

EMERGING TRENDS, ACHIEVEMENTS & GROWTH PATTERNS IN THE DIGITAL PAYMENT SECTOR- AN OVERVIEW

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ABSTRACT

Over a couple of decades, the Banking and financial services industry is going through a major transitional phase on account of technology led innovations, infringement of policies and initiatives, robust internet connectivity, increased penetration of smartphones which have changed the entire landscape of the payments industry. Besides, the Reserve Bank of India is working in close proximity with the payment intermediaries for devising useful payment mechanisms, highly customized banking applications and payment gateways that better serve customer needs thereby inducing a multi-prolonged digital payments culture among banking customers. The present study is a modest attempt to highlight the growth patterns exhibited by the digital payment methods. Additionally, the study shall provide useful insight into the efficacy of the different online payment modes in the context of Indian economy framework. The current research study is conducted with the help of secondary data compiled from websites of National Payments Corporation of India (NPCI), Reserve Bank of India (RBI), Ministry of Electronics & Information Broadcasting (MeitY), government reports & journal articles from renowned databases to address the research objectives and arrive at appropriate conclusions. The data has been analysed and interpreted through a descriptive and analytical approach. In addition to this, the data has been supplemented with graphs, charts and tables for a better understanding. The research article concludes that digital payments have shown an increasing trend both in terms of volume and value over the past half- decade. The Unified Payment Interface has performed exceptionally well outperforming other payment modes in terms of adoption and usage. The result findings reveal that digital payments have contributed positively towards financial inclusion. However, it is equally important to keep track of the underlying risk and frauds inherent in their usage which must be addressed cautiously for minimization & timely detection of frauds in order to promote smooth uninterrupted robust network of such payment mechanisms backed by effective government support systems.

Keywords: Digitalization, Financial Inclusion, Banks, Digital Payments, UPI.

Introduction

The 21st century is rightly referred to as the "Techade" owing to the new innovations driven by technology bringing transformational changes in the Indian economy framework. This change has been ushered by online presence of banks owing to the steady growth of the Indian digital market and the current trends, emergence of new players as part of the digitalization of the Indian economy, hike in usage of smart phone and widespread outreach of internet demanded online payment gateway in order to enable the Indian economy to move a step closer towards becoming cashless. Besides this, the host of initiatives such as Digitalization of Indian Economy National Mission for Financial Inclusion, Demonetization policy followed by government imposed restrictions led by COVID – 19 Pandemic have

