

## India's Road to a Cashless Economy

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**Abstract:** Cash has always been a primary method of transacting in the economy. However, global technological advancement resulting in the introduction of several non-cash payment variants such as plastic money, mobile wallets, etc has opened up avenues to facilitate payments without the usage of physical currency. A major motivator of embracing cashless transactions is basically the ease and convenience of making transactions that it carries. In light of this, the Indian Government is also taking extensive steps in the direction of making India more digitalized with major focus on cashless transactions. The process of financial inclusion and demonetization has paved way for an accelerated and efficient usage of the digital payment system. These measures will drive the development and modernization of the payment system already in place, make it more transparent and accountable thereby curbing the generation of black money in the economy to an extent. This paper aims to study the ongoing cashless movement in the country, and bring forth the available non-cash payment methods.

The paper also attempts to examine people's progress towards modern, efficient electronic payment mechanisms by analysing their frequency of digital transactions and the growth prospects of the cashless transactions arena.

**Keywords:** Cashless transaction, non-cash payments, digitalisation

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### I. Introduction

Cash is the basic necessity of an economy. In a country like India, it is undisputable that it is a tremendously cash-intensive economy. This is attributable to several factors like convenience, tangibility of cash, immediate transaction, non-existence of intermediaries, et al. Another important component strengthening cash transactions is the habitual tendency of consumers towards utilizing hard cash. India comes fourth in the world among the list of cash users. Almost every country is bracing towards cashless economy and many countries have made significant progress. It is just a world trend which India needs to catch up.

#### 1.2 The Digital Payments Landscape in India

The revolution of digitisation in India has been rather slow until 2016. In spite of several options of payment available other than cash, the preference was usually the latter due to the edge it has over other methods any day. In spite of the options of payment available such as plastic cards and mobile wallets, their usage was not satisfactory for an economy on the road to development. Hence, demonetisation was a major initiative taken by the Government with several objectives (curb black money, counterfeit currency, curb tax evasion,) including promotion of Digital India. This step disrupted the flow of cash in the country as almost 86% of cash in circulation ceased to be legal tender, leading to a rapid increase in the usage of payment alternatives other than cash.

The currency in circulation contributed to 12.2% of the GDP as of November, 2016. However, a steep decline in the ratio was noticed in the succeeding 4 months and was amounted to be 8.8%. India has leapfrogged three years of digitisation in just seven months, i.e., from November, 2016 to May, 2017.

All the measures being taken, the road to a digitised India is an ambitious plan and the Government has taken several steps in this regard with a visionary approach: beginning from country-wide financial inclusion (Jan Dhan Yojana, 2014) and succeeded by Demonetization (2016). This trajectory very clearly shows that the road to Cashless India is to be achieved in a systematic and step by step manner. Post Jan Dhan Yojana, more than 30 crore bank accounts have been opened and around ₹67,000 Cr deposited in banks<sup>1</sup>. This is a major milestone as the foundation to a digitally sound economy is the accessibility as well as availability of bank account. Another inevitable facilitator is availability of internet and sources and options for online transactions. Several steps are being taken in this direction to boost the frequency of digital transactions.

- The National Payments Corporation of India (NPCI) which is the umbrella organization for all retail payments systems in India rolled out the Electronic Toll Collection (ETC) system in order to give a digital boost to the country as it includes other vehicle related payments such as servicing fees, parking fees and fuel charges.

- NPCI has also launched Bharat Bill Payment System (BBPS). This application eases out payment of bills. Currently bills for Utility (Gas, electricity, water, DTH) and Telecom-related payments can be made through this platform.
- Banks have initiated to provide their services via UPI enabled applications such as SBI Pay (State Bank of India), iMobile (ICICI Bank), Axis Pay (Axis Bank), et al.
- E-Commerce firms such as Flipkart, Amazon, et al have been offering noticeable discounts in order to attract customers on their platform to increase the online traffic.
- Another payments alternative that has emerged in the market space is the mobile payment system, consisting of :
  - (i) Mobile wallets: PayTM, PhonePay, FreeCharge, et al.
  - (ii) Mobile wallets offered by banks include Pockets by ICICI Bank Ltd, SBI Buddy by State Bank of India, Lime by Axis Bank Ltd, and PayZapp by HDFC Bank Ltd.
  - (iii) Mobile payments solutions by Telecom companies such as Airtel Money and Vodafone M-Pesa.

