



An Overview On Digital Payments

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ABSTRACT

The Information Technology (IT) has revolutionized the various aspects of our lives; particularly it has provided an easy way to go for digital payments. During the Demonetization period, the Government of India forced the people directly or indirectly to do all commercial transactions via Digital mode. The common people started to move from traditional payment system towards Digital Payments systems which ensured safe, secure and convenience. With giant technological leaps in the smart phone and easy internet access has led Indian market to accept Digital Payments. The percentage of the digital payments through other modes is also increasing in a significant speed. The objective of the present study is to know about the various types of Digital payment transactions that are used by the common people in their day- today's lives. This study is chiefly based on Secondary data. Result indicates that the Digital revolution has made the cash less transaction an easy one. As a result that in 2015-2016, a total of ₹4018 billion has been transacted through mobile banking when

compared to ₹ 60 billion in 2012-13. The reach of mobile network, Internet and electricity is also expanding digital payments to remote areas. So, it is without doubt said that future transaction system is cashless transaction.

Keywords—Digital Payments, Demonetization, Digital Revolution

INTRODUCTION

Digital payment is a way of payment which is made through digital modes. In digital payments, payer and payee both use digital modes to send and receive money. It is also called electronic payment. No hard cash (currency notes) is involved in the digital payments. All the transactions in digital payments are completed through online. It is an instant and convenient way to make payments.

Currently available digital payment systems include Banking cards, Digital wallets, Unified



Payment Interface (UPI), Unstructured Supplementary Service Data (USSD), Immediate Payment Service (IMPS), Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT), Aadhar Enabled Payment System (AEPS) and Mobile banking. With recent advances technologies, digital payments is having an impact on our daily lives and beginning to offer interesting and advantageous new services. According to RBI Bulletin cashless transaction in India increasing day by day. The statistics in report shows that in Nov.2016 and Dec. 2016 the total value transaction done using E-Wallet was 50.74 Billion and 97.70 Billion respectively and in Jan. 2017 it is increased up to 108.69 Billion. According to the survey conducted by Cash-Karo India, E-Wallet payment method is more preferred by customers than other payment methods. The users of Smart phone has been increased randomly, this has also paved the way for digital transactions. In 2015-2016, a total of Rs. 4018 billion transacted through mobile banking as compared to Rs. 60 Billion in 2012-2013.

STATEMENT OF THE PROBLEM

The Union Cabinet chaired by Prime Minister Narendra Modi has approved 'Pradhan Mantri Gramin Digital Saksharta Abhiyan'

(PMGDISHA) to make 6 crore rural households digitally literate. The outlay for this project is Rs 2,351.38 crore to usher in digital literacy in rural India by March 2019. PMGDISHA is expected to be one of the largest digital literacy programmes in the world. Under the scheme, 25 lakh candidates will be trained in the fiscal year 2016-17, 275 lakh in fiscal year 2017-18 and 300 lakh in fiscal year 2018-19. The Committee on Digital Payments constituted by the Ministry of Finance, Department of Economic Affairs has recommended for the medium term strategy for accelerating growth of Digital Payments. However, many of the digital payment methods are not popular among the common people and people are not comfortable to use them for their day-to-day's transactions. There is less awareness among the people about different types of digital payment methods. There is also a myth among them that overspending is possible when we use the digital payment nodes and banks deduct high transaction cost for the digital payment operations. Hence literacy about the digital payments has become a necessity.

OBJECTIVES OF THE STUDY



The general objective of the study is to know about the various types of digital payment transactions.

The following are the specific objectives,

- ❖ To explore the various modes of digital payment transactions that is offered by various financial institutions.
- ❖ To gauge the extent of operations of digital payments while dealing with online transactions and
- ❖ To offer suitable suggestions in handling digital payments as easy and convenient one.

METHODOLOGY

The study is based on secondary data. The materials were collected from books, journals, newspapers and relevant websites which have been consulted in order to make the study an effective one.

