

Original Article

# Study of Existing State and Growth Prospects of Mobile Payment Platforms in India

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**Abstract** - The advent of the digital revolution, huge demographic dividend, penetration of smartphones and the internet, entry of non-traditional players, increasing customer demands, and enabling government regulations are driving the growth of digital payments in India. Consumers today want a smooth end-to-end experience and are willing to break the habit of using cash for convenience and faster check-outs. Mobile money is filling the gaps of delivering low-cost merchant acceptance at the last mile. The merchants who used cash only due to proclivity towards it or the high cost of card payments are today adopting this change. The paper aims to cover the factors affecting the Mobile Payment Platforms industry in India. It decodes the consumer and merchant insights and discusses the drivers and challenges to the adoption of this technology. It also covers a comparative analysis of the existing mobile payments platforms. India is moving from a low volume and high transaction cost to a high volume and low transaction cost digital economy and Mobile Payments Platform will play an important role in the future. Mobile payment platform is relatively a new industry in India, which hasn't been studied much. Hence, an attempt is made in this paper to cover various aspects related to Mobile Payments Platforms and add to the body of knowledge.

**Keywords** - Mobile Payment Platforms, Mobile Wallets, E-Wallets, Demonetization, Digital Money

## I. INTRODUCTION

The mobile payment revolution is already here, and it has started empowering the consumers. Convenience and the ease of making payments on the go with one click have their comfort and benefits. Mobile payment or M-payment is defined as any monetary payment where a mobile device such as a mobile, tablet, PDA is used to initiate, authorize and confirm an exchange of financial value in return for goods and services (Au and Kauffman, 2007). Mobile Payment Platforms are those service providers which facilitate this transfer of money via a portable device

operated under the financial regulations of a country. Instead of paying with traditional means like cash, cheque, credit/debit cards, or online banking (NEFT, RTGS) an individual can use a mobile to pay for a wide range of products or services. Electronic commerce has found an obvious successor in Mobile commerce which the advent of technology and value proposition of enhanced utility. The capability to pay digitally coupled with a mobile application/website is the engine behind mobile payments platforms. The Digital Payments ecosystem includes consumers, merchants, and the Payment Service Provider (PSP) who enables the transfer of money. The capability of making a payment from anywhere with network connectivity has become a normal phenomenon and does not require too much technical expertise. The future of payments processing will evolve with the advent and mass adoption of mobile payments. Less dependency on the availability of physical currency and the evolution of technologies to ease mobile payments will further impact consumer behavior.

The history of mobile payments dates back to 1997 when Coca-Cola launched a few vending machines where the customer could make a purchase using his mobile phone. The customer had to send an SMS text to the vending machine to make a payment and the machine would then vend their product out. It accepted text messages for making bank account transactions. In the late 2000s, public radio programs made use of USSD based mobile payment technology to collect donations from listeners. The users had to send an SMS text with a particular code given by the radio program to an assigned number, to make a donation. This donation amount would be then added to the listener's phone bill.

Though the Mobile Payments Platform industry remained stagnant for a while because of a lack of technological innovation to promote mass adoption, it is undergoing a massive transformation today. According to a Euromonitor article (2017), mobile payments are expected to reach US\$3 trillion by 2021.

There is an ongoing digital revolution in India and the mobile payment platforms' landscape is metamorphosing- i.e. it is undergoing a major



transformation and maturing. Digital Payments, especially Mobile Payments Platforms which drive this revolution promise access to formal financial services and benefits of electronic-commerce to the people located in the remotest parts of the country. Overall Digital Payments volume and value reached 10.9 Billion and ₹2141071 Billion respectively in 2016-17, according to the Annual Digital Payment Report by Niti Aayog. This amounted to a growth rate of 55% in volume and 24% in value over 2015-16. The Pre-Paid Instruments (PPI) segment of Digital Payments which includes mobile wallets, smart cards, and vouchers showed the most spectacular growth of 162.5% in this time period. The Mobile Platform Payments Service Providers (PSPs) in India consist of both bank and non-bank players. There are 55 authorized Pre-Paid Payment Instruments (PPIs), eleven authorized payments banks, nine authorized cross-border money transfer operators, and six authorized white-label Automatic Teller Machines (ATM) operators according to the Report.

The Ministry of Finance Report on Digital Payments gives to few benefits to increase and inculcate the usage of the Mobile Payments Platform. The first reason is financial inclusion. It is a significant challenge that India faces. Only 53% of India had access to formal financial services in 2014. After continuous reforms and policy introductions, still, 19% of the Indian population is unbanked or financially excluded. The most prominent of these initiatives is Pradhan Mantri Jan Dhan Yojana (PMJDY) and Digital India. The second reason is that usage of cash is expensive. Though there are perceived benefits of using cash like instantaneous settlement, anonymity, and security associated with physical value there are a lot of implicit costs associated with cash. Mobile Payments digital allow services to be delivered at much lower costs and are highly scalable and easily accessible. As per the report (2016) by 'Committee on Digital Payments' formed by the Ministry of Finance, Government of India, India is a cash-heavy economy, with around 78% of all payments happening in cash. We have a substantially high cash GDP ratio of 12.04% than comparable countries. According to a few estimates, transitioning to an electronic platform for government payments could save ₹100,000 Crores annually, with the cost of the transition being estimated at INR 60,000 to INR 70,000 Crores (Committee to review the framework related to Digital Payments' report, 2016)

The exponential growth of the sector and increasing consumer adoption of mobile payment platforms makes it an important topic to be studied. The sector is being transformed and has seen remarkable progress along with regulatory support over the past few years. This makes it interesting to study the mobile payment platforms ecosystem in India.

