

Cash to Cashless Economy in India: An Era of Digitalization

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Abstract: India is fast growing cashless economy after the “Digital India” program and demonetization happened on 8th November 2016. People of India were more comfortable with the usage of paper currency but suddenly they were compelled to use digital means of making electronic transactions to curb-out black money, money laundering, corruption, and fraud and that will lead to effective economic conditions in the country. The objective of this paper is to give more insights into the cashless economy of India, the challenges faced by the people of India, and what initiatives need to be taken by Government to make people aware of electronic means of payment methods.

Keywords: Cashless Economy, Digitalization, Electronic Payments, Digital India

I. INTRODUCTION

The Prime Minister of India, Sh. Narendra Modi announced on 8th November 2016 that Government was demonetizing with immediate effect the denominations of ₹500 and ₹1000 currency. It led to a cashless future for India. He also launched the “Digital India” program to transform India into a cashless economy. Now the question arises: what is a cashless economy? A cashless Economy is meant by those transactions which take place electronically and physical currency is used minimum. Globally we can see, that the payment system has undergone a substantial change so far. This is the era of the cashless economy that is digitalization.

In the developed country USA 75% of people prefer payment through digital mode rather than carrying physical currency. India is a developing country and is in the transition phase from pure cash to a cashless economy. Due to demonetization, digital and electronic transactions take place. Nowadays e-banking and e-wallets are prevailing.

There are many methods through which we can make online payments. These are given below.

Digital wallets are:

- BHIM (Bharat Interface for Money) launched by the Indian government
- Paytm
- MobiKwik
- Free Charge
- Oxygen Wallet

Other online payment methods are:

- Debit Card
- Credit Card
- Net Banking
- Mobile Banking
- NEFT
- RTGS

These digital payment methods are in two versions- one is a mobile application and the other is through a website. As per a study in India, in 2017, the number of smartphone sales reached 300 million people. It led to an increase in digital payments. The government also launched Digishala which is available on Doordarshan's DTH platform and Cashless website to make people aware of digital payment. After TV channels and websites educated people about the electronic payment system, the government also launched a toll-free number i.e. 14444 to educate them to make an electronic

payment.

Due to demonetization, the RBI-DPI Index demonstrates significant growth in digital payments across the country.

Table 1 RBI-DPI Index

Period	RBI - DPI Index
March 2018 (Base)	100
March 2019	153.47
September 2019	173.49
March 2020	207.84
September 2020	217.74
March 2021	270.59
September 2021	304.06

1.1 STATEMENT OF THE PROBLEM

On 8th November, an unprecedented move by our Prime Minister Mr. Narendra Modi addressed live on television the citizen of India at around 20:15 IST that with immediate effect ₹500 and ₹1000 will no longer be permissible from midnight.

This sudden change led people to many challenges. For a few days, people were without cash and faced a hard time buying eatables because there was a withdrawal limit. There were long queues at the ATMs. This transformation was not easy. On an immediate basis, people started using the online mode of transactions. The concept of Digital India was also prevailing before demonetization. The Digital India program was launched on July 1, 2015. But major change was seen after the demonetization which took place on 8th Nov. 2016.

So, the purpose of this paper is to explore how people overcome these challenges and what government initiatives were there to support them. Thus, an attempt is made to study the cashless economy in India and to find out how digitalization helps in the growth of the country.

II. LITERATURE REVIEW

In the 90s, Electronic Banking was at a growing stage and it led to the usage of non-cash transactions across the world. Digital payment method usage became well established in 2010. In India, 98% of total economic transactions are done through cash and 26 % non-Cash (ICT Fact and Figure 2015). Indians are not so familiar with using the internet for making electronic payment methods (The World Bank's Global index). But due to demonetization people of India had to shift from cash to cashless payment methods. It is not the first time that on 8th November 2016 a complete ban on ₹500 and ₹1000 was announced by our Prime Minister Sh. Narendra Modi. It has occurred twice in history. All three demonetizations are mentioned below:

The first currency ban was announced on 12th January 1946 (Saturday) by the RBI headquarters. At that time currency notes of 1000 and 10,000 were detached from the economy.

