

# Impact of Information Technology in Banking Sector

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**Abstract:** For a healthy economic system, sound and effective banking or financial system is considered to be backbone of the economy; Liberalization, Privatization & globalization have positively changed the picture of Indian Economy in last few Years. Emerging and advanced technology has changed the working pattern of banks world over, Indian banking system is not an exception left behind, but at the same time these set reforms have presented numerous challenges before Indian Banking System to go along with the pace of new technological methods leaving behind with old traditional system. Indian banking in order to survive in highly competitive world and intense competition by foreign and international players are putting lot of efforts on understanding the drivers to increase efficiency and generate better financial performance, not only by giving hassle free but also meeting external and internal factors of new challenges of technology. However, it is acceptable fact that only up gradation of technology or introduction of new innovative products to banking system will improve the state of services. In the following paper attempt has been made to examine use of Information Technology in last few years and its advantages to banking industry.

**Key Words:** Digital Payments, UPI, ATM, Debit and Credit Cards, NEFT, RTGS

**Introduction:** Banking sector in India has seen number of changes in last few years. Many banks have begun to take an innovative approach towards banking with an objective to satisfy their customers by offering new technological & innovative products time to time which in turn will add value to customer satisfaction. Information technology plays a very vital role in turning around the picture and growth of Indian banking system. Banks are heavily investing in new technological or innovative methods of banking. ATMs, E-banking, mobile banking, CRM, tele-banking are some of the examples. Electronic banking services, Indian Financial network (INFINET), Real time gross settlement etc. shows that RBI has also adopted new technological payment methods on an ongoing basis.

New innovations in product designing and their delivery in banking and finance industries are result of it. Information technology has not only made changes in the banking system but also offered a wide range of innovations to build up new systems that address wide range of customer needs that are beyond imagination years ago. Upcoming competition among banks and association of financial innovations with it has completely changed banking philosophy at same time this has resulted in innovation and arrival of technological products in banking. The technological evolution of the Indian banking industry has been largely directed by the various

committees set up by the RBI and the government of India to review the implementation of technological change.

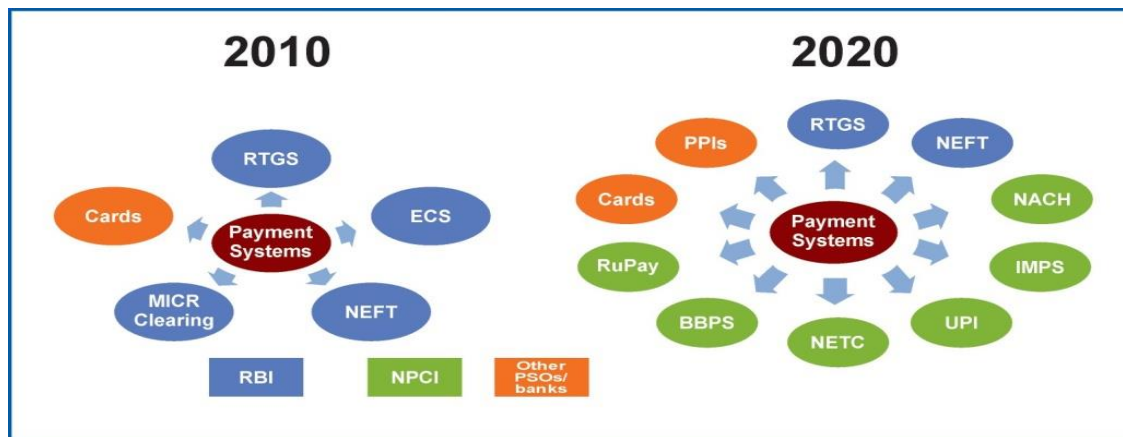
Demographic growth of India will turn the picture of our country from populated to densely populated very soon in which there exists two different categories named rural and urban India. These two points can only be brought together through technological advancements. Biggest & primary challenge for Indian banks is to offer wide range of products and services to every type of customer irrespective rural or urban. Now days, technology has made very easy to deliver services through networks wherein, customers can access their accounts anytime but this has converted into a challenge for banks to retain their customers and add new group of customers by offering new things on time. Even for becoming competitive and generating good revenue, it is important for banks to make their products available at all time and across the organization.

