Review of Payment & Settlement Systems in India
2006 – 2007

Reserve Bank of India
Department of Payment & Settlement Systems

Executive Summary

The Governor, Reserve Bank of India, had on April 24, 2007, in his 'Annual Statement on Developmental and Regulatory Policies for the Year 2007-08' announced that an annual review of payment and settlement systems would be undertaken on the parameters of customer service, cost of operation, service charges and overall impact on the financial system. The review for the year ended March 31, 2007, is the first such exercise.

As part of the review, feedbacks were called from banks, trade and industry, and consumer associations. The major issues affecting the choice of a payment instrument and suggestions for improvements were collected as part of the feed back.

The factors which were identified a affecting the choice of payment instruments can be classified under three main headings (i) Sociological (ii) Instrument specific issues and (iii) The service provider. The sociological factors affecting the choice can further be classified as (a) infrastructure (b) disposable income, (c) educational level and (d) accessibility. The factors specific to the instruments can be classified as a) cost, (b) security (c) acceptability and (d) type of payments. The choice of service provider would depend upon (a) marketing (b) level of technology (c) competent employees, (d) last mile connectivity and (e) customer service, provided by them.

From the feedbacks received, it is further gauged that the level of awareness and familiarity with payment services offered by banks are at varying levels. The feedback reveals that large corporate bodies have taken a number of initiatives for the adoption of new payment instruments. They have been able to identify the cost advantages in migrating to these payment instruments. Further, the implementations of Enterprise Resource Planning (ERP) systems, with the support from banks have further facilitated their migration to new payment modes. At individual level, the lack of awareness and cost was identified as the main factors inhibiting migration. The major suggestions / recommendations received through the feedback are mentioned below.

It was expressed that while the availability of payments infrastructure has improved in reach, it is necessary to include all banks in the payments system loop and the coverage of the branches providing these services are increased. It was suggested that the existing EFT mode of payment may not be discontinued till a significant number of bank branches at the existing centres are covered under NEFT / RTGS network.

While use of credit cards have proliferated in metros and tier I cities, their acceptance at smaller cities are not widespread. Suggestions have been made that banks may be encouraged to provide incentives to merchants at these cities for improved acceptance of cards at merchant locations.

On the operational time of RTGS, increasing the cut-off time for customer payments, from the current 3.30 PM to 4.00 PM was suggested by the trade and industry (**since implemented with effect from September 2007**).

The need for transparency in service charges and other charges related to payment systems were highlighted in the feedback. On credit cards and debit cards, the need to reduce the quantum of surcharge levied on merchants was highlighted. It was expressed that the high surcharges serves as disincentive for the promotion of these payments modes by merchants.

It was felt that the lack of awareness of the payment products was one of the factors inhibiting the growth of electronic payment in the country. It was suggested that, the Reserve Bank of India carry out awareness campaigns through various media on the electronic payment products. Banks on their part may also initiate steps to help customers migrate to new payment systems through improved customer relations at the branch level. It was suggested that the lack of awareness, both among the customers and the staff at the bank counters, has to be addressed for acceptance of these products by customers.

While credit cards and debit cards facilitate retail payments, the cost of use of these instruments for micro payments are high. In view of this, the need for new payment modes like mobile payments and pre-paid cards has been highlighted in the feedback. The need for change in regulatory requirements for enabling such systems has also been highlighted in the feedback.

1. Introduction

1.1 Payment Systems are the key component of any financial system. They facilitate the movement of money in the economy. The efficient functioning of the payment system makes a key contribution to the overall economic performance by allowing safe and timely completion of financial transactions. Payment Systems also provides the conduit for effective transmission of monetary policy.

1.2 The world over, payment systems have been witnessing rapid changes due to the developments in Information and communication technologies. These changes have taken place under the initiative of Central banks /Governments, or banking sector. The aim of most of these developments have been to (i) reduce the usage of currency and paper based payment instruments and (ii) facilitate faster movement of funds in the economy with increased efficiency, safety and security arrangements.

1.3 Recognising the importance of payments systems to the development of the economy, Reserve Bank of India, has taken number of steps during the last few years to build a robust payments system. The steps taken include building the necessary payments systems infrastructure and developing a strong institutional framework for the payment and settlement systems in the country. Developments in payment systems for improving its efficiency are a continuous process. In this regard, the Governor, Reserve Bank of India, had on April 24, 2007, in his "Annual Statement on Developmental and Regulatory Policies for the Year 2007-08" announced that "In the context of progressive integration of financial markets, both domestically and cross-border, and the fast-paced changes in technology and institutional infrastructure, there is a need for annual review of payment and settlement systems. The parameters of the reviews would be based on the timelines of customer service, cost of operation, service charges and overall impact on the financial system. To begin with, it is proposed that the first such review would be made for the year ended March 31, 2007. The outcome of the review would be placed in the public domain by August 2007'.