## II. REVIEW OF LITERATURE

Financial Inclusion is defined as "the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost" (RBI Committee and Rangarajan 2008). The paper Financial Inclusion: Issues and Challenges (Dev, 2006) highlights the instability and high vulnerability associated with the profession of farming in the country. Along with credit requirements from reliable sources, farmers need other financial services like insurance and savings. Self-help groups play an important role in increasing financial inclusion by spreading awareness and promoting the usage of mobile wallets. Along with the farmers, other poor sections of the society have to be empowered. The process of becoming a cashless economy will make it necessary to transform from the bottom to the top of the administration while overcoming the roadblocks of infrastructural, technological, security, regulatory and social issues. The paper Acceptance of mobile money by poor citizens of India (Chauhan, 2015) states that M-money may be the best way to achieve financial inclusion. It discusses how big multinational companies rallied into the mobile payment platforms industry gauging its high growth potential. The paper associates trust with the adoption of M-money. Mobile wallets may not provide all the benefits of a bank i.e. credit, insurance, or interest but it has advantages like reduced ability to reach remote locations and reduced transaction time and cost with higher productivity. M-Powering India: Mobile Communication for Inclusive Growth (Adler and Uppal, 2008) says that digitalization will increase democracy and transparency in the country. Foundation of Mobile Growth in India is based on the development of four pillars viz. Infrastructure, promoting the usage of mobile currency, increasing m-governance, and encouraging regulations.

### A. Drivers of Mobile Payment Platforms

There is a significant rise in the usage of Mobile Payments Platforms in India and the future is bright. The key drivers for this industry are:

- **Technology and Demographics** – Digital Revolution: India has a huge demographic dividend and is set to become the second-largest user of smartphones and internet users on mobile phones by 2020. India has over one billion mobile subscriptions. The use of the internet on the mobile phone is increasing sharply. 2017 saw a boom in Internet Penetration in India with the disruption brought in by Reliance Jio and further competitive pricing by all the other service providers. Today around 240 million people use smartphones and this is set to become over 520 million by 2020. Given these smartphones devices are equipped to support all the newly

developed payments technologies, the growth and increased penetration of mobile and internet is enhancing the scalability of Mobile Payments Platforms

- **Government Initiatives to make India Cashless:** Policies and Regulations play a critical role in determining the nature and success of an industry and Mobile Payments Platforms see positive support from the government. The government wants India to become a less cash-intensive and more digitally enabled society. The government is continuously pushing initiatives to promote JAM Trinity i.e. the PMJDY, Aadhaar Based Authentication, and Mobile Phones. And it is further pushing the penetration of mobile payments by promoting Unstructured Supplementary Service Data (USSD), Direct Carrier Billing (DCB), and Aadhaar Enabled Payment System (AEPS) to reduce the cash usage in the economy. UPI, an initiative of the National Payments Corporation of India has made mobile money transfer seamless and propelled large-scale adoption. Using the Aadhaar card for KYC in Mobile Payments Platforms aid this industry. Sudden pushes from events like demonetization further give a boost to this industry. As per the article published in Hindustan Times (2017), Paytm, one of the popular mobile wallets in India reported a 435% increase in traffic, a 200% growth in app downloads, and a 250% rise in overall transactions and transaction value during demonetization. The BharatNet Phase 2 initiative under Digital India launched by the government aims to provide broadband connectivity to cover 250,000 Gram Panchayats making it possible for 100% of all devices to be internet-enabled by 2020.
- **Entry of Diverse Players:** The activity in the Digital Payments industry is at its peak and multiple players across categories are entering into this industry given its high potential growth. With the increased number of service providers and internal competition within them, the consumers and merchants are getting attracted to the varied offerings availing the additional benefits. A few of the categories of large players are manufacturers (Apple, Samsung), tech firms (Google, eBay, Alibaba), retailers (Starbucks, Walmart), telecom companies (Vodafone, Airtel, Jio), and Start-ups (Paytm, Freecharge, MobiKwik). According to the PWC – Redrawing the Lines - 2017 report, India offers the highest expected return on investment on FinTech projects, which is 29% compared to the global average of 20%.
- **Evolving Consumer – More Aware and Demanding:** Indian consumers are showing great affinity to digital technologies, with growth rates

for mobile phones and e-commerce adoption for overtaking the rates in developed economies. Today, consumers want a smoother end-to-end experience during any transaction. They are more aware of the innovations, ready to adopt changes for their betterment, and want their convenience. They are willing to break the habit of using cash for savings and faster check-outs. Mobile Payments is filling the gaps of delivering low-cost solutions to merchants increasing the acceptance at the last mile as compared to credit cards. The merchants who used cash only due to proclivity towards it or were not willing to change due to hidden costs are becoming aware and opting for payments service providers who are giving compelling value propositions in terms of low transaction costs and faster service.

