

## Cashless Economy in India

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**Abstract:** *As part of a move towards cash less economy, the government of India has come up with a lot of discounts on digital transactions. If we implement cash less economy concept in India, we no longer need to carry huge amount of cash, plastic cards or even queue up for ATM withdrawals. It is one of the easier and safer options of spending money when we are travelling. In India's development, Bitcoin traders and their corresponding exchanges are now facing difficulties in using digital payments as there is no proper regulatory framework to legalize their trading. Based on the research conducted, comfort has risen as the most imperative factor that is driving this development. This is trailed by the accessibility of offers while settling on advanced instalment strategies. The report predicts that the value of the remittances and money transfer that will pass through alternate digital payment instruments will double to 30% by 2020. Digital transactions in 2017-18 indicate an increase of 80%, and because of demonetization. The statistics say that they would reach up to Rs.1800 Crores. The value of digital transactions until October is Rs. 1000 crores, which is equal to the whole value reached in 2016-17. The average transactions registered in June, July, August amounted to Rs. 136-138Crores which is believed to be the continuation of the trend. This study aimed to identify the recent methods of online transactions and its growth and effects in the economy, issues and challenges of electronic payment systems and delivering some regulations which governing he digital payment system in our country.*

**Key Words:** *Electronic Payments, Payment System, e-commerce, Plastic money, Cashless Economy.*

### 1. INTRODUCTION

In India, Digital Payment transaction is first well established in clearing system of the cheque; this mechanism takes care of the difficulties in physical delivery of instrument otherwise amount transfer from one bank to another bank. The new idea of a fullycomputerized system of clearing cheque was the first step of modernization of digital payment system concept. Later they came to a newlevel of the introduction of clearing operation with the idea of MICR (Magnetic Ink Character Recognition) based cheque. The MICR concept was introduced in 1986 by using the HSRS (High-Speed Reader Sorter System). In this modern computerized system of clearing cheque, they are coming with the new idea of Electronic banking system concept and payment system. In 1994, electronic clearing service (ECS) was introduced where the electronic payment idea was aiming to replace the paper usages and other hard material requirements, and primaryobjective to reduce the cost of stationery. In 1998 Electronic Fund Transfer Scheme came into the concept of the retailfund's transfer system and easily transfer amount from one person account to another person in the same particular bank without any physical effort of instruments required. In 2000, Greyscale Imaging Technology was introduced as a value-added service to the member of the clearing houses in same particular place. In 2002 Centralized Fund Management system (CFMS) was added to give a better concept of account managed by the holder. RBI is providing online consolidated details about the transaction and other necessary information with deposit account in another office. In 2002 new concept of Negotiated Dealing System (NDS) and Securities Settlement System (SSS) came to create a new idea of an electronic platform for trading and transaction in government securities market. Thisindicates the settlement of payment through the delivery versus payment concept. In the same year, clearing of foreign exchange transaction was introduced. This system provides the exclusive settlement arrangement for exchange transaction between members and entities in the exchange market in the country. The process of settling only net obligations little less the liquidity requirement of foreign currencies and also reduce the transaction charges also take care of settlement-relatedrisk, like the mechanism was facility by guaranteed compensation through the centralcounterparty arrangement of the clearing corporation of India. In 2004 RTGS (Real Time Gross Settlement) system was introduced to the settlement of inter-banking payment on the real-time and gross basis to reduce the risk in the payment system. Now, Digital payment is a transaction of amount transfer made by digital modes. In this method payer and beneficiary both use the digital modes to pay and accept the money, this is called as an electronic payment system. In this method no hard cash is involved, all the payment transactions are entirely online based, it is a straightforward and convenient way to made payment. In the cash payment system have a lot of issues like, first we have to withdraw the money from our account, and then we pay to shop or some other payment places. And that person again goes to the bank and deposit that amount. But in this digital system of

payment, the amount is directly and immediately deposited to respected accounts this is fully automatic and user-friendly method. Because of this payment we save our time of waiting in long queues in bank and ATMs.