1.4 Accordingly a review of the payment systems in India for the period 2006 – 2007 was carried out by Reserve Bank of India. The review is presented in subsequent chapters. This review covers the developments in retail payment systems during the last few years on the timelines of customer acceptance, service charges and customer service and is based on the feedback received from individuals, customer associations, Industry associations and banks.

2. Retail Payment Systems

2.1 Retail payments are transactions which can typically be classified as, (i) Person to Person, (ii) Person to Business - (eg. bill payments), (iii) Currency withdrawals (ATM/debit cards) and (iv) Advances (credit cards). These payments generally refer to obligations arising from retail commercial and financial transactions which can be either one-time person to person (or business) payments or recurring bill payments (or domestic remittances from person to persons) or payments to Governments. These transactions need not necessarily be of small value, but are generally of low average transaction value, and of high transaction volumes. They also involve a much broader range of payment instruments and transaction systems[1].

2.2 The instruments used to effect these payments differ based on the requirements. They can be currency, paper based instruments like cheque and demand drafts, electronic message based systems, cards based systems and off-late Short Messaging System of mobile phone. These instruments along with the systems and procedures of clearing and settlement arrangements constitute the retail payment systems.

2.3 Currency is still the predominant mode of payment. The main advantage of currency *vis-à-vis* other payments instrument is – its universal acceptance, immediate final settlement and no additional cost to the payer or the beneficiary (cost would be involved when the payment has to made at a particular location). The major disadvantage of currency is – carrying of large quantities of currency to make payments would involve transportation issues and is also a security risk. Further, holding large quantities of currency do not fetch any return - the interest foregone because of holding currency is a cost to the holder of currency. While currency as a payment instrument would have no perceptible cost to the payer, the processing of this instrument involves a cost to the society. Next to currency cheques have been the most popular mode of payment instrument for the business. The general public prefers this mode mainly for payment of utility bills, etc.

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[1] Committee on Payment & Settlement Systems, Retail Payments in selected countries: A comparative study – September 1999.

2.4 The developments in technology resulted in numerous innovations in the payment system area. These innovations resulted in systems which are more efficient in terms of the time and effort needed to process payment instructions. The innovations started with processing of payment instructions stored in electronic formats in storage media's, which were manually transported to the processing centers (clearing houses). Transmission of electronic messages in secured formats through secured communication channels was a step further in the development of faster and efficient electronic mode of payments. These innovations have resulted in the payment instruments like – electronic funds transfer systems and card based systems; the latest innovation being mobile phone based payment systems.

Role of Reserve Bank of India in the retail payments arena

2.5 Reserve Bank of India has taken a number of steps during the last few years, to build an efficient retail payments infrastructure and develop a strong institutional framework for the payment and settlement systems in the country.

2.6 The process of infrastructure building started with the mechanisation of cheque clearing operations through the introduction of MICR based clearing at the four metros cities and thereafter covering the other important centers. The foray of the country into electronic payments arena started with the introduction of Electronic Clearing Service (ECS) and Electronic Funds Transfer System. Though the system was initially confined to RBI managed clearing houses, it made a good beginning of the era of electronic payment mechanism in the country. While ECS facilitated settlement of bulk payment instructions, EFT facilitated one-to-one remittances. RBI introduced the National Electronic Funds Transfer System (NEFT), a modified EFT system incorporating PKI based security features and centralized settlement facility in 2005.

2.7 On institutional structure – subsequent to the Government of India Gazette Notification dated February 18, 2005, of the Reserve Bank of India (Board for Regulation and Supervision of Payment and Settlement Systems) Regulation, 2005, a Board for Regulation and Supervision of Payment and Settlement Systems has been constituted. A separate department called Department for Payment and Settlement Systems has also been formed in Reserve Bank of India to have focused attention on Payment and Settlement systems.

Legal Basis for Payment Systems

2.8 The development of robust and secure financial infrastructure requires sound legal basis. To align the legal system to the current requirements amendments were carried out to the existing statutes and new laws were introduced. The *Information Technology Act 2000* recognises electronic payments. The *IT Act* included, among other things, an amendment to the *RBI Act,* which empowers the Reserve Bank to regulate electronic funds transfer among banks and financial intuitions. Amendments have been carried out to the *Negotiable Instruments Act 1881* to enable cheque truncation and to define e-cheque. A Payment and Settlement Systems Bill has been drafted and is pending the approval of the Parliament.

Retail payment instruments

2.9 Cheque: Cheques is the most popular payment instrument in the country. The clearing and settlement of cheques drawn on different banks require the coming together of the banks in that area for transfer of instruments and the final settlement of funds. This process is facilitated by the clearing houses at these centers. Currently, 1064 clearing houses are operational in the country. Of these, at 59 centers the clearing and settlement process has been mechanised by the introduction of "Magnetic Ink Character Recognition (MICR)" based sorter machines. More than eighty percent of the total cheque clearing volume and value in the country are accounted for by these centers. To further bring in efficiency and automating the settlement obligation Magnetic Media Based Clearing System (MMBCS) is being implemented at centers with more than 15 banks, where currently the process is being carried out manually.

