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An Insight into the Mobile Payments Ecosystem in India

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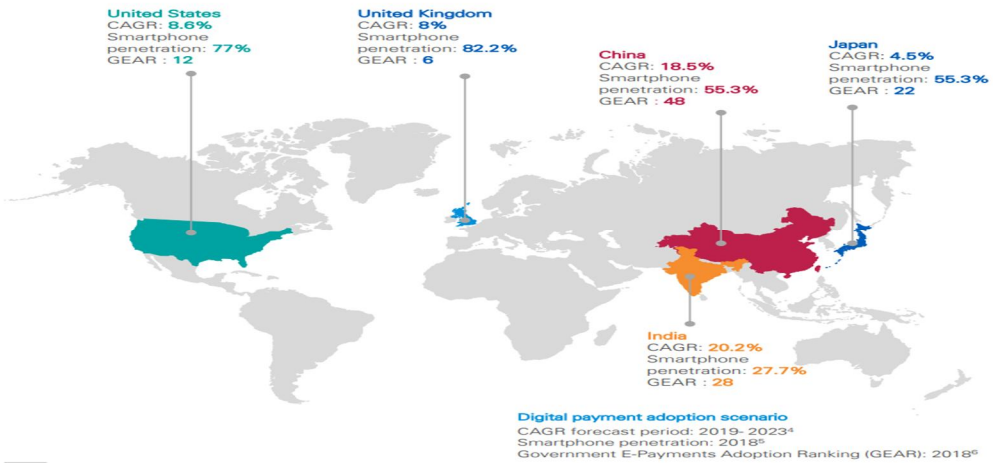
Abstract: ***Courtesy the advancing technological innovations in the present day world we are gradually losing the touch and feel of actual money – currency notes as well as coins. This has its pluses as well as its minuses. The driving factors are manifold. The basic impetus to this has been the increasing technological advances in various fields – be it communications, security as well as the banking systems. World over there have been break throughs and these have all been responsible to place us a society where we are. In India the presence of a robust payment infrastructure and growing smartphone penetration has been primarily responsible for this tremendous growth. The article delves into the growth itself touching upon the various reasons which can be attributed to this, the actual (and unlikely) players who contributed to it and also tries to extrapolate the path ahead based on the status today in all spheres.***

I. AN INSIGHT INTO THE MOBILE PAYMENTS ECOSYSTEM IN INDIA

A. Landscape of Digital Payments

The digital payment landscape is being driven by compelling value propositions, conducive infrastructure, supportive regulations and next generation technologies. Globally, non-cash transaction volumes have surged leading to a change in the payment industry, which is witnessing a shift in favor of the digital. Digital payments are seeing a thriving growth and gaining traction with a Compounded Annual Growth Rate (CAGR) of 12.7% in the number of non-cash transactions (forecast 2016-21)[1]. The growth is attributed to developing markets led by emerging Asian countries, which are forecasted to grow by 28.8% till 2024 (number of non-cash transactions), and expected to account for half of the digital transactions worldwide[2]. The global digital payments market size is expected to touch USD 10.07 trillion by 2026[3]. The following graph showcases the digital payments adoption across certain countries.

Figure 1: Digital Payment Adoption Scenario



[456]The digital payments space has witnessed a significant push due to the innovative use of technology. Major capabilities such as mobile wallets, smart devices, Near Field Communication (NFC) and Quick Response (QR) codes have increased digital adoption and impacted the way consumers transact and interact with payment partners. The influx of innovation in the digital payments infrastructure has also led to a critical challenge of cybersecurity faced by the payers in the ecosystem.

[1] World Payment Report, Capgemini, (2018)
[2] World Payment Report, Capgemini, (2018)
[3] Digital Payment Market, Global Newswire, (July 2019)
[4] Digital Payments, Statista, 2019
[5] Top 50 Countries / Markets by Smartphone Users and Penetration, Newzoo, (September 2018)
[6] Government E-Payments Adoption Ranking, The Economic Intelligence Unit, (2018)

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There is a lot of focus on enhancing capabilities and responding to cyber threats. Various standards and practices such as stronger authentication, data confidentiality and integrity mechanisms are gaining prominence.

The success of any digital payments ecosystem hinges on a combination of factors. For the merchants and consumers, the perceived functional benefits (onboarding and ease of usage), awareness levels and perceived performance levels when compared to traditional modes such as dealing with cash are critical to adoption of digital payment modes. For payment providers (mobile payment service providers, banks, etc.), a compelling business model with viable propositions and diversified service offerings allows them to run a sustained business with low margins. Moreover, a combination of favorable government policies (incentives, subsidies, government initiatives) for merchants, consumers and payment providers, and availability of right infrastructure such as smartphones and internet connectivity form the base enabling a strong digital payments ecosystem.