## **2. LITERATURE REVIEW**

The electronic payment system is one of the modes of payment which is commonly used in India. E-commerce has also a link to the online payment system. It is beneficial for both service providers and customers by using e-payment systems which leads to raising the competitiveness in the long run. So privacy and security measures have been perceived by the consumers as well as sellers to the implementation of electronic payment system successfully [1] (Hariom, 2016). The advent of e-commerce in 1990, brought a unique way of doing business to the customers. It consists of buying and selling of goods through online and also an exchange of money between different parties. E-commerce is growing rapidly by using smartphones, tablets etc. credit card is one of the dominant ways of payment method in a variety of markets [2] (Aditya, 2001). The electronic payment system has taken money in various ways such as smart cards, debit cards, credit cards, digital wallets, electronic cash and check systems are rapidly increasing with the help of advanced technology. From this study, we can find that consumers are choosing mobile payment methods for their routine online purchases and on-site purchases as well. And they can implement and adopt electronic payment methods in advance by overcoming the various issues related to the security and privacy of electronic payment methods [3] (Zlatko, 2016). The article about the emergence of payment systems in the age of electronic commerce and the state of art also saying that the credit is becoming the most dominant tool in the variety of electronic payment system in India. And the second thing is that debit cards which is commonly used for e-commerce in many countries [4] (Vinay, 2016). The third thing is that the smart cards based electronic payment system will be the most convenient and reliable way of payment in future and will also eventually replace the other electronic payment systems. They could also found that the success of e-commerce payment systems also depends on accessibility, consumer's preferences, security, reliability etc. [5] (Singh, 2009). to develop the electronic payment system in future first we have to review the present status of the electronic payment system in each country. Nowadays Nigeria has developed a card-based payment system and also internet electronic payment for the settlement of utility bills. So before that Apex bank should regulate and control existing card-based payment system. There should be a networking of all financial institutions and banks for the development of electronic payment schemes [6] (Veltri C. Stephen, 2011). And also should take care while building up public confidence in electronic money, and generation of accurate data etc. the Apex bank must care about various issues on development of electronic payment which includes providers issue, general legal issue, supervisory issue, a relevant security issue, law enforcement issue etc. [7] (Anyanwu C. Akudo, 2012). Even though the electronic payment system and digital currency created a lot of benefits to the society, but it has some problems and limitations surrounding. E-cash is also called digital cash which provides the customers with a safe, fast and low-cost means of payment. It is a replacement for the current banking system. In this system the customers not required to visit the bank frequently to settled transactions. In e-cash payment system, the payee does not know the identity of the payer and the bank which issues the electronic bank notes will not keep the identity of the recipient. E-cheque are similar to paper-based cheque. The payer is the one who writes the e-cheque on a computer and signs it electronically and then e-mails it through the internet. The payer signs e-cheque with the help of secure hardware device, which includes its authenticity certificate sign by the issuing bank. The payee receives the e-cheque, verifies the payer's signature on the e-cheque and endorses it [8] (Aigbe Princewell, 2014). Technology is one of the factors which makes the people lives easier. One of the major technological innovations in banking is payments through electronically. This helps to the banking industry in India to avoid various transaction problems and hassles [9] (Gurumurthy Anita, 2016). The technological innovations in electronic payment also help to people to make their payments for fees, fines, taxes, licenses and purchases at unconventional locations. Added to the success of e-commerce payment system also depends on consumer preferences, authentication, security, industry agreement etc. cashless payment system defending theft of paper and also helps to adopt e-payment solutions [10] (Kaur Karamjeet, 2015). E-payment system places a very crucial role in the business world because of its efficiency, convenience, and timeliness. It is basically used in both in developed and developing countries for business transactions because of its way of simplicity [11] (Kiran, 2012). In 1994, the credit card industry could reach to different oil companies, hotels, development stores when they start to using credit cards which helps the customers to pay for goods and services. In 1990's these credit cards were paper-based payments and then after it transformed to electronic completely [12] (Kabir Auwal Muhammad, 2015). The BCG report recognizes the different difficulties that the digital payments should overcome all together for the business to develop to its potential. The research has demonstrated that 1 of 2 non-users haven't utilized digital payments since they found the item excessively confused, making it impossible to comprehend and 61% of non-users think that its complex to utilize. Also, comprehensiveness of acceptance of digital payments and merchants complexity around speed of transactions during peak hours have risen as different inhibitors to usage.

