

# Effects of Demonetization on Digital Payment Systems in India

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## Abstract

**Objectives:** This paper looks at the impact that Demonetization has had on the various payment methods in India. Specifically, it aims to see how the various digital platforms have evolved with the advent of demonetization

**Method:**

Various digital platforms of payment like payment apps, net banking, etc were studied extensively. Their evolution before and after demonetization is looked at, and compared against one another.

**Findings:** De-monetization has given a big boost to the digital payment platforms in India. They are fast, reliable, easy to learn and navigate. It is able to fulfil the requirement specifications. Which platform an individual decides to choose is dependent on many factors. While an extremely handy and useful software component, it is not without its share of faults and glitches that needs to be resolved soon. Security is still a major concern regarding these platforms.

**Applications:** These payment portals help to make payments more convenient and easy to use. One does not have to go to the bank to do monetary transactions.

**Keywords:**

*De-monetization, digital platforms in India, pros and cons of the digital payment system*

## 1. Introduction

In an unprecedented move, Prime Minister of India Narendra Modi addressed the citizens through a live televised address at around 20:15 IST. He then delivered the message that the circulation of ₹500 and ₹1000 for any form of liquid transaction would not be permissible from midnight, 9th November 2016. All other forms of currency, both notes and coins, would continue to hold validity. According to Bloomberg data, cash transactions in India make up for about 98% of all the transactions done, in comparison to the 55% in the United States of America and 45% in the United Kingdom. New notes of ₹500 and ₹2000 was also announced.

Immediately after demonetization, citizens were facing severe cash problems. The new ₹500 and ₹2000 was not generated as quickly as the citizens demanded. There were tremendous long queues before ATM booths. Moreover, with the ATM withdrawal limit initially set to only ₹2500 per day, people were trying to save money on emergency purposes and not use it for shopping or other such recreational activities. About 60% of transactions on e-

commerce sites in India, was paid through Cash on Delivery (COD). E-commerce giants like Flipkart and Amazon reportedly experienced a 50% surge in unfulfilled Cash on Delivery Orders. [1]

People in India are still wary about using technology for making payments. The younger, more cosmopolitan generation is becoming familiar and comfortable with the digital lifestyles. People from rural areas and the senior citizens still have their doubts. Also, many of them do not know how to operate through online platforms.

## 2. Immediate Impact of Demonetization: Requirement Analysis

Almost all the e-commerce websites suffered major losses in the event of demonetization. People wanted to save whatever money they had. Much of the payment for e-commerce sites is done through cash on delivery, which had now come to suffer a huge blow.

People wanted to pay without giving away cash. Also, due to the cash crunch, buying even essential items like grocery had become increasingly difficult. A quick, easy and efficient way of payment was needed. As a result, several new online payment wallets had come up, and existing ones like Payam began to gain momentum at a tremendous pace. These wallets are easy to use. Money is first to be put into the app via online transaction (credit/debit card, net banking). The balance amount in the wallet can be used by the customer. When the balance amount is over, money is to be filled again. These wallets have been added as a payment option in all the e-commerce websites.

The usage of these apps is not only limited to transactions done over websites. It can also be used for paying money to shopkeepers. On these types of apps, every merchant has a specific QR Code, and when the customer scans this code through the app, the money is transferred. Instead of the QR Code, the customers can also enter the phone or other such identification details of the retailers, and the money will be credited to their digital wallets.

The transactions on such e-wallets have reportedly increased from 17 lakhs per day to 63 lakhs per day [2] Another feature that became popular in the light of

demonetization is the Immediate Payment Service (IMPS). It is available on all days of the week 24\*7, including Bank Holidays, unlike the traditional NEFT and RTGS. In this case money can be transferred directly through an SMS or through NET banking. [3]

Credit cards and debit cards were already on the rise before demonetization, which was now subjected to an accelerated growth. These plastic cards are handy as they help us to store our money and then use it whenever we want, without there being no liquid cash involved.