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altered the entire functioning of the traditional banking and financial systems. The main idea behind such concerted efforts was to enable everyone alike to share the benefits of financial products and services irrespective of their socio-economic backgrounds which is of paramount to ensure inclusive economic growth with equity. The digital payments have been considered an important aspect of Digital India Programme initiated to transform India into a digitally Empowered society & knowledge economy (Faceless, Paperless & Cashless). The National Mission for Financial Inclusion initiated in 2015 mandated digital payments to play an active role in financial inclusion. Further the demonetization policy of Indian economy announced on Nov 2016 initiated to curb black money out of the economy and government imposed restrictions led by Covid – 19 pandemic led the people to move towards cashless economy thereby registering increase in digital payments portal and alternate banking channels. Propelled by these initiatives, the Indian Payments Industry has gone through massive transitional phase over the past few decades whereby the consumers are increasingly switching over from cash to digital payment modes effecting retail payments. The financial aspect, Fintechs and customers appetite for convenience and speed have played a blended role in transition of the payment industry. The Reserve Bank of India along with payment gateways and intermediaries have played a commendable role devising easy technological solutions to inculcate e- payment culture among the masses. The changes in the Business Environment and revolution in the Indian banking industry led RBI to launch online payment methods. As a result, the RBI along with the payment intermediaries has made directed efforts for creation of sustained and multi-prolonged digital payment ecosystem across emerging economies like India. It is important to recognize and appreciate the role of some important organizations and acts that ushered the idea of digital payments. For instance, The Payment and Settlement Systems Act of 2007 and Board for regulation and Supervision of Payment and Settlement Systems constituted in 2008 functions under the aegis of Reserve Bank of India or the central bank which is the sole authority to undertake effective decisions pertaining to payment systems time to time and The act empowers RBI for authorization of new payment methods. The payments and settlements systems act has undergone several amendments from the Reserve Bank of India or the central bank which is the sole authority to undertake effective decisions pertaining to payment systems time to time keeping in view innovations in the payment systems for instance the Reserve Bank of India or the central bank which is the sole authority to undertake effective decisions pertaining to payment systems. The Reserve Bank of India along with payment gateways intermediaries its has played a commendable role devising easy technological solutions to inculcate e- payment culture among the masses. Furthermore, The National Payments Corporation in India constituted by RBI is the primary body responsible for creation of a robust online payment mechanism which is simple, secure and customer friendly effecting retail payments under the guidance of RBI. The NPCI has developed the BHIM –UPI Bharat Interface for Money Unified Payment Interface (UPI), immediate payment services (IMPS), National Adhaar Enabled Payment services (AEPS), National Electronics Toll Collection (NETC) but the most influential of them was the UPI. Payment and Settlement Systems of a country play a pivotal role in improving its economic efficiency have grown leaps and bounds has seen an explosion of payment systems with multiplicity of options at disposal of consumers to choose from. The Ministry of Electronics and Information Technology has been entrusted with the task of promotion of digital payments. Among others, the high level committee on digital payments has been appointed by the RBI to deepen digital payments and enhance financial inclusion through fintech, the RBI'S Digital Payment Index (DPI index) are among the recent steps that RBI undertook to further strengthen the digital payment ecosystem and create a large customer base. As a result, the banks & financial institutions functioning under the aegis of RBI are increasingly aligning their policies in accordance with government directives with shift in focus from merely bank account to payment focused accounts. Of late, the RBI'S payments vision 2025 aimed at strengthening e payment culture in the country is a dedicated move undertaken under the common theme of "E-Payments for Everyone, Everywhere, everytime (4 e' to provide users with safe, secure, fast, convenient, accessible and affordable e – payment options. Since then, India's digital payments industry has grown leaps and bounds and achieving new milestones each day. The Indian economy has been set out and is projected to become a global leader in the digital payments sector going by the prevalent growth rate outperforming the developed and developing nations of the world in terms of adoption & usage of digital payment modes. A rise in digital payments has in turn provided massive impetus to activities like Commerce & Trade. Hence, it becomes necessary to keep track of the recent developments of such a promising industry which is sort to lead the India economy to become a global leader in the digital payments sphere. Keeping in view the increasing trend exhibited by the digital payment mechanisms the RBI is now shifting its emphasis towards security concerns thereby facilitating safe for a hassle free online transactional experience among banking customers.

Digital Payments: An Overview

Digital payments also known as e-payments are non-cash transactions a via digital or online modes to facilitate transfer of money from one account to another electronically. The banking Ombudsmen Scheme defines digital payments transactions as “payment transaction in a seamless system effected without the need for cash at least in one of the two leg if not in both”. India’s digital payments sector has grown leaps and bounds over the past few years. Today India has some of the well-established payment mechanisms like Unified Supplementary Service Data (USSD), Unified Payment Interface, Immediate Payment Services (IMPS), Adhaar enabled payment system (AEPS), Mobile Wallets, Point of Sale (POS) machines to ensure uninterrupted interoperable payments via online mode. The wave of change started by the introduction of some of the early digital payments instruments like credit cards, debit cards RTGC & IMPS followed by UPI, BBPS, NETC which have played an important role towards expansion of digital payment mechanisms. The Phase wise growth of Indian digital payment is depicted in (Table 1) below.

