

## GROWTH OF DIGITAL PAYMENT SYSTEMS AND ECONOMIC EFFICIENCY IN INDIA

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### Abstract

Digital Payments is the transfer of money between the two Bank Accounts or Mobile Wallets in Digitalised form. There is no involvement of physical cash transactions. The Bank Accounts, internet connection, lap top and smart phone are the basic requirements for starting a digital transaction. The study mainly aims to assess the growth rate of digital payments over the last decade and the impact on Indian economy. For evaluating economic growth of the country, the Gross domestic ratio is taken as the measure. For measuring Real Time Gross Settlement (RTGS), Clearing Corporation of India Limited (CCIL), Unified Payment Instruments (UPI) and digital payment. The study finds that digital payments for business, family, and personal needs are increased at a giga rate in India over the last five years in India. The Gross Domestic Product (GDP) in India was amounted to 3176.30 billion US dollars in 2021, according to official reports from the World Bank. The GDP value of India represents 1.42 per cent of the world economy.

**Keywords:-** Gross Domestic Product, Clearing Corporation of India Limited, Unified Payment Instruments, Digital Payments.



ver the last decade financial technology or finTech is one of the fast-moving technologies in the world. The financial technology improves the outlook of every business. During this period the people move from the traditional payments system to the digital payment system. Digital payments are secure, safe and lead

the economy to growth. Digital payment transactions are more profitable than traditional systems due to digital payment features such as ease of use, convenience, security, and speed.

Digital payments are considered the most suitable payment method as it does not require to give balance amount. With the Government's "Digital India"

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campaign, the penetration of the Internet, the wide reach of smart phones, and the advancement of technology, digital payments have generated in India since 2014. India attained a compound annual growth rate (CAGR) of 58.9 per cent in volume and a CAGR of 28.4 per cent in value for digital payments in 2019. This growth rate in India is also found to be quite remarkable in the global payment market (NITI Aayog 2018).

### Statement of the Problem

Digital payments in India attained a significant expansion over the last ten years. However, the digital infrastructure in India is not much developed in rural areas. The people in the lower income groups lack smart phones. Internet connectivity is another problem the villagers faced to access and use digital payments. Therefore, this study proposes to study the growth rate of digital transactions from 2016 to 2021. The researcher also focuses the efficiency of Indian economy through the growth of digital transactions.

### Scope and Significance of the Study

We lived in a digital era where technology developed day by day. The digital payment system led the economy to use less cash and more digital payments. The digital payment system has some far more merits also. It reduces the cost of printing and transporting currency notes. This system also prevents black money, increasing tax compliance, and ensures convenience in financial payments and transactions. The present study focuses digital transactions and their growth in five years commencing from 2016. The study analyses the efficiency of Indian economy in the light of digital transactions.

### Objectives of the Study

1. To study the growth rate of digital transactions from 2016 to 2021.
2. To understand the economic efficiency of Indian economy through the growth of digital transactions.

### Methodology of the Study

The study uses various published reports regarding the digital payments over the last decade in India. The annual reports of RBI, Digital Transactions in India- Press Information Bureau, and fin tech report were considered for collecting data.

For evaluating economic growth of the country, the Gross domestic ratio is taken as the measure. For measuring Real Time Gross Settlement (RTGS), Clearing Corporation of India Limited (CCIL), Unified Payment Instruments (UPI) and the digital payment index and amount of UPI transactions were collected from 2016 to 2021.

### Review of Literature

Ravikumar, Thangaraj, in their study titled Impact of Digital Payments on Economic Growth: Evidence from India, intends to study impacts of digital payments towards the economic progress of India. The outcome of the study reveals that the digital payments have positive impact on the economic growth of the country in short run. But in the long run digital payments have no impact on the economic growth of the country.

