



Digital Payment Dynamics in India: Examining the COVID-19 Impact and Paradigm Shift

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Abstract: Information and Communication Technology (ICT) plays a pivotal role in both business operations and daily life, with digital payments emerging as a cornerstone of modern transactions. The onset of the Covid-19 pandemic has spurred a significant transformation in payment methods, not only in India but globally. In India, the digital payments industry is poised for substantial growth, projected to reach up to US\$700 billion by 2022.

This paper aims to shed light on the paradigm shift witnessed in digital payments during and post the pandemic situation in India, analyzing government policies, sectoral growth, and safety measures. Additionally, the paper will delve into the underlying reasons driving this growth trajectory. Despite India's mixed economy landscape, digital payments have witnessed remarkable expansion, underscoring the burgeoning opportunities within the sector.

Key areas of focus include exploring the impact of Information Communication Technology (ICT) advancements, the specific effects of the Covid-19 pandemic on digital payment trends, and the role of government policies in fostering a conducive environment for digital transactions. By comprehensively examining the growth drivers and opportunities within the Indian digital payments landscape, this paper seeks to provide insights into the evolving dynamics of the economy in the digital age.

Keywords: Information Communication Technology (ICT), Covid-19, Digital Payments (DP), Indian Economy

Introduction

The Payment and Settlement Act, 2007 has defined Digital Payments. As per this any “electronic funds transfer” means any transfer of funds which is initiated by a person by way of instruction, authorization or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of

sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment.

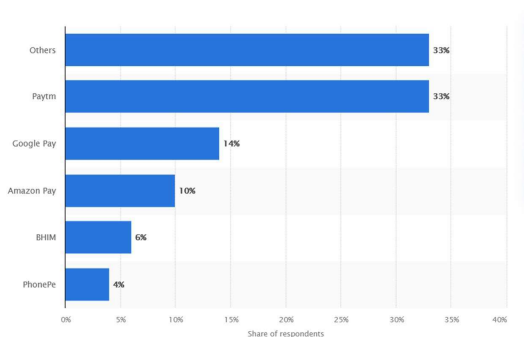
The digital payments sector of India has matured at a magnifying rate during the last decade fostered by the evolution of paperless payment mechanisms such as UPI, BHIM, E-wallets, mobile banking, etc. The unfolding of new mobile and digital payments technologies has led to innovation in payment methods that have eventually repositioned customers from traditional payment methods to contactless payments. The ease of carrying out transactions electronically and rewarding incentive systems are constructively shaping the digital landscape of the Indian economy. The volume and value of digital payments in India in the last 5 years have comprehensively flourished. To curb the flow of undisclosed black money the GOI (Government of India) decided to demonetize Rs 500 & Rs 1000 currency notes in 2016 pushing India towards a cashless future. Amid this, cash shortage led to increased adoption of digital payments.

The value of transactions carried out through mobile wallets was noted to be the highest amongst all other modes. Although the rudimentary objective of Demonetization was not to magnify and boost the digital payments revolution in India, however, it did have a powerful impact on the same. The post demonetization era observed an increased adoption in mobile payments but at the same time, the usage and retention rate has remained low. The Digital Ecosystem of India was escalating rapidly until 2019 when the novel coronavirus (Covid-19) enormously unrolled from China to other parts of the world. Instantaneously, a downturn of 30% in digital payment transaction value was contemplated post the nationwide lockdown imposed by GOI in March 2020. While heading towards the digital path is not new for the Indian economy, the pandemic, however, has spurred the acceptance and usage of digital technologies. (KPMG). The pandemic circumstances alarmed the public concerns that the virus could be effortlessly disseminated via cash (Raphael et al., 2020) Therefore, the government regulators encouraged

payments using digital modes like IMPS, NEFT, RTGS, UPI, etc, so that the use of physical cash could be minimized. Such efforts by the government along with revocation of nationwide lockdown indicated recoveries in the digital payment transactions on different platforms (KPMG). The social distancing norms and lockdown in the entire nation paved the way for an obligatory escalation of digital technologies. The business corporations and the inhabitants around the world had to habituate to the new routine of work and life. The outburst of novel coronavirus derivatively induced high transaction volumes using contactless payments at retail outlets, fruit and vegetable merchants, and grocery stores. Being the early adopters of technology, Banks excluded themselves from the negative impacts of Covid-19.