Table 1: Phases of Evolution of Digital Payments in India

Phase	Year	Innovation
Phase 1 (2004-2009)	2004	Launching of NFS
	2007	Payments and settlements Act
	2008	Establishment of NPCI
	2009	Adhaar
Phase 2 (2010-15)	2010	IMPS & PPI'S
	2011	DBT using AePS
	2012	Launch of RuPay USSD 1.0 based mobile payment and NACH
	2013	AADHAR Payment Bridge System
	2014	Initiation of Payment Banks
	2015	Contactless Payment guidelines
Phase 3 (2016-21)	2016	UPI, NETC & USSD 2.0
	2017	Bharat QR, BBPS, & FasTag
	2018	UPI 2.0
	2019	UPI on IPO option with One – Time Mandate Ombudsmen scheme for digital payment transactions RupayNCFM Card, RuPay Select Debit Card
	2020	NETC , Fast-Tag Parking UPI, Auto -Pay Rupay Commercial Card and IRCTC SBI RuPay Card
	2021	E – RUPI Prepaid Voucher

Source – The Indian Payments Handbook 2020-2025

Review of Literature

A Rastogi (2019) in the study “Trends in the growth pattern of digital payment modes in India after Demonetization” conducted a trend analysis of the growth patterns and factors responsible for with the help of secondary data the study concluded that Covid 19 Pandemic and Demonetization policy have played an important role in giving massive impetus to adoption and usage of digital payment modes. Further the study identified security concerns, trust issues, transaction cost and lack of awareness as factors restraining individuals from using digital payment modes. Hence, security concerns must be handled with care for the purpose of creating a robust digital payments ecosystem

B Angamuthu (2020) in “Growth of digital payments in India” conducted an analytical study to analyse the overall growth in digital payments across categories using secondary data from 2012-13 to 2020-21. The results reveal that overall digital payments recorded significant growth @ CAGR of 24.11% and 15.84%. Further the study pointed out IMPS, M – Wallet, & PPI Cards registered phenomenal growth featuring digital payments, online payment platforms and fund transfers.

S, Shree et al (2021) in their study, “Digital payments and Consumer experience in India: a survey based empirical study” aimed at studying the effect of demographic variables, perception with regard to payment modes, trust in payment systems & experience of online fraud on choice of payment methods among individuals. The study highlighted the importance of demographical variables such as age, gender and income in determining people’s choice to pay. The study pointed out that perception

exerts significant positive influence over payments behaviour followed by trust in the overall payment system as a significant factor. The study concluded that the impact experience of online fraud has on customer's decision on adopting any payment mode differs in accordance with the purpose of the transaction.

S, Mani & Chidambaran. G. Iyer (2022) in "Diffusion of digital payments in India, 2011-12 through 2020-21: role of its sectoral system of innovation" measured the penetration of digital payments both in volume & value terms to identify factors responsible for its faster penetration through deployment of sectoral system of innovation framework. The study revealed that despite existence of digital payment modes have not diffused on value terms because of the decline in growth of real per capita income.

S, Dimitrova et al. (2022) in the study "Barriers to bank customers intention to fully adopt digital payment method" analysed the underlying factors inhibiting adoption of digital payments among two groups of customers of Swedish banks, inclusive of adopters- acceptors & Adoptors resistors. The study used Privacy, Security, Access, Impersonalisation and Trust barriers as constructs to measure its effect on intention to fully adopt digital payment methods. As per study's findings adopters - acceptors face privacy and access concerns whereas Adoptors- Resistors seem to be affected by all the 5 barriers in influencing behavioural intention to adopt digital payment methods & services.

S.K .Pandey (2022) in a study of digital payments system & consumer perception : "An empirical survey" studied the evolvement of variety of digital payment modes and the impact of COVID 19 pandemic. The authors concluded that digital payments recorded a robust growth following the period after the Pandemic registering an increase in adoption and usage of digital payment modes across various categories. This research study points out that perception of digital payment tools affects an individual's payment behavior. The findings from the research study reveal that adoption of digital payments increases socio-economic development of people.

Significance of Study

The existing literature on digital payments shows that the research on digital payments have shown mixed results. Moreover, there exists a dearth of studies highlighting the trends, achievements and growth patterns exhibited by the digital payment modes in a comprehensive manner. Moreover, most of the studies have used primary data to measure adoption & usage of digital payment modes by banking customers. Therefore, this research article shall advance the literature on the trend & growth pattern exhibited by the digital payment systems through the use of secondary data over the past half-decade. Moreover, this study shall provide useful insight into the security concerns existing loopholes and discrepancies which are of equal importance for minimization & timely detection of frauds in respect of digital payments.