Mobile Payments Platforms have the capability to uniquely combine an individual's digital identity, a digital value of money, and digital authentication to create low-cost access to fast, secure, simple, and convenient financial services.

One-Time-Password-based authentication for Aadhaar-linked accounts and biometric authentication for processing transactions have made Mobile Payments Platform adoption easier. The flexibility and option to choose from a varied set of technologies as varied as USSD to Audio QR-based Mobile Payments Platforms, has made it possible to meet the needs of the diverse set of consumers that India has. Point-of-Sale terminals had always had a low penetration in India with respect to comparable economies. This was mainly because banks have built merchant acquiring in India on the four-party model, which results in making it economically unviable for small businesses to have a POS. That is why even after existing for over two decades card payments still see low penetration in India. Mobile Payments Platforms have potentially lowered the acceptance costs for the merchants. Aadhaar has helped the process of merchant authentication and documentation and usage are as simple as downloading the application on the mobile phone and registering on it. This entire ecosystem has evolved the traditional onboarding process, hardware requirements, paper-based authentication, and connectivity.

Moreover, mobile phones are highly secure and enable data collection besides payment transactions. Data is the oil of the 21st century. Companies today offer their customers personalized marketing and experiences. Thus, this data can be used to analyze the merchants and consumer preferences. These are all in all

the trends which are pushing the rise of Mobile Payments Platforms in India.

### **B. Challenges hindering the growth of Mobile Payment Platforms**

Though Mobile Payment Platforms are rising in India, there are a few challenges that may undermine their growth.

- **Interoperability stagnating Scalability:** Mobile Payment Platforms are driven by individual service providers that create individual closed-loop payment systems. For example, a digital wallet company in India acquires a large customer base and is trying to further build acceptance amongst consumers and merchants, however, this is stagnated by the principle of interoperability. Individual closed-loop payments systems will work well for small countries with a handful of main players. But for a large and diverse country like India, it is of utmost importance to have standards and interoperability among various mobile payment systems. This innovation and regulatory change must be expected in the future to further propel the growth of Mobile Payments.
- **Network Connectivity and Speed:** If the speed of mobile payment transactions is slow especially at the POS, we cannot expect mobile payments to replace cash. Both the consumers and merchants want a quick turnaround time. But the network infrastructural facilities in India are still poor in most of the areas. Poor connectivity and slow internet speed lead to a transaction fail or time out often resulting in consumers and merchants going back to using cash. A bad consumer/merchant experience discourages them to use a mobile payment platform in the future as well. Marginal connectivity in remote parts of India further discourages the penetration of Mobile Payments Platforms.
- **Digital Literacy:** A large chunk of the Indian population who does high-value transactions is not tech-savvy. Also, the consumers/merchants in rural India lack basic digital literacy. Both these segments are the target of Mobile Payment Platforms to Increase the Value and Volume of transactions and increase the scale of Mobile Payments. This challenge is supplemented with the consumers' inherent habit of using cash. Thus, there is a need for public and private institutions to work towards educating the population making them comfortable with technology, and helping build trust in the system.
- **Financial Inclusion:** Financial inclusion means delivering banking services at affordable costs to the disadvantaged and poor sections of society. It is vital for improving the lifestyle of

the residents of rural India, especially farmers who are highly vulnerable. This still remains a challenge in India as 19% is still unbanked (ASSOCHAM-EY, 2017). And as most mobile payments platforms require customers to have a pre-existing bank account this poses a challenge to further penetrating these platforms.

Rural India has remained excluded from formal banking services for a long time so much so that they now feel that banking is not for them. With this mindset, they have become accustomed to hoarding cash or resorting to informal creditors like money lenders. For them having the comfort of being able to convert the stored value of Mobile Money to Cash is very critical for widespread adoption. In the future, we can expect UPI and service providers to simplify this problem. Security and trust in Non-Banking Platforms remain an issue that needs to be solved for the success of Mobile Payments Platforms. Thus, building a robust infrastructure to support connectivity in all the parts of the country; educating people and making them aware of financial and digital services; innovating and evolving while building trust in time will lead to the growth of Mobile Payments in India.

### **III.OBJECTIVES AND RESEARCH METHODOLOGY**

The aim of the study is to analyze the factors affecting the Mobile Payment Platforms industry in India. It also assesses the consumer and merchant behavior linked to Mobile Payments while also looking at the drivers and challenges to the adoption of this technology. The research methodology used is quantitative primary research. A questionnaire was designed for the research with the purpose to understand the Consumer and Merchant perspective towards Mobile Payments Platforms. Accordingly, primary research to understand the Consumer and Merchant perspective towards Mobile Payments Platforms was conducted. The main objective of the survey was to gauge the penetration of Mobile Payment platforms in Metro cities, understand the drivers and barriers in the adoption of mobile payments platforms, and understand consumer and merchant sentiments attached with it. In total 164 Consumers and 73 Merchants participated in this survey.