Hassan, Md Arif, Zarina Shukur, Mohammad Kamrul Hasan, and Ahmed Salih Al-Khaleefa. 2020. "A Review on

Electronic Payments Security” focuses on the security issues and security properties to comply electronic payment systems. The result of the study reveals that interest to use electronic payment system among the people is increased. The more demanding need is to ensure security on the web.

### Digital Payment Systems

India has a huge potential for digital payments. Every citizen in India had attained bank account, high speed internet facility, and smart phones. As of October 2021, the country had around 1.18 billion mobile connections, 700 million Internet users, and about 600 million smart phones. These numbers are growing rapidly each quarter. With about 25.5 billion real-time payment transactions, India ranked first in the world in terms of the number of transactions in 2020. The development of UPI-based payments as well as app-based payments leads further to the arrival of various payment systems, entry of non-bank players, and a gradual shift in the customer behaviour from cash to digital payments.

It is also fascinating to watch the evolution of the digital spending behaviour of Indians in the past two years. Online shopping expenditure now accounts for 35 per cent of all MasterCard card spending, which means more and more Indians are comfortable using their debit, credit, and prepaid. MasterCard cards for online shopping compared to direct cash transactions at a merchant store. This behavioural change can also be due to the e-commerce giants like Flipkart and Amazon, cab apps like Ola and Uber, and food delivery apps like Swiggy and Zomato, which pave the way for digital payments and push customers away from cash payments.

Digital payments have many advantages over cash-based transactions. Digital payments discourage robbery and many other crimes (Laura Armeý, 2014).

### Features of Digital Payment Systems

Digital payments are the non-cash transactions processed through digital channels. Digital Payments is the transfer of money between two Bank Accounts or Mobile Wallets in Digitalised form. There is no involvement of physical cash transactions. The Bank Accounts may be between any same Banks or other Banks or mobile wallets between the same service providers or the different providers. In Digital Payments, Payer, and Payee both uses digital mode to send and receive money in real-time.

- **Fast:** The first feature of digital payment system is fast almost on a real-time basis.
- **Less Time Consuming:** Another feature is hassle-free and less time-consuming. You do not have to visit the branch or ATM for cash withdrawal and payment to the recipients.
- **Cost-Effective:** Transaction cost is almost nil in comparison to Cash Transaction.
- **Less Risky & Safe:** Manual Cash handling and carrying involve very high risk whereas Digital Payments system is totally risk-free because no need to hold money in cash.
- **Availability:** The benefits of Digital Payments Service are available for 24x7 and all the time in a year. Therefore, no headache of Bank Holiday or Strike.

- **Convenience:** All the transactions can be done from the comfort of your home. No need to queue up for ATM withdrawal.
- **Accessibility:** Anyone can access the services of the Digital payments system; you just need a Smartphone & internet connection.
- **Offers & Discounts:** Many merchants offer Discounts & cash back for the payments which are done in digitalised form like Payment made by Debit/Credit Card or UPI Platform.

*Digital transactions in volume and value are described in the Table 1. Both the figures are showing increasing trend from the year 2017. In the year 2017-18 the digital*

transaction was 2071 in number and its value 1962 lakh crore. In the year 2018-19 volume and value of digital transactions was increased to 3134 and 2482 lakh crore respectively. In the year 2019-2020, volume of digital transactions increased to 4572 and value of digital transactions was 2953. In the year 2020-2021 the figures jumped to 5554 and 3000 for volume and value of digital transactions. In the last year 2021-2022 the volume of digital transactions reached to 8840 and value of digital transactions 3021 lakh crore.

Table 2 explains the digital payment index of Reserve Bank of India. It was published on September and March every year. This index also shows increasing trend in the digital payment transactions.

