

# A STUDY BASED ON E- BANKING WITH SPECIAL FOCUS ON ELECTRONIC PAYMENT SYSTEM

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**Abstract :** The concept of banking was first introduced in medieval Florence in 1337. A powerful merchant family named Medici established a network of shops called Medici banks. It allowed patrons to place money on account and withdraw the money in another city that had Medici representative. Many powerful families and even the church kept their money in Medici banks. Later the bank generate profits from transactions fees on financial services or the interest spread on resources it holds in trust for clients while paying them interests on assets. Banks today are connected electronically so that banking transactions can be made globally in a split second after globalizations.

Reserve bank of India has taken an initiative for creating some innovations in providing the banking services through E-Banking. The reserve bank of India was established on April 1, 1935. Though RBI was originally privately owned, it is fully owned by the government of India since nationalization in 1949.

E-Banking is banking services made electronically through computers. E-banking involves different types of transactions. The article analyses the electronic payment system. The main objective of the paper is to find the feature and process of the payment system. The study also scrutinizes the different payment gate way through electronically.

**Index Terms-** Medici bank, E-Banking.

## I. INTRODUCTION

Electronic means of banking include electronically operated devices such as computers, ATM etc. in addition, internet, telephone, mobile handsets and other means are also used as part of e-banking. An essential feature of e-banking is that it provides round the clock (all the day and night without stopping). The E-Banking Services are Round the clock banking. Direct deposit. Phone payment, PC Banking., Point of sale transfers, Electronic Cheque conversion. Payment system using information technology tools is another area of initiative implemented by RBI. The another important step taken by RBI in the regard is REAL TIME GROSS SETTLEMENT SYSTEM ( RTGS), which aims at interbank settlement of large value funds in a real time environment.

### 1.1 OBJECTIVES

- To study the digital innovation made by the RBI in banking.
- To analyses the mechanisms for use the banking services through E-Banking.
- To make aware about the various types of payment system and process for E-Payment System.

## II REVIEW OF LITERATURE

**Jasdeep kaur (2017)<sup>1</sup>** studied the growth of e- banking in India and the producer offered in e-banking. ATM, CREDIT AND DEBIT CARDS, NEFT were the popular facilities. The study revealed that these services have seen as upward trend in recent years. 24X7 facility, reduced cost, No geographical barrier were the benefits of e –banking. Privacy risk, Technical difficulties, and lack of customer education were the barriers.

**Neeraj C hugh (2017)<sup>2</sup>** investigated the impact of e – banking on Indian banking Industry, capacity of infrastructure facilities and changing customer expectations. The study analyzed secondary data collected using percentage, trend analysis etc. The results concluded that E-banking has no impact on productivity of banks.

**EdyPurwoSaputro and NurAchmad (2015)<sup>3</sup>**The purpose of this research is to examine factors influencing individual belief to the adoption of electronic banking based on independent service, and supported by 100 students to be the samples of the research. The research conducted maximum like-hood with structural model test as the analysis technique. The result generates, the behavioural which confirms the synergy between belief, attitude, and intention are theoretically proved. The study is conducted in Solo, Indonesia and the observation setting is expected to provide uniqueness for this research, consider the demographic aspects of Indonesia, which tends to heterogeneous characteristic, and it influences the cultural differences, including the attitude and behaviour of individuals on the adoption of e-banking.

**Elavarasi.R and Surulivel S.T. (2014)<sup>4</sup>** studied the most preferred e-banking services of banks in Kumbakonam City among 200 respondents. The study found that age, Educational qualification, Income and Occupation play a significant role in usage of self - service Technologies. Security concern was found to be the major determinant in adoption of SSTs.

**M. Jane, J. Hogarth, and M. Hilgert, (2007)<sup>5</sup>** the adoption of electronic banking forces consumers to considered concerns about password integrity, privacy, data encryption, hacking, and the protection of personal information. [Benamati and Serva, 2007].Electronic banking requires perhaps the most consumer involvement, as it requires the consumer to maintain and regularly interact with additional technology (a computer and an Internet connection)

**III BENEFITS OF E-BANKING:****3.1 BENEFITS TO CUSTOMERS:-**

- a. More convenience in transacting business.
- b. Better knowledge of state of accounts.
- c. Wider range of products/services available to the customers.