Secondly, the currency ban was made on 16th January 1978 (Monday), announced by R. Janaki Raman, a senior official of RBI, and at the time Moraji Desai led the Janata Party. At that time the currency ban was taken 1000, 5000, and 10,000 out of circulation.

Third, demonetization had been announced on 8th November 2016 by Prime Minister Narendra Modi. This time the currency of 500 and 1000 notes were demonetized from the economy.

Due to demonetization, people were forced to use electronic means of transaction for making payments for goods and services. It also proved to be beneficial in economic development by eradicating money laundering, corruption, black money, etc.

A cashless system in the economy has many benefits: less time-consuming, less costly; paperless transactions (Manpreet Kaur 2017). It also helps in eradicating black money and diminishing corruption in the country (Lokesh Uke 2017)

The cashless economy is very beneficial for society and the country for economic development (Humphrey et. al., 1996). The effective payment system is positively correlated with the country's economic growth (CBN 2011).

A cashless economy does not mean a complete absence of physical currency from the economy rather it is meant by

increasing the usage of electronic means of payment. How much money you have in your wallet is irrelevant nowadays as electronic mediums of payments are increasing and you can pay through electronic wallets like Paytm, google pay, credit card, debit card, BHIM app, etc. (Roth, 2010). And also observed in developed countries people prefer electronic means for payment over carrying physical currency (Roth, 2010). This led to a cashless economy (Moses-Ashike, 2011). Electronic means of payments strengthen monetary policy as well as the economic condition of the country (Marco and Bandiera 2004).

2.1 OBJECTIVES OF THE PAPER

- To find out insights on moving from Cash to Cashless Economy.
- To find out about digital literacy in India.
- To find out which mode of electronic payment is popular.
- To find out the challenges in moving towards a cashless economy.

III. RESEARCH METHODOLOGY

Research Design: This is a conceptual and fact-based study to examine the advantages and challenges or roadblocks in the process of transition from a cash-driven economy to a cashless economy.

For this study, the researcher has used a Secondary Source of data and information. Government reports, research papers, relevant websites, and newspapers are used.

OBJECTIVE 1: To find out insights on moving from a Cash to Cashless Economy.

- The payment systems (Data for total payments include digital payments and paper-based instruments). recorded a robust growth of 63.6 percent in terms of volume during 2021-22 on top of the expansion of 26.7 percent in the previous year.
- The share of digital transactions in the total volume of non-cash retail payments increased to 99.3 percent during 2021-22, up from 98.8 percent in the previous year.
- Among the digital modes of payments, the number of transactions using RTGS increased by 30.5 percent during 2021-22.
- During 2021-22, payment transactions carried out through credit cards increased by 27.0 percent and 54.3 percent in terms of volume and value, respectively.
- Transactions through debit cards decreased by 1.9 percent in terms of volume, though in terms of value, they increased by 10.4 percent. Prepaid Payment Instruments (PPIs) recorded an increase in volume and value terms by 32.3 percent and 48.5 percent, respectively.

There is global evidence of a pandemic-induced shift in digital payment habits owing to social distancing norms (Alber and Dabour, 2020; Jonker et al., 2020) and relief measures by governments (Toh and Tran, 2020) to mitigate the negative impacts of the pandemic on household consumption spending (Liu et al. 2020). In the Indian context also, the COVID-19-induced lockdown was an inflection point for the digital onboarding of new users.