**Table 1**  
**Digital Transactions in Volume and Value**

<i>Financial Year</i>	<i>2017-18</i>	<i>2018-19</i>	<i>2019-2020</i>	<i>2020-2021</i>	<i>2021-2022</i>
<i>Digital Transaction in Volume (in crore)</i>	2071	3134	4572	5554	8840
<i>Digital Transaction in Value (in Lakh Crore)</i>	1962	2482	2953	3000	3021

*Source: RBI, Digi Dhan Board*

**Table 2**  
**Reserve bank of India’s digital payment index from March 2018 to March 2022**

<b>Period</b>	<b>Index score</b>	<b>Growth in %</b>
March 2018	100	-
March 2019	153.47	53.47
September 2019	173.49	13.04
March 2020	207.84	19.79
September 2020	217.74	4.76
March 2021	270.59	24.27
September 2021	304.06	12.36
March 2022	349.3	14.87

*Source: RBI Bulletin*

**RTGS**

RTGS is a payment settlement system where there is a continuous and real-time settlement of fund transfers on an individual transaction basis. “Real time” refers to the processing of instructions at the time they are received, and “gross settlement” means settles large value transaction. RTGS provides safe, secure, fast, efficient, and an affordable payment system to boost the economic activity in the country. This transaction system requires a minimum transfer value of INR 2 lakh with no upper limit. RTGS payments are final and are not revocable by the paying bank.

The database on the payment system from the RBI shows that electronic transactions in the total volume of retail payments increased to 95.4 per cent in 2018 2019 from 92.6 per cent in the previous financial year. In 2018 2019, RTGS transactions constituted less than 0.40 per cent of the total volume of payments but were close to 46 per cent of the transactions in terms of value. While the volume of RTGS increased by close to 10 per cent in 2018–2019 from 2017 2018, the value increased by close to 17 per cent during the same period.

**Table 3**

**Total Online Retail Payments**

<i>Year</i>	<i>Total online retail payments</i>
2017-2018	92.6
2018-2019	95.4

*Source: Digital Payment System in India*

The above Table 3 explains the total online retail payment in the year 2017- 2018 and 2018- 2019. Total online retail payments increased from 92.6 crores to 95.4 crores during the above said period.

**The Clearing Corporation of India Ltd**

The Clearing Corporation of India Ltd was established in April 2001 to render guaranteed clearing and settlement functions concerning transactions in G-Secs, money, derivatives markets, and foreign exchange.

**UPI**

Unified Payments Interface is an instant real-time payment system developed by National Payments Corporation of India. The interface facilitates inter-bank peer-to-peer and person-to-merchant transactions. Unified Payments Interface was introduced in India in the year 2016.

**Table 4**

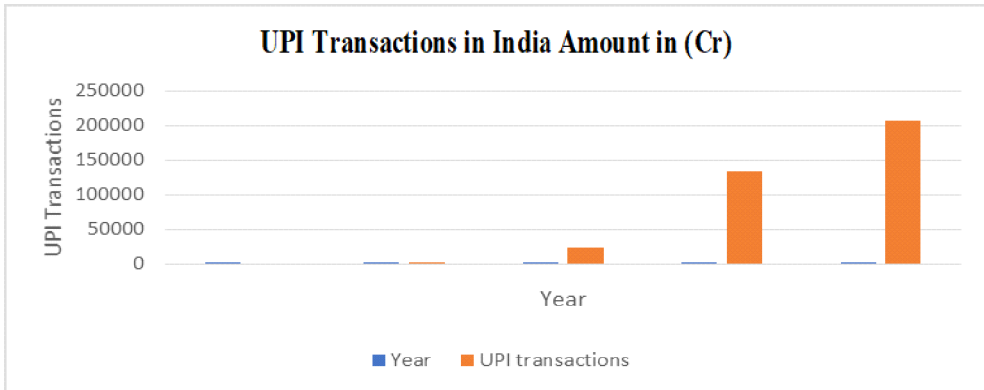
**UPI Transactions in India  
Amount in (Cr)**

<b>Year</b>	<b>UPI transactions</b>
2016	0.093
2017	2391.4
2018	24172.6
2019	133460.72
2020	206462.31

*Source: Fintech report India*

Table 4 points out the amount of UPI transactions from the year 2016 to

**Chart 1**  
**UPI Transactions in India Amount in (Cr)**



Source: Fintech report India

2020. The amount of UPI transaction in the year 2016 was 0.993 Crore. In the year 2017 it was 2391.4 crore. In the year 2018 the total amount of UPI was 24172.6. In the year 2018 the UPI payments increased to 133460.72 Crores. In the year 2020 the figures reached to 206462.31 Crore. The UPI users and value of transactions increased at large level.