TYPES OF DIGITAL PAYMENTS

1. Payment Cards

The most common types of payment cards are credit cards and debit cards. Payment cards are usually embossed plastic cards, 85.60 × 53.98 mm in size, which comply with the ISO/IEC 7810 ID-1 standard. They usually also have an embossed card number conforming with the ISO/IEC 7812 numbering standard. Most

commonly, a payment card is electronically linked to an account or accounts belonging to the cardholder. These accounts may be deposit accounts or loan or credit accounts, and the card is a means of authenticating the cardholder. The information required for using payment cards are Card Verification Value (CVV Number) and Expiry date of the payment card. CVV number is a combination of features used in credit and debit cards for the purpose of establishing owner's identity and minimizing the risk of fraud. Payment cards require 2 factor authentications, Authentication is a process in which credentials provided are compared to those on file in a data base of authorized users information on a local operating system. Factors of authentication includes Knowledge factor (PIN), Possession factor (ID card, Smart phone) and Inherence factor (Fingerprint, face or voice). Generally the Payment cards can be distinguished on the basis of its features. They are



- ❖ **Credit card:** The first universal credit card, which could be used at a variety of establishments, was introduced by the Diners' Club, Inc., in 1950. Another major card of this type, known as a travel and entertainment card, was established by the American Express Company in 1958. Central Bank of India was the first public bank to introduce Credit card. The issuer of a credit card creates a line of credit (usually called a credit limit) for the cardholder on which the cardholder can borrow. The cardholder can choose either to repay the full outstanding balance by the payment due date or to repay a smaller amount, not less than the "minimum amount", by that date.
- ❖ **Debit card:** Debit card was introduced by Citi Bank. With a debit card, when a cardholder makes a purchase, funds are withdrawn directly from the cardholder's bank account.
- ❖ **Smartcard:** Banks are adding chips to their current magnetic stripe cards to enhance security and offer new service, called Smart Cards. Smart Cards allow thousands of times of information storable on magnetic stripe cards. In addition, these cards are highly secure, more reliable and perform multiple functions. They hold a large amount of personal information, from medical and health history to personal banking and personal preferences.
- ❖ **Charge card:** With charge cards, the cardholder is required to pay the full balance shown on the statement, which is usually issued monthly, by the payment due date. It is a form of short-term loan to cover the cardholder's purchases.
- ❖ **Fleet card:** A fleet card is used as a payment card, most commonly for gasoline, diesel and other fuels at gas stations.
- ❖ **Gift card:** A gift card also known as gift voucher or gift token is a prepaid stored-value money card usually issued by a retailer or bank to be used as an alternative to cash for purchases within a particular store or related businesses.
- ❖ **Store card:** It is a credit card that is given out by a store and that can be used to buy goods at that store.

2. Unstructured Supplementary Service Data (USSD)

USSD is sometimes referred to as "Quick Codes" or "Feature codes", is a protocol used by GSM cellular telephones to communicate with the service provider's computers. A typical USSD message starts with an asterisk (*) followed by digits that comprise commands or data. Groups of digits may be separated by additional asterisks. The message is terminated with a number sign (#). The innovative payment service *99# works on Unstructured Supplementary Service Data (USSD) channel.



This service allows mobile banking transactions using basic feature mobile phone, there is no need to have mobile internet data facility for using USSD based mobile banking. USSD is generally associated with real-time or instant messaging services. USSD is sometimes used in conjunction with SMS. The user sends a request to the network via USSD, and the network replies with an acknowledgement of receipt: "Thank you, your message is being processed. A message will be sent to your phone." The Information required for USSD transaction is MPIN/ IFSC/Aadhar number/Account number. Mobile Banking Personal Identification Number (MPIN) works as a password when we perform any transaction using Mobile.

3. Aadhaar Enabled Payment Service (AEPS)

The AEPS system leverages Aadhaar online authentication and enables Aadhaar Enabled Bank Accounts (AeBA) to be operated in anytime-anywhere banking mode through Micro ATMs. This system is controlled by the National Payments Corporation of India (NPCI). Aadhaar Enabled Payment System is a way to get money from the bank account. This system of getting money neither requires your signature nor Debit card. It is also not needed to visit a bank branch

for getting money through the Aadhaar Enabled Payment System. For AEPS transaction following information is needed.

1. Aadhaar Number
2. Bank Issuer Identification Number (IIN) or Name
3. Finger Print

4. Unified Payments Interface (UPI)

Unified Payment Interface (UPI) is a new payment interface introduced by National Payments Corporation of India (NPCI) under the supervision of Government of India to promote a cashless-society and mobile banking. Unified Payments Interface (UPI) is a system that powers multiple bank accounts to use several banking services like fund transfer, and merchant payments in a single mobile application. Sending and receiving money through UPI payment app is like sending and receiving a text message on your Smartphone. A user need not have multiple banking app installed in his/her Smartphone. A user can simply add all the bank accounts in a single UPI payment app without the hassle of remembering or even typing banking user ID/Passwords. Each Bank provides its own UPI App for Android, Windows and iOS mobile platform(s). The information required for UPI based transaction are Virtual Payment Address (VPA) of recipient



and Mobile banking Personal Identification Number (MPIN). By sharing VPA, funds can be transferred and money can be collected.