### **3. OBJECTIVES**

- i. To analyze the growth of Digital Payment System in India.
- ii. To study the recent developments in Digital Payment Systems in India.
- iii. To understand the regulatory environment governing the Digital Payment System.

### **4. METHODOLOGY**

This is a descriptive paper where secondary data has been used, and the results are shown through charts and tables.

### **5. RECENT DEVELOPMENTS IN DIGITAL PAYMENT SYSTEMS IN INDIA**

#### **5.1 Banking Cards**

The banking cards are mainly issued in a plastic card with a magnetic stripe. There are mainly two types of bank cards which is a debit card and credit card which is mainly using for electronic commerce through ATMs. These types of bank cards giving more convenience, flexibility, security to the customers. This facility also offers to the consumers more control over their any other payment methods. These bank cards very much helpful to the consumers by increasing their purchasing power frequently. For example secure PIN and OTP, Visa, RuPay, Master Card etc. this is the easiest and convenient method for both the seller and consumer which will help them to save money as well as time.

#### **5.2 USSD**

USSD stands for Unstructured Supplementary Service Data. This facility concern about mobile banking transactions by using some mobile phone features. Banks provide this facility to their customer by dialing\*99#. It also provides various services are interbank account transfer funds, balance enquiry etc. USSD also called "Quick Codes or "Feature Codes". USSD can be used for location-based content services, WAP browsing, menu-based information services, and prepaid call back services.

#### **5.3 AEPS**

What AEPS stands for Aadhar Enabled Payment System is a payment service offered by the National Payment Corporation of India (NPCI). AEPS allows four types of banking transactions are a cash deposit, cash withdrawals, balance enquiry, Aadhar to Aadhar funds transfer.

#### **5.4 UPI**

Unified Payment Interface (UPI) is a system which enables the customer who has more than one bank accounts into a single mobile application it is merging several banking features and merchant payments into one hood. Each bank provides its own UPI App for Android, windows and IOS Mobile platform.

#### **5.5 MOBILE WALLETS**

Mobile Wallets refers to a mobile device which stores the information about all payment cards. Nowadays in India youngsters are more preferring mobile wallet facility which brought into great successful business ideas for startups. To days customers are choosing this facility than using credit cards in India. Presently, 10-12 mobile wallet companies are operating in India, in the form of Paytm, Mobikwik, Oxygen, Citrus, Mrupee, Freecharge etc.

#### **5.6 POS**

Point of Sale (POS) or Point of Purchase (POP) is the place and time where the retail transaction is completed. Here, the merchant can calculate the amount which is owed by the customer; merchant can also prepare the invoice for the customer and also he can choose the payment method to the customer. The merchant can issue the receipt for the transaction which may usually print or send electronically. The POS is basically can applicable to retail stores or a location where such operation can occur in this type of environment. This system POS is widely used in many industries. So, a point of sale system can be used if something can be exchanged for monetary value.

#### **5.7 MOBILE BANKING**

The mobile van moves from place to place on designated routes at designated hours, and the customers can transact their banking business, such as cash deposit, withdrawals, draft issuance, cheque collection, cheque book issue, pass book update etc. this can be even lighter than an on-road ATM and should be able to meet specific travel needs, for example main currency exchanges relating to the destination, acceptance of certain kinds of credit cards, debit cards for payments/purchases. This requires communication with a central data base that is compatible with the navigational system of the aircraft/ship.