### **IV.COMPARISON OF MOBILE PAYMENT PLATFORMS**

The Indian e-wallet industry is over ten years old with the first such mobile payment platform being Wallet365.com. It was a service platform rolled out in 2006 by the Times Group in association with YES Bank. By 2017, there are around 80-90 players in this industry with 55 authorized non-banking players like Paytm, Mobikwik, Freecharge, Oxigen Wallet, etc. The mobile wallet industry in India is likely to grow to \$4.4 billion by 2022 according to

Capgemini's World Payment Report of 2017. The report projects the compounded growth to be 148% (CAGR) in the next five years. This section of the paper conducts a comparative analysis of various mobile payment platforms on the following key performance indicators:

- **Transaction Limit:** Government has limited the maximum monthly transaction on mobile wallets to INR 20,000 without a KYC. This decreases the day-to-day usage and utility of the Mobile Payment Platform considerably.

The value of the transaction limit plays a very important role in selecting the mode of payment. Opening a bank account is a very cumbersome process involving various documents and signatures. Also using banking modes such as RTGS or NEFT requires registration of beneficiary along with his details which makes the process a complex one. On the other hand, transferring money through wallets or UPI doesn't require any such thing and can be done in mini seconds. But there is a transaction cap on these transactions. Hence the transactions can be identified as high-value transactions and low-value transactions and the mode of payment should be chosen based on the value of the transaction. If the transaction is above INR 20,000 RTGS or NEFT should be used while for lower ticket transaction wallets or UPI can be used.

- **Transaction Time:** One of the most important Key Performance Indicator to gauge the performance and convenience of a Payment Platform is the Time of Transaction. Physical Money and Card transactions at POS are almost instantaneous. Thus, if a Mobile Payment Platform has to compete with them it has to perform in this KPI which varies from one second to one day. This is one of the key performance indicators to gauge the efficiency of a payment mode. RTGS/NEFT requires registration of beneficiary before any transaction which may take up to 24 hours depending upon the bank. There is no real-time update regarding payment or transaction while UPI and mobile wallet transact directly in seconds making the entire process a highly efficient one.
- **Availability of Transaction:** Some of the transaction modes are available 24\*7 while some are available during bank timings only which hampers the utility of the platform. RTGS is available between 8:00 Am to 4:30 PM, while NEFT is available between 8:00 AM to 6:30 PM. Other modes such as IMPS, USSD, Debit Cards, and Wallets are available 24\*7.
- **Cost of Transaction:** It is one of the most important factors to adopt any mode of payment. Given the demonetization move, the

government recently slashed charges on all of the payment modes and we saw bulk marketing activities by various e-wallets promoting null transaction charges. Also, there are charges on the usage of Debit Cards. Some fees have to be paid to transfer money from an E-wallet to a bank account depending on the type of wallet. For transactions of money up to one Lakh, UPI and wallets are good options and NEFT above one lakh but the time taken for NEFT increases as compared to Wallets.

- **Financial Information Required:** This factor directly affects the speed and complexity of the transaction. The larger the set of information required, the lesser is the speed of transaction and the convenience. However, at the same time, the safety of the transaction is equally important. Sharing of bank details on an online cyber platform is always dangerous and may lead to fraud or tampering with the account. With cyber-crime growing at a rate of 350% year on year, the safety of the transaction is of utmost importance. In all of the above payment modes, UPI uses virtual address while all other mode uses real account information in one or the other way making UPI the safest among all the payment modes: Account Number, Bank Pin Code, And IFSC code is required for RTGS and NEFT transactions; MPIN, Aadhaar, IFSC Code, or Account Number is required for USSD transaction; For transaction using cards, POS transaction required PIN and Online transaction required CVV number and other card details; UPI requires Virtual Address and to transact through Wallets one needs to login information of wallets
- **Authentication and Network Safety Comparison:**  
A Two Factor Authentication is provided by the all the mobile payment modes discussed. This means a login and Password followed by an OTP is used to perform a transaction.
- **Technical Infrastructure requirement:** In a diverse nation like India, whether the Mobile Payment Platform requires a Feature Phone or Smart Phone or High-Speed Internet Connection or POS Terminal Device etc. decides the scalability of the platform. In terms of Technical requirements also, RTGS/NEFT required a stable internet connection while the other modes require a smartphone. Table 1 and Table 2 below encapsulate this comparison.