**Review of Literature: Nadire Cavus & Dambudzo Netsai Christina Chingoka**, with the advancement of IT in the banking sector, customers do not always want to visit banks branches. They are able to utilise the IT services provided to make transactions. More focus needs to be done on enhancing customer's awareness and intention to use mobile banking services. In fact the developers of the mobile banking applications need to find solutions to solve security and trust issues customers, may have with mobile banking. **Shilpa Arora & Dr. Priyanka Singh**, Technology has provided us number of innovative tools & products but to put them in a right order will bring change in the picture of Indian economy. Most of the population in India is under poverty line, living in rural areas and have no access to bank accounts, to make them aware about the advantages of technology and its use in banking is a big challenge for bankers. **Geetha and Ramanarayanan (2015)**, explored the impact of core banking solutions on consumers. Their research indicates that the younger population (especially between the age group of 35 - 45 having annual income of more than Rs: 1,20,000 and are familiar and accustomed with internet banking. **Sagarika Aggarwal, Kuldeep Chowdhury, Tejas Raj** In India, 90 percent of credit card and debit card transactions are domestic, but compared to international card schemes, the cost per transaction was low with RuPay. Banks have identified cashless transactions as the future of banking, customers reacting positively to this transition, with a higher growth rate when it comes to transactions at POS terminals with both debit cards as well as credit cards. **Dr. T.Sasikumar, PJAEE, 17(6) (2020)** A variety of developments have taken place in Indian Banking sector, among the various developments, evidence suggests that there is a shift from traditional channel to electronic channels in the developing countries. In order to have faster processes in digital banking, there is need by banks to invest more on robust reliable systems to reduce incidents of failed transactions and transactional hazels in ATMs, Mobile banking and POS terminals. **J. SaiSudha, Dr. P. Venkata DurgaRao, March 30, 2020** the study has been emphasized on the technology impact on the banking performance of select private sector banks, study found that the Mobile transactions and RTGS have significantly influenced the banking technology Index but ATM and NEFT transactions have impacted negatively to the private sector banking technology index. The study also observed that with the BTI impact on the Business per employee has been found significantly. The study result reveals that the usage of technology to render the banking services influenced the business significantly positive.

## RESEARCH METHODOLOGY

This study has used descriptive method. Data collected was from secondary sources through Articles, Journals, Books, websites, survey reports, committee reports and government published data. Research methodology used was descriptive one. Data was analyzed by using percentages, CAGR and depicted through tables and bar chart. The digital revolution is taking the world by storm and no other area has witnessed a metamorphosis as has been seen in the payment and settlement arena, resulting in a myriad of payment options for the consumer. In the last 10 years, India has witnessed an exponential growth in payment systems and a significant shift in payment preference.

**Table 1: India's payment systems**



The shift in payment preference in the last 10 years is evidenced by the fact that the volume of paper clearing, which comprised of 60% of total retail payments in the financial year (FY) 2010-11, shrunk to 3% in the FY 2019-20. This striking shift in payment preference has been due to the creation of robust electronic payment systems such as RTGS, NEFT and ECS that has facilitated seamless real time or near real time fund transfers. In addition, this decade has witnessed introduction of innovative payment systems that provide instant credit to the beneficiary, with the launch off as payment systems such as IMPS and UPI that are available to consumers round the clock for undertaking fund transfers, and the introduction of mobile based payment systems such as Bharat Bill Payment System (BBPS), PPIs to facilitate payment of bills and purchase of goods and services and National Electronic Toll Collection (NETC) to facilitate electronic toll payments. The convenience of these payment systems ensured rapid acceptance as they provided consumers an alternative to the use of cash and paper for making payment.

*“India has been always a country which fostered innovation and development in the area of payment and settlements systems. The past decade has witnessed the blossoming of my payments systems, all for the convenience of the common man”. (Shri B. P. Kanungo, Deputy Governor, RBI, 2018)*

Digital Payment Service Description (RBI Bulletin 2019)

