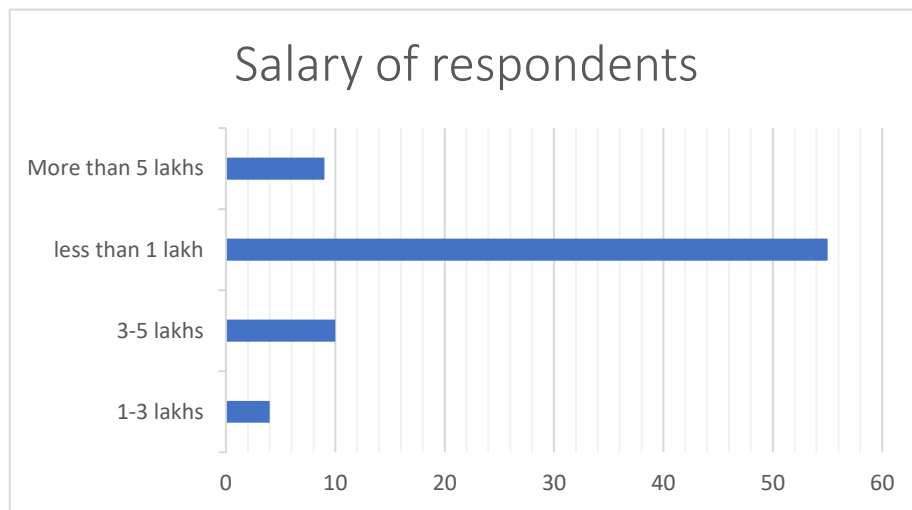
5. ANALYSIS OF CUSTOMER RESPONSES:

This analysis report depicts the overall customer satisfaction over the UPI transactions. It also states the patterns in customer responses to gauge their overall satisfaction with UPI. Study of how customers are using UPI based on their responses. The below chart identifies the frequency of usage, types of transactions (peer-to-peer, merchant payments, bill payments, etc.), and reasons behind their usage. The below chart enumerates the pain points those customers encountered while using UPI. It also assesses customer responses related to security and trust in UPI. This analysis can help in identifying areas to strengthen customer trust and confidence in UPI. It also elaborates customer responses based on demographic variables such as age, gender or location.

This analysis reveals any variations in perceptions or experiences among different customer segments, allowing for targeted improvements or customization of UPI services. Paying attention to customer suggestions for improving UPI. Analyzing their recommendations related to functionality, security, customer support, and additional features. This can provide valuable insights for future development and enhancement of UPI services. Utilizing sentiment analysis techniques to assess the sentiment expressed in customer responses. Identification of positive, negative, or neutral sentiments to gauge overall customer sentiment towards UPI and specific aspects of the service.

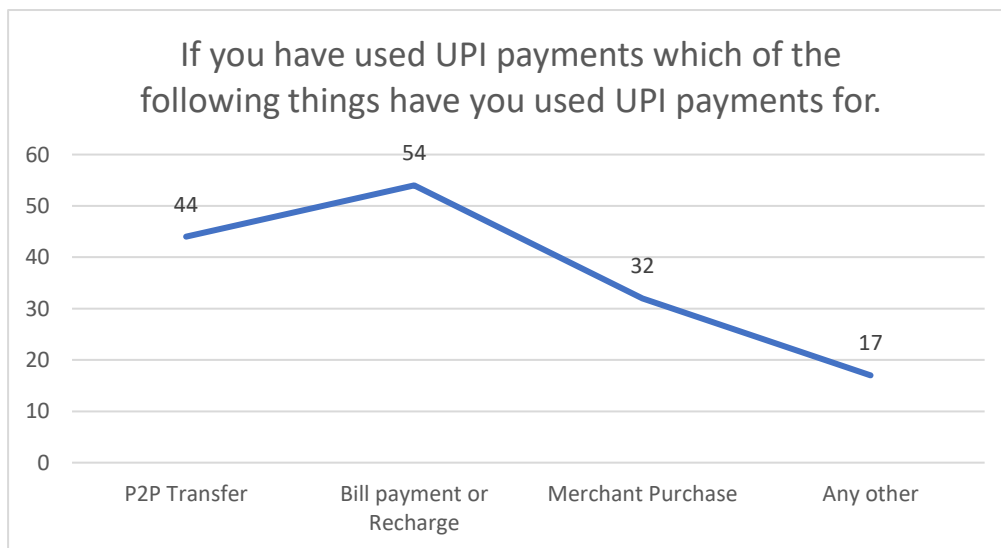
Following given figures depicts analysis of respondents of Pune district (Sample size 78)