**3.2 BENEFITS TO SUPPLIERS:-**

- a. Larger number of satisfied customers and consequent higher retention rate as regards loyalty.
- b. Possibility of attracting new customers.
- c. More scope to offer differential services.

**3.3 E-BANKING: INDIAN SCENARIO:-**

Effective payments through electronic means constitute e-payments. Various forms of e-payment such as e-cheque, card based payment (credit, debit, smart cards) and EFT.

**3.4 ELECTRONIC PAYMENT SYSTEM.****3.4.1 Meaning:-**

A convenient way of making a purchase or paying for a service without holding cash or having to go through the process of completing a cheque and producing some form of acceptable identification is called electronic payment system.

**3.4.2 FEATURES:-****1. IMPORTANT ELEMENT.**

- a. Electronic payment system constitutes an important segment of the e-banking and financial services.

**2. MODE.**

- a. The EPS is achieved through several modes such as a plastic card.

**3. CONVENIENCE.**

- a. The biggest advantage claimed by the electronic payment is that they are the convenient ways of completing cash based transactions.

**4. NO MANUAL SYSTEM.**

An EPS involves a series of processes by which the value exchanged is captured, verified, and accepted in a secured way. EPS requires minimum manual intervention that results in reduction of costs, easy record storage and handling of data at a faster speed compared to humans.

**THE PROCESS OF EPS:-**

The process of EPS is as follows;

- Access by a customer of e-mall and select of merchant for the purpose of online shopping.
- Merchant showing the products and services available for sale, with price tags.
- Interaction by the customer with the merchant and selection of products or service.
- Making electronic payment for the purchase of goods and services.
- Merchant obtaining authorization from banker for payment received from the e-customer.
- Merchant informing the customer about the payment acceptance and completion of transactions.
- Merchant obtaining the amount from the bank.
- Information of transactions and money transfers to merchant through e-mail.

**IV PAYMENT METHODS****4.1 DIGITAL CHEQUES.****4.1.1 MEANING:**

An electronic payment device that involves the use of networking services whereby the e-customer issues digital cheques to e-merchant malls to settle transactions carried over the internet is called DIGITAL CHEQUES.

**4.1.2 FEATURES.**

- ✓ Digital cheques are similar to paper cheques
- ✓ Digital cheques are system is carried over the internet with the adequate in-built security.

**4.1.3 STEPS.**

- ❖ Purchase by the customer in e-mall.
- ❖ Issue of digital by the customer.
- ❖ Cheque validation by the merchant with its bank for payment authorization.
- ❖ Closure of transactions by merchant with the customer.
- ❖ Merchant bank forwarding the electronic cheque to the clearinghouse for encashing.
- ❖ Clearing housing clearing the cheque and transferring the money to the merchant bank by updating the merchants account.
- ❖ Consumer bank updating the customer with the withdrawal information.

**4.2 SECURITY SCHEMES:** For widespread use of e-cheque among the internet users, it is important that the security arrangement made by the bank is adequate. The essence of security system consists in authenticating the electronic cheque. This involves supplying the originator public key to the receiver, and securely storing the originators private key. This would ensure that only the sender-customer has signed the cheque. It is also possible that electronic cheques could be ensured additional safety by insisting on the digital signatures of the originators bank.

**4.2.1 BENEFITS:**

- i. Easy and convenient way of issuing cheques.
- ii. Saves time
- iii. Saves effort needed for mailing and delivering cheques.
- iv. Ensures prompt forwarding and crediting of cheques.
- v. Better customer services
- vi. Better way of giving gifts.
- vii. No fear of loss of cheques.

**4.3 ELECTRONIC CASH:-****4.3.1 MEANING:**

Electronic cash also called digital money refers to a means of payment system used in the on-line banking and financial services scenario, the e-cash being issued by the e-mint.

**4.3.2 FEATURES:**

- a. An internet payment system that combines computerized convenience with security.
- b. An attractive mode of payment for on line shopping.
- c. An important payment carrier in consumer oriented electronic payment.
- d. Combines the benefits of credit and debit cards.
- e. Exclusive use only by the owner of electronic cash.
- f. Acceptance of e-cash only based on identification and verification of the owner.
- g. Not a legal tender and hence e-merchants may refuse to accept them.

**4.3.3 PROCESS:**

The five primary parties; the customer, the merchant, the consumer's bank, the e-mint, operate payment through the electronic cash method.