5. Digital Wallets

A Digital wallet is a way to carry cash in digital format. Credit card or debit card information should be linked to digital wallet application or money can be transferred in online to mobile wallet. Instead of using physical plastic card to make purchases, it can be paid through smartphone, tablet, or smart watch. The Services offered by Digital Wallets are Balance Enquiry, Passbook/ Transaction history, Add money, Accept Money, Pay money etc. Digital wallets are composed of both digital wallet devices and digital wallet systems. A mobile wallet is simply the digital wallet on the mobile handset. Presently there are further explorations for smart phones with digital wallet capabilities, such as the Samsung Galaxy series and the Google Nexus smart phones utilizing Google's Android operating system and the Apple Inc. iPhone 6 and iPhone 6 Plus. Most banks have their e-wallets and some private companies. e.g. Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, itz Cash, Citrus Pay, Vodafone M-Pesa, Axis Bank Lime, ICICI Pockets, SpeedPay etc.

6. Point of Sale machines

Point of Sale Machine made it faster and easier for cashiers to ring up sales and keep tabs on transactions. In the 1970s, innovation helped traditional cash registers evolve into computerized point of sale systems. It was also during these years that devices such as credit card terminals and touch screen displays were introduced.

The point of sale (POS) or point of purchase (POP) is the time and place where a retail transaction is completed. It is the point at which a customer makes a payment to the merchant in exchange for goods or after provision of a service. After receiving payment, the merchant may issue a receipt for the transaction, which is usually printed but is increasingly being dispensed with or sent electronically. A retail point of sale system typically includes a cash register (which in recent times comprises a computer, monitor, cash drawer, receipt printer, customer display and a barcode scanner) and the majority of retail POS systems also include a debit/credit card reader.

7. Mobile Banking

Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct different types of financial



transactions remotely using a mobile device such as a mobile phone or tablet. It uses software, usually called an app, provided by the banks or financial institution for the purpose. Each Bank provides its own mobile banking App for Android, Windows and iOS mobile platform(s). The earliest mobile banking services used SMS, a service known as SMS banking. With the introduction of smart phones with Wireless Application Protocol (WAP) support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers. Mobile banking is known as M-banking or SMS Banking. The European company called PayBox supported financially by Deutsche Bank, in 1999 started mobile banking. The cost of mobile devices has been reduced drastically and is still being reduced. Network speed is much better than before and data plans are not as costly. All of these changes have provided necessary raw materials for the growth of mobile banking and the numbers of people using mobile banking is increasing day by day. Users, who were using computers/laptops for online banking, are moving towards mobile banking because of ease of use and fast access.

Transactions through mobile banking may include obtaining account balances and lists of latest transactions, electronic bill payments, and

funds transfers between a customer's or other's accounts. e.g. –iMobile for ICICI bank, Kotak Bank App for Kotak Mahindra bank, SBI freedom app for State bank of India

8. Internet Banking

Internet banking, also known as online banking, e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. Online banking was first introduced in the early 1980s in New York, United States. Four major banks — Citibank, Chase Bank, Chemical Bank and Manufacturers Hanover — offered home banking services. Chemical introduced its Pronto services for individuals and small businesses in 1983, which enabled individual and small-business clients to maintain electronic checkbook registers, see account balances, and transfer funds between checking and savings accounts. ICICI Bank was the first Indian bank to provide internet banking facility. Information required for Internet banking are Account number and Indian Financial System Code (IFSC code). Indian Financial System Code is a 11 digit alpha numeric code that uniquely identifies a bank branch participating in any RBI regulated



fund transfer system. Beneficiary registration is required for the transactions. Beneficiary is a person who receives benefit from a particular entity or a person. To register a beneficiary information such as beneficiary name, account number, bank address and fund transfer limit is to be given. Following are the services provided by Internet banking.