**Gross Domestic Product**

Gross domestic product (GDP) is the standard measure of the value added

created through the production of goods and services in a country during a certain period. As such, it also measures the income earned from that production, or the total amount spent on final goods and services (less imports). While GDP is the single most important indicator to capture economic activity

The Gross Domestic Product from 2018 to 2021 show that there was an increase in GDP from 2018 to 2019. A slight decrease in GDP arises in the 2020

**Table 5**  
**Growth of Gross Domestic Product**

Year	GDP	Percentage of Increase
2018	\$2,702.93B	1.94% increase from 2017
2019	\$2,831.55B	4.76% increase from 2018
2020	\$2,667.69B	5.79% increase from 2019
2021	\$3,176.30B	19.07% increase from 2020

Source: GDP, India

compared to 2019. In the year 2021 India's GDP increased to 3176 billion dollars with 19.07 per cent of increase from 2020. The GDP ratio can be used to indicate the economic efficiency of India. From the figures in the Table 5, the economy of India is improved to a good level.

### Findings

India has recorded with 8840 crore digital transactions in the year 2021. As per the data, India in the year 2021 the value of digital transactions accounting for 3021 lakh crores. The study found that the digital payment system in India for the last five years amplified at an rising rate 1.94 per cent increase from 2017 to 2018. It reached to the GDP in the year 2021 is \$3,176.30B. The GDP rate in the 2021 also reveals 19.07 per cent increase from the previous year 2020. The total digital transaction in volume and value are also shows an increasing trend for the said five years. Thus, the economic efficiency of India shows heightening trend through the growth of digital transactions.

### Suggestions

Both persons and business are depending on digital payment system for safe and fast way to exchange money still required innovations and improvements. The following are the major suggestions for the digital payment system in India:

1. *Be Open to new technologies:* It is important to consider new technological improvements in the

digital era and apply them to meet the requirements of users.

2. *Provide incentives to the users:* For promoting digital payments system in the merchants point of sale systems, provide incentives and techniques to the users.
3. *Consider differently abled people:* There is no digital payment mechanism for the people with cognitive, and vision impaired persons.
4. *Implement identity management system:* Implement identity management system to ensure security of customer data in each transaction.
5. *Include digital payments services in social platforms:* For the improved customer experience digital payments can be integrated in the social platforms such as WhatsApp, WeChat, and Instagram.
6. *Integrate the payment value chain:* Different digital payments system of a business unit can vertically integrate all stakeholders in a payments value chain. Instead of having separate merchant acquires, a single business unit can merge them all and create rails of its own.
7. *Support global standardisation:* Global functionality and standardisation of digital payment systems increase ease of transactions and commercial relationships.

8. *Add additional layers of security*: Digital payment system is inevitable to the Indian economy over the last five years; it should add additional layers of security to the users.

## Conclusion

Electronic payments are believed to be a significant force in economic development and particularly affect spending behaviour and consumption. The digital payment index, UPI transactions, RTGS, Clear Corporation of India Limited, and retail payment index over the last decade shows an increasing

trend. It can be inferred that the digital payments for business, family, and personal needs are increased at a giga rate in India over the last five years in India. The Gross Domestic Product (GDP) in India was amounted to 3176.30 billion US dollars in 2021, according to official reports from the World Bank. The GDP value of India in 2022, represents 3.18 lakh crores of the world economy. Thus, there is a direct link between the digital payments and economic efficiency of a country. If the digital payments improved, it will automatically motivate the economic calibre of a country.

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