

# Technological Impact of Demonetization on Indian Economy

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**Abstract:** Demonetization refers to withdrawal of a particular form of currency from circulation. Demonetization is necessary whenever there is a change of national currency. The old unit of currency must be removed and substituted with a new currency unit. The currency was demonetized first time in 1946 and second time in 1978. On Nov. 2016 the currency is demonetized third time by the present Modi government. This is the bold step taken by the govt. for the betterment of the economy and country. In this paper I want to discuss the impact of recent demonetization on the Indian system and also how it has had an effect on the Information Technology Industry thereby enhancing the revenues helping in counterfeiting the black money leading to the economic growth. In addition to this, the working of different Internet money transfer applications have been discussed which has given a cashless base to the Indian Economy

**Keywords:** Demonetization, Black Money, Counterfeit Currency, Corruption, Paytm, Oxigen Wallet, PayU Money.

## 1. Introduction

Demonetization is thus a medium of payment recognized by a legal system to be valid for meeting a financial obligation. Paper currency and coins are common forms of legal tender in many countries. Legal tender is variously defined in different jurisdictions. Formally, it is anything which when offered in payment extinguishes the debt. Thus, personal cheques, credit cards, and similar non-cash methods of payment are not usually legal tender. The law does not relieve the debt obligation until payment is tendered. Coins and banknotes are usually defined as legal tender. Demonetization initiated by the Nariender Modi has become a boom to e-payment providers. There is hike in IT industry by the announcement of demonetization. The use of E-services has been massively increased many more times. There are many more apps available for e-transactions like most commonly used apps are Patym, PayU Money, Mobikwik, Oxigen mobile wallet app that is introduced by the Reserve Bank of India.

## 2. Demonetization-Economic View

Demonetization may not be a huge disaster like the global banking sector crisis of 2007; but at the same time, it will act as a liquidity shock that disturbs economic activities.

- **Liquidity crunch (short term effect):** Liquidity shock means people are not able to get sufficient volume of popular denomination especially Rs 500. This currency unit is the favourable denomination in daily life. It constituted to nearly 49% of the previous currency supply in terms of value. Higher the time required to resupply Rs 500 notes, higher will be the duration of the liquidity crunch.
- **Welfare loss for the currency using population:** Most active segments of the population who constitute the 'base of the pyramid' use currency to meet their transactions. The daily wage earners, other labourers, small traders etc. who reside out of the formal economy uses cash frequently. These sections will lose income in the absence of liquid cash. Cash stringency will compel firms to reduce labour cost and thus reduces income to the poor working class. There will be a trickle up effect of the liquidity chaos to the higher income people with time.
- **Consumption will be hit:** When liquidity shortage strikes, it is consumption that is going to be adversely affected first. **Consumption ↓ → Production ↓ → Employment ↓ → Growth ↓ → Tax revenue ↓**
- **Loss of Growth momentum:** India risks its position of being the fastest growing largest economy: reduced consumption, income, investment etc. may reduce India's GDP growth as the liquidity impact itself may last three -four months.
- **Bank deposits and Interest rate:** Deposit in the short term may rise, but in the long term, its effect will come down. The savings with the banks are actually liquid cash people stored. It is difficult to assume that such ready cash once stored in their hands will be put into savings for a long term. They saved this money into banks just to convert the old notes into new notes. These are not voluntary savings aimed to get interest. It will be converted into active liquidity by the savers when full-fledged new currency supply takes place. This means that new savings with banks is only transitory or short-term deposit. It may be withdrawn by the savers at the appropriate time. It is not necessary that Demonetization will produce big savings in the banking system in the medium term.
- **Black money:** Only a small portion of black money is actually stored in the form of cash. Usually, black income is kept in the form of physical assets like gold, land, buildings etc. Hence the amounts of black money countered by Demonetization depend upon the amount of black money held in the form of cash and it will be smaller than expected. But more than anything else, Demonetization has a big propaganda effect. People are now much convinced about the need to fight black income. Such a nationwide awareness and urge will encourage government to come out with even strong measures.
- **Counterfeit currency:** The real impact will be on counterfeit/fake currency as its circulation will be checked after this exercise. Demonetization as a cleaning exercise may produce several good things in the economy. At the same time, it creates unavoidable income and welfare losses to the poor sections of the society who gets income based on their daily work and those who does not have the digital transaction culture.

