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JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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ELECTRONIC REMITTANCE SYSTEM IN INDIA: CHANGING PARADIGMS OF PAYMENT MECHANISMS IN INDIA

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ABSTRACT

The payment system in India has seen unprecedented growth since the inception of electronic payment mechanisms. RBI has played a pivotal role in the development of India's payment and settlement systems for both large-value and retail payments. Over the last decade, most of the banks completed the transformation to technology-driven organizations. Developments in the field of information Technology (IT) have strongly come to the rescue by infusing growth and inclusiveness into the banking sector. IT has enhanced the competitive proficiency of the Banking sector by strengthening back end administrative processes. While improvement in the front-end operations has helped in reducing the cost of operations. This paper examines the current status and various aspects relating to electronic based payment systems in scheduled commercial banks for the period ended March 2003-2012 in India.

KEYWORDS

Credit Cards, Debit Cards, NEFT, RTGS.

INTRODUCTION

The financial sector has undergone significant reforms during the last two decades in India. The reforms were initiated in 1992, with increased emphasis on deregulation, competition and adoption of international best practices. RBI has been proactively taking steps to promote electronic based remittances systems in India. Introduction of information technology has drastically changed and widened the range of products, increasing the expectations and demands of the customers in the modern era. At present, the emphasis has shifted to 'value-added' and 'virtual' banking.

IT has helped banks put in place alternate delivery channels such as internet and phone. Mobile banking and ATMs are rapidly becoming the prime delivery channels. Electronic payments through credit and debit cards are also emerging as a fast-growing segment providing ease of use and convenience to customers.

The central bank played a pioneering role in automating the paper-based clearing system in 1980s. RBI introduced the Electronic Clearing Service (ECS Credit and Debit) in 1990s, Special electronic fund transfer (SEFT) system was introduced in April 2003 but discontinued in March 2006, after the implementation of NEFT system in November, 2005 and the Real-Time Gross Settlement System (RTGS) system in March 2004 and IMPS i.e. mobile banking service for customers.

Computerisation of the banking industry was developed as a response to the ever increasing needs and expectations of the customers. Computerisation in addition to improving customer services has helped in developing new business and reducing the cost of banking operations. In this paper, an attempt has been made to study the trends of electronic payment systems in scheduled Commercial Banks in India.

OBJECTIVES OF THE STUDY AND DATA

The major objectives of this paper are.

- To analyze the paper versus electronic based payments in India.
- To examine the growth of electronic payments in India.
- To assess the retail electronic payments by cards in India.

The study is based on secondary data. The data has been sourced from various RBI publications, IBA bulletins, financial newspapers, and other government publications.

ADVANTAGES OF E-PAYMENTS

The banking sector is largely a service-oriented industry and customers thus form a very significant part of the whole process. Computerisation had been an impending benefit added to banking to attract, aid and sustain customers in the long run. Some of the major benefits that e-payments have added to the bouquet of banking services are discussed below.

- The use of Debit card/credit card gives the customer a secure and immediate access to all of their funds on deposit or a line of credit for a given transaction.
- Transition from paper based to Digital Processes has resulted in the reduction of transaction cost and improvement in the quality of banking services.
- It ensures payment guarantee for the merchants. There is less cash and Cheques handling in the system so merchants are freed from maintaining and developing their own credit systems, allowing them to focus on their core competencies.
- Credit cards help smooth out the time lag between receipt of income and the payments that a consumer is required to pay, thus reducing the need for paydays and payments to coincide.
- Convenience is another factor that makes the use of plastic money popular as the hassle of carrying and handling liquid cash is done away with. Also, the payment is made directly at the POS.
- E-payments facilitate e-commerce (buying & selling online and e-payments) and travel and tourism by minimizing the need to carry physical cash.
- E-payments (i.e. use of credit cards, online payment) helps to combat the hazards of the gray economy. Also, E-payments reduce the central bank cost of providing currency, thereby improving overall efficiency of the economy.

In nutshell, the information technology (IT) available today is being leveraged in customer acquisitions, driving automation and process efficiency, and delivering ease and efficiency to customers.