The falling prices of smart phones and cheap Internet availability are contributing to the multifold rise of digital transactions in the country. A report by Google and Boston Consulting Group (BCG) in July, 2017 states that the number of Internet users could reach 650 million by 2020 from 300 million in 2015 along with a \$500 billion market for the digital payments industry.<sup>2</sup>

To promote the digital transactions, Government has also initiated measures. A few of them being the following:

- The 8% of the turnover which was treated as presumptive income has been reduced to 6% in case of small and medium taxpayers with a maximum turnover of 2 Crores, which is by non-cash means.
- Transactions above ₹ 3 lakh would not be permitted in cash
- Deduction allowed as cash expenditure (revenue as well as capital) is limited to ₹10,000. Cash donation to charitable trust reduced from ₹10,000 to ₹2,000.
- The government is in plans to mandate payments at/for petrol pumps, municipalities, universities and colleges, hospitals and others for the growth of cashless transactions.

## **II. Review of Literature**

Many research studies have been conducted on the subject of cashless in India and abroad. The major emphasis of research has been on various issues like cyber security, usage pattern, new emerging methods of e-payment systems, etc. A paper by the Reserve Bank of India (“Concept Paper on Card Acceptance Infrastructure”, RBI 2016) identifies and presents the broad contours of a multi-directional strategy to enhance the growth in acceptance infrastructure (ATMs, Points of Sale, Cards, etc) and usage of cards including further rationalisation and improvement of merchant discount rates or merchant fees for debit card transactions. The report has suggested ways to encourage banks to promote payments by cards. Besides mandating banks and rationalising charges, proposals include setting up a fund for investing in swipe machines. Security has always been the main concern the world over as it proves to be a threat on the digital payments ecosystem. The cyber infrastructure of the country has been examined in a research study by KPMG (‘Digital Payments – Analysing the Cyber Landscape’, 2017) that throws light on the digital payments infrastructure in India with respect to technology adoption, emergence of new companies like those in fintech, the required security measures that need to be taken care of by Indian consumers and businesses alike, and preventive steps for cyber frauds. With constant development plans and initiatives by the Government to strengthen digital transactions in the country, the scenario is likely in favour of digitisation of payments space. New methods of payments like mobile wallets, UPI/USSD-enabled payments have grown by a huge leap since the Demonetisation move of November, 2016. A study by Boston Consulting Group and Google in July noted that wallet users have already surpassed the number of mobile banking users and are three times the number of credit card users and is expected to grow at a steady rate in the coming days as well.

## **III. Modes of Digital Transactions**

Currently, there is a mix of cash and cashless transactions happening across the country, while many enablers are working towards turning the cashless economy dream into a reality. There are several options available across platforms to ease the process of transacting digitally. The most well known ones that have been on the block for a while are the banking cards (debit and credit), cheque/ demand draft/NEFT/RTGS facilities, net banking, mobile banking.

The pace of switch to digital payments has significantly picked up and this would not have been possible without the following factors that lever the growth and build-out of digitalisation.

- Increasing access to smartphones and Internet connection
- Banks encouraging customers to opt for online services
- Demonetisation in the recent times

Apart from the traditional digital payment methods, the following are being promoted by the Government as a part of the 'Cashless India' Movement.

1. Mobile Payments (also referred to as mobile money, mobile money transfer, and mobile wallet) generally refer to payment services operated under financial regulation and performed from or via a mobile device. Instead of paying with cash, cheque (or check), or credit cards, a consumer can use a mobile phone to pay for a wide range of services and digital or hard goods.

Mobile wallet was defined as "a software application on a mobile handset that function as a digital container for payment cards, tickets, loyalty cards, receipts, vouchers and other items that might be found in a conventional wallet. The mobile wallet enables the user to manage a broad portfolio of mobile NFC [Near Field Communication] services from many different companies"

The period of demonetisation has given a major impetus to digital payments, of which digital wallets have been a major part. The daily transactions on wallets like Paytm, MobiKwik and others of the like had reached a record 300% growth until December alone<sup>3</sup>. The surge, however, dropped in February as the economy moved towards stability in terms of notes availability. But the upward trend is on for digital wallets nonetheless.