Digital payments in India

Digital payments in India is drastically increased in covid-19 situation. The status of usage of digital payments in India is as below in April, 2020. Paytm app is used and preferred by the Indians (33%) which is highest in comparison with other app. Online payment through Google pay is second preference (14%), Amazon pay (10%) BHIM (6%) PhonePe (4%) and others (33%).



Digital App usage in India (Apr. 2020)

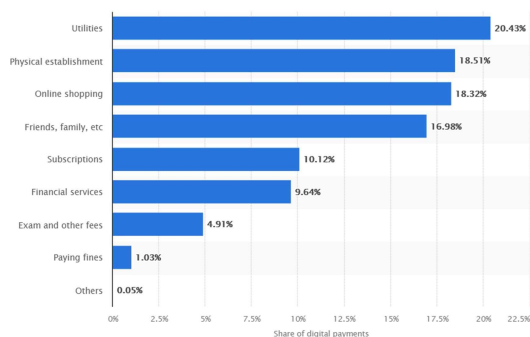
Source: Statista 2022

Share of digital payments in India by purpose (2020)

Share of digital payments in India by purpose is as below. It is used for utilities (20.43%), physical establishment (18.51%), online shopping (18.32%), to transfer amount to friends and family (16.98%), subscriptions (10.12%), financial services (9.64%), exam. and other fees (4.91%), paying fees (1.03%)

and others (0.05%).

Share of digital payments in India by purpose (2020)



Source: Statista 2022

What has fuelled this boom?

Cheap internet data, high smartphone penetration and India's biometric identity card fuelled the rapid scale up of online payment systems over mobile platforms. Currently, 250 banks are live UPI members, which means they allow interbank fund transfers using UPI. There are over 50 UPI apps with, Phone Pe leading the space. UPI is the single largest retail payment system in the country in terms of volume of transactions (14 crore transactions per day, October 2021), and one of the initial objectives of UPI was to replace cash for low-value transactions. Transaction data analysis shows that 50 per cent of transactions through UPI were below Rs 200. The RBI has proposed to offer a simpler process flow by enabling small value transactions through an 'On-device' wallet in UPI app, which will conserve banks' system resources, without any change in the transaction experience for the user.

2. Objectives of the study

Following are the objectives of the current study.

- 1) To understand and interpret the trends in the Indian Digital Payments Ecosystem during the covid era.
- 2) To find out the growth of digital payments in India

3. Methodology

Secondary data is used for this study. Since the Digital payments system of India is very broad and outspread on that account, this paper studies the popularly used digital payment indicators in India such as Card Payments, NEFT, RTGS, BHIM, UPI, & IMPS. The value transacted through these modes is critically interpreted to ascertain and elucidate the patterns in the digital payments system in India during the covid era. The periodic statistics published by the National Payments Corporation of India (NPCI) and annual reports released by the Reserve Bank of India (RBI) have been employed for scrutinizing the trends in volume and value of Digital Payment transactions.

4. Challenges and opportunities in the move towards digital payments

Even though the number of digital transactions is a positive sign for the economy, we are far from

creating a robust digital payment ecosystem. There are several structural challenges that are hindering the growth of digital payments in the country. While a growing number of e-commerce platforms are adopting digital payment methods, consumers still prefer the option of paying by cash. This phenomenon is in part related to the scare regarding cybersecurity in digital transactions. It is to be noted that during 2016-2018, India was the second most cyberattacks affected country. Lack of technological awareness and high risks associated with cybersecurity have kept consumers from adopting digital payment methods wholeheartedly.

While there is no dearth of digital payment modes ranging from debit/credit cards to online banking, there is a need to make transactions cheaper and enhance interoperability of the payment systems to make them more flexible for the stakeholders. This is not only an opportunity for non-banking companies to innovate but to also adopt the already available technologies like Aadhaar Enabled Payment System (AEPS), which does not involve transaction charges and is consumer-friendly. Since the growth of digital payments largely depends on the rising rural population getting connected to high-speed internet and smartphones, it is important for digital startups to focus on secure consumer-friendly methods in order to build trust and drive adoption.

5. Opportunities

Mobile payments are expected to grow from US\$10 billion in FY18E to US\$190 billion by FY23E.

The Digital Payment ecosystem in India is undergoing a transformation with the entry of global tech giants like Google's payments app that are acting as aggregators for retail transactions.