### 3. Design of these Digital Payment Wallets

These digital payment wallets are available in two versions-mobile applications and websites. Over the course of time, such mobile applications have gained widespread popularity. According to a recent study in 2017, the number of smartphones in India is estimated to reach around 300 million people. It is no surprise that such an ever-increasing user base is now increasingly drawn to these digital payment wallets.

The User Interface of these Wallets are simple and easy to use. Navigation through different options can be done without much training. The customers can choose their language (to operate the apps) from a wide list of languages. This is done keeping in mind the rural and the senior citizens. This would make it easier for them to use, operate and become familiar with these types of wallets. The aesthetics of these digital platforms are easy on the eye and very carefully placed, such that the users are drawn to the right options.

Some design features of these websites include:

- They avoid bad requests
- They combine external CSS
- They parallelize downloads across hostnames
- They minimise request size

- They also minimise DNS lookups

### 4. Choosing between the different payment methods

With so many digital wallets that have now come into the Indian market, people now have a wide variety of options to choose from. Some of the many examples include:

- BHIM (Bharat Interface for Money) launched by the Indian government
- Paytm
- MobiKwik
- FreeCharge
- Oxygen Wallet <sup>[4]</sup>

Also, along with these digital wallets customers have other online payment options available like:

- Debit Card
- Credit Card
- Net Banking
- Mobile Banking
- NEFT
- RTGS <sup>[4]</sup>

Various factors are considered by the customers before deciding on the payment options. Some of the factors are:

- The response and the throughput time
- Maximum permissible amount that can be used for transaction
- Perceived notion of security of the transactions
- Are there any additional service costs for using that mode of payment?
- Can any interest be earned on the money that is being kept in reserve in the payment system? <sup>[5]</sup>























| Digital Payment Options   |   |   |  |  |  |  |
|---|---|---|--|--|--|--|
| RTGS  | NEFT  | IMPS  | UPI  | USSD   | DEBIT/CREDIT CARD  | E-WALLETS LIKE Paytm   |
| TIMINGS   |   |   |  |  |  |  |
| <br>8 AM-4.30 PM<br>Working Days   | <br>8 AM-6.30 PM<br>Working Days |   |  | <br>24x7                        |  |  |
| TIME TAKEN TO COMPLETE A TRANSACTION  |   |   |  |  |  |  |
| REAL-TIME   | SAME DAY  |   |  | INSTANT#   |  |  |
| TRANSACTION LIMIT   |   |   |  |  |  |  |
| ₹ 2-10 lakh   | ₹ 10 lakh   | ₹ 2 lakh per day  | ₹ 1 lakh per transaction   | ₹ 5,000 per transaction  | Depending on bank and card you use   | ₹ 20,000 per month   |
| INFORMATION REQUIRED  |   |   |  |  |  |  |
|   | ACCOUNT NUMBER & IFSC CODE  |   | VPA of recipient & MPIN  | MPIN/ IFSC/ Aadhaar/ Account Number  | For Pos: Pin/ For online Card Number CVV, Expiry date  | Login and Pay  |
| AUTHENTICATION  |   |   |  |  |  |  |
|   | 2 FACTOR AUTHENTICATION   |   |  |  |  |  |
| INTEREST EARNED   |   |   |  |  |  |  |
|    |                                  |  |   |                                 |   |   |
| BENEFICIARY REGISTRATION  |   |   |  |  |  |  |
|    |                                  |  |   |                                 |   |   |
| TECHNICAL REQUIREMENT   |   |   |  |  |  |  |
|   | <br>INTERNET CONNECTIVITY        |   | <br>Smartphone with Internet connectivity | <br>Smartphone or feature phone | <br>Internet connectivity: For PoS debit/ credit card also needed | <br>Smartphone with internet connectivity |
| USP   |   |   |  |  |  |  |
| High Value Transactions   | Commonly use virtual transfer system  | Instant transfer  | Single app for all bank accounts & "P2P" collect request   | Accessed without internet  | Can be used online as well as at PoS   | High user base, in case of small value transactions  |
| RTGS  | NEFT  | IMPS  | UPI  | USSD   | DEBIT/CREDIT CARD  | E-WALLETS LIKE Paytm   |
| *If transferred between 8 am to 5 pm (12 noon for working Saturdays); # Provided internet connectivity is uninterrupted and high speed; PoS-Point of Sale (Presuming swipe machine is available at PoS) |   |   |  |  |  |  |

