

A Comparative Study of Two Market Competitors in the Indian UPI Ecosystem: Paytm and PhonePe

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Abstract— India, which once only relied on cash as the primary form of payment was transitioning towards a cashless economy as an outcome of demonetization. The advent of digital payments, particularly Unified Payments Interface (UPI) apps, gained significant traction during this transition, further accelerated by the COVID-19 pandemic. Seizing this opportune moment, several UPI apps emerged, positioning themselves within the dynamic landscape of digital payments. These apps garnered widespread popularity among users as they were fast, secure, easy to use and eliminated the need to carry cash. This growth in their usage contributed to the expansion of India's digital ecosystem. This paper focuses on the remarkable growth of UPI and presents a comprehensive comparative analysis between two leading competitors in the Indian UPI ecosystem: Paytm and PhonePe.

Index Terms— Digital Payments, Paytm, PhonePe, Unified Payments Interface (UPI)

I. INTRODUCTION

The seeds for the growth of digital payments in India were sown as a result of the demonetization policy announced by the Prime Minister of India, Shri. Narendra Modi in the year 2016. India had traditionally relied on cash as its primary form of payment but after 87% of the nation's paper currency was demonetized, the transition of moving towards a cashless society was accelerated. The government's push for digitization, rising internet and smartphone penetration and the development of e-commerce are just a few of the factors that have contributed to the expansion of India's digital ecosystem.

On August 26, 2016, NPCI (National Payments Corporation of India) introduced UPI (Unified Payments Interface) which enables real-time interbank transactions. Since its introduction, UPI has experienced rapid growth in India. Fig. 1 summarizes the UPI journey in India with YoY (Year-on-Year) growth figures till January 2023.

UPI's total transaction volume increased from 2.65 million in 2016 to 83751.14 million in 2023. These figures indicate how UPI is becoming more and more widely used in India as a practical and safe platform for online transactions.

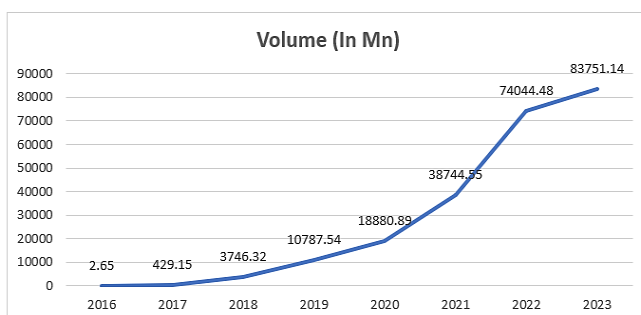


Fig.1 The UPI growth in India year-wise

The Covid-19 pandemic led to a surge in contactless payments, particularly on the UPI platform in India. This reflects a significant shift towards digital payments in response to the pandemic. The total number of transactions increased from 78.17 crore in April 2019 to 99.95 crore in April 2020 during the pandemic. Similarly, the amount transacted on the platform rose to ₹1.51-lakh crore in April 2020 compared to ₹1.42-lakh crore in April 2019. This indicates a growth trend for UPI transactions during the challenging period of the lockdown.

Some of the major UPI apps available in India are PhonePe, Google Pay, Paytm, CRED, BHIM etc. In this study, the major focus of authors is mainly on the business battle between Paytm and PhonePe.

Paytm, an acronym for "pay through mobile," emerged as a pioneer in the Indian digital payments landscape. It started in 2010 as a recharge platform and later transformed into a virtual bank. Notably, Paytm became the first Indian company to secure funding from Chinese e-commerce giant Alibaba, which holds the largest stake in its parent company, One97 Communications. With over 100 million registered users, Paytm has become India's leading mobile payments, e-wallets, and commerce platform. Even prior to the push for a cashless Indian economy, Paytm had already established itself as a prominent player in the digital payment industry.