## 6. GROWTH OF DIGITAL PAYMENTS SYSTEM IN INDIA

Table: 6.1 Number of Transactions

MODE OF PAYMENT	2015	2016	2017
RTGS	96,71,127	98,65,540	1,25,40,081
NEFT	10,60,01,400	12,92,36,970	18,67,03,464
IMPS	1,20,19,719	2,59,78,302	6,74,12,811
MOBILE BANKING	1,96,68,815	4,94,76,880	11,36,50,251
PPI CARD	79,43,054	1,85,56,110	3,45,83,639
M-WALLET	4,61,05,262	5,34,36,641	30,74,52,489
POS	7,61,05,726	11,28,68,336	27,11,72,292

Table: 6.2 Percentage Increase in Number of Transactions

MODE OF PAYMENT	2016	2017
	Percentage of increase in transaction	Percentage of increase in transaction
RTGS	20.10	29.67
NEFT	21.92	76.13
IMPS	116.13	460.85
MOBILE BANKING	151.55	477.82
PPI CARD	133.61	335.39
M-WALLET	1.59	566.85
POS	4.83	256.31

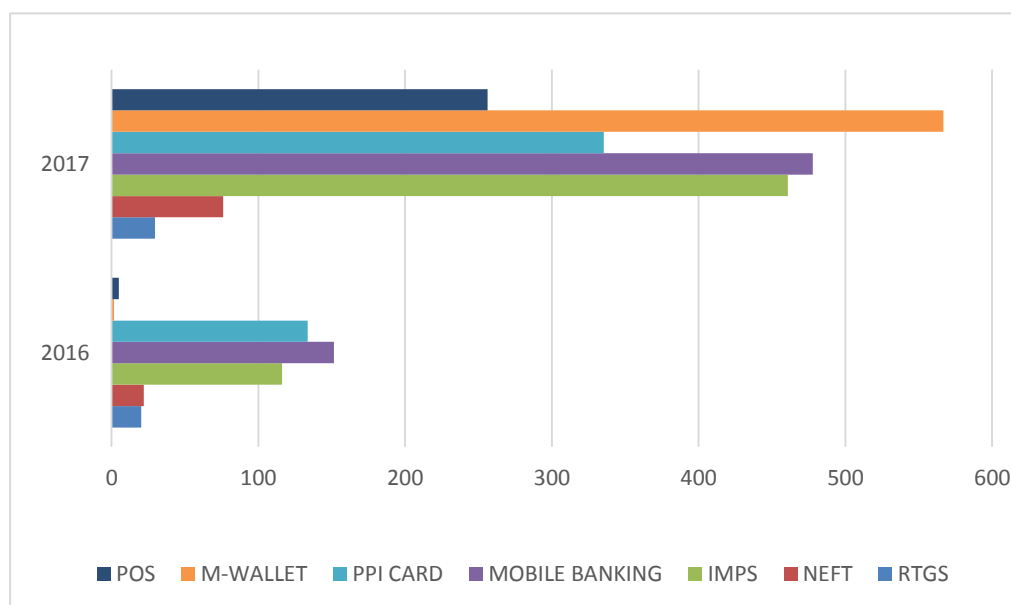
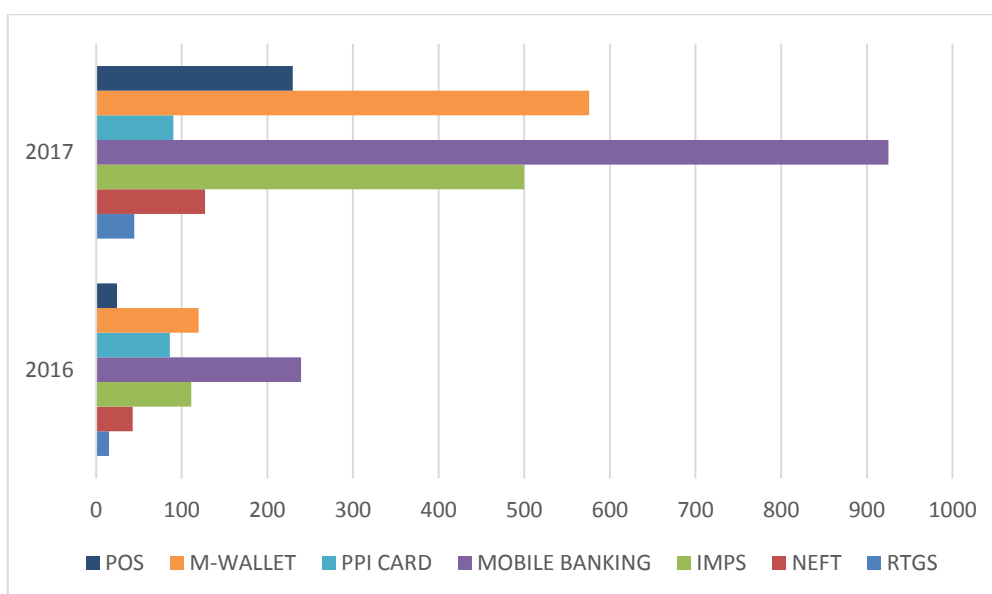