Fig. 1 Choosing between various digital payment options [9]

| Transaction Amount    | NEFT   | RTGS | IMPS | UPI - Proposed | USSD  | Debit and Credit Cards  | E-wallets             |
|-----------------------|--------|------|------|----------------|-------|---|-----------------------|
| Up to ₹5000           | ₹ 2.50 | N.A. | ₹ 5  | ₹ 0.5          | ₹ 0.5 | An annual fee/renewal fee which depends upon the type of card you are using. No additional charges for use at PoS but additional charges are levied for online transactions | Currently no charges. |
| ₹ 5000-10,000         | ₹ 2.50 | N.A. | ₹ 5  | ₹ 0.5          | N.A.  |   |                       |
| ₹ 10,000 - ₹ 1 lakh   | ₹ 5    | N.A. | ₹ 5  | ₹ 0.5          | N.A.  |   |                       |
| ₹ 1 lakh - ₹ 2 lakhs  | ₹ 15   | N.A. | ₹ 15 | N.A.           | N.A.  |   |                       |
| ₹ 2 lakh - ₹ 5 lakhs  | ₹ 25   | ₹ 25 | N.A. | N.A.           | N.A.  |   |                       |
| ₹ 5 lakh - ₹ 10 lakhs | ₹ 25   | ₹ 50 | N.A. | N.A.           | N.A.  |   |                       |

Fig. 2 Additional charges on the various digital payment platforms [9]

## 5. Benefits of using digital payment methods

- Transactions done digitally are traceable, and customers can be accounted for such transactions. This is useful for the detection and eradication of black money
- It is convenient, quick and efficient
- It lets you stay in control about when you pay and the amount you pay. You have the option to cancel the transaction right before the payment is done
- It saves paper, and thus helps save the environment <sup>[6]</sup>

## 6. Problems associated with digital payment methods

Even after the burgeoning growth in the digital payment sectors, many are still wary of the existing and the upcoming technological advancement.

- **Security issue:** With the advent of demonetization, many people were downloading and using various digital wallets applications. Paytm reportedly had around 7 million new users in a day. With such a spike in the digital wallet community, there are many hackers looming around. Moreover, these wallets are also operated through the mobile network, which is least secure method. Unlike credit/debit cards where the personal details of the customers are shielded by the bank, these wallets have no such security. Competent hackers can get hold of the valuable information on the phone, which possesses a serious risk to the consumers. <sup>[8]</sup>  
The security concerns also extend towards net banking and using debit and credit card online. Not all payment sites are encrypted, and consumers should decide wisely upon using plastic money online. Card details are to be produced only at certified and valid websites and applications, to reduce the risk of fraud happening.  
Using public wi-fi to make any sort of digital payments is never safe. One should always try to make transactions over a safe, private wireless network. Using a Virtual Private Network (VPN) connection is one of the better practices to keep the data secure

- Such digital payment methods are not suitable enough to make transactions for a small amount. - ₹10 Lays.
- With digital payment systems, there may be limits set on the number of transactions and the amount dealt with in a day. While this may be useful as a security measure, some might think of it as cumbersome. <sup>[7]</sup>
- With net banking systems, users need a username and password to do their transactions. Weak passwords can easily be hacked, which puts the consumer's money at risk <sup>[7]</sup>
- Some electronic digital transfer methods charge an added convenience fee which annoys a lot of users <sup>[7]</sup>

## 7. Conclusion

Demonetization has opened many inroads in the digital payment system in India. People are now becoming less apprehensive of technology, and are becoming comfortable with the digital world with very passing day. The software industry has also been given a big boost. The e-commerce industry did suffer with the onset of demonetization, has now tremendous scope for growth. Although extremely beneficial and very convenient, the digital payment system is not without its own share of flaws. The security of these methods are nowhere near perfect, and this is one software sector which will see massive improvements in the coming few years

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