Item	Volume (lakh)			Value (₹ lakh crore)		
	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
A. Settlement Systems						
CCIL Operated Systems	36	28	33	1,341.50	1,619.43	2,068.73
B. Payment Systems						
1. Large Value Credit Transfers – RTGS	1,507	1,592	2,078	1,311.56	1,056.00	1,286.58
Retail Segment						
2. Credit Transfers	2,06,297	3,17,868	5,77,632	285.57	335.04	427.23
2.1 AePS (Fund Transfers)	10	11	10	0.005	0.01	0.01
2.2 APBS	16,747	14,373	12,298	0.99	1.11	1.33
2.3 ECS Cr	18	0	0	0.05	0	0
2.4 IMPS	25,792	32,783	46,625	23.38	29.41	41.71
2.5 NACH Cr	11,100	16,465	18,730	10.37	12.17	12.77
2.6 NEFT	27,445	30,928	40,407	229.46	251.31	287.25
2.7 UPI	1,25,186	2,23,307	4,59,561	21.32	41.04	84.16
3. Debit Transfers and Direct Debits	6,027	10,457	12,222	6.06	8.66	10.38
3.1 BHIM Aadhaar Pay	91	161	228	0.01	0.03	0.06
3.2 ECS Dr	1	0	0	0	0	0
3.3 NACH Dr	5,842	9,646	10,788	6.04	8.62	10.31
3.4 NETC (Linked to Bank Account)	93	650	1,207	0.002	0.01	0.02
4. Card Payments	72,384	57,787	61,786	14.35	12.92	17.02
4.1 Credit Cards	21,773	17,641	22,399	7.31	6.30	9.72
4.2 Debit Cards	50,611	40,146	39,387	7.04	6.61	7.30
5. Prepaid Payment Instruments	53,811	49,743	65,812	2.16	1.98	2.94
6. Paper-based Instruments	10,414	6,704	6,999	78.25	56.27	66.50
Total - Retail Payments (2+3+4+5+6)	3,48,933	4,42,557	7,24,451	386.38	414.86	524.07
Total Payments (1+2+3+4+5+6)	3,50,440	4,44,149	7,26,530	1,697.94	1,470.86	1,810.65
Total Digital Payments (1+2+3+4+5)	3,40,026	4,37,445	7,19,531	1,619.69	1,414.59	1,744.14

Table 2-Payment System Indicators - Annual Turnover (April-March)

Source: RBI

Variables	Logit Coefficients	Marginal Effect at Means
Used Digital Payments earlier but discontinued later	2.826*** (0.192)	0.458*** (0.0484)
Level of Awareness= 1 (Low)	2.357*** (0.615)	0.0334*** (0.00544)
Level of Awareness= 2 (Medium)	4.676*** (0.619)	0.277*** (0.0293)
Level of Awareness= 3 (High)	4.608*** (0.615)	0.264*** (0.0228)
Level of Education	0.169** (0.0695)	0.0121** (0.00519)
Received DBT based government aid both before and after lockdown	2.601*** (0.324)	
Access to Smartphone	1.436*** (0.193)	0.0860*** (0.0122)
Access to Debit Card	2.171*** (0.285)	0.106*** (0.0128)
Access to Bank Mitra	0.474*** (0.113)	0.0327*** (0.00852)
Access to Mobile Banking App	0.407*** (0.115)	0.0314*** (0.0101)
Constant	-9.609*** (0.794)	
McFadden's Adjusted R ²	0.481	
Observations	4,061	4,061

***: Significant at 1 per cent level. **: Significant at 5 per cent level.

Note: 1. Values in the parentheses indicate standard errors.

2. Levels of Awareness are: 0 (Not Aware - base case), 1 (Low), 2 (Medium) and 3 (High).

3. Levels of Education are on the scale: 1 (Illiterate), 2 (Primary School), 3 (High School), and 4 (Graduates and above).


4. The Marginal Effect at Means (MEM) is the marginal effect of a particular regressor with other regressors held at their mean values.

5. To ascertain the predictive accuracy of the baseline model, the data was split into training and testing set (80:20). The classification accuracy of the model stands at 87 per cent, sensitivity at 89 per cent and specificity at 82 per cent. Based on Cook's distance, there is no evidence of influential outliers.

Source: Saroy et al., (2022).

Table 3-Summarized Logistic Regression Results (Dependent Variable: "Did you use digital methods for the first time after the lockdown?")