Table: 6.3 Volume of Transaction (Billion) Rupees

MODE OF PAYMENT	2015	2016	2017
RTGS	106,712.08	122,783.80	154,094.85
NEFT	7,173.02	10,226.36	16,294.50
IMPS	94.15	198.73	564.68
MOBILE BANKING	168.85	572.8	1730.88
PPI CARD	16.24	30.19	30.88
M-WALLET	10.82	23.79	73.12
POS	108.28	134.63	356.99

Table: 6.4 Percentage of Increase

	2016	2017
MODE OF PAYMENT	Percentage of Increase In Transaction	Percentage of Increase In Transaction
RTGS	15.06	44.4
NEFT	42.57	127.16
IMPS	111.08	499.77
MOBILE BANKING	239.24	925.1
PPI CARD	85.9	90.15
M-WALLET	119.87	575.79
POS	24.34	229.69



## 7. REGULATORY ENVIRONMENT GOVERNING THE DIGITAL PAYMENT SYSTEM IN INDIA

India was earlier restricted to the traditional payment system. But now there is a rapid change due to the recent digital payment interfaces. These systems will replace most of the traditional methods. Banks are given more access to the modern payment systems. But for the other segments, the digital systems framework will require a legal framework for making decisions. This legal framework should be able to form rules and principles. These norms should also check on the new laws that are being implemented. These new digital payments should also build the trust and ensure the privacy of the people. When the people's trust is gained, they can reduce the price of products because this system will ensure safety and efficiency. But if this system is not safe and efficient, then it will lead to the collapse of the entire financial system. RBI is the regulator of all these payment systems. The predominant administrative framework provides for three sorts of mobile wallets:

### 7.1 Closed Wallet:

A closed wallet is issued by an organization to its purchaser for elite utilization. It is outside the domain of the permitting administration for portable wallets and instalment instruments as it is a game plan between a client and an organization, (for example, Flip kart or Amazon) while trading any items bought and ordinarily credited to the client's record with the organization.

### 7.2 Semi-Closed Wallet:

A semi-closed wallet is utilized to make instalments at recognized dealer areas or notwithstanding the wallet's computerized products and enterprises. Paytm, Free Charge and Mobikwik are great cases of this class. One can utilize a semi-closed wallet like Paytm to pay for revives on the Paytm application, or to pay for a ride on Uber.

### 7.3 Open Wallet:

Open wallets enable you to purchase merchandise and ventures, pull back money at ATMs or banks and exchange stores. These administrations must be given by a bank, as indicated by Reserve Bank of India (RBI) standards. But practically, they have not taken off as they are identical to financial balances.