PhonePe is a rapidly growing Indian digital payments platform that has gained significant traction in the market. Launched in 2015, PhonePe offers a seamless and user-friendly experience for conducting various financial transactions through mobile devices. PhonePe has garnered a large user base by providing a wide range of services including mobile recharges, bill payments, money transfers, and merchant payments. As PhonePe continues to evolve and adapt to the changing needs of its users, it remains committed to revolutionizing the digital payment landscape in India.

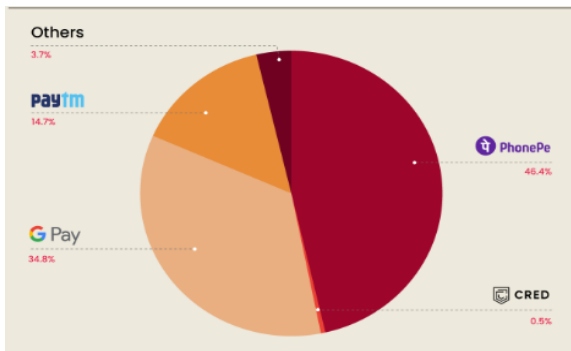


Fig.2 UPI Transactions by value in March 2023

The above figure depicts the number of UPI transactions by value in March 2023. In March, PhonePe emerged as the leading UPI app by processing an impressive 407.63 crore transactions valued at INR 7.07 lakh crore. With a market share of 46.38% in transaction count and 49.45% in transaction value, PhonePe solidified its position as the preferred choice for digital payments. Google Pay secured the second spot, handling 305.44 crore UPI transactions worth INR 4.83 lakh crore, accounting for 34.75% of all transactions and 33.75% of the transaction value. These figures highlight PhonePe's dominance in the UPI space and its continued success in providing efficient and reliable payment services to a vast user base.

II. LITERATURE SURVEY

The research done by Maindola, Pallavi, Neetu Singhal, and Akash D. Dubey in [1] examined the digital payment landscape in India after the demonetization period. The study investigated consumer sentiments towards eight digital wallets and UPI systems, identifying which payment system gained the most popularity among citizens. The findings revealed that the UPI system introduced by NPCI received the highest number of positive mentions during the first year following the demonetization period.

The authors Bhardwaj, Shweta, and Manish Kaushik in [2] explored the fundamental framework of UPI (Unified Payments Interface) and investigated its applicability in various business transactions and usage scenarios. The study provided an analysis of how UPI can be effectively utilized in different contexts, considering its diverse functionalities and potential applications.

The research study by Kokate, Mr. Ashok K in [3] delved into the effects of the COVID-19 pandemic on digital payments in India, specifically focusing on the Unified Payment Interface (UPI). Additionally, it examined the volume and value of transactions from 2017 to 2020. The research findings indicated that the growth of UPI payments post-demonetization in 2016 was not substantial; however, the number of UPI transactions and their value witnessed a significant increase following the outbreak of the coronavirus in India.

The research findings by Kumar, Abhishek, et al in [4] revealed that UPI payments would establish dominance in the

payment landscape. The introduction of UPI has been a remarkable fintech advancement, revolutionizing the Indian digital payment market. Should this trend persist, UPI is poised to surpass cards and internet banking as the preferred payment application, solidifying its position as the most popular choice. Notably, Indian consumers have displayed an enhanced level of comfort with UPI, leading to increased trust and subsequently driving higher-value transactions through this platform.

The paper [5] by Lakshmi, K. Krithiga, Himanshu Gupta, and Jayanthi Ranjan focused on the examination of UPI-based application architectures, transaction flows, authentication mechanisms, and highlighted its unique selling points in comparison to other mobile banking payment solutions. Furthermore, it identified specific security concerns and proposed enhanced security solutions to address them, including issues related to MPIN update transaction security and the detection of fraudulent transactions associated with MPIN updates and UPI financial transactions.