2. Unstructured Supplementary Service Data (USSD)

The National Unified USSD platform is a mobile banking service and refers to a technology that transmits information through GSM Networks - these channels are primarily used for mobile voice calls. The Government has initiated this service with an aim to make mobile banking easier for rural users who might not have smart phones or internet accessibility. It is available in 11 regional languages and can be accessed in the desired language using short USSD codes, the basic one being \*99#. This method of payment can be used to transfer an amount of as low as ₹1 and as much as Rs 5,000 per transaction. Each transaction does carry a processing charge of ₹0.50, which will be added in the respective user's mobile bill. The service works 24x7. There was an increase in the transactions until December 2016 with 60,000 transactions from 7000 a month ago, with a total value of ₹6.6 Crore

3. Unified Payment Interface (UPI)

The UPI payment system allows money transfers between any two bank accounts by using a Smartphone. With the help of this platform, customers can pay directly from a bank account to different merchants, both online and offline, without the hassle of feeding in card details and credentials, IFSC code, or net banking/wallet passwords. All the major banks in the country have rolled out their UPI-based applications wherein users can make in-app payments for goods and services purchased online. This mode is safe as the customers only share their M-Pin while paying and provide no other sensitive information. The per transaction limit is set at ₹1 Lakh.

The latest NPCI data shows that the Unified Payment Interface (UPI) transactions leapfrogged from just 1, 03,060 transactions in October, 2016 to 91, 67,277 transactions in May 2017, recording a stupendous 89 times growth. Value-wise, UPI recorded a growth of Rs 0.49 billion to Rs 27.65 billion, more than 56 times growth during the same period.<sup>5</sup>

4. Micro ATMs

Micro ATMs, the developed version of Point of Sale terminals, are card swipe machines which enable the bank to connect to their core banking systems. Unlike ATM, human intervention is involved. The correspondents appointed by the bank act as cash handler of the operations, that is, he accepts cash deposits and also makes cash payments manually, after feeding the necessary data. Micro ATM cards are issued to customers who have their bank accounts linked to the Aadhar card. When the card is swiped, the micro ATM device will read the electronic data of the card. However, the customer is required to follow the biometric authentication before conducting any transaction.

Micro ATMs provide doorstep mobile banking arrangements and hence can connect customers from rural areas as well. The customers can make various utility payments, transfer money within bank accounts, have access to direct benefit transfers of Government. Also, the cost of deployment as well as the operating expenditure involved for a micro-ATM is less when compared to the regular ATM. However, the major drawback of this method is that such devices are dependent on the availability of correspondents.

#### **IV. About the Survey**

India is undergoing a digital revolution with a variety of cashless payment methods being introduced. This study was conducted to seek opinions and views on the awareness, integration, challenges and other related aspects of the cashless transactions space from consumers across various platforms. The study was conducted to

obtain data on the position and frequency of cashless transactions, centred around the city of Hyderabad where a sample size of 200 was selected at random. The method used to obtain data was in the form of questionnaire. The analysis of the data hence sourced is presented hereafter.

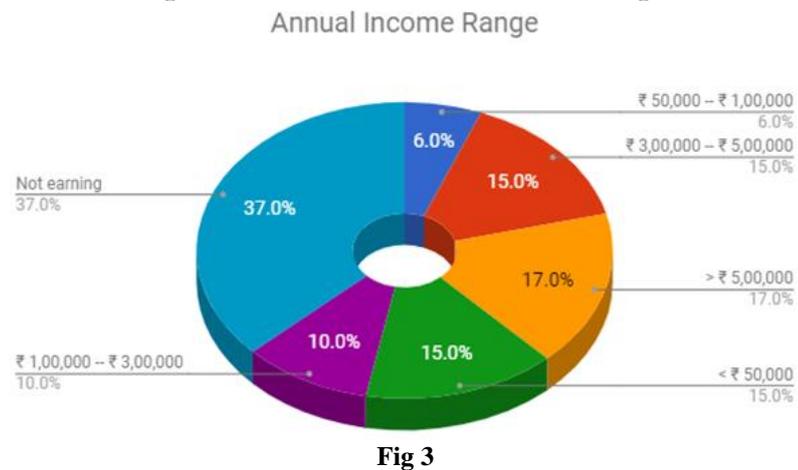
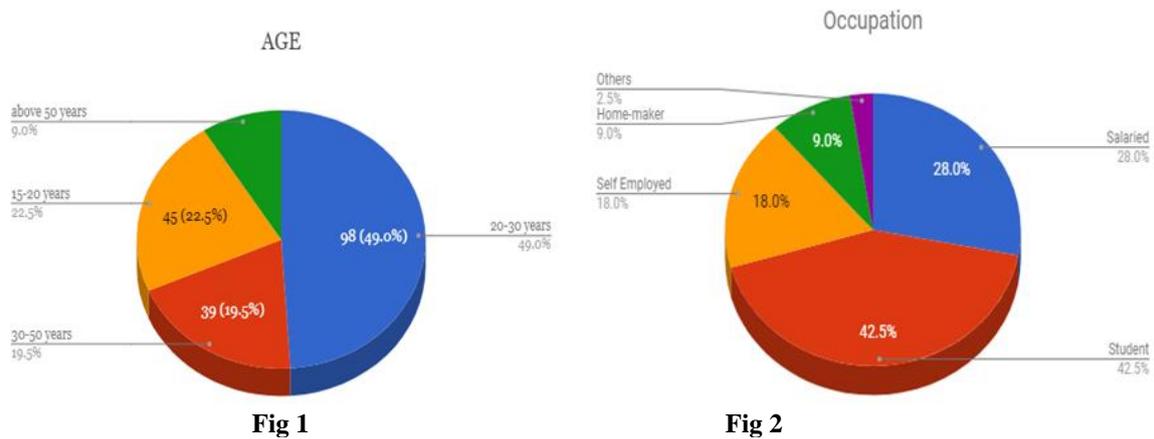
An Overview of the Demographics of the Participants of the Survey:

Participants' Profile:

Sample – 200

Location – Hyderabad, Telangana

The following Figures 1, 2 and 3 in the table presented below show the participants' profile of age, profession and annual income range.



As seen in Fig 2, the data collected showed a majority of responses from students (42.5%) and salaried professionals followed next in line (28%). Expectedly, the former has contributed largely in the 37% bracket of the people who identified themselves as 'Not Earning' in the Annual Income segment. (Fig 3) The participants in majority answered positively when asked about them making payments digitally or online. (Fig 4) However, the study indicated that although online payments are made use of, a major 46% say the frequency is less than 4 transactions in a month. The areas where digital payments are used the most have been mentioned below.

- Shopping (online/offline)
- Mobile and DTH recharge
- Payment of Utility Bills
- Payment of Educational Fees

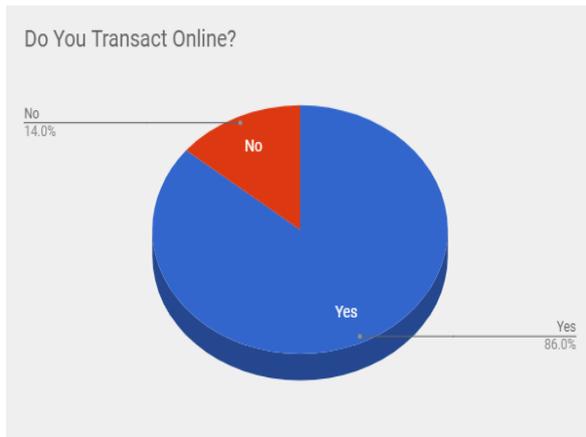


Fig 4

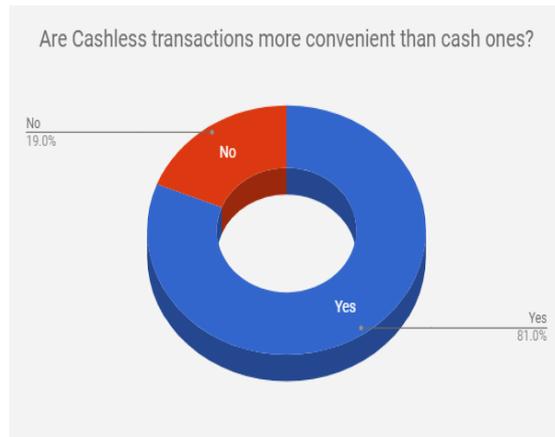


Fig 5

Online as well as brick and mortar stores have been increasingly making available the various digital payment methods like Pos systems, wallet-payments and UPI/USSD enabled applications, thus generating an accelerated channel of cash-less payment. There are a plethora of channels available for the payment of utilities both from the public as well as the private sector. Examples of the same are the Bharat Bill Payment System, Paytm, Suvidha, billing facilities offered by banks like HDFC, Axis, ICICI and other banks.