## 3. Technological Upgradation and Revenue Enhancement-Technical View

Demonetization initiated by the Narinder Modi has become a boom for the e-payment providers. There is hike in IT industry by the announcement of demonetization. The use of E-services has been massively increased many more times. There are many more apps

available for e-transactions like most commonly used apps are Paytm, PayU Money, Mobikwik, Oxigen mobile wallet app that is introduced by the Reserve Bank of India. Paytm tracked three times hike in new users registration over 14 million new accounts in November alone. "The Prime Minister's move to incentivize digital payments will offer a strong support to our ongoing efforts in helping the country move towards the cashless economy giving rise to digital payment solutions," added Deepak Abbot, the senior vice president of Paytm [7].

**Working of the Applications**

**Paytm** works when a client or customer request for any kind of transaction and transaction can be in form of placing an order for particular product or a payment of bills.

**Components involved in Paytm working:**

**End User or Customer:** Customer who initiates a transaction by placing the order.

**Merchant Application:** A merchant application is an application made to obtain a merchant account. A merchant account enables business to receive payments by debit or credit cards. The money captured from credit or debit sales is held in the merchant account before being transferred to the official business account. In usage of Paytm this application may be an Android or IOS application. Payment request is sent from Merchant application and received by the component called Paytm SDK.

**Paytm Software Development Kit (SDK):** The SDK is provided by Paytm to make all the API calls to Payment Gateway for further request for payment as well as Merchant's Web server. Paytm SDK sends checksum request to the Merchant's web server to maintain the requested data.

**Merchant's Web server:** The merchant needs to setup their web server so that it logically generate and verify Checksum to ensure the integrity of transactions. Checksum utilities are provided by Paytm for different development platforms.

**Payment Gateway:** The Payment Gateway of Paytm will communicate with the Paytm SDK and Merchant's Web server. In case, the payment is made via credit cards/debit cards/net banking, the Payment Gateway will interact with the Banks as well and provide secure transactions.