B. Digital Payments In India

Over the past two decades in India, technology developments and evolution of device from factors have led to a gradual transformation of digital payments. While feature phones were limited to USSD (Unstructured Supplementary Service Data), the advent of smartphones and the internet has opened up a host of form factors and access to payment technologies.

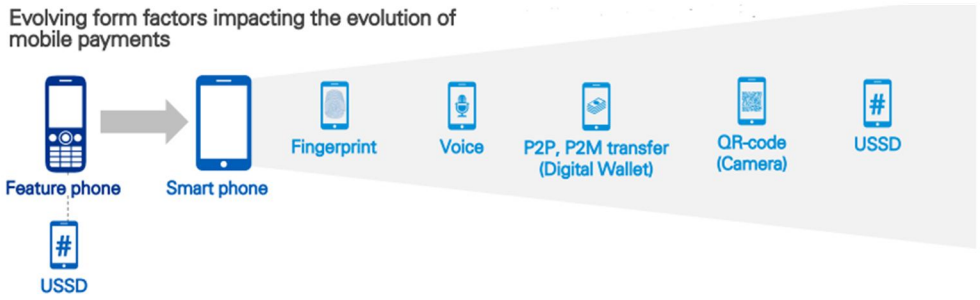
From peer-to-peer transfers to camera-enabled QR code scanning and voice banking, digital payments have a come a long way.

This can be attributed to an increase in smartphone user base (Forecasted: 829 million by 2022 growing at a CAGR of 15.5%)[7]. The PoS devices have also seen a mobile form factor with mPoS devices accepting device based payments. This segment has been forecasted to grow at a CAGR of 54.2% in the time period 2019-23[8].

The mobile payment revolution with its evolving form factors has led to a boom in the number of merchants adopting digital payments. From close to 1.5 million digital payment acceptance locations in 2016-17[9], the number of merchants accepting digital payment modes has increased to over 10 million[10], in a short span of two to three years. QR code based wallet acceptance points with low setup costs have been instrumental in driving mass adoption among merchants, thereby increasing convenience for customers as well, creating a virtuous cycle for the ecosystem. Eg. Paytm QR[11] is visibly seen at different retail stores, hotels, small merchants etc. and has become ubiquitous to cash in India. Paytm has over 12 million merchants who are provided a range of services for enabling digital payments from all instruments like wallet, UPI, cards etc., form factors like QR and PoS terminals, billing and inventory management software and O2O (Online to Offline) commerce etc. In another example, the Indian Post Payment Bank (IPPB) is bringing small shops and vendors under its QR payment system and issuing 'QR Card' to customers, which are analogous to debit cards, but with an embedded QR code to uniquely identify accounts[12].

New form factors have also enabled payment companies to push forward financial inclusion and digital literacy through better visual support and regional language options. Mobile payment players have been at the forefront of deploying terminals to process Aadhaar based payments using biometrics and popularize digital payments in rural hinterlands.

Figure 2: Evolving Form Factors Impacting Evolution of Mobile Payments



[7] Smartphone users in India to double to 829 million by 2022, Financial Express, (December 2018)
[8] Mobile PoS Payments, Statista, (2019)
[9] India's Mobile QR Code Future, PYMNTS, (February 2017)
[10] UPIs now choice of merchants too, Economic Times, (June 2019)
[11] Primary discussions with Paytm, KPMG in India's Analysis (2019)
[12] India Post Payments Bank replaces ATM/Debit Cards with QR cards, Livemint, (September 2018)