Figure no. 1 Salary of respondents

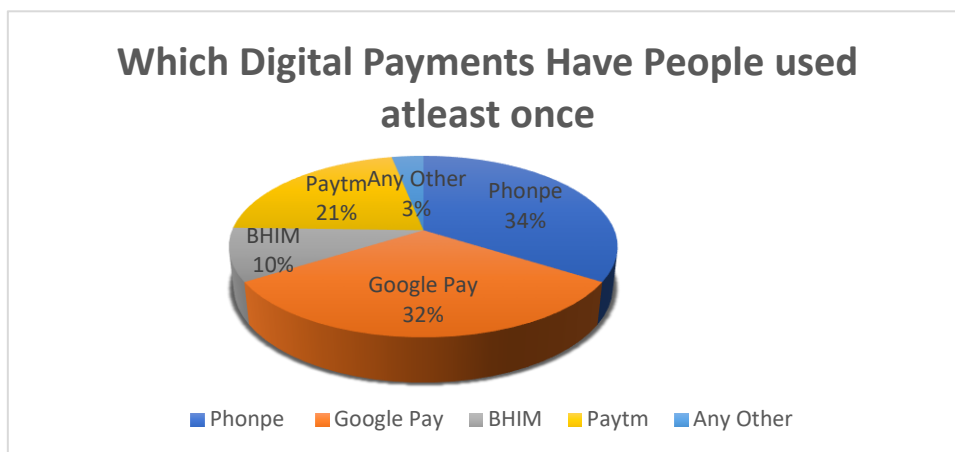


Source: Compiled by the researcher

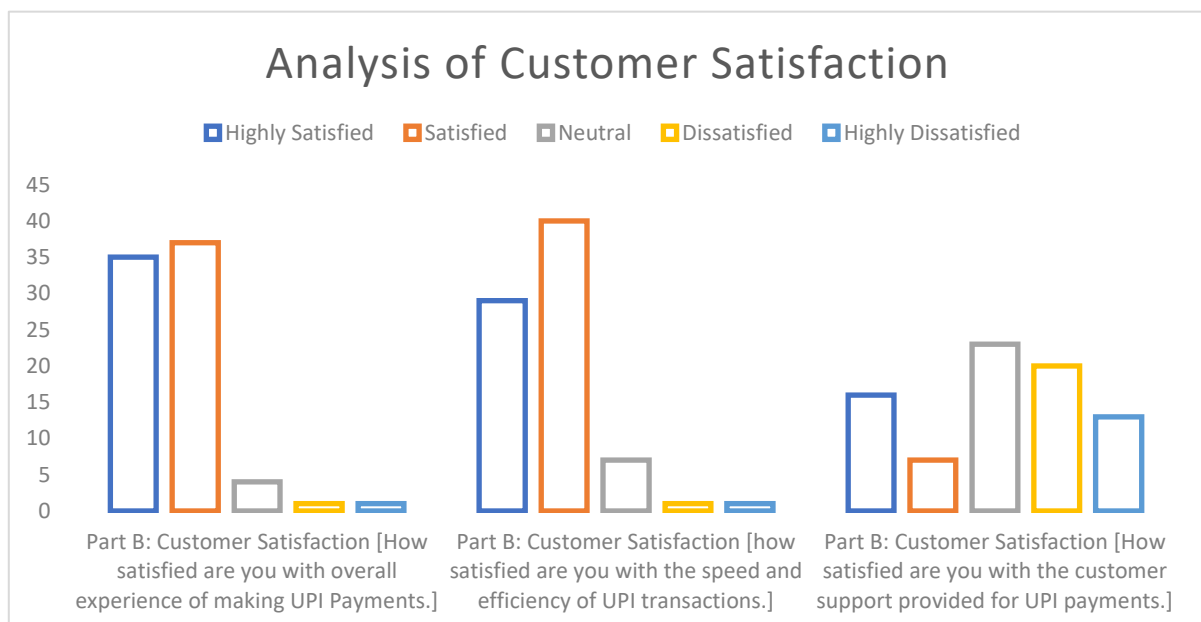
Figure no. 2 Payments mode used for different options