The research done by Shivane, Abhijeet, Ms. Pallavi Hippargekar, and Mr. Shubham Sargar in [6] primarily targeted management students, predominantly within the age range of 20 to 30. The findings highlighted that the primary obstacle faced is the availability of telecom network for utilizing the application. Additionally, the study indicated that UPI offers a highly convenient method for conducting digital transactions. Similarly, a comparative assessment was conducted among different electronic funds transfer modes, revealing that UPI demonstrates faster growth compared to alternatives such as Debit Cards, Credit Cards, NEFT, RTGS, and IMPS.

The research paper [7] by Gupta, Satinder Bal, and Raj Kumar Yadav examined the factors contributing to the rising popularity and adoption of payment applications among the Indian population for online transactions. It delved into the sustained growth of these payment apps within India. The authors of this paper conducted an analysis of three widely utilized payment apps in India, namely Google Pay, PhonePe, and Paytm.

The study by Vikas, Daravath, and A. Arun Kumar in [8] focused on exploring the perception of Indian consumers towards the mobile wallet application Paytm. To gather insights, individuals from various major cities in India were invited to participate in this study. The fieldwork for this research took place between January and February 2018.

The research paper [9] by Rahuman, M. Abdul, and A. Abdul Khader aimed to examine the perceptions of customers regarding specific e-wallets, with a specific focus on users of Google Pay and PhonePe. The study aimed to identify the issues and preferences expressed by users of these platforms.

The research done by Singh, Tejinderin [10] explored the revenue and profit trends of Paytm starting from 2013, highlighting how Paytm has successfully entered and established itself in an industry where established players have long enjoyed dominance. It also demonstrated the

effectiveness of a "High Volume-Low Margin" strategy in enabling a new venture to compete fiercely with established players, provided the strategy is consistently implemented.

III. PAYTM VS PHONEPE IN THE DIGITAL ARENA

A. Demonetization: An opportunity for Paytm

Paytm's commitment to providing reliable support and investing a substantial amount of Rs. 14,500 crores showcased its dedication to encouraging the adoption of digital payments among Indians. By offering the Paytm Wallet in 2014, Paytm introduced a convenient payment method that eliminated the need for repeated OTP entries, resonating well with customers. The company leveraged the funds stored in users' wallets, generating interests through Escrow accounts. During the period of demonetization, Paytm's position as a leading digital payments app allowed it to seize the opportunity and expand its services to various establishments, including local stores and shops. This strategic move played a pivotal role in securing a significant share of the online payments market during that time.

B. Adoption of UPI (Unified Payments Interface)

PhonePe entered the UPI (Unified Payments Interface) landscape as an early adopter, launching its UPI feature in August 2016. By introducing this innovative functionality, PhonePe revolutionized the way people in India conducted digital transactions. Through its UPI integration, PhonePe enabled users to effortlessly initiate real-time and secure payments directly from their bank accounts, offering a convenient and efficient payment experience. This early foray into UPI established PhonePe as a pioneering player in the digital payment realm, garnering widespread acclaim among users.

Paytm, having a well-established digital wallet-based payment system, initially prioritized its own platform. As a result, it took time for Paytm to evaluate the potential of UPI-based payments, assess demand, and develop the infrastructure required for UPI integration. The delayed entry into UPI can be attributed to regulatory considerations, the focus on the existing wallet system, and the strategic planning needed for effective participation in the UPI ecosystem.

PhonePe swiftly rose to become a dominant market leader in the UPI space due to its early entry and rapid growth, while Paytm faced a disadvantage with its delayed entry.

C. Business Model

Both Paytm and PhonePe share a similar business model as shown in Fig.3 aimed at establishing an unbreakable ecosystem for consumers through a three-product approach: entry products, retainers, and up-sellers.

With a focus on retailers and merchants, these companies invest significant amounts, exceeding INR 1000, for customer acquisition. Commission charges are imposed on consumers and retailers to recover costs. However, in an industry where offerings between competitors are relatively

similar, customers frequently switch applications in pursuit of better cash-back and deals, posing a challenge for retention.