The reason of the choices being the convenience, hassle-free nature of digital transactions. Digital transactions through cards and wallets do not take a lot of time and the ease of not carrying physical cash is a driving force behind the accelerating growth of digital payments.

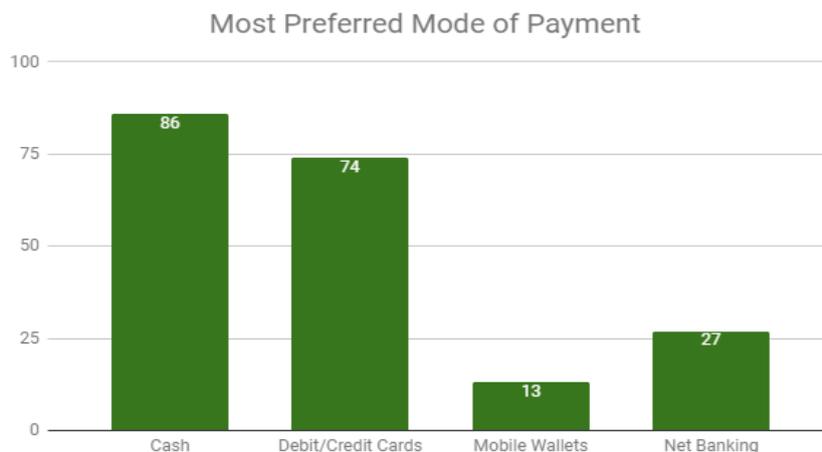


Fig 6

However, the most preferred mode of payment still remains Cash as more than 85 of the 200 respondents chose cash as the best method of payments. Apart from many others, the primary reason of the same is most likely the habit of making use of physical currency for most of the purchases. Bank cards ranked second with 74 on 200 followed by net banking and mobile wallets respectively. Mobile wallets, being recent entrants, have picked up growth and show potential in the market. E-commerce portals are primarily increasing the electronic usage of money as more and more people turn towards online purchasing.

It is also seen that mode of payment differed according to the value of the transaction in question. Although cash was majorly present in all the category choices, it was seen that majority of respondents preferred cash for transactions below ₹2000 on an average. (Fig 7) Payments higher than that are mostly in the net banking and debit/credit card slab as shown in the figure below. This may be due to increased awareness, easy and quicker payments via cards/net-banking, as well as the increased online shopping space.

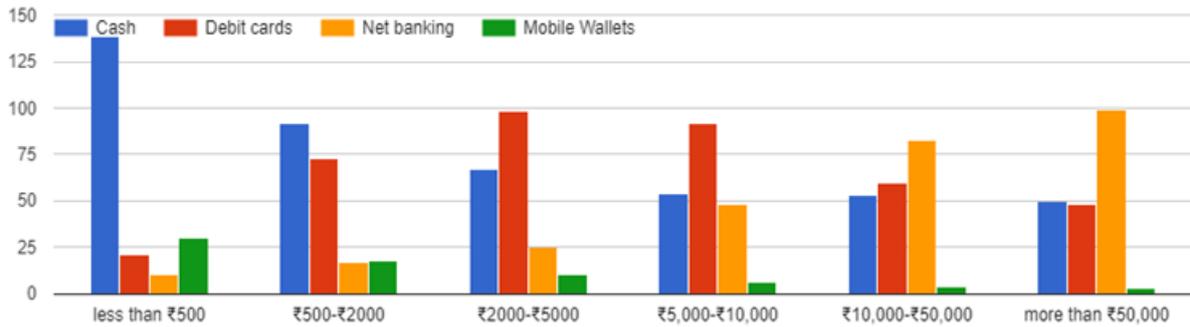


Fig 7

Smart phones have taken a lead with respect to the most preferred mode of carrying out digital transactions (Fig 8) primarily because of their ease of access and availability of applications anytime, anywhere. The increasingly falling prices combined with a good demand for the same has lead India in becoming a market of an estimated 299 million smartphone users by the end 2017. The rapid increase has provided an impetus for the additional services and facilities that can be availed, including digital payments platforms.