**TABLE I: Comparison of Mobile Payment Platforms**

KPI	Real Time Gross Settlement (RTGS)	National Electronic Fund Transfer (NEFT)	Immediate Payment Service (IMPS)	Unified Payment Interface (UPI)	Unstructured Supplementary Service Data (USSD)	Credit/ Debit Cards	E - Wallets
Transaction Time	Real-Time	Same Day	Instant	Instant	Instant	Instant	Instant
Transaction Limit	INR 2-10 Lacs	INR 10 Lacs	INR 2 Lacs per day	INR 1 Lac per transaction	INR 5000 per transaction	Card Dependent	INR 20,000 per Month
Transaction Availability	8:00am-4:30pm	8:00am-6:30pm	24*7	24*7	24*7	24*7	24*7
Information Required	Bank Acc. & IFSC	Bank Acc. & IFSC	Bank Acc. & IFSC	VPA of Recipient	Bank Acc. & M-PIN	PIN for POS & CVV for Online	Login Details
Authentication	2 Layer	2 Layer	2 Layer	2 Layer	2 Layer	2 Layer	2 Layer
Interest	Yes	Yes	Yes	Yes	Yes	Yes	No
Technical Requirement	Internet	Internet	Smart Phone & Internet	Smart Phone & Internet	Any Mobile Phone	Smart Phone & Internet	Smart Phone & Internet

**TABLE III: Comparison of Mobile Payment Platforms based on Transaction Cost**

Transaction Cost based on the following amount	Real-Time Gross Settlement (RTGS)	National Electronic Fund Transfer (NEFT)	Immediate Payment Service (IMPS)	Unified Payment Interface (UPI)	Unstructured Supplementary Service Data (USSD)	Credit/ Debit Cards	E-Wallets
Up to INR 5000	INR 2.5	NA	INR 5.0	INR 0.5	INR 0.5	Annual Renewal Fee, Nil Charges at POS, Online Transaction Charges Levied	No Transaction Charges from Peer to Peer
INR 5000 - 10000	INR 2.5	NA	INR 5.0	INR 0.5	NA		
INR 10000 – 1 Lac	INR 5.0	NA	INR 5.0	INR 0.5	NA		
INR 1 Lac – 2 Lac	INR 15.0	NA	INR 15.0	NA	NA		
INR 2 Lac – 5 Lac	INR 25.0	INR 25.0	NA	NA	NA		
INR 5 Lac – 10 Lac	INR 25.0	INR 50.0	NA	NA	NA		

## V. RECENT DISRUPTIONS IN THE MOBILE WALLET INDUSTRY

In September 2017, the tech giant – Google entered the Mobile payments platform in Asia with the launch of Tez. The platform is based on the government-backed UPI (Unified Payments Interface) built by NPCI. This mobile application has been specially designed for the Indian consumer and is available in eight languages – English, Hindi, Bengali, Gujarati, Kannada, Marathi, Tamil, and Telugu. Moreover, it uses Audio QR, Google’s proprietary technology which supersedes the security of until now profoundly used Near Field Communications (NFC) sensors to make payments to other device or Point-of-Sale (PoS) machines. The application is designed to work on every smartphone, whether

expensive or entry-level. Every smartphone can generate and capture audio through its microphone and speaker setup. Thus, using ultrasonic audio to replace NFC will make direct wallet-based cashless transactions easier. Unlike other mobile wallets, it doesn’t require its users to store money in the app but just serves as a secure digital exchange platform. Google has partnered with four banks — Axis Bank, HDFC Bank, ICICI Bank, and State Bank of India (SBI) — for supporting this solution.

Moreover, it will work with all the 55 banks that are on the UPI platform. “Tez for Business” is a solution where merchants get their own business channel on the app where they can engage directly with their customers to share offers, send payment reminders, link to their mobile website or customer support, and more. The biggest incentive is minimal

latency and no transaction fees. With Google's high penetration and experience in the tech domain, this disruption is giving the other platforms a run for their money.

Another disruption soon to arrive in the Indian Mobile Payments Platform Industry is the WhatsApp payment service. This is the first time Instant messenger - WhatsApp shall be launching a payments service around the world. The tech giant is busy finishing its intuitive in-chat payments feature, which could turn out to be the next big threat to all players in the digital payments industry. The messenger already has a huge user base; thus, customer acquisition shall not be an issue for it making it even more difficult for the competitors to fight. The instant messenger is a Facebook-owned company that got approval from the government to integrate the UPI with the messenger in July 2017. WhatsApp is now ready to jump into this industry and compete for head-on with other tech giants like Google.

With unconventional players entering the industry with unique solutions, the ultimate beneficiaries are the consumers and merchants. With the players fighting for a larger chunk of the pie, the users are getting incentivized. This entire process is further increasing the penetration of Mobile Payments Platforms in India.

## **VI. UNDERSTANDING THE CONSUMER AND MERCHANTS PERSPECTIVE ASSOCIATED WITH MOBILE PAYMENT PLATFORMS**

Primary research to understand the Consumer and Merchant perspective towards Mobile Payments Platforms was conducted. The main objective of the survey was to gauge the penetration of Mobile Payment platforms in Metro cities, understand the drivers and barriers in the adoption of mobile payments platforms, and understand consumer and merchant sentiments attached with it. In total 164 Consumers and 73 Merchants participated in this survey.