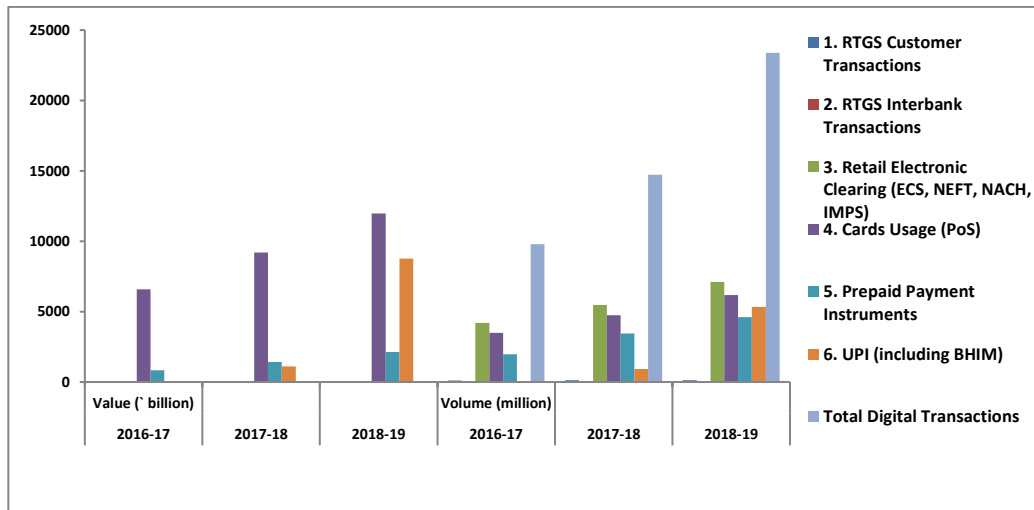
1. **Electronic Funds Transfer** – is a digital movement of money from one bank to another. These transfers take place independently from bank employees, as a digital transaction there is no need for paper documents. EFT has become a predominant method of money transfer since it is simple, accessible, and direct method of payment or transfer of funds. This system has been replaced by more efficient NEFT system for use by the general public.
2. **Real Time Gross Settlement (RTGS)** - The acronym 'RTGS' stands for Real Time Gross Settlement, which can be explained as a system where there is continuous and real-time settlement of fund-transfers, individually on a transaction-by-transaction basis (without netting). 'Real Time' means the processing of instructions at the time they are received; 'Gross Settlement' means that the settlement of funds transfer instructions occurs individually. Settlement of fund transfer orders occurs individually on a continuous and real-time basis. Minimum amount for customer transactions is ₹2 lakh. No upper limit. Available from 8 am to 6 pm for customer transactions and 8:00 am to 7:45 pm for interbank transactions on working days.
3. **National Electronic Fund Transfer (NEFT)** National Electronic Funds Transfer (NEFT) is a nation-wide centralised payment system owned and operated by the Reserve Bank of India (RBI). One to one fund transfer with half-hourly net settlement. No minimum or maximum limit. Available from 8 am to 7 pm on working days.
4. **National Electronic Clearing Service (NECS) (Credit)** 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 instalment 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. ECS includes transactions processed under National Automated Clearing House (NACH) operated by National Payments Corporation of India (NPCI). This facilitates multiple credits to beneficiary accounts with destination branches across the country against a single debit of the account of the sponsor bank.
5. **Credit & Debit Cards** PoS terminals which enable customers to make payments for purchases of goods and services by means of credit/debit cards. To facilitate customer convenience, the Reserve Bank has also permitted cash withdrawal using debit cards issued by the banks at PoS terminals and ATMs.
6. **Banks PPIs (Cards & Wallets)** RBI as per the guidelines provided under the Payment and Settlement Act, 2005 defined Prepaid Payment Instruments (PPIs) as instruments of payment that facilitate buying of goods and services, including the transfer of funds, financial service and remittances, against the value stored within or on the instrument. The value stored on such instruments represents the value paid for by the holders by cash, by debit to a bank account, or by credit card. The pre-paid payment instruments can be issued in the form of smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers, etc.
7. **IMPS** Round the clock peer-to-peer fund transfer facility with immediate money transfer through multiple channels like Mobile, Internet, ATM, SMS, Branch and USSD.

8. **NACH** Web-based solution to facilitate interbank, high volume, electronic transactions which are repetitive and periodic in nature.
9. **Cheque Truncation System (CTS)** is the process of stopping the physical movement of cheques. As per the amended Negotiable Instruments Act 1881, in cheque truncation, the movement of the physical instrument is stopped and replaced by electronic images and associated MICR line of the cheque.
10. **Aadhaar -enabled Payment System** Basic banking transactions can be done at Micro ATM of the Business Correspondent of any bank using Aadhaar authentication.
11. **UPI** Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience, through mobile device round the clock 24\*7 and 365 days. BHIM app supports multiple bank accounts into a single mobile application. Upper limit is `2,00,000.
12. **National Electronic Toll Collection (NETC)** National Payments Corporation of India (NPCI) has developed the National Electronic Toll Collection (NETC) program to meet the electronic tolling requirements of the Indian market. It offers an interoperable nationwide toll payment solution including clearing house services for settlement and dispute management. Interoperability, as it applies to National Electronic Toll Collection (NETC) system, encompasses a common set of processes, business rules and technical specifications which enable a customer to use their FASTag as payment mode on any of the toll plazas irrespective of who has acquired the toll plaza.