2.10 The clearing and settlement cycle in the country is two days – Day-1 the cheques are presented at the clearing house and Day-2 the funds settlement and return clearing are accounted for.

2.11 While in absolute terms the volume of cheques issued in the country is still substantial and increasing, it is observed that the rate of growth has decreased during the last few years. The growth rate which was 14.1% in 2004-05 has decreased to 6.5% in 2006-07.

Electronic Retail Payment Instruments

2.12 The retail electronic payment systems in the country are National Electronic Funds Transfer System and the Electronic Clearing System.

2.13 National Electronic Funds Transfer (NEFT): This is a message based funds transfer system. The system provides secure one-to-one funds transfer facility for customers of banks. Unlike its precursors the EFT system which provided settlement facility only at few centers, the NEFT facilitates national coverage, with centralized clearing and settlement facility. Further, to provide sound legal basis to the system, the system is provided with Public Key Infrastructure (PKI) based authentication process. There are six settlements during a day in this system, thereby facilitating faster availability of funds to customers using this facility.

2.14 Since its inception in 2005, the coverage of NEFT has increased. Currently it is available in 30000+ bank branches, through 67 banks at 3000+ centers. The target is to cover all branches with RTGS facility initially and then further expand it to all computerized bank branches in the country. The system also envisages extending it to non-computerised rural branches as well through the project NEFT extended. As per this project the transaction will be routed to the nearest NEFT branch, and the last mile would be covered manually.

2.15 Electronic Clearing Service (ECS): ECS is a retail payment system which facilitates bulk payments, that are one-to-many and bulk payment receipts, that are from many-to-one. The two components of this system are ECS(Credit) and ECS (Debit). This facility is now available at 67 major centers in the country.

- **ECS (Credit)**: ECS (Credit) facilitates bulk payments whereby the account of the institution remitting the payment is debited and the payments remitted to beneficiaries' accounts. This facility is mostly used for making bulk payments like payment of dividend to investors, payment of salaries of employees etc. For this purpose, the company or entity making the payment has to have the bank account details of the individual beneficiaries.

- **ECS (Debit)**: ECS (Debit) facilitates the collection of payments by utility companies. In this system the account of the customers of the utility company in different banks are debited and the amounts are credited to the account of the utility company. The utility company using this facility, has to receive the mandate from its customer to directly collect the payment from their bank account. On receipt of the mandate, the company advices the consumer's bank to debit the payment due from the account on the due dates. A copy of the advice is also send to the customer.

2.16 The clearing and settlement of funds transfers through ECS occur at the respective centers. A centralized facility is available at RBI Mumbai to receive the ECS (Credit) files meant for credit at other 14 RBI centres. State Bank of India (SBI) and Punjab National Bank (PNB) have been advised to commence such service of centralized receipt of ECS (Credit) files for 20 SBI centres and 13 PNB centres where the ECS facility is provided by the respective banks.

2.17 The volume of transactions processed through ECS clearing systems has been registering substantial growth during the last few years. This growth can be attributed to the consistent effort made by Reserve Bank to familiarize this mode of payments among government departments and private sector. Yet another factor that contributed to the growth of transactions is the blossoming of a few bill payment companies which facilitate the payment of utility bills. These companies use ECS for effecting their payments. The monthly average volume of transactions settled through ECS has since reached 140 lakh. During the year 2006-07, total volume of ECS transactions processed was 1442 lakh of which 690 lakh transactions were ECS (Credit) and 752 lakh transactions pertained to ECS (Debit). Table 1 gives the statistics of the transactions processed through the ECS mode. The growth in ECS (Debit) was much higher than in ECS (credit).

Table 1: Electronic Clearing Services (ECS)

(Volume in Lakhs and Amount in Rs.Crores)

	ECS (Credit)		ECS (Debit)	
Year	**Volume**	**Amount**	**Volume**	**Amount**
2003-04	203	10228	79	2254
2004-05	401	20180	153	2921
2005-06	442	32324	360	12986
2006-07	690	83273	752	25441

Card Based Payment System:

2.18 Credit and Debit cards have been in use in the country for many years now. However the card base as well as their usage has increased only during the last five years. Nearly 20 lakh cards are issued in the country each month and the card base as at the close of March 2007 was 980 lakhs. Nearly all the cards have been issued by bank in affiliation with card issuing companies such as Visa and Master Card, and by American Express bank. Many banks converted their ATM cards to debit cards to take advantage of the switching and clearing and settlement facilities offered by Visa and Master Card. Smart Cards are relatively new and only a few banks have issued such cards numbering around 3 lakh cards with outstanding value of Rs.1000 crores.

2.19 As at the end of May 2007, banks have issued 241.3 lakh credit cards and 784.6 lakh debit cards. The growth in the card based payment systems is being closely monitored. However, no conclusive inference could be drawn on the impact of the charges being levied by banks as also the announcement in the Central Government Budget on the levying of service tax for the transactions through the cards.