OBJECTIVE 2: To find out about digital literacy in India



Ministry of Electronics & IT

Digital Literacy

Posted On: 01 APR 2022 2:28PM by PIB Delhi

The NITI Aayog Report titled "Strategy for New India @75" inter-alia indicates that India needs to eliminate the Digital Divide by 2022-23. In this regard, it is stated that Skill development and creating skilled talent is an important mission to ensure that the growing digital economy of India is provided with the trained and skilled manpower that Industry requires. To further aid digital adoption, the Ministry has focused on digital literacy for citizens since 2014, across the country, especially in rural areas.

Ministry of Electronics & Information Technology (MeitY) has taken the following initiatives to bridge the digital divide in the country:

- i. In the years 2014 to 2016, two Schemes titled "National Digital Literacy Mission" (NDLM) and "Digital Saksharta Abhiyan" (DISHA) were implemented by the Government with a target to train 52.50 lakh candidates in digital literacy across the country. Under these two schemes, a total of 53.67 lakh beneficiaries were certified.
- ii. In 2017, a scheme titled "Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)" was approved by Union Cabinet to usher in digital literacy in rural India by covering 6 crore rural households (one person per household). So far, a total of around 5.78 crore candidates have been enrolled and 4.90 crore have been trained, out of which around 3.62 crore candidates have been certified under this scheme.

This information was given by the Minister of State for Electronics & Information Technology, Shri Rajeev Chandrasekhar in a written reply to a question in Rajya Sabha

Table 4- India's Population increased by 13 million (+1.0 %) between 2021 and 2022

Total Population	1.40 billion in January 2022
Female Population	48 % of the Total Population
Male Population	52 % of the Total Population

Table 5- Internet Use in India in 2022

Total Internet Users in 2022	658 million
India's penetration rate	47 of the Total Population at the start of 2022

Kepios analysis indicates that internet users in India increased by 34 million(+5.4 %) between 2021 and 2022. These users' figures show that 742 million people in India did not use the internet at the start of 2022, which means that 53% of the population remained offline at the beginning of the year. The Reserve Bank continued its efforts to develop state-of-the-art payment and settlement systems in the country for building a cashless society, along with a focus on increasing efficiency, improving customer convenience, expanding outreach, and ensuring the safety and security of payment systems as envisaged in the Reserve Bank's Payment and Settlement Systems Vision 2021 document.

Keeping in view the global focus on enhancing cross-border payment arrangements, the Reserve Bank also explored the possibility of linking India's fast payment system UPI with PayNow of Singapore. Further, the major milestones achieved during the year included enhancing the resilience of RTGS and SFMS, up-gradation of non-IT physical infrastructure at data centers, and stabilization of the Sarthi application. Going ahead, the release of Payment System Vision Document 2025; implementation of the framework of geo-tagging of payment acceptance infrastructure; making NEFT complaint to global messaging standards; strengthening IT and cyber security; setting up enterprise data center and enterprise computing and cybersecurity training center will be the major focus areas of the Reserve Bank.

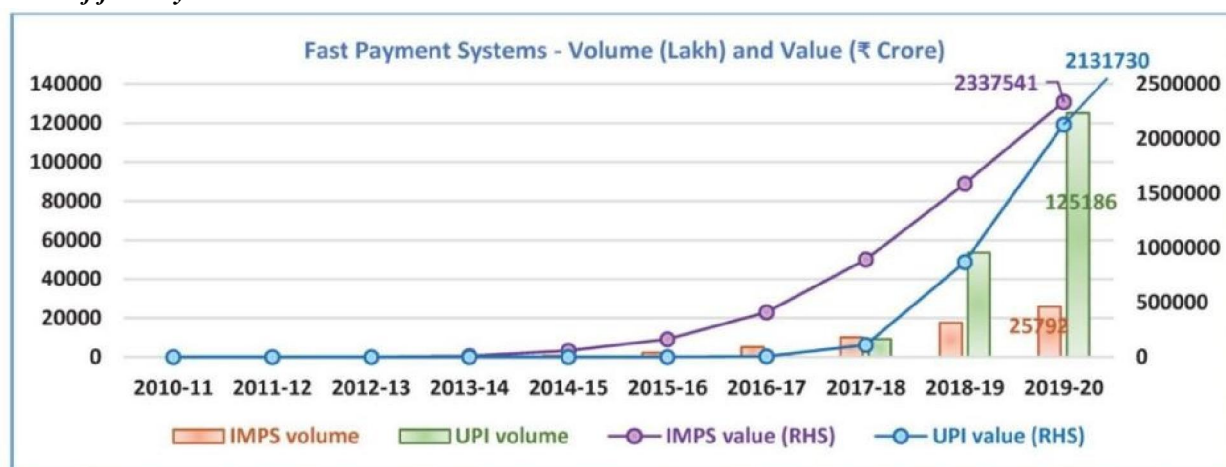
OBJECTIVE 3. To find out which mode of electronic payment is popular