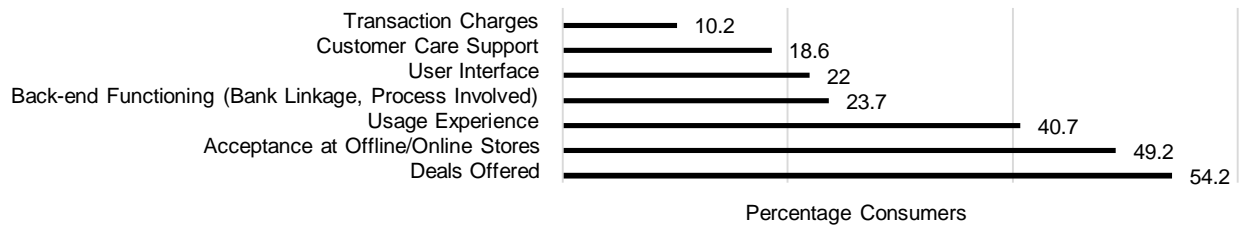
Convenience was the biggest driver for adoption for Consumers while the Business Development Team acquisition followed by Customer Demand was the biggest driver for adoption for Merchants. A proclivity to cash was the biggest barrier in adoption for Consumers while Additional Transaction Costs involved were for Merchants.

The three most important features of a Mobile Payment Platform that influenced the consumers on these platforms were Deals Offered, Acceptance at Offline/Online stores, and Usage Experience with 54%, 49%, 40% percentages respectively (Fig.1). The most important features of a Mobile Payment Platform that influenced the merchants on

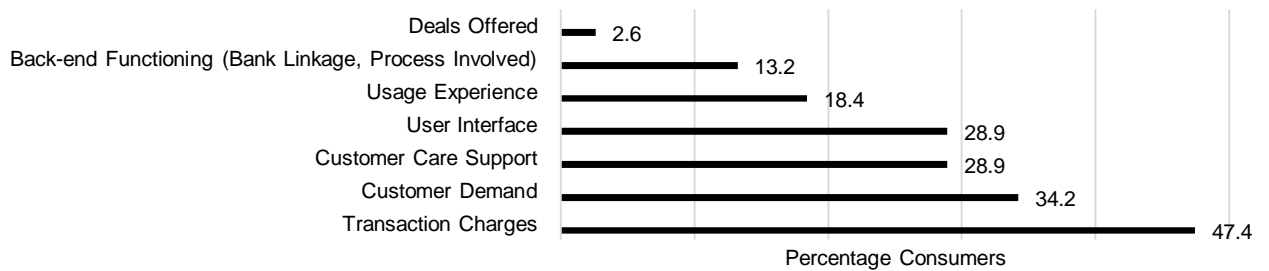
these platforms were Transaction Charges, Customer Demand, Customer Support, and User Interface with 47%, 34%, 28%, 28% percentages respectively (Fig.2).

46% of all the survey respondents have the positive sentiment of Convenience associated with mobile payment platforms followed by the sentiments Easy and Fast at 37% and 32% respectively (Fig.3). Only 12% of all the survey respondents had the negative sentiment of Complicated associated with these platforms followed by 6% considering it Confusing (Fig.4).

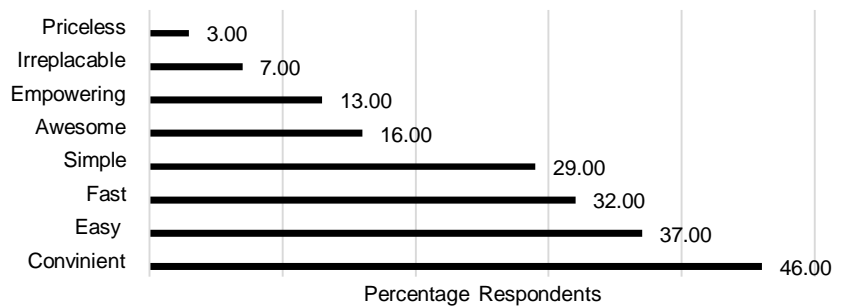
The survey reinstated the fact that Convenience along with the Marketing Push and Pull of Service Providers in driving this industry. It also highlighted the wrong perception amongst the merchants related to transaction charges and the need for spreading awareness at the ground level.



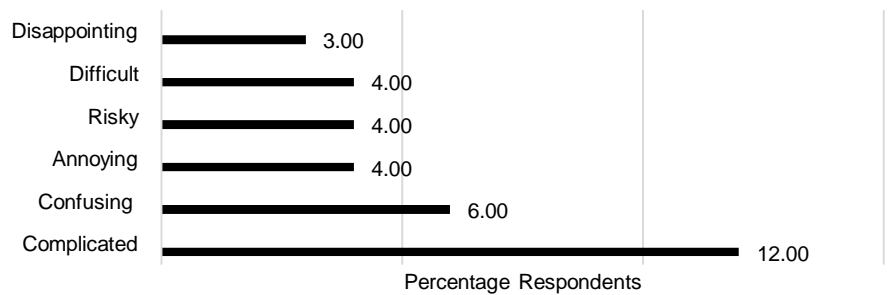
**Fig.1 Top 3 Deciding Features of a Mobile Payment Platform Selection for a Consumer**