Table 2: Card Based Payments

(Volume in Lakhs and Amount in Rs.Crores)								
Type	**Volume of transactions (in lakhs)**				**Value of transactions (Rupees crore)**			
	2003-04	2004-05	2005-06	2006-07	2003-04	2004-05	2005-06	2006-07
1	2	3	4	5	6	7	8	9
Credit Cards	1001.79	1294.72	1560.86	1695.36	17,663	25,686	33,886	41,361
Debit Cards	-	-	456.86	601.77	-	-	5,897	8,172

3. Large Value Payment Systems

3.1 Real Time Gross Settlement System (RTGS): RTGS involves settlement of transactions on a real-time and gross basis. This system ensures settlement of payments, with no credit risk involved. It is therefore essentially a system for settlement of large value and time critical payments. The system facilitates inter-bank as well a customer payments. The customer payments option of RTGS is widely used by financial institutions (non RTGS members) and corporates. Individuals also use this facility for payments. A minimum limit of Rs. one lakh has been prescribed for transactions through RTGS, hence, the use of this system by individuals have been for settlement of large value transactions only. The growth in customer transactions in RTGS since its inception is given in Table 3 below.

Table 3: Customer transactions in RTGS

		(Amount in Rs.Crores)
Year	**Volume**	**Amount**
2004-05	68492	249662.00
2005-06	713058	2570212.29
2006-07	2481779	7167807.91

3.2 High Value Clearing Systems: High Value clearing system is the system for clearing cheque of Rs.1 lakh and above which are payable locally. This clearing which facilitates the same day settlement of cheque is currently held at 27 major cities in the country. The presentation of cheques under this clearing takes places during the time window 12:00 Noon to 12.30 PM and unpaid returns are exchanged during 3:00 to 3:30 PM. The volume and value of cheques processed under this clearing is given in Table 4. While the volume of cheques cleared in this system constitutes only 1.4% of the total cheque cleared, the value of cheques constitute 41.8% of the total value.

Table 4: Volume and Value of Cheques in High Value Clearing

(Volume in lakh and value in Rs.crore)		
Year	**Volume**	**Amount**
2004-05	131	4607208
2005-06	159	4981428
2006-07	187	5034007

3.3 High value clearing system is popular among the business community in the centers where they are operational. Proposals for opening such systems had been received from the clearing houses at Amritsar, Chandigrah and Coimbatore. But these requests were not acceded to as, High Value clearing being an unsecured Deferred Net Settlement System (DNS) has inherent risks, therefore, the payments processed under this system should migrate to RTGS system which is risk mitigated.

3.4 The cost of processing cheques under High Value clearing is very high and banks are not in a position to pass on the expenditure to the customers. A few banks have been suggesting time and again the closing down the High Value clearing; indirectly pushing the customers to adopt electronic payment culture. But Reserve Bank of India is of the view that, unless RTGS system is widely accessible and made cost effective, closure of High Value Clearing would not serve the public good. Banks have been advised to educate their customers on the advantages of RTGS system, so that customers have a choice and willingly adopt the electronic modes of payments.

4. Choice of payment instruments.

4.1 The adoption of new payment instruments depends upon the incentives the new modes provide to the customer. In the absence of incentives the customer prefers using the traditional modes to which they have been habitually attached, despite their inefficiency. The incentives could be, increase in customer convenience, cost savings etc. The main advantage of currency *vis-à-vis* other payments instrument are – its universal acceptance, immediate final settlement and zero cost to the payee for upfront payment. The dominance of cheque as a payment instrument again can be attributed to the cost advantage for the customers' vis-à-vis the existing electronic payment instruments, as well as the convenience of using a cheque as compared to making an electronic payment.

4.2 The inadequate response of banks to address this cost advantage is the main obstacle to migration of payments to newer modes of payment. This is despite the fact that banks spend high amounts on processing cash transactions which have not been quantified by most banks and the noticeable cost of Rs. 2/- paid by banks to the clearing houses for processing each cheque presented by the customer (other costs of transportation and processing not included).

4.3 While an argument can be made that the lack of infrastructure is what is impeding the wide scale adoption of new payment instruments, it is observed that, as a preferred mode of payment, cash continues to dominate the retail payments even in metro cities with well developed electronic payment infrastructure.

4.4 Theoretically, it can be stated that the choice of a new payment instrument depends upon the perceived utility and advantage of the payment instrument *vis-à-vis* the existing payments modes of the customer. The factors affecting the choice of a payment instrument can be classified under three main headings (i) Sociological (ii) Instrument specific issues and (iii) The service provider.

Sociological

4.5 At the society level the choice of payment instruments can be attributed to (a) Infrastructure (b) Disposable income (c) Educational level and (d) Accessibility.

4.6 Infrastructure: New payment instruments require adequate infrastructure facilities. The lack of power, proper communication channels etc, can inhibit the growth of payment instruments. The shortage of power supply has been observed as one of the major factors for creation of payment infrastructure in remote areas. In the absence of regular power supply the cost for providing power supply for the systems were found to be uneconomical.