RISE IN ELECTRONIC PAYMENTS

The payment system in India has undergone a sea change in terms of developments of new modes of electronic payment segment. The Indian payment system is transforming from paper mode to electronic mode of payments. Main reasons for such shift are:

- RBI has mandated routing all high-value transactions electronically to minimize movement of money and risk. The various security measures in card payment systems and the guidelines for intermediaries have also contributed to the safety of the system, resulting in the increased use of electronic payments.
- At the retail end, customers are realizing the efficiency of electronic payments.

- Growing mobile and internet subscribers, innovative delivery/payment models and younger, tech savvy members of the population are some of the prime factors contributing to the increase in electronic payments.

Although paper/cash based transactions continue to be used heavily in transactions in India, the use of several other payment instruments such as Credit cards, Debit cards and smart cards, on the whole has been increasing in the recent years. Electronic payments are cheaper and can also be carried out faster as compared to paper-based instruments.

The following Table shows the shift from paper-based transactions to electronic modes.

TABLE 1

PAPER-BASED VERSUS ELECTRONIC TRANSACTIONS								
Year	Volume (in thousand)				Value (in Rs crore)			
	Paper-based	Electronic	Total	Share of Electronic (%)	Paper-based	Electronic	Total	Share of Electronic (%)
2002-03	10,13,900	1,73,000	11,86,900	14.6	1,34,24,313	37,536	1,34,61,849	0.3
2003-04	10,22,800	1,67,551	11,90,351	14.1	1,15,95,960	49,67,813	1,65,63,773	30.0
2004-05	11,66,848	2,30,044	13,96,892	16.5	1,04,58,895	1,18,86,255	2,23,45,150	53.2
2005-06	12,86,758	2,87,489	15,74,247	18.3	1,13,29,134	2,24,39,286	3,37,68,420	66.5
2006-07	13,67,280	3,83,445	17,54,007	21.9	1,20,42,426	3,50,50,234	4,70,92,660	74.4
2007-08	14,60,564	5,41,150	20,01,714	27	1,33,96,066	5,48,00,584	6,81,96,650	80.4
2008-09	13,97,390	6,82,418	20,79,808	33	1,24,69,135	6,47,96,995	7,72,66,130	83.9
2009-10	13,80,270	7,52,700	21,32,970	35	1,04,09,942	7,88,81,197	8,92,91,139	88.3
2010-11	13,87,400	9,59,500	23,46,900	41	1,01,34,128	7,91,40,000	8,92,74,128	88.6
2011-12	13,41,870	12,16,700	25,58,570	48	99,01,214	9,13,10,000	10,12,11,214	90.2

Source: RBI, Report on Trend and Progress of Banking in India and Annual Reports, Various Issues

The payment business in India is currently witnessing a phase of rapid transition, enabled by the growing acceptance of electronic payments systems across various segments. A look at the electronic payments in India over the years reveals the growth in electronic payments in India both in terms of value as well as volume. While paper-based payments, which are essentially payments made through Cheques, still command a significant share in terms of volume, electronic payments overtook cheque payments in terms of volume since 2003-04 and command a larger share of the total payment pie today. The percentage of electronic transactions in terms of volume has also been growing y-o-y since 2004-05.

This electronic transactions growth can be attributed to the following factors, the ever increasing technology changes, growing internet access and mobile subscriber base, rising consumer confidence, and convenient delivery/payment models. Technological advancement across the world has also had a positive impact on the Indian financial payment system. However, the major credit for the shift in transaction volumes toward electronic transactions goes to regulators. After RBI made it mandatory for banks to route high-ticket transfers through RTGS, more than 90 percent of the value of payments made electronically come through RTGS, while just about 1 or 2 % of the electronic transactions are done through RTGS. The increased use of electronic payments has, thus, increased the efficiency of the payment system.

GROWTH OF E- PAYMENT SYSTEMS IN INDIA

The paper based systems categorized as a system wide important payment system (SWIPS) still continue to dominate in terms of volume. However, its share has been declining both in volume and value terms in recent years. Technology has created a 'paradigm shift' in the client services and has led to reengineering of banking operation and processes. The financial reforms that were initiated since globalization and liberalisation have brought a completely new operating environment to the Indian banks. Banks have enabled various channels to transact in order to encourage customers to use electronic payments. Customers can make payment through the Internet, telephone, mobile, ATMs and drop boxes.