**Fig.2 Top 3 Deciding Features of a Mobile Payment Platform Selection for a Merchant**



**Fig.3 Positive Word Descriptors for Mobile Payments Platforms**



**Fig.4 Negative Word Descriptors for Mobile Payments Platforms**

## VII. LADDER TO GROWTH: MOBILE PAYMENT PLATFORMS

Around 68% of transactions in India take place in the form of cash (CLSA, Business Standard, 2016). We are gradually moving on the digital path. Virtual Money technologies like mobile payments platforms, cryptocurrencies, mobile peer-to-peer payments, etc. are well-acknowledged in the country. But in reality, we continue to live physically-cash intensive country which has diverse demography and needs. The Indian Government has been paying great emphasis on financial inclusion and making financial services available to the remotest corners of the country. The customers are evolving. Their aspirations are changing. They have more disposable income and the consumption expenditure is growing. Urbanization and digitization have changed the lives of many. The rise of smartphones, penetration of the internet in the country, the boom of e-commerce, increased awareness and literacy and supportive regulations all create a bright future for the Mobile Payments Platforms in India. India's huge demographic dividend is itself a boon and a bane. Innovations and scalability are enhanced by this size. But at the same time reaching out to such a huge number and meeting their diverse needs is a challenge. The key to the future of mobile payments is how can it really replace cash. That will only happen when it imitates its qualities in all respects. Simple, quick, easy to use, universal acceptance, fewer risks are the qualities a customer looks for. It should be fast, save time, have low adoption costs, open new revenue streams for the merchant, and be customer-centric.

### A. Role of Services Providers

The service providers must gear up to address the future changes and below are a few pointers:

- Understand customers and fulfill their needs: The customers are evolving and so are their needs. The customer has a higher disposable income and spends more. The customer seeks simplicity and convenience. Developing a mobile payments platform that provides an array of value-added services and fulfills the complete list of end-to-end financial requirements of the customers is needed in the future. The main objective is to build an omnipresent ecosystem with cash in/out outlets spread across cities and multiple usages of the platform.
- Develop a product to suit the public at large: India is a large country with a huge demographic dividend. There is a huge potential to scale any service, there is also a barrier to meeting the needs of diversity. Simple, intuitive, multilingual, easy to use interface service is required. Studies show that services that are push in nature i.e. they require the

customer to enter a lot of data before a transaction are less successful than those which are pull in nature. The main objective is to develop a service that is universally acceptable and usable as Cash.

- Lowering costs with strategic partnerships: The higher the costs of acquisitions and operations is for the service providers, the higher will be the cost of transaction transferred to the customers. Thus, with strategic partnerships like with an e-commerce company the service provider can again deep reach into the geography and customers. Being one spot solution for all financial needs of the customers the service provider will require a bank, insurance, retailers, etc. as partners. Providing VAS and a huge network of presence can all be developed with increased partnerships and tie-ups.
- Using Customer Data to develop new revenue streams: Data is the oil of this century. With concepts like Big Data and the Internet of Things coming up, customer data becomes of utmost importance. While maintaining the privacy of the customers, using the transaction data to create spend patterns with historical data analysis can help the companies come up with personalized solutions, push services, increased revenue. It can also help the service providers better their service and fulfill customer requirements.
- Enhance value proposition beyond the simple transaction to other financial services: With the boom of e-commerce, there is an array of VAS that the mobile payments platforms can enter and enhance their revenue streams. Inclusion of services like public transport, healthcare, education which are indispensable is a few of them. Getting into financial services like short-term credit, insurance investments, banking services are others. Elaborating the e-commerce business on the platform can further enhance the revenue streams for the service providers.
- Innovate and use technology to evolve: NFC was being used as the basic technology in many mobile payment platforms for a while now and then Google disrupted with the Audio-QR technology in its platform Tez – which was more secure. Technological innovations are continuously taking place. To invest in R&D continuously improve the product is the main objective. To evolve and become suitable to the evolving customer and merchant needs, disruptive thinking powered with technology is needed.
- Increased Scalability and expansion: To deliver such technologically advanced products requires a lot of infrastructures which requires a lot of investment. The economic viability of such a business where per-user margins are very low

can be ensured only by achieving scale. Thus, a combination of all the above pointers along with and gaining new customers will help the mobile payment platforms to thrive in the future.

