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**Commerce**

**A Study On Electronic Payment System In India**

**KEY WORDS:** Green Banking, Electronic Payment, Banking Systems.

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**ABSTRACT**

Change is the most essential tool to live in this era. The world has seen tremendous changes on economic progress and mankind is responsible for this giant leap of change that benefits us today. The side effects of this change in the process have, however been loss of biodiversity, climatic change, environmental damage etc. Bank is also not exception for this. This paper tries to find out how through the Green Banking the banks developed the electronic payment system in India and analysed ICT based payment and settlement service. In recent years Indian banking system have been progressing in order to modernise according to the developing system. This research is focused on only payment and settlement system and it is based on secondary data sources. Data consists ICT based payment system services provided by RBI and banking institutions in India as well as level of transaction volume, value, as well as threats of electronic payment system and suggests applicable measures to enhance payment system.

**INTRODUCTION:**

Today, the rate at which we are neglectfully consuming resources on earth, leads to a question of what will we leave for future era. This thought of saving for the future generation without affecting the present generation need has given rise to Green Banking concept. Green banking is defined as promoting environmental-friendly practices and reducing the carbon footprint from banking activities. In simple words, green banking benefits the environment. It is also known as ethical banking. The bank will cut back the employment of paperwork by promoting paperless banking through on-line banking. The national economy of any country consists of banking and non-banking financial institutes, these institutes are providing numerous forms of financial services to the shoppers. Within the monetary services, financial clearing and fund transfer service is most significant service than alternative services. Payment systems improve monetary comprehensibility, stimulating business growth and consumption. The success of the banking industry depends upon the economical and quality of clearing system. If we tend to overlook worldwide, this technique is dynamic with technological advancements. In the past few years, it is evident that, information and Communication Technology (ICT) have become a mean for improvement of financial system worldwide. In India, most of banks and financial establishments are providing ICT primarily based financial merchandise and services to boost their business efficiency and speed of services e.g. e-banking, net banking, electronic fund transfer, electronic clearing, mobile banking etc. are some of the clearing system of the industry.

**Objectives Of The Study:**

The adoption of green banking has several dynamic. It is always necessary for decision makers to grasp the usage of green banking product is among varied age groups, gender, and occupants. Geographical area, accessibility of green banking products, and financial literacy also play a vital role within the adoption of green banking products. It allows decision makers to determine which cluster ought to be more centered and targeted as a result of green banking not only provides convenient to the customer however also facilitate the banks to scale back their value (Bhardwaj and Malhotra, 2014). However, due to time constraint, the current study is limited to the following

- To study about the electronic payment system in India and its growth over the years.
- To analyze the problems faced with the electronic payment system
- To create awareness among people about green banking.

**Limitations:**

- Time constraint is one of the main limitations of the study.
- The data is based on secondary source which again is one of the constraint for the study.

**Research Methodology**

The study is purely based on secondary data. The data is collected from journals, research papers, publications of RBI, publications of Government of India.

**Internet Banking**

Internet banking, commonly known as online banking, is an outgrowth of PC banking. Internet banking utilizes the Internet as the conveyance channel by which to direct managing an account movement, for instance, transferring funds, paying bills, seeing checking and investments, account balances, paying home loans, and purchasing financial instruments etc. An Internet banking customer gets to his or her records from a browser software that runs Internet banking programs inhabitant on the bank's World Wide Web server, not on the user's PC. "Internet bank" is defined as one that provides account balances and some transactional data to retail customers over the World Wide Web by the Net banker. Internet banks are also known as cyber, interactive, virtual, net, or web banks.

Internet banks have lesser transactional and operational costs than the rest of the conventional physical banks, they are regularly ready to offer minimal effort checking and high return Certificates of deposit. Internet banking is not restricted to a physical webpage; some Internet banks exist without physical branches, for instance, Telebank (Arlington, Virginia) and Banknet (UK). Promote, now and again, web banks are not limited to leading exchanges inside national outskirts and can make exchanges including a lot of benefits quickly.

**Electronic Payment System In India**

The RBI assumes a significant part in the advancement of India's payment and settlement frameworks for both vast esteem and retail payment. The national bank assumed a spearheading part in computerizing the paper-based clearing framework in the 1980s. It presented an electronic funds transfer system and electronic clearing services (ECS Credit and Debit) in the 1990s. The special electronic funds transfer (SEFT) system was introduced in April 2003 (consequently ceased in March 2006, with the introduction of the National Electronic Fund Transfer (NEFT) system in November 2005) and the real-time gross settlement (RTGS) system in March 2004.