Paytm – which has 7 million merchants – now becoming a bank and post the launch of Google Tez and PhonePe, which are also focusing on merchant payments, a steep rise in digital payments could be expected.

While the number of PoS (Point of Sale) terminals has doubled since demonetization, the merchant acquisition infrastructure (is a mechanism of providing necessary infrastructure and facilitating payment for goods and services purchased through medium of a card) in India remains weak, as banks have not been able to drive adoption. This sector presents immense opportunities for digital players.

6. Current Scenario

The costs associated with online payment through RTGS and NEFT systems have also created a hindrance. These methods are not only expensive but also time-consuming at a time when there are a number of technologies

available that offer real-time fund transfer. Startups that focus on technologies providing quicker digital payment solutions to the consumers will have a better opportunity to get ahead in the move to bring the tier 2 and tier 3 cities under the digital umbrella. While numerous non-banking entities are focusing on driving digital payments for consumers through incentives, the adoption remains low among the merchants. For around 1 billion credit and debit cards, there is merely 37.22 lakh Point of Sale (POS) terminals in the country. In order to boost digital payments, there is a need for more POS terminals along with better and cheaper payment options for the smaller merchants. In the absence of POS terminals, QR Codes can be used to onboard merchants. Since QR Code technology is easy to use and does not involve any additional infrastructure cost apart from the smartphone.

7. Data Analysis

India's digital journey in the past decade has been fuelled by innovations and modernization in the retail payments segment. Favourable inclination towards e-wallets, credit cards, debit cards, etc., has made online transactions the new ordinary. These transactions can be carried out via numerous modes. A few of these payment modes are highly admissible around the world while others have moderately low acceptability (Gupta & Asha, 2018). This section analysis trends in the adoption and usage of Indian digital payments during the covid era. UPI, BHIM, IMPS, NEFT, RTGS, & Card payments have been used as benchmark measures to interpret the statistics released by NPCI and RBI. A Card Payments: The pandemic momentarily repositioned customers from cash to plastic money as the corresponding costs and benefits associated with cash payments in terms of health risks were comparatively higher. Even after the nationwide lockdown was lifted, the payment behavior towards debit cards prevailed and the share of cash payments remained low (Jonker, van der Crujisen, Bijlsma, & Bolt, 2020).

IMPS, UPI & BHIM: -Immediate Payment Service (IMPS) was instituted in November 2010 to address the issue of real-time fund transfer since NEFT & RTGS facilities were available only during the official banking hours. The IMPS facility enabled users to make 24x7 electronic payments across India that were safe and economical at the same time. The launch of Unified Payments Interface (UPI) further helped in merging and accessing different bank accounts with a single application that facilitated 24x7x365 money transfer services. Bharat Interface for Money (BHIM) app-a UPI based application that allowed peer-to-peer transfers on mobile phones, contributed to the increased adoption of digital payment modes in India (Pal, et. al., 2018)

IMPS, UPI & BHIM transactions have portrayed a similar pattern during the covid era. The nationwide lockdown imposed in March 2020 led to a sharp decline of 40, 27 & 26% in the value of transactions carried out through these modes respectively. It was in the month of April when IMPS, UPI & BHIM transactions were

spotted on their lowest points for the year 2020 with 122.47 million, 999.57 million & 4492.73 million transaction volume individually. This ultimately led to a reduction in expenditure, fall in employment, delay of routine fixed expenses, and reduction in disposable income of the population (KPMG's report on Impact of Covid-19 on digital payments in India, 2020). Notwithstanding, when the lockdown requirements were made less stringent, consumers started to explore e-commerce websites for their purchase needs & deferred payments were released which ultimately led to an increase in 0 200 400 600 0.00 150,000.00 300,000.00 450,000.00 I M P S T R A N S A C T I O N S Value (in Cr) Volume (in MN) 0.00 2,000.00 4,000.00 6,000.00 0.00 400,000.00 800,000.00 1,200,000.00 U P I T R A N S A C T I O N S Value (in Cr.) Volume (in Mn) 0 10 20 30

0.00 4,000.00 8,000.00 12,000.00 B H I M T R A S A C T I O N S Value (in Cr.) Volume (in Mn), the

volume and value of IMPS, UPI & BHIM transactions started to take an upturn & regained their pre-covid growth pace. The second wave of Coronavirus left a catastrophic effect on the Indian economy. From consumer buying behavior to spending habits, the entire consumer behavior has revolutionized as far as digitalization is concerned, since people favored home deliveries rather than physically visiting the stores (Raza & Nikhat, 2021). As the economy was already habituated with the new ways of work and life, therefore, the second wave did not have a drastic effect on the digital payments segment. UPI has outperformed all modes with an exceptional growth rate of 103% in transaction volume & 98.87% in transaction value from September 2020 to September 2021. On the other hand, IMPS & BHIM transaction value augmented by 30.34% and 4.26% sequentially for the same period.