- Consumer requesting the bank to transfer money to the e-mint to make withdrawal of electronic cash.
- Consumer bank transferring money from the consumer's account to the e-mint.
- E-mint sending electronic cash to consumer on-line, this is saved by him/her on a hard drive or e-purse for further use.
- Consumer makes purchase by using e-cash.
- Consumer makes e-cash transactions for the purchases made by him.
- Merchant sending the collected e-cash to his/her banker for conversion into physical cash.
- E-mint transferring money to the merchant's bank for crediting the merchant's account.

**4.3.4 REQUIREMENTS:-**

- E-cash system must have independent existence and must support free mobility.
- Availability of adequate in-built safety mechanism to prevent any possible misuse by unauthorized persons as well as double spending on it.
- Renewal after every use by the customer.
- User-anonymity should be maintained so that no lead information is available on the previous ownership of cash.
- Easy transferability from one party to another with no trace of any movement of e-cash.
- Availability in several convenient denominations to facilitate its usage for normal transactions.
- Time validity of the electronic cash.
- Availability of floor limit for making transactions through the electronic cash.

**4.3.5 MAJOR ISSUES-**

- ❖ Existence of operational risks associated with the use of e-cash.
- ❖ Problems associated with the redeposit in the bank and reissue by the bank.
- ❖ Possibility of e-cash being used for unlawful activities which attract the attention of the law enforcing agencies.
- ❖ Need for designing a taxation and revenue structure with respect to e-cash transactions to take care of the revenue earnings.
- ❖ Need for maintaining

**4.4 ELECTRONIC PURSE:-**

A wallet sized smart card, embedded with programmable chip which stores e-money to be used in a virtual trading environmental for making payment is called electronic purse.

**4.4.1 FEATURES:**

- ✓ E-purse is electronically loaded with money by the e-mint or the banker in a virtual environment.
- ✓ E-purse is used for making payment for any e-transactions
- ✓ Authenticity of the user is verified with the help of card vending machine installed at the merchant's e-mall.
- ✓ Deduction from the e-purse of the value of purchase.
- ✓ Facility of convenient mode of payment to pay the bills for each transaction.
- ✓ Charging of e-purse after its being used and its value getting depleted.

#### 4.5 ELECTRONIC CARD:-

An electronic card with a PERSONAL IDENTIFICATION NUMBER used in internet trade transactions is known as electronic card, the pin the secret code entered by the customer while using the credit card on-line.

##### 4.5.1 FEATURES:

- There are four entities comprising the working of the electronic credit, such as the consumer who e-shops, the e-merchant, the e-banking institution of the merchant and the card issuing institute.
- Credit card transactions are handled by the merchant bank, and the card issuing bank.

##### 4.5.2 PROCESS:

- 1) The consumer accessing the merchant's home page and receiving display of the merchant's goods.
- 2) The consumer making a choice of the desired good and offering a credit card payment to the merchant.
- 3) The merchant server accessing the card issuing bank for credit authorization of the consumer's credit card number and the amount of purchase.
- 4) The merchant's bank completion the authorization and informing the merchant about it.
- 5) The merchant informing the consumer as to the completion of transaction.
- 6) The merchant server submitting a collection of receipts of various electronic credit purchases to the merchant's bank.
- 7) The merchant's bank accessing the card issuer and obtaining the money for the sales effected.
- 8) The card-issuing bank updating the cardholder about the amount of credit transferred to other parties as a result of the purchases affected by him/him.

##### 4.5.3 SECURITY REQUIREMENT

- Existing of a mechanism to validate the identity of the credit card issuing authority, the merchant, and the consumer.
- Using certificates for sending messages to authenticate the sender and to provide the sender's public key.
- Protection of the private key of the Certification (CA) so as to provide any theft or loss of CA's private key.
- Protection of the credit card number, the expire date, PIN, the amount of purchase, and other sensitive information during transmission over the internet.

##### 4.5.4 BENEFITS:

1. Possibility of not disclosing the credit card number and expiry date to the merchant which would provide heightened security.
2. Facility of instant payments to the merchants through credit card sales.

##### 4.5.5 ISSUES:

1. Possibility of loss of credit card information over the internet with debilitating consequences.
2. The need for providing the non repudiation and related documentation to address the disputes that may arise.
3. The need for installing a dispute resolution mechanism, on-line through, on-line documentation, and audit trails.

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