GROWTH IN NUMBER AND VOLUME OF PLASTIC CARDS

Plastic cards (Credit and Debit) have gained greater acceptance and momentum as a medium of financial transactions. Credit cards has become very popular with the introduction of foreign banks in India. There has been a steady rise in outstanding number of Debit cards in India. Introduction of debit cards has helped the Banks to significantly cut the operating costs. Following table depicts the status of Debit cards and Credit cards over the period of six years in SCBs in India.

DEBIT CARDS

Debit Card is a plastic card which provides an alternative payment method to cash when making purchases. Almost all banks in India are issuing debit cards, the largest share being accounted for ICICI bank and State Bank of India.

TABLE 2

DEBIT CARDS ISSUED BY SCHEDULED COMMERCIAL BANKS(SCBS) (In millions)						
Bank	Outstanding No. of Debit Cards					
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Public Sector Banks	44.09	64.33	91.7	129.69	170.34	215
Nationalised Banks	19.24	28.29	40.71	58.82	80.27	103
State Bank Group	24.85	36.04	50.99	70.87	90.07	112
Private Sector Banks	27.19	34.1	41.34	47.85	53.58	60
Old Private Sector Banks	3.94	5.34	7.09	9.81	12.44	14
New Private Sector Banks	23.25	28.76	34.25	38.04	41.14	46
Foreign Banks	3.7	4.02	4.39	4.43	3.92	3.8
All SCBs	74.98	102.44	137.43	181.97	227.84	278

Source: Report on Trend and Progress of Banking in India, Various issues

Above table shows that number of outstanding cards has been on steady increase over the period of study As on march 2011-12 o/s no. of debit cards of all SCBs was 278 million as compared to 74.98 million in 2006-07. During 2010-11, the number of debit cards grew at the rate of 25 percent over the previous year. Nearly three fourths of the total debit cards were issued by PSBs as at end March 2012.

CREDIT CARDS

The term "credit card" generally refers to a plastic card issued to a cardholder, with a credit limit, that can be used to purchase goods and services on credit or obtain cash advances. It is issued by banks holding the logo of one of the bank card association private and foreign banks. Unlike debit cards, credit cards also provide overdraft facility and customer can purchase over and above the amount available in his account and thus regarded as authentic payment tool. Interest charges are levied on the unpaid balance after the payment is due. Cardholders may pay the entire amount due and save on the interest that would otherwise be charged. Equated Monthly Installments (EMI) scheme is also offered by some banks to the customers who make huge purchases so that they can feel convenient while paying back the outstanding amount. The credit card business in India has been growing at a significant pace and that too at the rate of almost 45% every year as depicted in given Table 3. The value of transactions conducted through credit cards was 17663 crores in 2003-04 and increases to 96600 crores in 2011-12. Between FY06 to FY12, the number of transactions for debit cards grew 616.84% to 32.75 crore from 4.56 crores. During the same period, the

number of credit card transactions increased by 105 % to 32 crore from 15.6 crore. The total transaction value for credit cards is significantly higher, but the growth is slower in 2012.

TABLE 3

CREDIT CARDS ISSUED BY SCHEDULED COMMERCIAL BANKS(SCBS) (In millions)						
Bank	Outstanding No. of Debit Cards					
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Public Sector Banks	4.14	3.93	3.44	3.26	3.08	3.06
Nationalised Banks	0.75	0.72	0.72	0.73	0.78	0.84
State Bank Group	3.39	3.21	2.72	2.53	2.3	2.22
Private Sector Banks	10.68	13.29	12.18	9.5	9.32	9.67
Old Private Sector Banks	0.03	0.04	0.06	0.06	0.04	0.04
New Private Sector Banks	10.65	13.25	12.12	9.44	9.28	9.63
Foreign Banks	8.31	10.33	9.08	5.57	5.67	4.92
All SCBs	23.12	27.55	24.7	18.33	18.04	17.65