Recognizing the need for a customer retention tool, Paytm devised a strategy encompassing the three-product framework to retain its merchants. While Paytm and PhonePe all offered QR codes as an entry product, the key differentiator came in the form of retainers. Paytm's game-changing innovation, the Paytm Soundbox, was swiftly introduced in 2020 to address transaction confirmation challenges during peak hours and network congestion. By the time PhonePe unveiled similar devices in 2022, Paytm had already secured a significant market share among merchants.

Impressively, Paytm deployed 30,00,000 Soundbox devices by August 2022, overshadowing PhonePe's 1,00,000 devices. This highlights Paytm's agility in identifying and addressing merchant pain points, emphasizing its commitment to delivering a seamless and convenient experience.



Fig.3 The Three Product Business Model

The Paytm Soundbox transcended being a mere feature, transforming into a powerful customer retention tool that empowered Paytm to dominate the merchant lending space. Leveraging data collected through the Soundbox, Paytm emerged as a major loan aggregator, leveraging Point of Sale (PoS) systems and loan disbursements to upsell to its merchant customers. Paytm's B2B operations are often overlooked, with many perceiving it solely as a B2C company. In contrast, conventional banks have largely overlooked the merchant lending space, leaving small business owners with limited access to loans due to a lack of data and risk assessment capabilities. The Parliamentary standing committee on finance revealed a significant credit gap of INR 20 – 25 million faced by India's MSME sector, which contributes 30% to the country's GDP. This credit gap remained unattended in the Indian market, and it was within this context that Paytm identified this unaddressed market gap and introduced their merchant lending feature to address this pressing issue.

Through its algorithm, Paytm monitors merchants' cash flow, spending patterns, monthly inventory value, estimated savings, income consistency, and other parameters to assess lending risk, akin to how credit card companies evaluate individual creditworthiness based on spending patterns. This data-driven approach enables Paytm to grant loans without requiring extensive paperwork or collateral. As loan recovery commences, the algorithm becomes more refined, learning from the merchant's repayment history and credit score.

The success of Paytm's merchant lending business is evident through its impressive 327% increase in loan disbursements in January 2023. This ability to identify and bridge gaps in the market has allowed Paytm to outperform its competitors, establishing a strong foothold in India's competitive digital landscape.

IV. RESULTS AND ANALYSIS

Table I: Paytm and PhonePe: Key differences

Parameters	Paytm	PhonePe
Parent Company	One97 Communications Limited	Flipkart (Walmart subsidiary)
Launch Year	2010	2016
Own bank facility	Provided	Not provided
Customer Initiated Transactions by Volume (Mn)	1,229.38	4,499.20
Customer Initiated Transactions by Value (Cr)	142,291.76	757,276.68
Total number of UPI transactions as of Feb 2023	351.9 Crore	113.7 Crore
Market Capitalization	\$ 6.51 billion	\$ 12 billion
Total revenue in the financial year ending March 2023	\$ 1 billion	\$ 450 million

The table above summarizes the key differences of Paytm and PhonePe based on data available till the financial year ending March 2023.

Analyzing the table, we can infer that the total number of UPI transactions done on Paytm exceeded the number on PhonePe despite the latter's valuation in the Indian market being higher than the former. The total turnover of Paytm is almost double of that of PhonePe as of March 2023. The way PhonePe locks horns with its rival to improve upon these numbers by the end of this financial year can form the future scope of this study.

V. CONCLUSION

The key insight we can derive from this study is the importance of embracing innovation and staying ahead of the curve to outperform your rivals. Additionally, prioritizing customer retention over acquisition proves more beneficial as it enables you to recover costs and sustain your business. In a fiercely competitive landscape, it becomes crucial to identify the unique features that retain customers and facilitate cross-selling within your product portfolio, as without these features, your business foundation remains weak. Lastly, while developing retention strategies, ensure that the customers who remain loyal are capable of purchasing your

upsell products, as their potential for upselling contributes significantly to your success.

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