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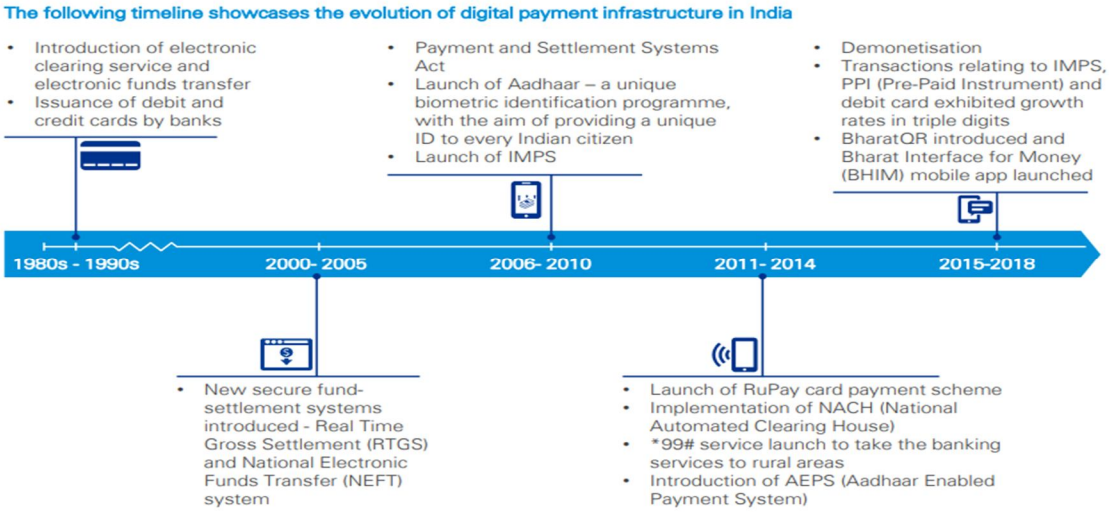
Riding on the growth trajectory of digital payments and emerging form factors, India is swiftly moving to a cashless country. India is forecasted to see the fastest growth in digital payments transaction value between 2019 and 2023, with a CAGR of 20.2%, ahead of China and the United States[13]. In fact, digital payment turnover as a percentage of the GDP increased from 7.14% in 2016 to 8.42% in 2018[14]. And, per capita digital transactions rose from 2.4 in 2014 to 22.42 in 2019, and has the potential to grow to 220 by 2022[15].

The evolution of digital payments in India is attributed to the progressive thought process of the Reserve Bank of India (RBI), central and state governments, industry associations and payment corporations. RBI has endeavored to ensure that India has state of art payment systems which are secure, efficient, fast and affordable. The "2021 Vision Document" released by RBI indicates that digital payment is the key focus and puts emphasis on the role of the ecosystem and infrastructure in driving safer and faster payments.

The National Payments Corporation of India (NPCI) is an umbrella organization for operating retail payments and settlement systems in India. An initiative of the RBI and the Indian Banks Association (IBA), NPCI has consistently focused on digital payment innovations by introducing payment infrastructure such as Immediate Payment Service (IMPS), UPI, USSD based payments and the National Common Mobility Card (NCMC). NPCI has been a differentiating factor in which industry stakeholders have come together to share a common vision of propelling the growth of digital payments.

It is worth noting that the change in the payment landscape has accelerated over the last decade, with multiple factors redefining the traditional role of banks and creating a mature landscape. India's payment landscape is growing faster than the global average. Some of the factors pushing growth include emergence of mobile payments service providers, evolving business services by the market incumbents, inclusive government policies and literacy programs, robust payment infrastructure, high consumer acceptance and strong regulatory support.

Figure 3: Timeline of evolution of Digital payment infrastructure in India



C. Unlocking Value Through Mobile Payments

The first two decades have built a strong foundation for mobile payments and the next few years are likely to witness a leap and contribute towards 'Digital India'. Mobile payments have witnessed major shifts in the past five years with a proliferation of payment platforms eg., UPI, Mobile Wallets, Bharat Interface for Money (BHIM), Bharat QR and USSD.

One of the key factors which played a transformational role and democratized mobile payments in India was the role played by Wallet players. The ease of payments, ubiquity and convenience were the factors which led to the extensive adoption of wallets. As per recent reports the mobile wallet market is expected to continue its expansion at a CAGR of nearly 52.2% by volume during 2019-23[16].

[13] Digital payments to more than double to $235.3 bn by 2023, Business Today, (June 2019)
[14] Payment and Settlement Systems in India: Vision 2019-2021, RBI, (May 2019)
[15] Report of the High Level Committee on Deepening of Digital Payments, Nandan Nilekani Committee, (May 2019)
[16] Business Wire, Indian Mobile Wallet Market estimate, (July 2019)

Another factor that has led to the next wave in mobile payments is UPI based real time payments. The UPI adoption has shown an exponential progress and processed USD 93 billion in payment value till May 2019, which is more than 2016-18 combined[17]. The volume of UPI transactions ahs increased at a CAGR of 246% during the period January 2017 to June 2019[18]. Some of the factors such as interoperability and possibility of origination across different platforms such as mobile wallets is further fueling the growth of UPI transactions.

RBI had forecasted an outcome of 50% increase in mobile based payment transactions as per the '2021 Vision Document'[19]. This shift can be attributed to the driving factors such as robust payment infrastructure, evolution of form factors, availability of structured data, shift in consumer behavior and governments vision to transform India into a cashless economy.