In Q1 2022, 9.36 billion transactions amounting to INR 10.25 trillion were processed through modes like

- Debit card
- Credit card
- Mobile wallets
- Prepaid cards
- UPI (P2M-Person to Merchant)

UPI P2M transactions have emerged as the most preferred payment mode among people with a market share of 64% and 50% in terms of value.

Growth of fast Payments



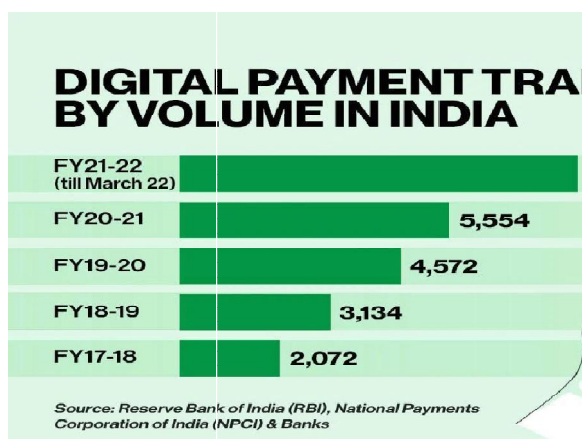
Source: RBI Data

As of Quarter-1 2022, the top UPI apps are

- BHIM (Bharat Interface for Money)
- PhonePe
- Google Pay
- Paytm Payment Bank App
- Amazon Pay

BHIM-UPI emerged as a preferred mode of payment among citizens, with record 452.75 crore digital payment transactions with a value of Rs 8.27 lakh crore till February 28, 2022.

- Total value of UPI-based digital transactions in India is Rs 81 lakh crore (FY 2021-22)
- Rs 41 lakh crore (FY 2020-21)
- Rs 21 lakh crore (2019-20)
- Rs 9 lakh crore (FY 2018-19), as per the NPCI data cited by the minister.



“Over the year, digital payments transactions have grown multifold from 2,071 crores in FY 2017-18 to 5,554 crores in FY 2020-21. During the current financial year i.e., FY2021-22, the total number of 8,193 crore digital payment transactions have been reported till 20th March 2022,”

Mobile and Internet Based Payments as of January 2022

There were about 658 million internet users and about 1.2 billion mobile subscribers in India. In Q1 2022, consumers made 15.6 billion mobile-based payments whereas Net Banking / Internet browser-based transactions were over 1 billion. In terms of value, INR 44.68 trillion was transacted through mobile while INR 163.53 trillion was transacted through the internet. It is to be noted that while internet browser-based payments comprised 6% in terms of volume, its share in value terms was 84% while mobile payments accounted for the rest.

Mobile payments have become widespread and are being used for small ticket transactions while internet browsers are the preferred mode for traditional shopping from e-commerce platforms.

OBJECTIVE-4. To find out the challenges in moving towards a cashless economy.