#### **7.4 Administrative structure**

The Payment and Settlement Systems Act, 2007 is an enactment for controlling the instalment frameworks in India and engages the RBI to manage and administer these frameworks. The substances authorized under this Act can issue their versatile wallet and participate in the portable wallet business. Other than this Act, the RBI issued a Master Circular in July 2016 setting out the arrangement structure for issuance and operation of prepaid instalment instruments (PPIs) and also the direction of the instalment frameworks suppliers/administrators.

#### **7.5 Due Diligence and different conditions:**

The accentuation is on improving this section of the instalment and settlement frameworks judiciously with different qualification criteria and different conditions to give versatile wallet administrations. Client due ingenuity has been ordered for semi-open wallet benefits.

#### **7.6 Grievance Redressal:**

There must be a framework for client grumbling/grievance redressed with a reasonable acceleration grid. In the instance where a client's worries are not adequately tended to by the PPI guarantor (if it is a bank), the client may approach the Banking Ombudsman set up by the RBI for determination of client grievances in a period bound way.

#### **7.7 NPCI and UPI**

Under the regulations of the RBI, the National Payments Corporation of India (NPCI) was fused in 2008 as a joint wander of banks to go about as a helping hand to advance instalment measures in India.

By its order, the NPCI has discharged a few instalments items to the market, for example, IMPS (Immediate Mobile Payments Service) and the UPI (Unified Payments Interface). Dissimilar to versatile wallets, these items can be worked just through a ledger. It is normal that with the dispatch of instalments banks, these stages will at last score over portable wallets over the long haul.

The UPI is a progressive new instalment component that accommodates a sheltered and secure way of influencing an instalment without sharing the bank account number or IFSC codes. This is possible through the age of a Virtual Payment Address (VPA) that can be gotten by anybody with a record in a participating bank.

A VPA works similar to an email id taking into account moment settlements. The 'Gather Transactions' component additionally enables clients to ask for cash from each other, and the settlement is affected on the endorsement of the payee. Another energizing element of the UPI is application movability. The UPI enables a partaking bank's clients to utilize the application of some other banks while making their exchanges. Since clients are not secured to their bank's applications, this rewards the formation of instinctive UIs.

### **8. DIFFICULTIES**

Mediators in the instalment procedure: The instalments area works through a few go-betweens which make the front-end instalments interface. There are occasions where banks or other authorized elements go into game plans with the versatile application engineers for consistency purposes. The application designers keep up the product and the IT frameworks however the exchange is, at last, steered through the authorized substance. This builds the expenses of working together through commissions and powers instalment organizations to spend more to encourage access to their administrations by the buyer.

From a lawful point of view, it additionally makes issues identifying with repayment and risk, information security and other authoritative commitments among the gatherings. For instance, PhonePe is another UPI wallet application created by Flip kart and 'controlled' by YES Bank. In such situations, solid tripartite assertions or consecutive business understandings must be arranged and settled to ensure the interests of all gatherings.

### **9. INFORMATION INSURANCE AND SECURITY:**

While advanced instalments have been thought about generally protected, continually developing advances and problematic plans of action are a bad dream from an administrative point of view, particularly in managing sensitive money related data. The RBI has made endeavours to decrease extortion by expecting banks to consent to chip and PIN EMV innovation for charge and Visas, PCI-DSS (instalment card industry information security guidelines) prerequisites for joining least security norms for purpose of-offer terminals.

In any case, these incremental measures have not figured out how to eliminate misrepresentation and convey solace to individuals' worries that such online exchanges are sheltered and secure. In spite of demonetization, the outlook of "cash is king" still conquers the important part of the rural population and individuals in the inside parts of the nation, what with narrow access to the Internet and cell phones. With such a great amount of riding on the advanced economy, there should be a solid law to manage information assurance, storing and transmission in India. The current administrative defends under the Information Technology Act, 2000 must be redone to ensure the interests of all partners, particularly the new age of purchasers who may not be completely aware of appropriate information security practices. With regards to demonetization, advanced instalments have brought the unbanked and the casual area to a constrained degree into the money related framework. With the RBI playing a genius dynamic part in

encouraging the spread of advanced instalments all through India and in making the procedure as frictionless as would be prudent, computerized instalment organizations are balanced for changing the way India executes.