D. One Size Does Not Fit All

Mobile payments space has witnessed a shift with reference to consumer preferences and rise of innovative technologies, pushing the payment providers to transition from a single fit for all approach to tailor made payment solutions. Organizations need to balance innovation with ubiquitous, contextual and integrated demand of customers within the regulatory boundaries to transform as per the evolving customer demands.

Mobile payments service providers are expanding their offerings by providing a mix of payment options eg., mobile wallets, NFC, USSD, UPI, QR code, etc catering to all customer segments. A key area of focus is on the under penetrated rural market with limited internet and smartphone usage. The focus is on increasing USSD adoption, which can act as a last mile payment technology. USSD based services require a push through enhanced security, low customer cost and enhanced usage. Simplified user experience, adoption by incumbents and absolute support can help USSD to penetrate into the entire country.

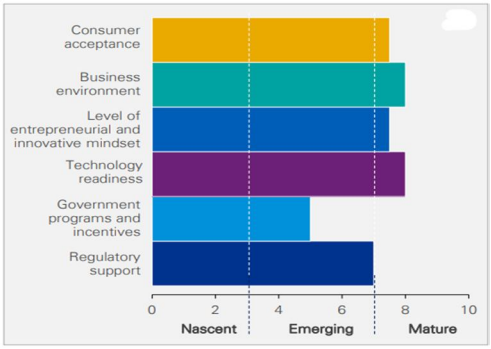
II. ECOSYSTEM ANALYSIS - INDIA

A. Assessment of Growth Levers for Mobile Payments Ecosystem

The mobile payments business is gaining significant adoption across the globe with payment ecosystems evolving across the Americas, Asia Pacific (APAC) and the European Region. The adoption has been made possible by ecosystem players across countries making substantial efforts to build a robust environment for scaling up. A number of factors are driving growth in these payment ecosystems, namely, the availability of right technical skills, significant growth in capital investments, emergence of alternate business models and services, support of government policies / incentives, clear regulatory frameworks and an entrepreneurial and innovative mindset. These are the driving forces that are contributing to the creation of a conducive mobile payments ecosystem. The global market is a mix of nascent, emerging and mature mobile payments ecosystems, each providing unique learning threads for countries envisioning to be a cashless society. In terms of penetration China and Norway have emerged as global leaders with over 40% population using mobile payments.[20]

The uptake of mobile payments in India has been driven by demand pull factors and a progressive regulatory regime. The focus of the mobile payment ecosystem in India has shifted towards building a customer-centric, contextualized and inclusive payments experience for the masses.[21]

Figure 4: Contributory Factors for Digital Payment Growth



[17] .UPI Product Statistics, NPCI, (May 2019)
[18] UPI Product Statistics, NPCI, (May 2019)
[19] Payment and Settlement Systems in India Vision 2019-2021, RBI, (May 2019)
[20] The Rise of Digital & Mobile Wallets: 2019 Global Usage Stats, Merchantmachine UK, (Nov 2018)
[21] KPMG Secondary Research, KPMG in India's Analysis (2019)

Introduction of new and innovative systems, distinctive shift from paper to electronic payment modes, sizeable increase in transaction turnover, customer centric initiatives, etc. are the factors which have revolutionized the growth of mobile payments in India. With the rise of adoption of UPI (Transaction Value and Transaction Volume) as the payment mode, there has been a considerable increase in mobile payments.

The growth in mobile payments in India has been propelled by the presence of an extremely competitive landscape and investments by foreign players. India has several payment providers, with over 45 wallet players,[22] 50 UPI based service providers and 142 banks on the UPI platform[23]. The competitive landscape ranges from telecom companies, e-commerce entities, banks to even internet companies and messaging applications.

In India, regulatory authorities and the government are helping the mobile payment ecosystem to evolve. The Reserve Bank of India (RBI) has proactively brought regulatory guidance with a framework for pre-paid instruments (digital wallets, e-KYC, transaction limits etc.), and interoperability guidelines for wallets. The RBI has also introduced "Vision 2021" with 36 action points for moving India towards a cashless society, and focusing on areas such as inclusive payments, cybersecurity hygiene and providing a bouquet of e-payment options.

A host of government initiatives (merchant incentives, cashbacks and literacy programs, etc.) across multiple government departments in India have worked towards pushing the agenda of mobile payments. The government has also focused on enabling USSD-based mobile payments to tap rural markets which lack internet connectivity and smartphone penetration.

A lot of this progress can also be attributed to the mobile payment service providers operating in India, who have pioneered the art of innovation of and contextualization of products for Indian consumers.