4.7 Disposable income: The income of customers influences the choice of payment instruments. Low income customers prefer the use of currency for most of their payment needs. As the income level increases the utilization of other payment instruments increases. Higher income individuals prefer efficient modes of payments and shifting of payments to more efficient electronic modes are more noticeable in this segment.

4.8 Educational level: All new payment instruments leverage highly on technological developments taking place. In this respect it is observed that, technologically savvy individuals are faster in accepting new payment modes. The education level of customers would also determine whether they adopt electronic payments or not. Highly educated individuals are more likely to use newer electronic payment products.

4.9 Accessibility*:* The convenience of using the instrument also determines the migration to new payment instruments. The use of currency and cheques requires the physical presence at the point of payment or point of deposit. With the technology facilitated by new payment instruments it is possible to make payments using internet banking or mobile banking facilities. The use of these facilities would again be determined by the education and income level of the customers. Nevertheless, even for these customers, this ease and convenience of usage would be a deciding factor in migration to new payment modes.

Instrument Specific Issues

4.10 On payment instrument level the factors which determine the choice of a particular instrument can be classified as (a) Cost, (b) Security (c) Acceptability and (d) Type of payments.

4.11 Cost: From the perspective of individuals, currency does not involve additional cost for payment (cost would be involved when the payment has to made at a particular location). Next to currency, for local payments cheque have no cost to the customer. The only cost involved would be the cost of maintaining funds in the accounts (collection of outstation cheques would involve costs). Migration to any new payment mode by customers would be based on their assessment of the incentives of the new instruments vis-à-vis their existing payment modes. A higher transaction cost in comparison to their advantages would dissuade customers from opting from new payment instruments.

4.12 The cost of using a payment instrument includes the service charges and the cost of carrying out a transaction include, the cost of transportation, opportunity cost etc.

4.13 Service Charges: Services charge constitute the charge levied by banks on their customers who avail payment services. Since 1999, when the practice of Indian Banks Association (IBA) fixing the benchmark service charges (which IBA had started prescribing from 1994) on behalf of the member banks was discontinued, the decision to prescribe the service charges was left to the discretion of the Boards of individual banks. Banks were then advised that, they should ensure that the service charges were reasonable and were not out of line with the average cost of providing the services and the customers with low volume of activities were not penalized. Presently the Reserve Bank has prescribed the levying of service charges only for cheque clearing operations. An amount of Rs.2/- is collected per paper instrument (Re.1/- each to be collected from the collecting and paying bank) cleared by the MICR Cheque Processing Centres. In case the paper instruments are processed manually, the clearing houses are required to add up all the expenditure incurred and then recover them from the members (banks) of the respective clearing houses. The levying of cheque collection and electronic payment processing charges by banks from customers is left to the respective banks. But it was observed that instead of levying fair charges a number of banks levy heavy charges for the use of electronic payment systems like RTGS / NEFT/ ECS systems.

4.14 The Reserve Bank has been receiving complaints/representations from customers stating that banks often levy unreasonably high service/user charges and enhancement of these charges takes place without prior intimation to the customers. Many of the service charges are not disclosed upfront to the customers. There are also complaints regarding high charges for issue of cheque books and cheque collection charges. In the absence of any incentives, the migration of customers to electronic mode of payments was very slow.

4.15 To encourage the movement to payments to safer and more efficient electronic payment modes the Reserve Bank has waived the service charges on all electronic payment platforms (RTGS / NEFT / EFT / ECS services) being provided by it to banks till the end of March 2008 (earlier the waiver was up to the end of March 2007).

4.16 The Reserve Bank in order to ensure fair practices in banking services has also issued instructions to banks making it obligatory for them to display and continue to update, in their offices/branches as well as on their websites the details of various service charges levied by them. Further, in 2005, Reserve Bank collected the details of service charges being levied by banks for various electronic payment services from banks and placed them on RBI website so that the general public can have a comparison of the charges being levied by different banks and the resulting competition would bring down the service charges.

4.17 The Reserve Bank of India also took the initiative in setting up the Banking Codes and Standards Board (BCSBI). It is an autonomous and independent body, adopting the stance of a self-regulatory organization in the larger interest of improving the quality of customer service by the banking system in India. Banks register themselves with the Board as its members and provide services as per agreed standards and codes. The Board in turn, monitors and assesses the compliance with codes and standards which the banks have agreed to.

4.18 Credit cards and Debit cards: In case of Credit Cards and Debit Cards there is no visible charge on the customer for use of cards at merchant establishments. Charges are levied directly on customers only at few locations like petrol stations etc. and for cash withdrawal at ATMs. In all other cases, charges levied by banks have been for the credit availed (beyond the due date). In credit cards and debit cards the interchange fees - the charges paid by the merchant are an integral part of the pricing structure of credit and debit card transactions. As this fee is levied on the merchant establishment, there is differential cost for the merchant for payment received by cards or cash. This serves as a disincentive for merchants to encourage payments by cards. This was observed as the reason why the use of cards for purchase of valuable items and goods continue to be discouraged by the merchants; if payments are made by cards the interchange fee is recovered from the customer. This is because, in case of larger value purchases, the merchants find it unremunerative to absorb this interchange fee.