- ❖ **Bill payment service** – Internet banking facilitates payment of electricity and telephone bills, mobile phone, credit card and insurance premium bills as each bank has tie-ups with various utility companies, service providers and insurance companies, across the country
- ❖ **Railway pass** - Railways has tied up with ICICI bank and so the railway pass for local trains is available in online.
- ❖ **Recharging the prepaid phone**- By just selecting the mobile number and the amount for recharge, phone recharge can be done within few minutes.
- ❖ **Shopping** - With a range of all kind of products, online shopping and the payment is also made conveniently through the account.
- ❖ **Fund transfer**

a. **National Electronic Fund Transfer (NEFT)**

National Electronic Funds Transfer (NEFT) is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme,

individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme.

b. **Real Time Gross Settlement (RTGS)**

RTGS is defined as the continuous (real-time) settlement of funds transfers individually on an order by order basis (without netting). 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually (on an instruction by instruction basis).

c. **Immediate Payment Service (IMPS)**

IMPS offers an instant, 24X7, interbank electronic fund transfer service through mobile phones. IMPS is an emphatic tool to transfer money instantly within banks across India through mobile, internet and ATM which is not only safe but also economical both in financial and non-financial perspectives.

d. **Electronic Clearing System (ECS)**

ECS is an alternative method for effecting payment transactions in respect of the utility-bill-payments such as telephone bills, electricity

bills, insurance premia, card payments and loan repayments, etc., which would obviate the need for issuing and handling paper instruments and thereby facilitate improved customer service by

banks / companies / corporations / government departments, etc., collecting / receiving the payments. Table 1 shows the birds view on digital operations.

Table-1
A Bird's view on Digital Operations

S.No	Particulars	Banking Cards	USSD	AEPS	UPI	Mobile wallets	Mobile banking	Internet Banking		
								NEFT	RTGS	IMPS
1.	Timing	24*7	24*7	Business hours of BC centre	24*7	24*7	24*7	8.00 to 6.30	8.00 to 4.30	24*7
2.	Time taken to complete a transaction	Instant	Instant	Real time	Instant	Instant	Instant	Same day	Real time	Instant
3.	Transaction limit	Depending on bank and card we use	Rs. 5000 per transaction	The bank with which aadhar number is linked would set the limit	Rs. 1,00,000 per transaction	Rs. 20,000 per month	Rs. 5000 per day per customer if the transaction is initiated through SMS. Maximum of Rs. 50,000 per day per customer if transaction is initiated through download	There is no ceiling on the minimum or maximum limit	Min. Rs. 2,00,000. There is no Maximum limit	Rs.10,000 – Rs. 2,00,000
4.	Information required	For PoS: PIN/ For cards CVV Number and Expiry date	MPIN/ IFSC/ Aadhar number/Account number	Aadhar number and Bank name	VPA of recipient and MPIN	Login and Pay	MPIN/ IFSC/ Aadhar number/Account number	Account number and IFSC code		
5.	Authentication	2 Factor Authentication		Thumb impression used for authentication	2 Factor Authentication					

6.	Beneficiary registration	No beneficiary registration				Yes beneficiary registration	
7.	Technical requirement	Internet connectivity For PoS Debit/ Credit card also needed	Smart or Feature phone	Point of sale device	Smart phone with internet connectivity	Internet enabled mobile phone, it must support WAP (Wireless Application Protocol)	Internet connectivity

Source: Compiled data

SUGGESTIONS

- ❖ Government can ensure to the public that the operation of digital payment transaction is free from transactions cost which in turn helps the customers of various transaction to purchase via on line mode.
- ❖ Government could give concession to the retailers, merchants and other suppliers who sell the products and services via digital mode and this in turn will encourage all the merchants to become e-merchants
- ❖ Training Programmes could be organised by the government to train all the people to make use of the digital payments.
- ❖ Government can give continuous media coverage through TV news/ shows, Radio or social networking or newspapers/magazines about the benefits of digital payments to the society and for the individual.

- ❖ Customers must be able to comply with the terms and conditions of Digital payment methods, notify the issuer of the loss/theft of the Electronic Payment Instrument (EPI) immediately and keep track on the balance, especially after each transactions.

CONCLUSION

In future the digital payments are going to be a must and so the change in the habits of the people to accept the digital payment is also must. The cashless transition is not only safer than the cash transaction but is less time consuming. It also helps in record of the all the transaction done. India has more than 100 crore active mobile connections and more than 22 crore smart phone users as of March 2016. This number is going to increase further with a faster internet speed. The reach of mobile network, Internet and electricity is also expanding Digital payments to remote areas. So, it is without doubt



said that future transaction system is cashless transaction.

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