## 10. FINDINGS

Electronic commerce is the best way to do business. It is not only for making payment through the internet but also it is providing an opportunity to buy tickets for travelling, download music, search for worldwide markets for necessary products etc. The finding of the study suggests that there is a large number of online payment services available to customers in India. The electronic payment system dominates Indian industry. And at the same time, the rate of online payment users increasing day by day because of familiarity with its use and simplicity. From this study, we could understand that the most of the users choosing an online method for making payment due to avoiding queues and the purchases that purchases that are time and place independently.

The adoption of mobile payment is most convenient for small payments and purchasing digital content and services. But for mobile payments, there are many disadvantages such as the complicated procedure for registration, need for maintenance of separate financial accounts, increased the cost of the transaction, and high premium pricing and various security risks are frauds, data theft, privacy concerns, and user and device authentication.

According to our observation, the RBI providing a legal framework for digital systems. The KYC norms have been relaxed for transactions under Rs.20000. The electronic monetary transactions and mobile wallets have been widely speaking since the announcement of government on demonetization, Jan Dhan Yojana for financial inclusion, from the Aadhar enrollment and introduction of the universal payments interface, we have been making our country strong for building a steady digital payments framework in India.

## 11. CONCLUSION

Technology made our lives easier. One of the technological advancement in banking and commerce is digital payments system. RBI and Government have a role in promoting digital payments systems. Nowadays, the biggest fear of security issues is identity theft. Even well-educated people are falling into many traps such as phishing, the incidence of online fraud, risks of hacking etc. this will leads to losing hope of consumers for making online transactions. Hence, the Government needs to make awareness about such kind of security threats and also should bring necessary precautions. Besides, the recent move by the Government to avoid the two-factor authentication process for digital payment online transactions will not help. Due to the insufficient security layer for online transactions, the identity theft is at higher risk.

## REFERENCES

1. Hariom, M. a. (2016). The Study of Electronic Payment System. International Journal of Advanced Research in Computer Science and Software Engineering.
2. Aditya, S. D. (2001). How to wire rural India problems and possibilities of digital development . Economic and political weekly, 4134-4141.
3. Zlatko, B. (2016). The future of the mobile payment as electronic payment system. European Journal of Business and Management, 127-132.
4. Vinay, K. (2016). India-Japan Relations nd Asia's Emerging Geopolitics. Indian Journal of Asian Affairs, 17-38
5. Singh, S. (2009). Emergence of payment systems in the age of electronic commerce: The state of art. Asia pacific journal of finance and banking reseach , 18-40.
6. Veltri C. Stephen, C. G. (2011). Federal Regulatory Developments. American Bar Association, 1113-1134.
7. Anyanwu C. Akudo, E. E. (2012). Electronic payment system(EPS): facilitating the development and adoption in Nigeria. IJCSI International journal of computer science., 462-467.
8. Aigbe Princewell, A. J. (2014). Analysis of security issues in electronic payment systems. International journal of computer applications, 10-14.
9. Gurumurthy Anita, C. N. (2016). Unpacking Digital India. Journal of Infirmation Policy, 371-402.
10. Kaur Karamjeet, D. P. (2015). E-payment system on E-commerce in India. International Journal of Engineering Reseach and Applications, 79-87.
11. Kiran, P. (2012). E-Governance policy for modernizing government through digital democracy in India. Journal of information policy, 183-203.
12. Kabir Auwal Muhammad, A. A. (2015). Adoption of E-payment systems: A review of literature. International conference on E-commerce ICOEC 2015, 113-119.