The RBI operates the RTGS, which has replaced the paper-based inter-bank clearing system and settles a fairly large volume of vast esteem and time-critical customer transactions. RBI likewise deals with the clearing houses (for paper-based and electronic clearing) in 17 urban areas while working the clearinghouses at four noteworthy Locations. It is the settlement banker in these urban areas. The RBI presented the NEFT system in November 2005. This forms the electronic retail payment infrastructure, with ECS. The National Electronic Clearing Services (NECS) system, which intends to consolidate the Electronic Clearing Service (ECS) operation and bring consistency and efficiency to the system, was accomplished in September 2008. At present, the NECS settles just credit transfers.

**Role of the RBI in Encouraging E-Payments:**

- As the apex financial and regulatory institution in the country it is compulsory for the RBI to ensure that the payments system in the country is as technologically advanced as possible and in view of this aim, the RBI has taken several initiatives to strengthen the epayments system in India and encourage people to adopt it.
- The Payment and Settlement Systems Act, 2007 was a genuine stride in this bearing. It empowers the RBI to “regulate, supervise and lay down policies involving payment and settlement space in India.” Except for some fundamental guidelines to banks on the personal and confidential nature of customer payments, supervising the timely payment and settlement of all transactions, the RBI has effectively inspired all banks and shoppers to grasp e-Payments.
- The Kisan Credit Card Scheme was introduced by NABARD keeping in mind the end goal to meet the credit needs of agriculturists, so that they can be free of paper cash bothers and utilize just plastic cash.
- A domestic card scheme known as Rupay has recently been started by the National Payments Corporation of India (NPCI), promoted by RBI and Indian Banks Association (IBA), inspired by Union pay in China, which will advance the use of cards i.e. “plastic money”. Initially functioning as an NPO, Rupay will focus on prospective customers from rural and semi-urban areas of India. Rupay will have a much more customers and wider coverage than Visa, American Express or MasterCard cards which have always been used for card-based settlements.

**Payment and Settlement Systems in India, Vision 2019**

The Reserve Bank continued with its endeavours towards building strong and secure payment and settlement systems for accomplishing a less-cash society. In this course, it came out with Vision 2019 which highlights the requirement for making regulations more receptive to technological advancements and developments in the payment system. This will be followed by upgraded supervision of payment systems administrators, improvement in client grievance redressal mechanism and improving the payment infrastructure. Thus, the Reserve Bank concentrated on upgrades in the IT framework for internal users and achieving enhanced effectiveness and scope for government transactions.

**Agenda for 2015-16: Implementation Status**

The Reserve Bank published the vision document for payment and settlement systems on June 23, 2016, laying down the guide for payment systems in the country up to December 2018. The wide shapes of Vision 2018 spin around 5 Cs: (i) Coverage – by empowering more extensive access to an assortment of electronic payment services, (ii) Convenience – by upgrading user experience through usability of products and procedures, (iii) Confidence – by advancing honesty of frameworks, security of operations and client insurance, (iv) Convergence – by guaranteeing

interoperability crosswise over specialist organizations and (v) Cost – by making administrations savvy for clients and also specialist organizations. In quest for a ‘less-money’ society, Vision 2018 is relied upon to bring about: (i) proceeded with decrease in the share of paper-based clearing instruments, (ii) predictable development in individual sections of retail electronic installment frameworks viz., NEFT, IMPS, card exchanges and versatile managing an account, (iii) increment in the enlisted client base for portable saving money, (iv) noteworthy development in acknowledgment foundation and (v) quickened utilization of Aadhaar in instalment frameworks.

**Agenda for 2018-19**

**Responsive Regulation**

Regulation of Payment Aggregators and Payment Gateway Service Providers

The growth of electronic payments for online transactions has led to an tremendous increase in the role of payment gateway service providers. The guidelines on payment gateway operations (monitored through banks) are indirect. It addresses only a few specific aspects of their functioning. The guidelines will be reviewed for the payment related activities of these entities for the increasing role of payment gateways.

**Electronic Clearing System**

Electronic Clearing System (ECS) is a retail payment system which encourages mass payments, that facilitates payment from one-to-many and receipts that are from many-to-one. ECS Scheme worked by the RBI since 1996-97, makes payment from a solitary account at a bank branch to any number of accounts with the branches of the same or different banks. ECS (Credit) also called Credit Push facility uplifts the bulk payment whereby the account of the institution remitting the payment is debited and the payments remitted to beneficiaries’ accounts. This facility is currently accessible at 67 noteworthy centres in the nation. ECS (Debit) otherwise called Debit Pull office encourages the accumulation of payments by service organizations.