### Preferred Payment Method

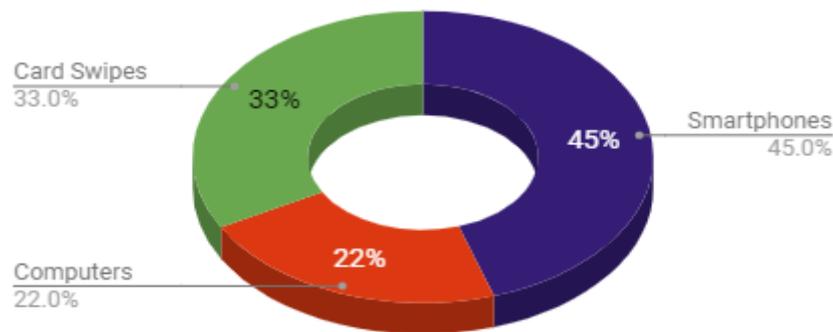


Fig 8

While mobile phones do make it convenient for transacting or conducting business, it puts consumers to the threats like virus attacks, malware, frauds and theft of information, etc.

The benefits of digital transactions are sure many and will continue being a contributing factor for its growth, but the concerns hampering the rapid usage are not to be overlooked. The study highlighted the following major integrated factors that surface as barriers for the adoption of digital payment methods

- ✓ Security Concerns
- ✓ Lack of technological awareness and unavailability of digital transaction facilitators
- ✓ Lack of internet availability

As long as these reasons continue to exist and elaborate, the path for growth of ‘Digital India’ is a challenging one.

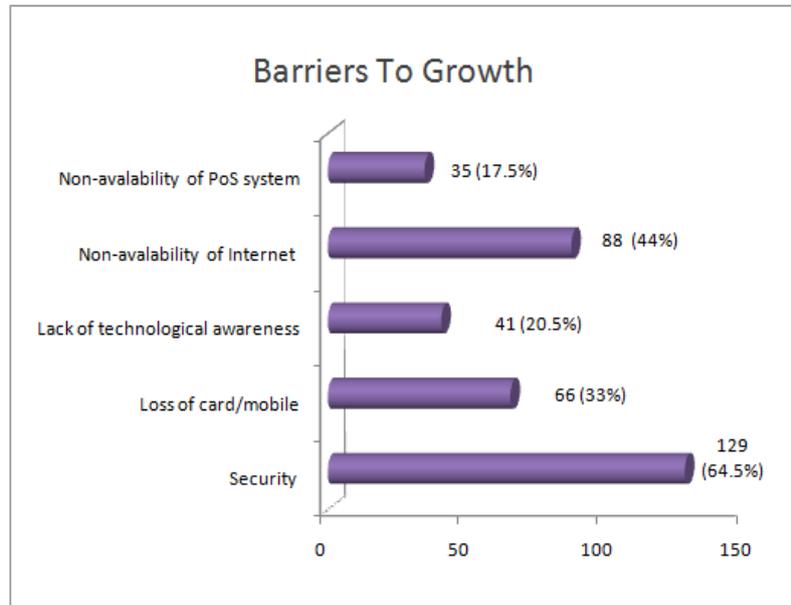


Fig 9

The study shows that consumers are aware of the benefits of using less cash in their purchase patterns and also the long term advantages like coping with terrorism, money laundering, and others. The overall perspective, as studied here, is that the growth prospects of digital transactions are undoubtedly strong and show signs of a steady rise. Cash is still a preferred mode of payment due to several factors that are usually the pros of carrying cash as well as the implications of digital transactions. The increased cyber security space combined with widespread digital literacy and awareness campaigns can fuel the digi-payments sector to make the 'Digital India' initiative a successful one.

## V. Conclusion

The initiative of a widespread digitisation of the transactional space by the Government is a commendable step. The past one year has seen growth of digital payments by leaps and bounds across sectors. This can be majorly credited to demonetisation that led to the multiplying of the digital transactions space almost overnight.

The advantages and benefits of a cash-less economy are many and the same can be made all the more effective by tackling the problems that obstruct its growth prospects. Improving and setting up a robust cyber space to combat any attacks of fraud, malware, information theft and others is a prerequisite for a smooth digital transaction system. Awareness of the various methods and modes of payments, increased financial inclusion, and digital literacy among the citizens is also a key driver of the cash-less movement. The economy is a long way to go in terms of achieving high rural literacy rates and supportive infrastructure for digital transactions, including internet penetration as well as smartphone usage. The country has a long way to go to claim successful achievement of cash-less economy, and the citizens, businesses and the Government need to work in harmony and progressively to reach this milestone of a developed economy.

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