Objectives

- To examine the current prominence of digital payment modes in India
- To discuss in detail the steps taken by the RBI and the payment intermediaries in creation of a robust digital payment ecosystem.
- To highlight the emerging trends, achievements and growth patterns exhibited by different payment modes over the 5-year period

Research Methodology

This research study is analytical and descriptive in nature. This research study has been conducted with the help of relevant secondary data collected from various government websites, RBI websites government reports on digital payments and reports released by payment regulatory entities like the RBI, NPCI. Besides the researcher has reviewed research papers, journal articles from renowned data bases. The research article takes into consideration the period of 5 financial years from 2017 to 2022. The data has been analysed and interpreted by means of descriptive statistics to address the research objectives and arrive at appropriate conclusions. Besides graphs, charts have been used for adequate representation of data and understanding purposes.

Current Status of Digital Payment Growth

India has emerged to be a leader in the digital payment industry. The digital payments industry in India registered unprecedented growth and reached its peak following the demonetization policy and government-imposed restrictions led by Covid-19 pandemic. As an outcome, the 1st and 2nd tier 20 cities have already reached its peak in terms of high acceptance rate of digital payment for transactions whereas tier 3-4 cities are showing immense headroom for growth due to presence of multiplicity of

payment options at customer's disposal. As per the latest report released by released by the NPCI, the digital payment inclusive of different categories of different payment modes has grown accounting for an increase of 50% on an average on year to year basis (TABLE 2). The value growth has doubled in just 5 years growing @ 4.76% on an Annual basis. In volume terms the digital payments growth have achieved a higher trend then that was 2011-16. The digital payment modes have registered a steady increase across different categories. In value and volume terms there has been a 3-fold increase since the previous decade of 2011-16 on account of government initiatives, introduction of highly customized banking apps and payment mechanisms backed by effective government support systems. the increasing trend exhibited by the digital payment modes over the half - decadal period. This in turn indicates that the number of people opting for one or the other digital payment modes is increasing Similarly the transaction value of online payments is also witnessing a rise indicating that the customers are willing to use online payments to make both high denomination and low denomination payments.

Table 2- Showing the growth in Digital payments both in volume & value terms

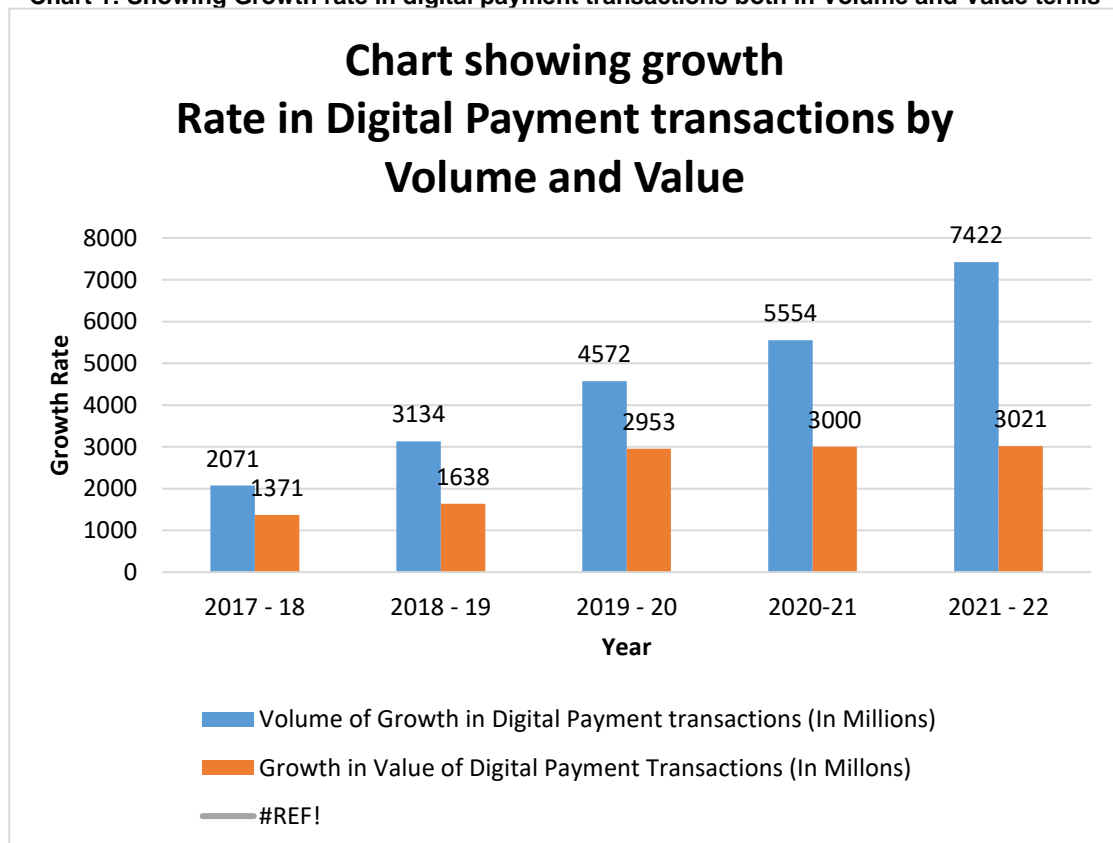
Financial Year	Growth in digital transactions (Volume in Millions)	Growth in digital transactions (Value in Millions)
2017 - 18	2071	1371
2018 - 19	3134	1638
2019 - 20	4572	2953
2020 - 21	5554	3000
2021 - 22	7422	3021