**Table no: 1-Electronic clearing system**

Years	ECS Dr		ECS Cr	
	Volume(Mn)	Value(Bn)	Volume(Mn)	Value(Bn)
2014-15	224	1739.8	115.3	2019.1
2015-16	224.8	1652	39	1059
2016-17	8.8	39	10.1	144
2017-18	1.5	10	6.1	115

Source: RBI annual report

**Electronic Fund Transfer (EFT & NEFT)**

EFT System facilitated and operated by the RBI, grants transfer of funds, up to Rs. 5 lakh from any account at any branch of any bank in any city to any other account at any branch of any bank in some other city. This framework uses the Service Branches of the member banks and the nodal offices of RBI. The Reserve Bank of India acts as about as the service provider and controller. The NEFT was started in 2005. Since then NEFT has expanded its coverage. It is called Special Electronic Fund Transfer (SEFT) too. It is covering around 30,000 branches in 500 cities. This has encouraged same day transfer of funds crosswise over accounts of constituents at all these branches. Credit and Debit cards have being used in the nation for a long time now. In India card fashion expanding day by day because of its convenience and utility. Many banks have started providing customized credit and debit cards are increase their business in India. However, the card base and the usage has increased the most in the last recent five years.

**National Electronic Fund Transfer System(NEFT)**

Years	Volume(Mn)	Value(Bn)
2014-15	927.6	59803.8
2015-16	1252.9	83273
2016-17	1622.1	120040
2017-18	1946.4	172229
2018-19	2318.9	227936

Source: RBI annual report

**Real Time Gross Settlement System (RTGS)**

RTGS is a system for the substantial amount of clearing, worked since 2003; the base amount to be transferred through RTGS is Rs.1 lakh. There is no upper roof for RTGS exchanges. It facilitates the settlement of transactions on a gross premise. This framework guarantees settlement of payments with no credit risk included. It is, in this manner, basically a framework for the settlement of huge esteem and time critical payments. The framework encourages Inter-bank and in addition customer payments. In India, all bank branches are not RTGS enabled on the grounds that only core banking enabled branches can provide this facility.

**Real-time gross settlement (RTGS)**

Years	Volume(Mn)	Value(Bn)
2014-15	92.8	754032
2015-16	98.3	824578
2016-17	107.8	981904
2017-18	124.4	1167125
2018-19	136.6	1356882

Source: RBI annual report

**On Line Tax Accounting System (OLTAS)**

A measure which aims at giving better facilities to the government tax collection and for taxpayers was the starting of the On line Tax Accounting System (OLTAS) with a system of different banks approved for the accumulation of expense receipts. the Tax Information Repository at the National Securities Depository Ltd. (NSDL) and The Reserve Bank are part of the OLTAS. Information is caught from the channels put together by citizens offered at the assigned bank offices and transmitted electronically to the repository.

**Card Based Clearing (CBC):**

India's card market has been recording a development rate of 30% in the last 5 years. Card payments form an essential piece of e-payment in India as customers make numerous payments on their card paying their bills, transferring funds and shopping.

As far back as Debit cards entered India, in 1998 they have been developing in number and today they comprise of almost 3/4th of the aggregate number of cards available for use.

Credit cards have demonstrated a generally slower development despite the fact that they entered the market one decade before debit cards. Just in the recent 5 years, there has been a great development in the number of credit cards by 74.3% somewhere around 2004 and 2008. It is required to develop at a rate of around 60% considering levels of work and extra cash. Another late development in the field of plastic cash is co marked charge cards, which join many administrations into one card where banks and other retail locations, aircraft's, telecom organizations go into business associations. This builds the utility of these cards and henceforth they are utilized in ATM's as well as at Point of sale(POS) terminals keeping in mind making payment on the net.

Years	CREDIT CARDS		DEBIT CARDS	
	Volume (Mn)	Value (Bn)	Volume (Mn)	Value (Bn)
2014-15	615.1	1899.2	808.1	1213.4
2015-16	785.7	2407	1173.5	1589
2016-17	1087.1	3824	2399.3	3299
2017-18	1405.2	4590	3343.4	4601
2018-19	1762.6	6033	4414.3	5935

Source: RBI annual report

**E-Banking: The Problem Area**

E-Banking is the rush without bounds. As E-banking is another rising region in banking sector. There are numerous issues that the clients are confronting while utilizing E-Banking services.