Source: Report on Trend and Progress of Banking in India, 2010-11, 11-12

TABLE 4: VOLUME AND VALUE OF CARD TRANSACTIONS

Year	Volume of Transactions (000s)		Value of Transactions (Rs Crore)	
	credit card	Debit Card	credit card	Debit Card
2003-04	100179	37757	17663	4874
2004-05	129975 (29.74)	41532 (10)	25682 (45.40)	5361 (9.99)
2005-06	156086 (20.09)	45686 (10)	33886 (31.94)	5897 (10.00)
2006-07	169536 (8.62)	60177 (31.72)	41361 (22.06)	8172 (38.58)
2007-08	228203 (34.60)	88306 (46.74)	57984 (40.19)	12521 (53.22)
2008-09	259561 (13.74)	127654 (44.56)	65356 (12.71)	18547 (48.13)
2009-10	234209 (-9.77)	170170 (33.31)	60000 (-8.20)	26566 (43.24)
2010-11	265100 (13.19)	237100 (39.33)	75516 (25.86)	38700 (45.67)
2011-12	320000 (20.71)	327500 (38.13)	96600 (27.92)	53400 (37.98)

Source: Compiled from Trends and Progress Report, Various issues

India has been growing in terms of payment cards in the Asia-Pacific region. India currently has approximately 350.75 million (both debit and credit) in circulation. Card payments are becoming vital in e-payments growth. Banking customers now hold multiple cards for day to day activities like bill payments, fund transfers, shopping, dining, traveling, etc. Debit cards market is growing at a much faster rate than credit card market in India. Debit card based volume of transactions grown from 37757 to 327500 and value of transactions grown from 4874 crores in the year 2003-04 to 53400 crores value in the financial year 2011-12.

Issuance of credit cards declined, while debit cards showed a high growth trend in the year 2011-12. Foreign banks, however, showed a small decline in the issuance of debit cards. More than three-fourths of the total debit cards outstanding as at the end of March 2012 were issued by public sector banks. In contrast, more than half of the outstanding credit cards as at the end of March 2012 were issued by new private sector banks.

ELECTRONIC CLEARANCE SYSTEM (ECS)

ECS is an electronic mode of payment / receipt for transactions that are repetitive and periodic in nature. ECS is used by institutions for making bulk payment of amounts towards distribution of dividend, interest, salary, pension, etc., or for bulk collection of amounts towards telephone / electricity / water dues, cess / tax collections, loan installment repayments, periodic investments in mutual funds, insurance premium etc. Essentially, ECS facilitates bulk transfer of monies from one bank account to many bank accounts or vice versa. Clearing services are of two types:

- Electronic Credit Clearing
- Electronic Debit Clearing

TABLE 5: VOLUME AND VALUE OF ECS-CREDIT AND DEBIT TRANSACTIONS

Type	Volume (000s)			Value (Rupees in crores)		
	ECS-Credit	ECS-Debit	Total	ECS-Credit	ECS-Debit	Total
2003-04	22654	7897	30551	10228.00	2253.00	12481.00
2004-05	40051 (76.79)	15300 (93.67)	55351	20180 (97.31)	2921 (29.6)	23101
2005-06	44216 (10.39)	35958 (135.02)	80174	32324 (60.2)	12986 (344.57)	45310
2006-07	69019 (56.04)	75202 (109.13)	144221	83273 (157.61)	25441 (95.91)	108714
2007-08	78365 (13.54)	127120 (69.03)	205485	782222 (839.34)	48937 (92.35)	831159
2008-09	88394 (12.79)	160055 (25.90)	248449	97487 (-87.54)	66976 (36.9)	164463
2009-10	98550 (11.49)	150214 (-6.15)	248764	117833 (20.9)	69819 (4.24)	187652
2010-11	117300 (19.03)	156700 (4.32)	274000	181686 (54.19)	73646 (5.5)	255332
2011-12	122000 (4.01)	165000 (5.3)	287000	183800 (1.7)	83400 (13.24)	267200

TRENDS IN ELECTRONIC FUNDS TRANSFER

The Reserve Bank of India has been, since the late eighties, spear heading reforms in the payment and settlement systems of the country using the benefits derived from technological developments. The most important set of initiatives taken by the RBI since the nineties was the introduction of electronic funds transfer systems. While the initial set of systems provided facilities for small value and repetitive transactions, RBI introduced the RTGS system in 2004 for online real time inter-bank payment and settlement for large value funds. Electronic Fund Transfer is a system of transferring money electronically from one bank account to another account, from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country.