Source:<https://www.npci.org.in>

*Digital payment modes considered are BHIM-UPI, IMPS, NACH, AEPS, NETC, Debit cards, Credit Cards, NEFT, RTGS, PPI & Others

As evident from the table 2 the digital payments rose from 2071 million to 7422 million in terms of volume within a span of 5 years. Similarly, the value of Digital payment transactions more than doubled during the same period.

Chart 1: Showing Growth rate in digital payment transactions both in Volume and Value terms



Digital Payments Index

The massive potential shown by the digital payment industry led the RBI to launch Digital Payment’s Index (DPI) as a comprehensive index to measure and gauge the extent of digital payments deepening across the Indian Economy. It takes into consideration 5 broad dimensions of the payment enablers, (25%), payment infrastructure (Demand – Side factors) (15%, payment infrastructure (Supply side factors (15%,) payment performance (45%, consumer centricity (5%) by assigning significant weightages in accordance with the importance of each of the each. reflecting remarkable growth. The index serves as an important tool to keep track of the progress and respect of such a promising sector constructed by taking into consideration all important aspects. Moreover, the index can provide relevant useful insight into the strengths and weaknesses of the Indian digital payments industry’s which can provide sufficient corrective actions by the government. It is released every 6 months by the RBI and is released with a lag of 4 months to provide data on the deepening and penetration of digital payments across businesses, industries & sectors. The table 3 reveals that the DPI has grown a 2.7 - fold increase with whopping increase of 39.64 increase from 2018 taking 2018 as the base year. The DPI has shown impressive growth which is indicative of increased penetration of digital payments across the Indian economy system framework.