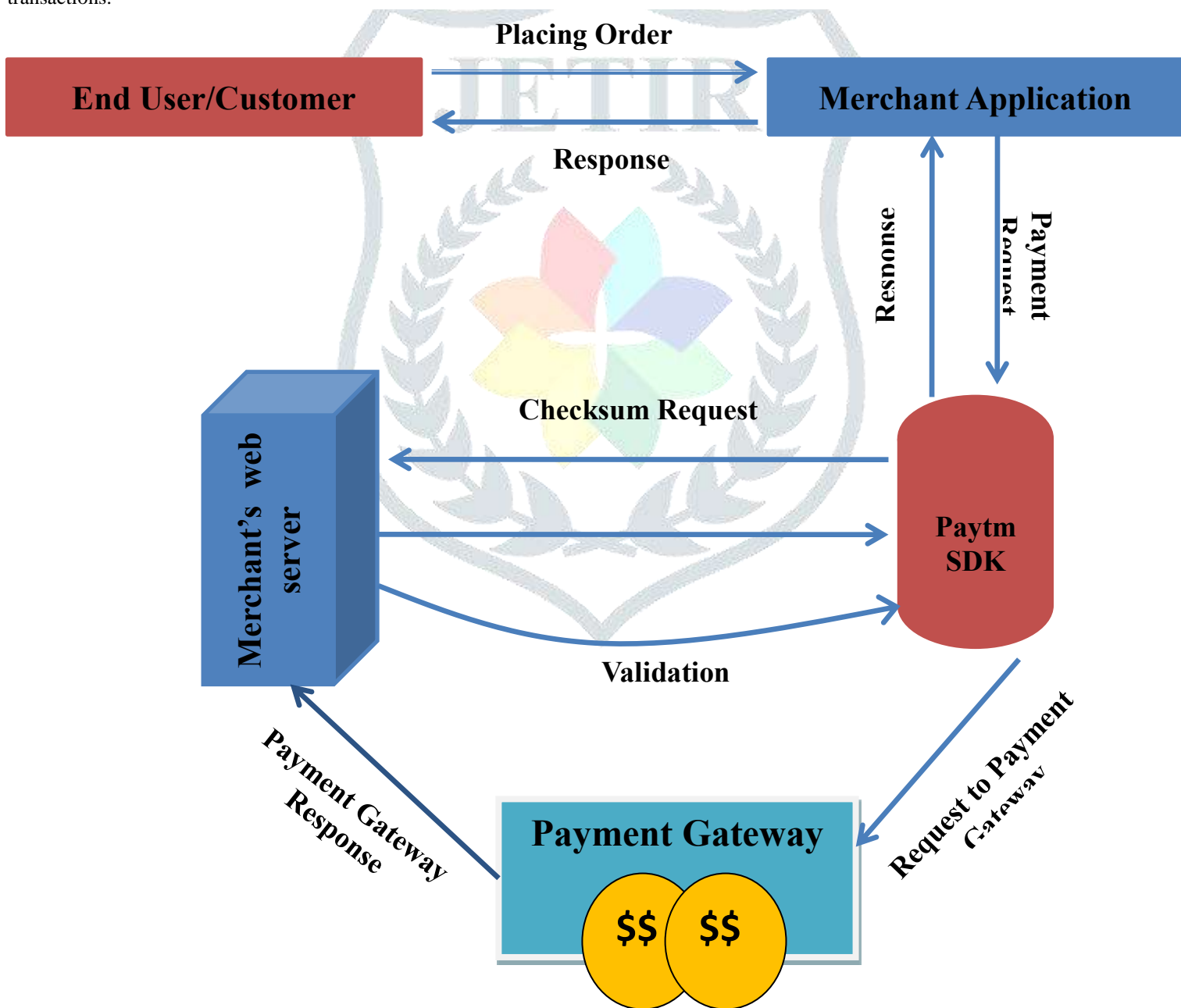


Fig. 3.1: Working of Paytm Payment Transaction.

**Pay U Money** is another online transaction gateway application. Transaction can be made by using credit cards, debit cards, internet banking and mobile banking. PayU Group is owned by Naspers MIH that provides services base on different media and communication technologies

all over the world. Its aim is to provide online payment services to the end users or customers as well as provide platform for e-commerce activities on the web. PayU Money App Illustrated below.