Source: Compiled by the researcher

Figure no. 3 Different Modes of digital payments

Source: Compiled by the researcher

Figure no. 4 Analysis of Customer Satisfaction

Source: Compiled by the researcher

6. UPI'S SHORTCOMINGS WHILE CUSTOMER SATISFACTION:

Technical Issues: Customers may encounter technical issues while using UPI, such as app crashes, slow response times, or transaction failures. These issues can disrupt the user experience and lead to frustration.

Transaction Limits: UPI transactions are subject to certain limits imposed by banks or service providers. Customers may face challenges if their transaction amount exceeds the predefined limits, requiring them to find alternative payment methods for larger transactions.

Connectivity and Network Issues: UPI relies on internet connectivity to facilitate transactions and Pune district like any other region may face connectivity issues. In areas with poor network coverage or weak internet connectivity, customers may face challenges in initiating or completing UPI transactions.

Security Concerns: While UPI has implemented robust security measures, customers may still have concerns about the safety of their transactions and personal information. Phishing attempts, unauthorized access, or data breaches can undermine customer trust in UPI and deter adoption.

Limited Merchant Acceptance: Although UPI has gained widespread acceptance among various merchants, some smaller or rural businesses but some merchants in Pune district may have limited acceptance as to UPI payments. This limitation can restrict customer's options and inconvenience them when making payments.

Interoperability Challenges: UPI interoperability allows users to link multiple bank accounts to a single UPI ID. However, customers may face challenges if their bank or UPI service provider does not support interoperability with certain banks or platforms, limiting their flexibility and convenience.

Customer Support: In cases where customers encounter problems or have queries related to UPI, accessing timely and effective customer support can be a challenge. In Pune district, customers may face challenges in accessing prompt and satisfactory customer support for UPI-related queries or issues. Limited availability of customer support channels or delayed resolution of issues can lead to customer dissatisfaction.

Addressing these shortcomings is essential for improving customer satisfaction with UPI. UPI service providers, banks, and regulators should focus on enhancing technical infrastructure, increasing merchant acceptance, strengthening security measures, providing reliable customer support, improving language support, and conducting awareness campaigns to educate customers about UPI's benefits and functionalities. By addressing these challenges, UPI can enhance customer satisfaction and foster greater adoption of digital payments.

7. OPPORTUNITIES TO CURB THE SHORTCOMINGS:

Digital Payment Adoption: UPI provides an opportunity for customers in Pune district to adopt digital payments and reduce their reliance on cash transactions. By using UPI, customers can enjoy the convenience of making secure and instant payments using their smartphones, eliminating the need to carry physical cash.

Ease of Transaction: UPI simplifies the payment process by allowing customers in Pune district to make payments using a single UPI ID. Whether it's transferring funds to family and friends, paying utility bills, or making purchases from merchants, customers can initiate transactions seamlessly with just a few taps on their smartphones.