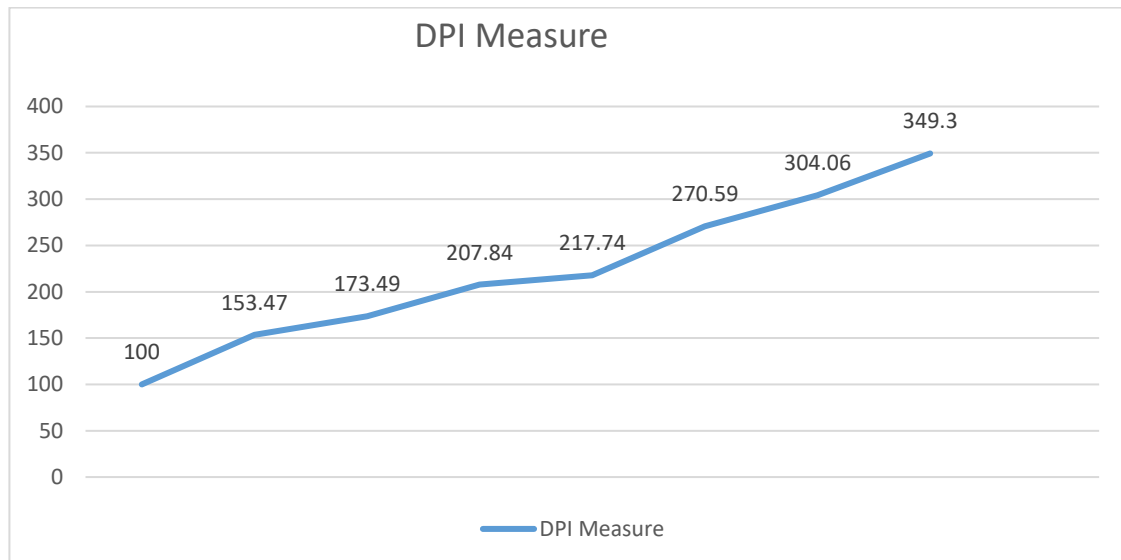
Table 3 – Showing Digital Payments Index over the 5 - Year Period

Year	DPI Measure
Mar-18	100
Mar-19	153.47
SEP-19	173.49
Mar -20	207.84
Sep-20	217.74
Mar 21	270.59
Sep –21	304.06
Mar -22	349.3

Source :www.rbi.org.in

As evident from the table the DPI Measure registered an increased by more than 3 times over the 4-year period ranging between 2018 to 2022. However, the % increase in DPI is more for the period post Covid -19 pandemic in the years 2020-21 and 2021-22. The DPI of successive time periods is showing a steady but consistent increase. As per RBI’S data, the semi-annual growth in DPI based in turn is suggestive of the success of various steps and initiatives in fostering universal e-payment culture across various sectors.

Chart 2: Showing Trend Line of DPI Measure



Source – Author’s self-compilation

UPI – A Jewel AMONG Digital Payments

The UPI has emerged to be a jewel among digital payments outperforming all other payment modes in terms of adoption and usage. UPI is advanced version of IMPS (Immediate Payment System) for transferring funds of lesser denomination.. UPI is highly customized platform and offer convenience whereby the user can easily download the apps supported by UPI on his smartphone and simply send or receive money or scan a quick response code to pay an individual a merchant or service provider pay bills or authorize payments. The banks facilitating funds transfer via UPI payment system enable this either through a new UPI app or have integrated UPI in their existing smartphone applications Moreover unlike other payment methods transaction charges are low. Since its inception in 2016.UPI proved to be a mega game changer grabbing a large customer base not only in India but also across the world. Today most of the transactions are routed through UPI as almost more than 75% of the transactions are routed through UPI effecting retail payments. UPI has emerged to be the most preferred payment mechanism. Hence with staggering growth UPI has become the flag bearer of Indian Fintech revolution.