NEFT is a secure, nation-wide retail electronic payment system to facilitate funds transfer by the bank customers, between the networked bank branches in the country. Banks have been increasingly using the NEFT system for ensuring wider reach for electronic funds movement. The NEFT is a secured network which uses the SFMS messaging format with public key infrastructure (PKI) enabled digital signatures having a nation-wide network.

RTGS stands for Real Time Gross Settlement System. It is a fund transfer mechanism where transfer of money takes place from one bank to another on a real time basis and is primarily envisaged for processing and settling large value payment orders i.e. for amounts above Rs.2 lakhs. Over the last few years, RBI has made its NEFT system more robust with real-time settlement finality through its 12 settlement cycles in a day. As on May, 2012 there are 84638 and 86449 bank branches participating in RTGS (NEFT). For NEFT transactions, the beneficiary can expect to get credit for the first twelve batches on week days (i.e., transactions from 8 am to 7 pm) and the first six batches on Saturday (i.e., transactions from 8 am to 1 pm) on the same day.

The Indian RTGS and NEFT systems have displayed significant growth in both transaction volumes and values. The following Table reveals the growing usage of NEFT in the banking system:

TABLE 6: VOLUME AND VALUE OF RTGS AND NEFT TRANSACTIONS

Year	Volume of Transactions (000s)		Value of Transactions (Rs Crore)	
	NEFT/EFT	RTGS	NEFT/EFT	RTGS
2003-04	819	--	17124.81	1965
2004-05	2549	460	54601.38	4066184
2005-06	3067	1770	61288.22	11540836
2006-07	4776	3880	77446.31	24619180
2007-08	13315	5850	140326.5	48294559
2008-09	32161	13380	251956.4	61139912
2009-10	66340	33250	409507	101169931
2010-11	132340	49270	939149	94103934
2011-12	226110	55040	1790350	107979059

source: RBI Monthly bulletin, November 2012

Table 6 shows that the customer remittance and inter-bank remittance was nil in 2003-04 but then increased to 5.85 million in 2007-08 and 55.04 million in 2011-12. Clearing between one bank to other also increased from 1.40 million to 4.02 million in 11-12 respectively. RTGS is very much prevalent for inter and intra-bank settlement among different banks in India for various reasons. Firstly, RTGS facilitates continuous settlement of payment on an individual order basis without netting debit and credit across the books of RBI. Secondly, it is a good source for improving non-interest income. Thirdly, RTGS has generated an additional source of revenue, when the funds are transferred through electronic system, a lot of back end work and manpower involved in such work can be utilised for other productive purposes.

CONCLUSIONS AND SUGGESTIONS

The Indian payments market has seen a sea change in terms of technological advancements by way of various facilities, Instruments and channels of payments. Indian payment industry is steadily shifting from paper –based to electronic payments system. Although, the adoption of technology in banks continues at a rapid pace, the concentration is perceptibly more in the metros and urban areas. The benefit of Information Technology is yet to percolate sufficiently to the common man living in his rural hamlet. More and more programs and software in regional languages could be introduced to attract more and more people from the rural segments also.

RBI should disseminate knowledge among the public (more specifically, unbanked migrant population) to harness the facility of cash NEFT. It should devise more focused means to incentivize electronic transfers and disincentivize use of Cheques. RBI should consider allowing 5 free electronic transfers (including deposits and withdrawals) per month for each of the interoperable systems like NEFT, IMPS at net-banking sites for saving bank account customers.

The main challenge, however, remains to inculcate trust and confidence among customers and thus motivate them to increasingly make use of IT while transacting with banks.

REFERENCES

1. Moody's Analytics "The Impact of Electronic Payments on Economic Growth", pp.1-16, February, 2013.
2. Samir and Deepa Kamra (2011), "Automation of Banking Sector in India", pp.20-23, vol.8, No-1 in Masterstroke ,The journal of Master School of management.
3. V Dheenadhayalan .2010. "Automation of banking sector in India". Yojana, 32-35.

WEBSITES

4. <http://iba.org.in>
5. <http://www.gmail.com>
6. <http://www.rbi.org.in>

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