The following are the problems of E-Banking in India:

- Lack of knowledge about the services
- Network issues
- Delay in Fund transfer due to poor connectivity
- Misuse of ATM cards
- Difficulty in opening an Account
- Language problem
- Inaccessibility in rural areas
- Hacking issues
- Lack of ATM machines at many locations

**The following are the suggestions to improvement in E-Banking:**

- Customer Meetings: Banks ought to arrange courses, gatherings with customers to mindful in regards to the utilization of E-Banking services, so customers can take advantages of E-Banking services.
- Customers training centers: There ought to be client preparing and training focuses with the assistance of Communication media, for example, posters, TVs, radio, seminars etc.
- Language of Website: Banks ought to concentrate on its websites. The language of website ought to be clear and straightforward so that the client can get all data from the site with no delay. Required data should be given on the main page instead of further connections.
- Service Quality: Banks ought to provide all modern facilities to customers and bank ought to invest vast sum on the website page planning to give up to date information. Banks ought to give more services through net banking on an account for handling queries as well as transaction purpose.
- Improved Services to Rural Branches: Banks ought to extend the core banking solutions, clearing services, facility of debit and credit to rural branches of the banks.
- Proper Training Programs for employees: Bank should arrange appropriate training programmes for employees. Rules ought to be simple and up to date infrastructure ought to be given to them.

**Finding:-**

**Trend and Progress in Payment Systems**

- In general, the payment and settlement systems registered vigorous development amid 2015-16, with volumes and value growing at 49.5 percent and 9.1 percent respectively. The endeavour's made by the Reserve Bank for migrating to electronic payment has reflected in high volumes under different electronic payment systems amid 2015-16 (Table IX.1). In volume terms, the share of electronic transactions in all out transactions climbed to 84.4 from 74.6 percent in the earlier year. In esteem terms, their share climbed to 95.2 from 94.6 percent.
- Electronic Payments :At end-March 2016, the national electronic funds transfer(NEFT) was accessible through 130,013 branches of 172 banks,

notwithstanding business correspondent (BC) outlets. NEFT took care of 1.2 billion transactions valued at around `83 trillion, up from 928 million transactions for `60 trillion in the earlier year. In March 2016, NEFT handled the biggest ever month to month volume of 129 million transactions.

- During 2015-16, 786 million transactions of around 2.4 trillion value were brought out through Mastercards, while 1.2 billion transactions valuing 1.6 trillion were helped out through platinum cards. Prepaid payment instruments (PPIs) recorded 748 million transactions esteemed at 488 billion when compared with 314 million transactions of 212 billion value in the earlier year. Mobile banking service development surged by 126.6 percent as far as volume and 290.3 percent as far as value taking care of 389 million transactions of 4 trillion value amid the year.
- Authorisation of Payment Systems: The quantity of approved payment system operators remained at 71 involving PPI issuer's, cross-border money transfer service providers, white label ATM (WLA) operators, ATM network, card payment networks and instant money transfer service providers besides the Clearing Corporation of India Limited (CCIL) and the National Payments Corporation of India (NPCI). The approved number of entities for operating PPIs expanded to 42 with nine entities approved amid 2015-16. The entities approved to work WLAs at end-March 2016, remained at eight, out of which seven began the procedure of establishment and operations; which together deployed 12,962 WLAs.
- The RTGS & NEFT payment system shows an increasing trend in the last 5 years according to the study which is a good gesture towards green banking movement.
- People are a little reluctant to the use electronic mode of payment because of the technology hacks.
- Electronic mode of payment are still to be reached the rural areas.
- RBI is actively promoting the electronic payment system through various facilities like Rupay cards and various other initiatives.
- NABARD has taken up initiatives of going paper free cash through Kisan credit cards to farmers.

### CONCLUSION

Presently Indian banking system has experienced a huge change over time with differing qualities and development. The improvements in information and communication technology brought about various developments in the payment system of India. An assortment of electronic clearing options is accessible in the banking system. But these choices are to be constrained than the request of bank customers in India. In the sense of rural India, these offices are not given adequate level by the banking institutions because of the absence of ICT connectivity and other infrastructural facilities. Be that as it may, the Indian banking system experiences a few deformities because of certain socio cultural elements which hamper the spread of the e-payment culture despite the fact that there are numerous effective electronic payment channels and systems set up. In spite of the infrastructure being there about 63% of all payments are still made in real money. A moderately little rate of the populace pays their bills electronically and a large portion of that populace is from urban India-the metropolitans. Additionally, now and again the transaction is done mostly on the web and incompletely "disconnected". The principle explanation behind this aloofness change to e-payments originates from the absence of consciousness of the client regardless of various efforts by the Government.

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