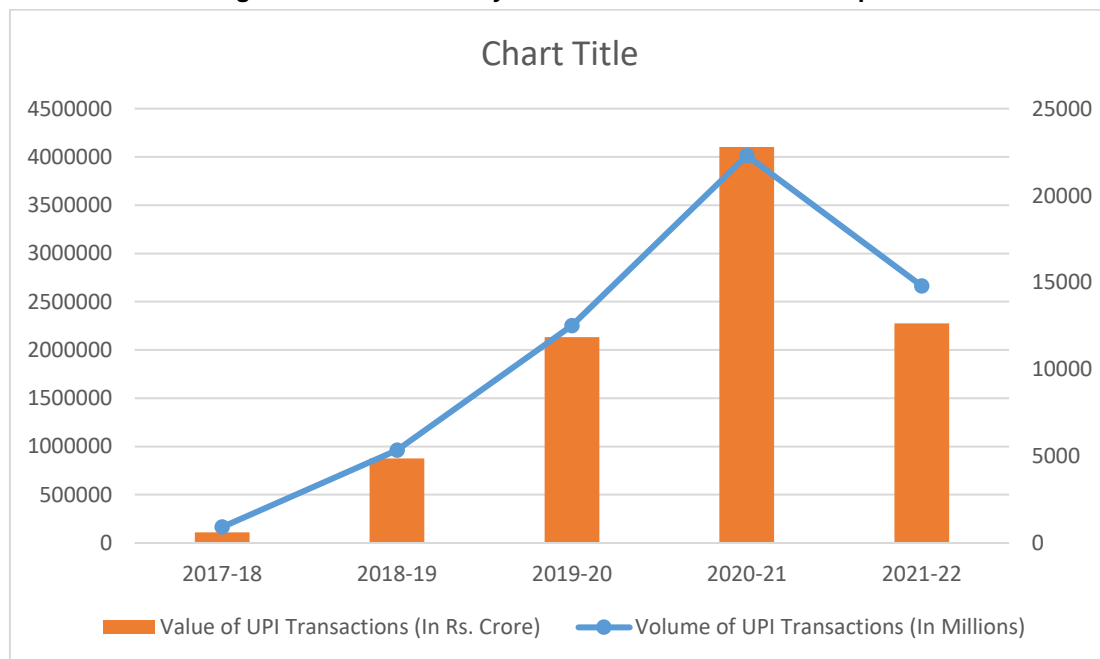
Table 3: Showing Growth in Volume and Value of UPI Transactions over the 5-year Period

Financial Year	Volume of UPI Transactions (In Millions)	Value of UPI Transactions (In Rs. Crore)
2017-18	915.23	109832
2018-19	5353.4	876970
2019-20	12518.62	2131730
2020-21	22300.65	4103654
2021-22	14791.5	2277074

Source: www.npci.org.in

As evident from the table The Unified payments interface has achieved outstanding growth rate over the 5year period to rise to 14791.05million transactions and Rs.22,77,074 Crore in volume and value terms respectively

Chart 3: Showing the trend exhibited by the UPI Transactions over the past half – decade



Source: Author's self – compilation

Analysis & Discussion

This research study has been conducted to measure and gauge the progress made by the Indian economy in the digital payments front. The main purpose was to highlight the potential of the digital payment sector and its implications in emerging economies like India. As evident from the data released by the RBI along with payment sector intermediaries the digital payments industry in India has

been consistently growing each day. As a result, almost all payment modes launched till date have played their part in customizing online payments experience of users. Growing by the current growth rate the Indian economy is set to become a global leader superceding developed nations of the world as far as adoption and usage of digital payments mechanisms is concerned. However, the Unified Payments Interface (UPI) has performed exceptionally well accounting for more than 75% transactions routed through it due to its exemplary benefits. This reveals that the digital payment mechanisms have played an important role in bridging the existent digital gap that featured Indian society for years. However, a handful of people inclusive of the women, lower income groups and rural inhabitants. Hence it is advisable of the government and the policy makers to further improve the quality of online payment mechanism and carefully address the trust issues, confidentiality and security concerns to facilitate hassle-free payments and uninterrupted operations

Conclusion

The Indian digital payments sector is on a steady move towards digitalization and is likely to supercede other developed nations as far as number of transactions recorded via digital payment modes are concerned. The online payments industry sector as a result of contribution of all stakeholders emerged to be the industry covering a large customer base not only in India but also abroad. The COVID - 19 pandemic subsequently followed by the nation-wide lockdown played an important role in catalyzing digital payments use to a large extent. The online modes of payment came to the rescue of people and facilitated in the social distancing norms and staying indoors. The steady growth in the Indian digital market and the current trends, emergence of new players as part of the digitalization of the Indian economy and hike in usage of smart phone and widespread outreach of internet necessitated online payment gateway in order to enable the Indian economy to move a step closer towards becoming cashless. It is therefore important to identify the trust and confidentiality issues, security concerns and individual differences associated with these payment modes and devise appropriate solutions to carry the vision of cashless India and universal financial inclusion to the last mile.

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