Wide Merchant Acceptance: UPI has gained widespread acceptance among merchants in Pune district. Customers can use UPI for payments at various retail stores, restaurants, online shopping platforms, transportation services, and other establishments. This wide acceptance provides customers with a versatile payment option, reducing the need for carrying cash or multiple payment cards.

Contactless Payments: UPI supports contactless payments through QR code scanning. Customers in Pune district can conveniently make payments by scanning the merchant's QR code using their UPI-enabled app, reducing physical contact and promoting a hygienic payment experience, especially in the context of the COVID-19 pandemic.

Cashback and Rewards: UPI service providers often offer cashback rewards, discounts, or loyalty programs to incentivize customers for using UPI. Customers in Pune district can benefit from earning cashback or enjoying exclusive discounts while making UPI transactions, adding value to their payment experiences.

Integration with Other Services: UPI offers opportunities for integration with various services beyond payments. Customers in Pune district can link UPI with other apps or platforms to facilitate seamless transactions for services such as ticket bookings, online shopping, bill payments, and more. This integration enhances customer convenience and streamlines their digital interactions.

Enhanced Security Measures: UPI incorporates robust security measures to protect customer transactions. Features like two-factor authentication, PIN verification, and encrypted communication channels ensure secure payments. Customers in Pune district can benefit from these security measures, instilling confidence in using UPI for their financial transactions.

Financial Inclusion: UPI plays a crucial role in promoting financial inclusion by enabling digital payments for individuals in Pune district who may not have access to traditional banking services. UPI allows customers to make payments and transfers without needing a physical bank account, fostering greater participation in the digital economy.

Real-Time Transaction Tracking: UPI provides customers in Pune district with real-time transaction tracking and instant notifications. Customers can easily monitor their transaction history, check payment statuses, and receive alerts for successful or failed transactions. This transparency empowers customers with better control and visibility over their financial activities.

Innovations and Future Potential: UPI continues to evolve with technological advancements and innovations. Customers in Pune district can look forward to future enhancements such as UPI-based features for investments, loans, insurance, and more. These developments will further expand the possibilities and benefits of UPI for customers in Pune district.

By leveraging these opportunities, customers in Pune district can enjoy enhanced convenience, security, and flexibility in their payment experiences. UPI empowers customers with a versatile and user-friendly payment option, making digital transactions more accessible and efficient.

8. UPI TRANSACTION CHARGES: LIMIT PER DAY, GUIDELINES AND APPLICABILITY AND PPI (PREPAID PAYMENT INTERFACE):

Daily UPI transfer cap

According to NPCI, the daily UPI transaction cap is set at Rs. 1 lakh. For merchants and bill payments, the cap is Rs. 5 lakhs. The maximum UPI daily transfer limit may range from Rs. 25,000 to Rs. 1 lakh depending on the bank. (Acharya, 2023)

- Digital wallets that let users save money and send payments in real time online are referred to as **Prepaid Payment Instruments (PPI)** in the UPI protocol. PPIs also include wallets, smart cards, preloaded gift cards, vouchers, and magnetized chips.

Surcharge or exchange charge for UPI payments

Interchange fees are levied when UPI transactions are conducted through PPIs like wallets. The interchange fee is connected with credit and debit card transactions and is assessed to cover the expenses of processing, authorizing, and accepting transactions. The interchange fees in UPI transactions are the costs a merchant incurs when a customer completes a transaction. On various services, the interchange fee is applicable in the range of 0.5-1.1%. Fuel payments are subject to a 0.5% interchange fee, 0.7% for post office, telecom, utilities, agriculture, and education, 0.9% for payments at supermarkets, and 1% for payments to insurance, mutual funds, the government, and railroads.

UPI's new rules

On UPI transactions over Rs. 2,000 made through PPIs, the NPCI has recommended an interchange fee of up to **1.1%**. This new regulation will take effect on April 1, 2023.

Customers that use wallets to make UPI payments will be required to pay the interchange fee?