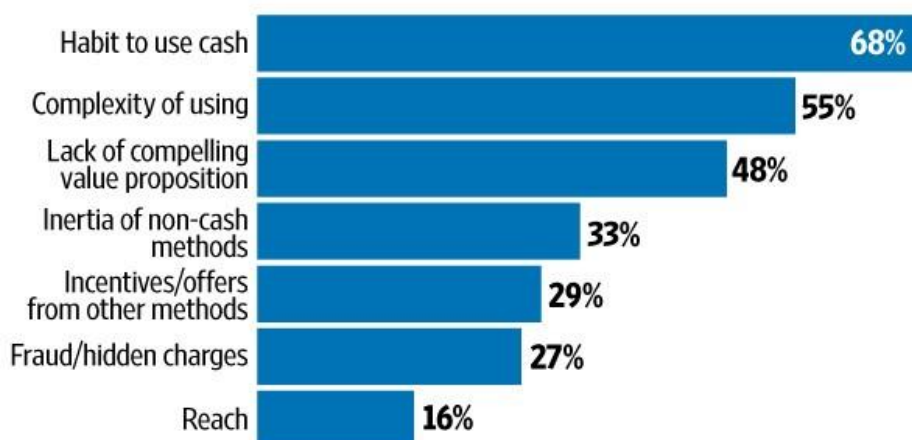
We have witnessed the exponential growth of digital payments in the last few years but still, there are some challenges in the country that roadblock the goal of a cashless economy of India. Such issues are as follows:

- Connectivity issues
- Lack of Awareness of digital payment methods

Issues of security and privacy

- Fraud
- The penetration of mobile internet is very low in rural India
- Indian economy is cash-dependent
- Lack of adequate infrastructure and technology within the Indian society

KEY BARRIERS TO DIGITAL PAYMENTS



IV. FINDINGS

- No zero balance accounts
- Poor Internet connectivity in rural India and other isolated regions.
- Infrastructures are poor like the availability of ATMs in the rural and suburban areas.
- India is lacking behind in financial literacy among the people of rural India.

V. CONCLUSION

It is concluded that we are shifting from cash to a cashless economy but some challenges still exist. The government needs to address those challenges for a complete transition from cash to a cashless economy. In the coming future cash transactions would fall by 40% (a report by Google India and Boston Consulting Group). India should move ahead to create a new legacy to embrace the cashless economy like other developed countries.

The Indian Government needs to work more on infrastructure and internet availability in rural areas as well. To achieve the goal of digital India we must give more emphasis on digital literacy. People of rural India are not aware of using the internet. Most people use the internet only for entertainment purposes, not for making electronic payments. There must be financial education drives by the government to make people aware and literate to make electronic transactions. Also, there must be zero balance accounts to encourage poor people to use bank accounts.

REFERENCES

- [1]. Garg, P., & Panchal, M. (2017). Study on introduction of cashless economy in India 2016: benefits & challenges. *IOSR Journal of business and management*, 19(4), 116-120.
- [2]. Achor, P. N., & Robert, A. (2013). Shifting policy paradigm from cash-based economy to cashless economy: The Nigeria experience. *Afro-Asian Journal of Social Sciences*, 4(4), 1-16.
- [3]. Humphrey, D.B. (2004) Replacement of Cash by Cards in U.S. Consumer payments, *Journal of Economic and Business*, 56:211 – 225.
- [4]. Roth, B. L. (2010). —The Future of Money: The Cashless Economy – Part 1I. [Online] Available: <https://www.x.com/.../futuremoney-cashless-economy—part-i>.
- [5]. Marco, A. & L. Bandiera (2004): -Monetary Policy, Monetary Areas and Financial Development with Electronic Money, IMF Working Study, IMF.
- [6]. Manpreet Kaur (2017). Demonetization: Impact on Cashless payment system. International Conference on Recent Trends in Engineering, Science and Management. ISBN: 978-93-86171-21-4. 8th January 2017.
- [7]. <https://datareportal.com/reports/digital-2022-india>
- [8]. www.goodreturns.in
- [9]. Timesofindia.indiatimes.com
- [10]. <https://factly.in/review-how-have-the-digital-payment-systems-evolved-in-the-last-decade/>
- [11]. <https://www.businesstoday.in/latest/economy/story/8193-cr-digital-transactions-in-fy22-upi-most-preferred-payment-mode-meity-327350-2022-03-25>
- [12]. RBI Reports