### **B. Role of the Government**

India has huge potential to grow its Mobile Payments Industry. But for any industry to thrive, it is a prerequisite for government support to exist. The current Indian government wants to move India towards a cashless and digital economy. When compared to other comparable developing nations, India still has the potential to grow the share of digital transactions happening every day. Thus, here are a few pointers that the government and RBI should put in place to give this industry and its consumers the necessary boost:

- **Spreading awareness:** The Indian government is already laying a lot of emphasis on the cost associated with a cash transaction. It also wants India to move towards Digital Payments. According to a few estimates, transitioning to an electronic platform for government payments could save ₹100,000 Crores annually. The government believes in making bold moves like demonetization to make radical changes. It can further continue its legacy by incentivizing digital payments or using the negative reinforcement by associating a cost with cash the government can further propel this change.
- **Incentivizing the usage of Digital and Non-Cash Methods:** Merchant Discount Rate is the fees charged for Digital Transactions. The RBI that MDR incentives are announced and communicated to all the users. Awareness and correct information can help accelerate the digital payments adoption process. Further mobile payment options with government agencies, tax relaxations, removal of convenience fees, etc. are other possible incentives for the usage of non-cash methods which the government can offer in the future.
- **Reducing the Red Tape:** New customers signing up sometimes act as a barrier in the adoption of a mobile payment platform when too many details are required for the process. Moreover, a cumbersome KYC process used to be required to extend the limit on transactions and access other benefits on these platforms. With the Aadhaar card, the KYC process of the previously existing users could be fast-tracked. Similar regulations and frameworks are required to ease the process of adopting this mode of payment.
- **Policies and Support System to address consumer grievances:** In the BCG Survey a significant barrier for adoption for mobile payments platforms was the lack of customer support and physical touchpoints for grievances

cross-selling other products, low cost of service

redressal. Many users fear the loss of money on these portals and hence are not adopting this change. The regulatory bodies can design frameworks and regulations compulsory for all service providers to follow to enhance peoples' trust in this ecosystem.

- **Making Digital Payments Easier:** Cash transaction has the quality of being instantaneous and simple. Every mobile payment platform has the speed and complexity associated with a transaction. For example, 2-factor authentication takes place on the majority of platforms. If this process is removed for the micro transaction, say which are below INR 250, the process would become faster, less complex, and save costs.
- **Building Infrastructure:** Penetration of the internet, smartphones, and digital literacy are basic requirements for the growth of mobile payment platforms across the country. Investments in the sectors will be required to receive the basic network capacity and speed in the remotest parts of the country. Along with that, the enhancement of payment ecosystem infrastructure like the development of IMPS, UPI, BHIM, BBPS must be further encouraged in the future.

In a nutshell, for the successful development of mobile payments platforms, we require enabling regulations, robust infrastructure, diligent service providers continuously innovating to improve, and a user base inquisitive to adopt technological changes for the betterment of society and lifestyle.

### **VIII. CONCLUSION**

As the Mobile Payments Platforms grow with time there are challenges they will have to face because of the developing nature of India's economy, infrastructure, and society. With India being a cash-heavy economy with a high proclivity to the usage of physical money, the inertia attached with adoption needs to be superseded. Significant investments in industry players and the government's part in spreading awareness and pushing adoption through marketing initiatives have to be seen in the road ahead. Along with this, continuous product improvement increased security, inter-compatibility comparable to cash are also key factors that the Mobile Payments ecosystem has to develop. As the industry matures, its consolidation is a natural instinct. We have already seen acquisitions like Flipkart taking over PhonePe, PayU acquiring Citrus, etc. This will enhance the usage of funds and know-how. Investors, want to minimize costs and change the business model. Consolidation will help in improved products and

better customer service. Government-powered UPI developed by NPCI has disrupted the Mobile Payment Ecosystem. Such initiatives on the government's part along with policy reforms to support the industry players and ease customer usage will further grow this industry in the future. The consumer's and merchants' needs and pain points are evolving with time. There are many players in this industry and most of them have begun expanding beyond their core service of Money Transfer. This diversification includes e-commerce, hyper-local transactions, micro-credit facilities, etc. In this competitive industry, players it is a must to differentiate from others, and thus all the players keep on innovating and enhancing their value proposition to attract new users and retain the old ones. A close observation of their pointed out that convenience and ease of usage are what drives adoption but at the same time proclivity to cash and complexity in understanding these portals act as barriers for others. Mobile Payment Platforms Model is cost-effective and highly scalable when compared to the credit/debit card four-party model. This model is not cost-effective in transaction cost, associated hardware cost, and transaction service cost. Today with so many players, there are closed user groups formed with no universally acceptable platform (like cash). Thus, with joint policy development and go-to-market strategy the government, regulators, and industry players must develop a universal mobile payments infrastructure. Mobile Payments' incessant success depends on product and process improvement from the players, a supportive regulatory environment, and focus efforts of the players and the government towards the main objective of increased adoption

## IX. LIMITATION AND FUTURE RESEARCH SCOPE

The study has some limitations and also offers scope for future research. The study conducted has a limited audience for primary research and the data collected for the study is limited to the viewpoints of the respondents. The results may show variation if conducted in different environments or countries. Also, the market and industry are dynamic and the technology is continuously evolving the findings may show variation is conducted in longitudinal research. The inputs from industry players can also be collected to understand their perspectives. This will also throw light on what they ponder of future industry movements. Another important role is played by the government. There is also scope to study how investments made by the government can impact the mobile sector industry in India. At the same time, future investments plan by the private sector also needs consideration. Also, drawing a parallel from similar countries will help understand India's standing and growth plan.

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