Customers that make UPI payments through PPIs for peer-to-peer (P2P) and peer-to-merchant (P2M) transactions won't have to pay interchange fees. P2P transactions refer to money transfers via UPI between two people or individual accounts. Customers pay merchants for purchases over UPI in a P2M transaction. In UPI transactions, the payer bank (the person making the payment) receives the interchange charge from the merchant bank (the company or person receiving the payment).

Customers are not charged because interchange fees only apply to PPI merchant transactions. When the UPI is linked to a bank, customers or users do not have to pay interchange fees for the UPI payments. As soon as the UPI is connected to the wallet, the merchant will pay the interchange fee. Customers will not be impacted by the interchange fee if they use UPI to send money to their loved ones, friends, coworkers, or the merchant's bank account.

Who will pay the interchange fees?

The interchange fees are paid by the retailers to the card companies or wallets. Small business owners are subject to the interchange charge; as a result, they are not affected. Only transactions exceeding Rs. 2,000 will require interchange fees from shopkeepers in the medium category. Although the payment of interchange fees for high-value transactions will rely on whether the merchants choose to absorb the increased costs or elect to pass the higher costs to customers.

The merchant that receives the 2,500 will pay a fee of **27.5** on this transaction. The merchant, though, won't be charged if it's a bank-to-bank UPI transfer. These fees only apply if the funds were sent from a pre-paid wallet, such as a Paytm or PhonePe wallet, where you can load funds in advance to make payments more quickly. (Karnad, 2023)

Therefore, for wallet recharges of more than Rs. 2,000, the NPCI has mandated that PPI issuers pay 15 basis points as wallet-loading service fees to the remitter banks. For instance, PhonePe will pay your bank a wallet-loading service fee of **0.15%** if you top off your wallet with **more than Rs. 2,000**.

As a result, you won't be charged any extra money to recharge your wallet in order to conduct UPI transactions.

❖ PUNE AMONG THE HIGHEST DIGITAL PAYMENT TRANSACTIONS CITIES IN 2022: WORLDLINE

Pune, April 17, 2023 Worldline, a pioneer in worldwide payment services, recently published a study of the transactions it processed in the CY22 (January–December 2022), drawing some

novel conclusions.

For Worldline India, Pune ranks among the top 5 cities for the number of digital transactions. Pune has **15 million transactions** each year with a total value of **INR 32.8 billion**. (Worldline, 2023)

Figure no 5. Depicting an increase in the transaction value on UPI over years in India:

Year	No. of Banks live on UPI	Transaction Value (in cr.)
2022	382	1,25,94,818.73
2021	282	71,59,285.80
2020	207	33,87,744.72
2019	144	18,36,638.18
2018	129	5,85,710.45
2017	67	57,020.87
2016	35	893.07

Source: (NPCI, 2023)

According to the National Payment Corporation of India (NPCI), UPI recorded 9.4 billion transactions worth Rs. 14 lakh crores in May 2023, an all-time high for both volume and value. This was a 58% increase in volume and a 43% increase in value compared to May 2022. UPI also accounted for 75% of retail digital transactions in the country during 2022-23.

9. CONCLUSION:

The purpose of this study was to determine how the UPI services affected customer satisfaction and how customers perceived unified payment services and traditional services. According to the results of this survey, customers have a favorable opinion of unified payment interface services, and utilization of UPI services is correlated with respondents' levels of education. People with better education are more likely to use UPI services. The expansion of Smartphone users and the use of the internet in this region also made UPI services more widely available.

According to the report, most banks in the Pune district do not charge transaction fees for UPI transactions made using their mobile banking apps or other UPI-enabled platforms. This study suggests that UPI transactions are typically feasible for district customers. Our government has made it clear that UPI transactions are for the benefit of the public, and since they are working to promote online commerce, they won't be imposing transaction fees on P2P and P2M transactions any time soon.

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