#### Digital Transactions

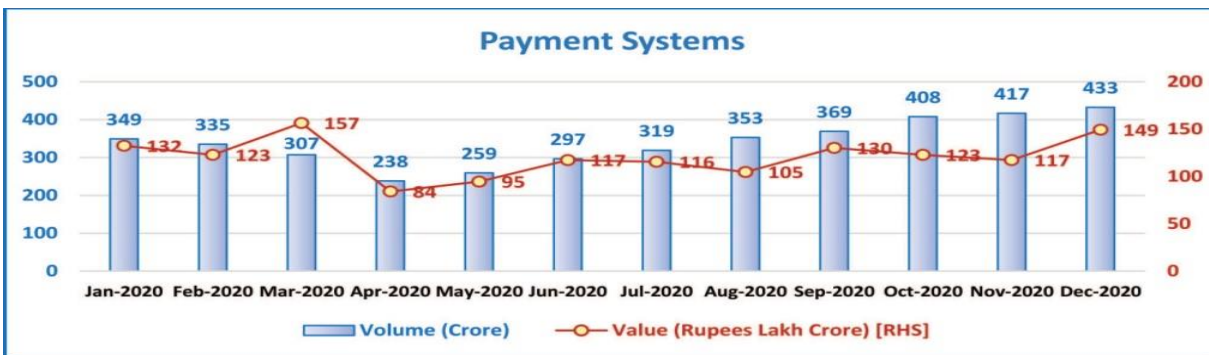
	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
	Value ( billion)			Volume (million)		
1. RTGS Customer Transactions	8,49,951	10,36,699	11,84,368	104	121	133
2. RTGS Interbank Transactions	1,31,953	1,30,426	1,72,514	4	4	3
3. Retail Electronic Clearing (ECS, NEFT, NACH, IMPS)	1,32,250	1,92,018	2,58,745	4,205	5,467	7,113
4. Cards Usage (PoS)	6,583	9,190	11,969	3,486	4,749	6,177
5. Prepaid Payment Instruments	838	1,416	2,129	1,963	3,459	4,604
6. UPI (including BHIM)	69	1,098	8,770	18	915	5,343
<b>Total Digital Transactions</b>	<b>11,21,644</b>	<b>13,70,847</b>	<b>16,38,495</b>	<b>9,780</b>	<b>14,715</b>	<b>23,373</b>

Source: RBI



The total value of digital payments included large-scale interbank payments, such as Real Time Gross Settlement (RTGS) or National Electronic Funds Transfer (NEFT), as well as payments used by individuals, such as credit and debit cards. India’s mobile payment system, Unified Payments Interface (UPI), recorded strong gains, both in numbers and in value, since 2015. Thereby, it comes as no surprise that international key players, such as Google Pay or Amazon Pay, entered the market.

Table20: Performance during the Pandemic



Total Payments	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Volume	100	92	71	77	88	95	105	110	122	124	129
Value	100	127	68	77	96	94	85	106	100	96	122

Source:RBIData

Note:(i)Feb2020figuresareconsideredasthebase(100).

(ii)Monthsin greenhavePaymentvolume/valuehigherthanthePre-Covid-19levelsindicatingrecoveryinPaymentSystems.

Since the beginning of the COVID-19 pandemic in India the number of digital payment transactions continued to grow. This was also true for the various methods of credit and debit transfers, including mobile payments through UPI. According to the results of a survey among Indians on the impact of the corona virus (COVID-

19) and its consequent lockdown, a majority of respondents reported using digital payments to purchase groceries, medicines and other essentials. This had a higher share at retail stores than online.

While the pandemic accelerated the adoption of technology across industries and sectors, our dependence on these advancements has been increased to a great extent. For example, the recent Annual Report 2020-21 of Reserve Bank of India shows, the total digital transaction volume in 2020-21 stood at 4,371 crores, as against 3,412 crores in 2019-20, attesting to the resilience of the digital payment system in the face of the pandemic.

**Conclusion:** The Banking industry in India is rapidly progressing with increased customer base and due to newly improved and innovative facilities offered by technology. The year has seen increased dependence on digital technologies for banking needs. There still lies a massive potential for banks to fill the gaps to meet their customer expectations. More businesses are digitising their processes and modernising functions by investing in the latest technologies. Modern banking technologies are helping banks collaborate and integrate their services with fintech to offer consumers newer and efficient technologies. Consumers are also actively adopting these new technologies for better and convenient banking experiences. As a result, more and more consumers are transacting with their banks, building an opportunity for newer technologies to be created in the space, providing the customers with an ultimate banking experience. At the same time balance between rural and urban customers and their capabilities of digital banking needs to be addressed by banks since, most of the population in India is living in rural areas; therefore the banking system in rural areas should be more equipped and responsive towards the problems and issues of the customers. To make them aware with the advantages of technology and its use in banking is a big challenge. No doubt it will take another few years to overcome such problems.

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