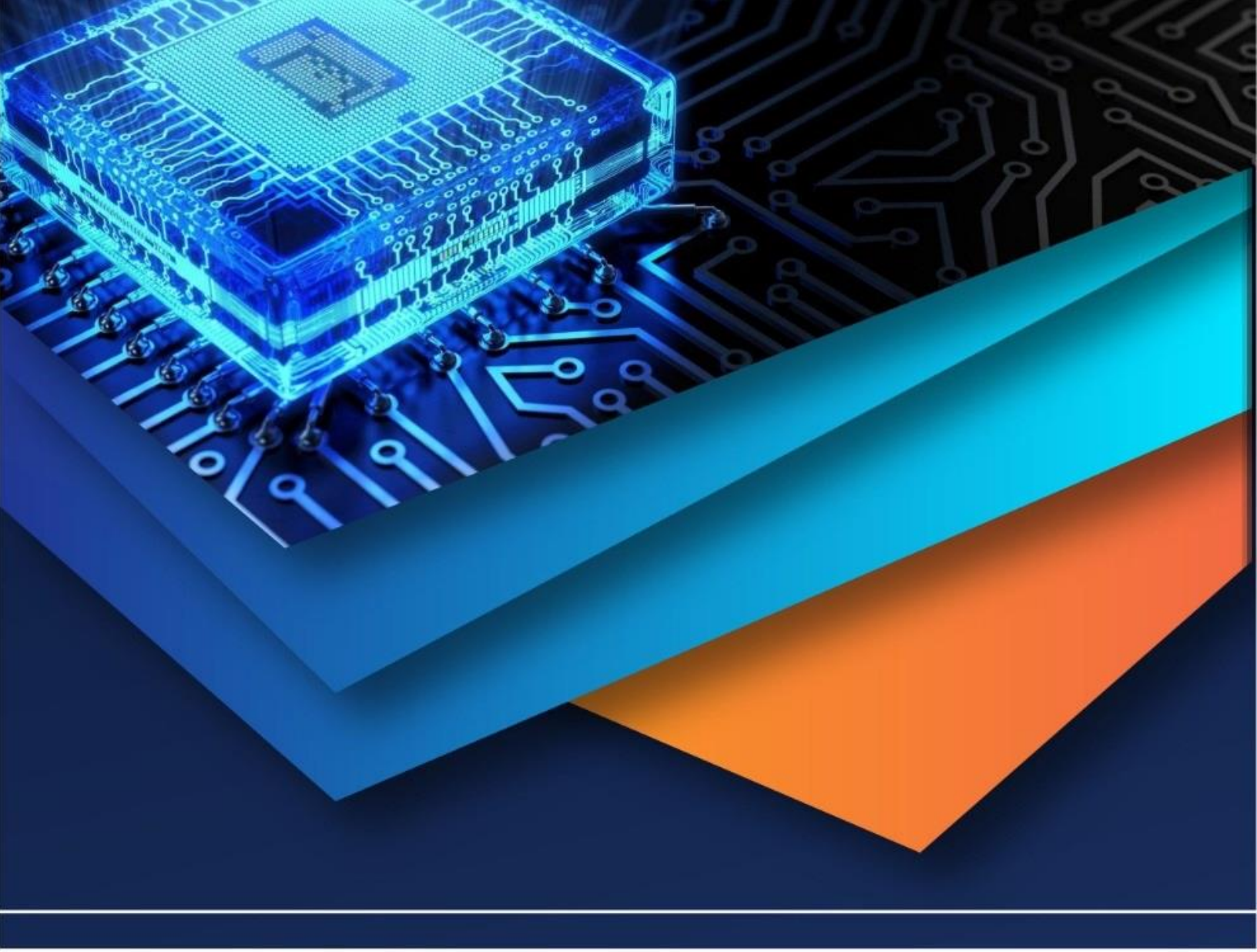
With the presence of a robust payment infrastructure and growing smartphone penetration (estimated to reach 829 million smartphones by 2022; 60% penetration) [24] the potential for mobile payment adoption in India is enormous. Eg.

1) There has been a growth of nearly 33% [25] Y-o-Y in wallet-based transactions in the last two years.

2) UPI, which was introduced in 2016, has seen a 35-40% [26] month on month growth in both value and volume of transactions since December 2016.

[22] Certificate of Authorization issued by Reserve Bank of India, (July 2019)
[23] UPI Live Members, National Payments Corporation of India, (June 2019)
[24] Cisco's Visual Networking Index (VNI), Financial Express, (December 2020)
[25] Payment System Indicators – Annual Turnover, Reserve Bank of India, (August 2020)
[26] UPI Product Statistics, National Payment Corporation of India, (June 2019)

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