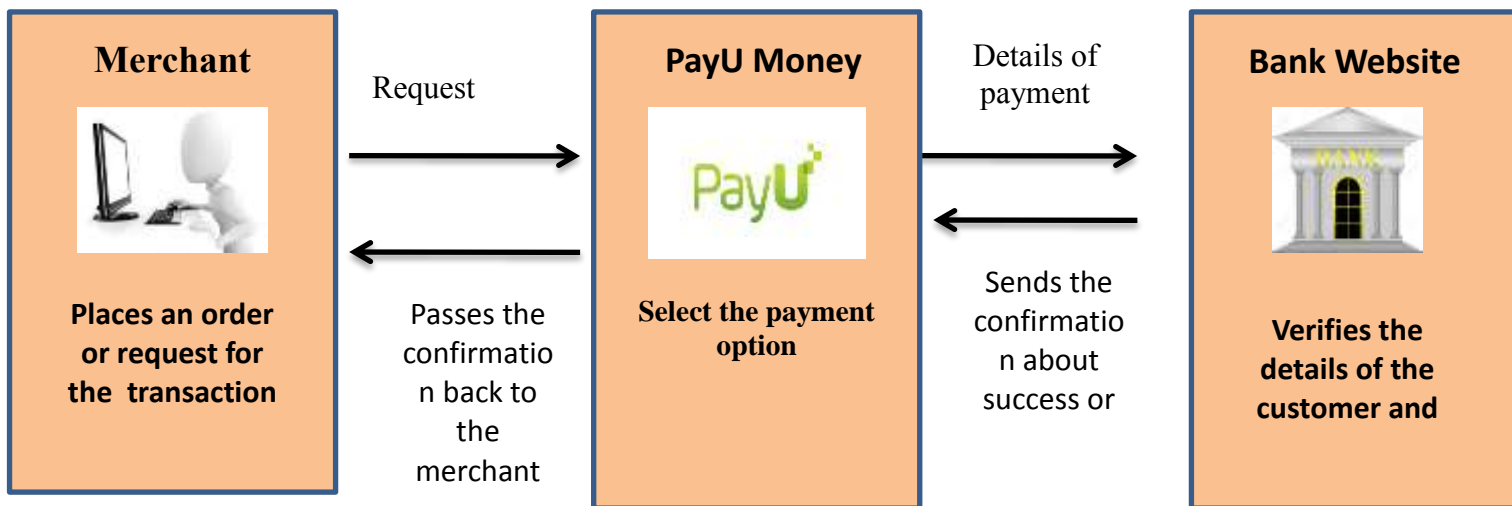


Fig. 3.2: Process Flow of Payment

In Fig. 3.2, the end user places a request or order from the merchant’s website then this will further communicates with the PayU website for the payment page of PayU. PayU sends the request of payment to the customer’s bank through payment gateway. Selected bank verifies the information of the customer and tells the whether the transaction is successful or not. After verification and transaction, customer is redirected to PayU website and PayU gives response to the end user along with the confirmation of the transaction. At the end, on merchant’s website customer receives the invoice message for transaction success or failure.

**Oxigen Wallet** is one of the semi closed wallet that is approved by the RBI. Using Oxigen Wallet one can transfer money to your friend’s bank account and other bank accounts also simply using your Smartphone. This feature can be extremely useful if your bank does not support online banking. Oxigen Wallet’s daily average users increased by 167% since demonetization began.



Fig. 4.3: Working of Mobile Wallet Components

**Key points involved in usage of Mobile Wallet App**

- **POS (Point of Sale)** sends encrypted account information of the mobile wallet so that no unauthorised user can access your account to the mobile wallet providers.
- **Mobile Wallet Provider** decrypts the information and sees which account we are looking to access, and checks the identifying information. If the provider is satisfied, then it sends your card information to your payment processor.
- **Payment Processor** serves three purposes: (a) it identifies the customer bank and requests them to send the money back to them. In response, the bank sends the money to Payment processor. (b) It sends money to Store bank. (c) It also alerts the POS that the transaction has completed.
- **Store’s Bank** receives the money through payment processor.

**4. Arguments in Favour/ Against Demonetization:**

As the coin has two sides in the same way, the Demonetization has got both positive and negative impacts on the Indian Economy.

**Advantages:**

- The biggest advantage of Demonetization is that it helps the government to track people who are having large sums of unaccounted cash or cash on which no income tax has been paid because many people who earn black money keep that money as cash in their houses or in some secret place which is very difficult to find and when Demonetization happens all that cash is of no value and such people have two options one is to deposit the money in bank accounts and pay taxes on such amount and second option is to let the value of that cash reduced to zero.

- Since black money is used for illegal activities like terrorism funding, gambling, money laundering and also inflating the price of major assets classes like real estate, gold and due to Demonetization all such activities will get reduced for some time and also it will take years for people to generate that amount of black money again and hence in a way it helps in putting an end this circle of people doing illegal activities to earn black money and using that black money to do more illegal activities.
- Another benefit is that due to people disclosing their income by depositing money in their bank accounts government gets a good amount of tax revenue which can be used by the government towards the betterment of society by providing good infrastructure, hospitals, educational institutions, roads and many facilities for poor and needy sections of society.

**The Disadvantages are:**

- The biggest disadvantage of Demonetization is that once people in the country gets to know about it than initially for few days there is chaos and frenzy among public as everybody wants to get rid of demonetised notes which in turn sometimes can lead to law and order problem and chaotic situation especially in banks and ATMs which are the only medium to change the old currency units to new currency units.
- Another disadvantage is that destruction of old currency units and printing of new currency new units involve costs which has to be borne by the government and if the costs are higher than benefits then there is no use of Demonetization.
- Another problem is that majority of times this move is targeted towards black money but if people have not kept cash as their black money and rotated or used that money in other asset classes like real estate, gold and so on then there is no guarantee that Demonetization will help in catching corrupt people.

**Conclusion:**

For Modi, this is work in progress. In his speech to the nation, he outlined what his government has done so far. A law was passed in 2015 for disclosure of foreign black money. Agreements with many countries, including the U.S., have been made to add provisions for sharing banking information. The move will hence "short-term pain" but growth gains in the long term: In the short-run, consumption spending is particularly likely to be hit as also large tracts of the cash-based productive segments. After things start settling down, and agents realign to higher levels of formal or recorded transactions, growth benefits will follow through a wider tax-base, better tax compliance, reduced transaction costs and enhanced efficiencies in various supply-chains; macroeconomic indicators are likely to improve too. The recent impact of demonetization on the Indian system is that, it has given a quick boost to the Information Technology Industry leading to the enhancement of the revenues due to the increased use of money transfer applications resulting into "Cashless Economy".

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