8. Findings

The transition of India from a cash-obsessed economy to a digital nation is capturing the interest of policymakers, researchers, academicians, and commercial firms around the globe (Mukhopadhyay, 2016). The GOI has made efforts to cover the entire economy under the aegis of the Digital Landscape. The Demonetisation of 2016 led to a paradigm shift towards electronic payments & has bolstered innovations using digital technologies (Das & Das, 2017). The economic disruption caused by Covid-19 has made the digital system more accessible & stronger than before. The ground-breaking challenges dispensed by the pandemic led to the increased adoption of digital payment modes in India. Electronic payments using UPI, mobile wallets, etc., aided the government's norm of social distancing and simultaneously, facilitated the inhabitants to carry financial transactions at their convenience with utmost safety. Expenditure reduction, downfall in employment rates, delay of routine fixed expenses, and cutting down of disposable income due to economic lockdown led to a sharp downturn of 40, 27 & 26% in IMPS, UPI & BHIM transaction value.

Unexpectedly, the second wave of the coronavirus did not have such far-reaching implications on Digital Payments due to prior familiarity with new ways of life and work. The pandemic however has ceased the growth of the NEFT & RTGS segment. While in 2019-2020 value of RTGS transactions declined by 3.3 percent in comparison to 2018-19 & the value of NEFT transactions witnessed a minute uptrend of 0.6 percent for the same period. FY 2020-21 observed a decline of 19.5 % in the value of RTGS transactions. One probable reason accounting for this downfall was declining high-value corporate transactions. Overall, total growth of 26.2% is the transaction volume of the payment system is documented for the year 2020-21.

9. Conclusion

As per a recent report, the Indian digital payment industry is poised to reach an impressive milestone of \$1 trillion by the year 2023. This significant growth trajectory is expected to be fueled by the dynamism of the Indian start-up ecosystem, which demonstrates a remarkable capacity to seize opportunities and tackle numerous challenges within the sector.

While India boasts a resilient start-up ecosystem capable of addressing these challenges, there exists an opportunity for the Government to expedite this process through the implementation of more favorable policies and frameworks. The introduction of Unified Payments Interface (UPI) by the National Payments Corporation of India (NPCI) has already yielded remarkable outcomes, streamlining digital transactions across the country.

The Reserve Bank of India's (RBI) Vision 2021 initiative represents a crucial step forward, aiming to cultivate a robust digital payment ecosystem and transition towards a cash-lite economy. These proactive measures align closely with the Government's Digital India initiative, furthering its objectives of fostering financial inclusion and digital empowerment across the nation. Through concerted efforts and collaborative initiatives between the Government, regulatory bodies, and the private sector, India is well-positioned to realize its ambitious goals in the realm of digital payments.

10. Recommendations

The Indian economy exhibits significant potential in the realm of digital payments, presenting ample opportunities for growth and innovation. To fully harness this potential, it is imperative for the Government to provide robust and secure policy frameworks that support the proliferation of digital payments across various sectors. By establishing clear and stringent regulations, the Government can instill confidence among stakeholders and ensure the security and reliability of digital payment systems.

In addition to regulatory support, raising awareness among the populace is crucial for driving adoption and acceptance of digital payment solutions. Educational campaigns and outreach programs can help demystify

digital payments, dispel misconceptions, and highlight the benefits of embracing cashless transactions. By fostering a culture of digital literacy and empowerment, the Government can pave the way for widespread acceptance and utilization of digital payment platforms.

Overall, a concerted effort from the Government, in collaboration with industry stakeholders, is essential to realize the full potential of digital payments in the Indian economy. Strong policy frameworks, coupled with targeted awareness initiatives, can catalyze the transition towards a more efficient, inclusive, and digitally-driven financial ecosystem.

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