4.19 The interchange fees in most countries are set by credit and debit card networks except in Australia, where the central bank has been regulating interchange fees.

4.20 Security: The provision of adequate security will address the issues relating to confidence, with specific reference to the users of these systems. Security of the instrument is of paramount interest in ensuring the confidence of the customer for using of these instruments. The payment systems like NEFT and RTGS ensures this by the use of Public Key Infrastructure (PKI) based security arrangements.

4.21 The frauds related to credit cards and debit cards have been a matter of international concern. The issuers of credit cards and debit cards were ensuring the security of the transactions undertaken using these instrument by encryptions. To further ensure safety of transactions undertaken using cards, the card issuing companies have adopted chip based cards.

4.22 Acceptability: The point of acceptance in case of cheques, RTGS, NEFT and ECS would be the bank branches providing these facilities. While cheques are accepted at all bank branches in the country, extending the availability of NEFT and RTGS depend upon the technological ability of the banks. While the reach of payment systems like RTGS and NEFT has expanded to cover more and more bank branches, their expansion is limited by the fact that bank branches may not be present in all the places, especially in the North-Eastern parts of the country.

4.23 In case of credit cards and debit cards, the number of point of sale terminals in India (3.5 lakh) is very less compared to the retail locations and population of the country.

4.24 Type of Payments: The type of payment also decides the preference for a payment instrument. While RTGS is mainly used by the large value transactions, NEFT is used for low value payments. Cheques continue to be a preferred mode of payment which is issued by individuals and trade for discharging their payment obligations. The advantage of cheque vis-à-vis other payment instruments is that they can be issued for any denomination, with no cost to the issuer (local issuance). Some banks have facilitated the use of NEFT for all small value transactions, by offering these services free of cost. The migration to these modes would depend on the issues like infrastructure and accessibility of payment modes. While credit cards and debit cards are retail payment instruments, the use of these instruments for micro payments are often discouraged at the point of sale.

4.25 ECS (Credit and Debit) is the most appreciated electronic payment mode. Its utility for bill payments (ECS Debit) and direct credit of salary, dividends etc (ECS credit) has brought in efficiency and reduced the burden of both individuals and trade and industry effecting these payments.

Service Provider:

4.26 Banks are the main providers of payment services to the customers in India. They provide the payment instruments i.e. cheques, payment cards and electronic payment facilities. Clearing and settlement services are also provided by banks. As a result the banks can be said to have a monopoly of the payment services made available to the customers.

4.27 At the service provider level the factors which affect the choice of payment instruments can be classified as (a) Marketing (b) Level of technology (c) Competent employees, (d) Last mile connectivity and (e) Customer service.

4.28 Marketing: Awareness of a payment instrument would depend on the marketing campaigns of the service providers. The marketing campaigns educate the customers on the advantages, convenience and safety of the payment instrument. The level of transparency of the campaigns and the confidence gained by the customers by these campaigns would facilitate large scale migration to these payment modes.

4.29 An example in this context would be the rapid growth of ECS facility. Till 2005 the growth in ECS had been stagnant, subsequent to the formation of the Department for Payment and Settlement Systems in RBI, wide scale campaigns were undertaken. This is reflected in the large growth rate in this segment.

4.30 Level of Technology: The level of technological adoption in the banks would also decide the level of promotion of new payment products by banks. Banks which have implemented Core Banking Solutions are observed to have provided the customers multiple delivery channels like ATMs, internet banking and mobile banking systems for initiation and receipt of payments. Substantial usage of new payment instruments are observed in these banks. These banks have also reported cost savings from the migration of payments to electronic modes from the traditional cash and cheques.

4.31 Last mile connectivity: Last mile connectivity is an important aspect for use of electronic payments. Particularly, for outward electronic transactions, to a bank branch which is not connected to the banks network the data is sent manually from service branch to the destination branch. In case of non-networked bank branches, the first mile connectivity can also be a source of constraint. In such cases when a customer initiates a transaction, the data is sent manually to the relevant service branch of respective bank. The data entry in the system is done thereafter at service branch. The delay in this process creates uncertainty in the payment process and discourages switch-over to electronic modes of payments.

4.32 Competent employees: Competency of employees manning the public interface arrangements of the banks is a critical factor in encouragement of new payment products. While marketing can encourage customers to attempt new payment instruments, it is necessary that all the banks branches brought on to the electronic payment platforms are adequately manned by trained employees. It would be the responsibility of these employees to ensure that the payments are processed seamlessly. Inadequately trained/poorly motivated employee lack the confidence to operate the new systems and therefore may not encourage the use of new payment instruments in their interactions with bank customers.

4.33 It is observed that while banks have been increasing the coverage of their bank branches under electronic payments, informed and trained staff is often available only at the large volume centers.

4.34 Customer Service: The customer service is the main stepping-stone for any service industry. The payment systems are no exception to this. Customer services include (1) service level at the point of service (2) information dissemination and (3) grievance redressal. For gaining the confidence of a customer it is necessary that the service providers address these issues adequately.

4.35 Customer Service level at the point of service: The customer service at the bank counters is the most important point which would weigh the preference of new payment instrument against the payment mode the customer is familiar with. The employees manning these counters have to be well trained to address the doubts and queries of customers so as to enhance confidence in the new system.

4.36 ***Information dissemination***: With the advances in technology, financial institutions have been able to offer innovative products that are increasingly diverse but also increasingly complex. While this has expanded consumer' access to credit and their options, it also presents a challenge in ensuring that consumer disclosures about those more complex products are effective. To be effective, disclosures must give consumers information at a time when it is relevant, and in a language they can easily understand. The information must also be in a format that allows consumers to identify and use the information that is most important to them. Service providers should disclose adequate information for the public to take informed decision on the new payment instrument. Information disclosure should include – the service charges, time line of effecting payments, penalties for non availability of funds in the accounts, reimbursements for deficiency in services etc. This information should be communicated to the customers in clear, unambiguous manner.

4.37 Service providers should also facilitate providing access to customers of their data requirement on the transactions for maintenance of records etc.

4.38 Grievance Redressal*:* As in any customer oriented industry, the payment services would also have customer service related issues. The availability of an appropriate customer redressal facility which addresses the customer grievances promptly and efficiently would increase the confidence of the customers in the system. The majority of the complaints received by Reserve Bank of India, point to the fact that most banks do not have effective grievance redressal system.

5. Customer feedback.

5.1 With the stabilization of the major payment initiatives of Reserve Bank like the RTGS system and NEFT system, and the growth observed in these new modes of payment it was felt that, further developments in the area need to be carried out taking into consideration the views of the beneficiary customers. In this connection Reserve Bank of India carried out a survey to ascertain the views of the banking industry, trade and industry, and consumer organizations. During the survey questionnaires were sent to these orgainsations and their feedback were collected.

5.2 Through the survey we sought the views on (a) How the customers view the changes in payment system area in the country during the last three years. (b) the role of banks as the payment service providers in encouraging the migration to new payment modes, (c) saving in cost and time resulting from the new payment modes (d) the effect of improvements in payment mode on the organization and (e) suggestions on improvements improvement in the payment instruments. The views feedback received are summerised below:

Trade and Industry

5.3 At an institutional level, the selection of a particular mode of payment depends largely on the profile of customers' nature of payments and internal processes at institution. While most institutions were using a mix of paper and electronic mode of payment for effecting their payments, an increasing trend in the of usage of electronic modes of payments is being observed. Institutions with higher level of adoption of new technologies were more forthcoming in migration to electronic payment instruments. A major proportion of large industry and MNC clients, financial institutions have emerged as early adopters of electronic payment systems.

5.4 One reason for this migration to electronic modes of payments has been the development of net-banking based product which is offered by banks to their customers and Enterprise Resource Planning (ERP) systems. Further, banks offering these services were able to provide payment services as part of a bundle of service being offered to these institutions, hence reducing the cost of transactions to these institutions.

5.5 The use of a particular payment instrument also depends on the nature of payments. Of the electronic mode of payments, most large corporates prefer RTGS mode of payment for instant and large payments and NEFT for low value transactions for their day to day payment obligations. The use of ECS for dividend payments, vendor payments, salary payments etc are increasing. The use of ECS has reduced paper work and increased speed of transfers adding to business growth as well as increased customer convenience /satisfaction. Paper based instruments are still used by industries for making statutory payments.

5.6 The impediments to migration of payments to electronic mode are the level of adoption of technology, internal systems, cultural factors and lack of information. Institutions which are not technologically savvy enough to use electronic payment methods show reluctance in migration to electronic modes of payments. Many institutions that have been used to use of paper based instruments, display inertia for change, citing the requirement of extensive changes in their existing internal systems which are running fine, to new systems which would involve the cost of migration.

5.7 The trade and industry were appreciative of the developments in the payments systems area in the recent years. They acknowledge that their migration to new modes of payments processing was supported and guided by their bankers. Further, in most cases, the industries that have successfully migrated to new electronic modes of payments were successful in migrating their vendors to accepting payments in electronic modes, hence bringing in efficiency to their whole processing cycle. These industries have also experienced definite savings in payment processing expenses (saving in stationery, postal/courier expenses and other charges).

Individual customer transactions

5.8 At the individual level, the educational - technologically savvyness, service charges and security of the payment instrument determines the preference for payment instruments. Individual customers mainly use payment instruments for utility payments, payments for purchases and remittances. For utility payments the migrations from cash to cheques have been the trend. The acceptance of ECS(debit) for making these payment has also been increasing.

5.9 The continuing favor for use of cheques are attributed to – familiarity, convenience, ease of access, simplicity of use, control on payments, easy peer-to-peer payments, control over float and flexibility to deposit.

5.10 For normal purchases, the most acceptable modes of payments in India after currency, has been credit cards. The use of debit cards for such payments has not yet picked-up. Debit cards are used more for cash withdrawals at ATMs.

5.11 One of the widely appreciated electronic modes of payment by individuals is the ECS (Credit) system. This system facilitated the direct credit of dividends, interest payments, Mutual Fund redemptions etc. The system also facilitated the direct credit of salary to the accounts of their employees. The direct credit of salary to the accounts has also led to the increasing usage of ATMs for cash disbursal.

5.12 The marketing, awareness and wider acceptance can be stated as the reason for increase in number of credit cards being issued. Though banks started issuing debit cards subsequent to the issuance of credit cards, the number of debit cards outstanding far exceeds the number of credit cards issued.

5.13 Though the banks have been helping the consumer for shifting from paper based modes to electronic mode of payments, further efforts are still required in this particular area. The changes required include the change in the mindset of the bank employees.

Feedback of banks

5.14 The Feedback of banks were collected to assess their role as participants in the payment systems introduced by Reserve Bank and their role as the providers of payment systems to the public.

***5.15 Participants in payment systems*:** As participants in the payment systems the banks were appreciative of the introduction of RTGS system. With the introduction of this system the systemic risk aspect of Inter-bank payments were mitigated. Further, as the system facilitated intra-day transaction to transaction settlement, the banks could act with certainty on the funds received. This facilitated better liquidity management.

***5.16 Providers of payment systems*:** As providers of payment instruments to the public, the techno-savvy banks were able to facilitate the migration of more and more customers to new payment modes. They were able to introduce new delivery channels, which provided customers the facility to initiate payment through RTGS and NEFT from their homes/offices.

6. Recommendations / Suggestions

6.1 The feedback received included a number of suggestions/ recommendations. These suggestions/recommendations included the need for (a) Awareness campaigns, (b) Customer service,(c) Transparency in cost, (d) Increased coverage and (e) need for regulatory changes.

6.2 Awareness campaigns: Lack of adequate awareness of the payment products was one of the factors inhibiting the growth of electronic payment in the country. It was suggested that Reserve Bank carry out awareness campaigns through various media for promoting public/corporate use of electronic payment products.

6.3 Banks on their own may also carryout campaigns to promote electronic payment products. They can educate the customers who approach them for issue of drafts and payment orders to use NEFT / RTGS for remittance of payments. Banks may also encourage their customers to use debit cards at merchant locations.

6.4 Customer service: The need for trained bank employees at the bank counters were highlighted in the feedback. The service rendered to the customer at the bank counter would decide the acceptance of the new mode of payment. It was suggested that banks may be advised to have only well trained employees at the counters.

6.5 It was further pointed out that while many banks have been active in promoting payment instruments, they do not have a proper arrangement to address customer grievances. It was suggested that grievance redressal mechanisms should be available at branch level and should be manned by competent and helpful staff.

6.6 On deficiency of service, it was pointed out that, while banks were prompt in recovery of charges for any balance shortfall, delay in payments etc. the customers were not being compensated for the same short fall on the banks part, in spite of Reserve Bank's instructions. The customers were compensated only if they made such request to the banks.

6.7 On the customer facilitation services such a tele-banking facilities extend for credit card related queries, it was pointed out that, while the menu available in these service addressed the routine queries, the access to tele-banking officials often involves tedious process.

***6.8 T*ransparency in cost**: The need for transparency in service charges and other charges related to payment systems were highlighted in the feedback. On credit cards and debit cards the need to reduce quantum of surcharge levied on merchants were highlighted. It was expressed that, the high surcharges, serve as disincentives for the promotion of these payments by merchants.

6.9 I*ncreased *Coverage: It was expressed that while the payment infrastructure have improved in reach, there is a need to include all banks in the payments system loop and increase the coverage of the branches under the network. It was suggested that the existing EFT mode of payment may not be discontinued till a significant number of banks branches at the existing centres are covered under NEFT / RTGS network. While use of credit cards have proliferated in metros and tier I cities, their acceptance at smaller cities are not widespread. It was suggested that banks may be encouraged to provide incentives to merchants at these cities for improved acceptance of cards at merchant locations.

6.10 A request for increasing the cut-off time for RTGS from the current 3.30 PM to 4.00 PM was also highlighted by the trade and industry (**since implemented with effect from September 2007**).

6.11 Regulatory changes: Credit cards and Debit cards are the only electronic payment instruments currently available for use at merchant locations. While the use of these instruments has been increasing, the use of these instruments for micro payments is not cost effective. It was therefore suggested that Reserve Bank of India, explore the promotion of payments through mobile phones and pre-paid smart cards. It was pointed out that the wide spread use of these instruments would require that the cash-in and cash-out points for these payments should not be curtailed by the number of bank branches. It would require that Reserve Bank of India, carry-out regulatory changes, so as to facilitate the maintenance of customer accounts at the mobile companies and pooled account at banks. And also facilitate the acceptance and disbursal of cash at merchant / mobile phone service provider locations, similar to what has been permitted by the Central Banks of Kenya and Philippines.