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ONLINE BANKING DEVELOPMENT, CHALLENGES AND EXPECTATIONS IN INDIA AN OVERVIEW

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Abstract:

A nation's financial sector has a significant impact on its economic growth. An economy's lifeblood is banking. A robust and sound financial system is a crucial prerequisite for economic expansion. The banking sector in India is currently undergoing an IT revolution. Banking institutions have become more modern as a result of the adoption of the internet. Both banks and customers have profited from the adoption of the internet banking strategy. Because of the advantages, banks worldwide have adopted online banking, and Indian banking institutions are no exception. The Indian banking sector is becoming more and more automated as a result of bank competitiveness. Internet, phone, and mobile banking are all included in the general phrase "e-banking." The bank hopes to introduce the fundamental idea of IT-based Enabled Services (ITES) through E-Banking. Customers are the only ones who can use e-banking services, which are completely integrated with the existing core banking solution. Examining and evaluating the advancements made by Internet banking in India is the aim of this article.

The nation's financial system has a significant impact on its economic growth. Information technology has caused a shift in the banking industry, opening the door for the introduction of retail electronic payment systems. These systems have advanced recently in many nations, with India leading the way. Banks have become more modern when the internet was incorporated into the banking sector. E-banking is knowledge-based and mostly scientific in that it uses electronic devices of computer resolution through substantial IT use without the consumers having to provide the bank with direct resources.

Examining and evaluating the advancements made by online banking in India is the aim of this article. The difficulties Indian banks have implementing technology are also highlighted in the research. The author's opinions are presented as a conclusion at the end.

Keywords: E-Banking, Information Technology, ATM's, RTGS, NEFTs, Debit and Credit Cards

Introduction

Reforms were started and implemented in a sequential manner to help banks get beyond external barriers, which included high levels of preemption in the form of reserve requirements, administered interest rate structures, and credit distribution to specific industries. The reform process has improved resource allocation efficiency, and one key element has been the sequencing of interest rate deregulation.

It has been a slow process; based on prudential regulation of the banking system, market behavior, financial liberalization, and, most importantly, the macroeconomic conditions that underlie it. With the exception of a few particular groups, such as savings deposit accounts, non-resident Indian (NRI) deposits, small loans up to Rs. 2 lakh, and export credit, interest rates in the banking sector have been substantially deregulated.

Since independence, India's banking sector has seen significant transformation due to advancements in automation and technology. The banking industry is becoming very competitive. Banks are choosing the newest and greatest technologies in order to thrive in the shifting market conditions. The banking sector has shifted from paper and branch banks to digital and network-based banking services since the advent of IT. Recent financial sector changes have been based on information technology, which has also assisted banks in creating leaner, more adaptable structures that can react swiftly to the dynamics of a rapidly shifting market. With services like online loan applications, online document uploads, net banking, online bill payments, etc., the banking industry is using IT more than ever before. Couple of decades who would have thought these things could have been possible.

Objective:

This paper seeks

1) To study identify the key factors influencing Indian banking industry in adoption of technology.

2) To study and suggest ways to mitigate the hurdles faced in E-banking.

Background of online Banking:

The development of channels for service delivery that allow customers to communicate with banks has been the trend.

As a result, contemporary banks give their customers more channel options and connect with them via a variety of channels. As a result, in addition to traditional branch banking, customers can now conduct their banking activities via ATMs, phones, the internet, and wireless channels. Since customers have gotten used to and are really using a wide variety of options, banks cannot go back in time by cutting back on the number of channels.

The development of online Banking:

In 1981, the first iteration of what was referred to be online banking was launched. With four of its largest banks—Citibank, Chase Manhattan, Chemical Bank, and Manufacturers Hanover—New York City was the first city in the United States to test out the novel approach to conducting business by offering remote services. With more and more banks joining the market, internet banking is rapidly catching up in India. It has acquired widespread recognition abroad as a means of delivering banking services as well as a strategic instrument for business development. With the introduction of net banking, India might be said to be on the cusp of a significant banking revolution.

The goal of the Reserve Bank of India is to guarantee that payment and settlement systems in India are secure, effective, approved, interoperable, accessible, inclusive, and in line with international standards. The goal is to actively promote electronic payment systems in order to usher in a society in India where people use less cash. In order to assist payment systems in meeting worldwide standards, regulation is eager to encourage innovation and competition. In the middle of the 1980s and early 1990s, the Reserve Bank of India launched a number of initiatives that led to the provision of technology-based solutions. The demand for a more affordable alternative system arose. In order to handle recurring and large-scale payments, the Electronic Clearing Service (ECS) was introduced in the 1990s. In order to manage numerous credits to beneficiary accounts, a new avatar known as the National Electronic Clearing Cell was introduced in September 2008. Member institutions' fundamental banking systems serve as the foundation for the National Electronic Clearing Service (NECS). In order to facilitate electronic fund transfers for payments between individuals, the retail funds transfer system was implemented in the 1990s. A strong system was introduced in November 2005 to enable one-to-one money transfers for both people and corporations. Transactions for goods and services against the value saved on payment instruments are made possible by prepaid instruments. Smart cards, magnetic stripe cards, internet wallets, mobile wallets, and paper vouchers are some possible formats. Selected banks were allowed to provide the service in accordance with mobile banking norms after obtaining the required approval from the Reserve Bank of India. Indian retail payments present both substantial opportunities and challenges. Based on Payment system vision document released by Reserve Bank of India, the number of non-cash transactions, at 6 per person, is low in India. It is

estimated that Government subsidies alone constitute more than Rs.2.93 trillion and electronification has a potential to translate 4.13 billion electronic transactions in a year. The credit of launching internet banking in India goes to ICICI Bank. According to current information, HDFC Bank is widely considered the bank offering the highest level of internet banking services in India, recognized for its excellent digital services and robust online platform. The Government of India enacted the IT Act, 2000 with effect from October 17, 2000 which provided legal recognition to electronic transactions and other means of electronic commerce. The Reserve Bank is monitoring and reviewing the legal and other requirements of e-banking on a continuous basis to ensure that e-banking would develop on sound lines and e-banking related challenges would not pose a threat to financial stability.

Automated Teller Machines (ATMs): ATMs have become the order of the day in banking. Though they were evolved as novel cash dispensers, now they have emerged as a marketing tool to target the masses. There are more than 60.000 offsite and onsite ATMs of many banks which are nothing but virtual branches, as customers can conduct any transactions through the touch screens. They are user friendly and they have mass acceptability. At present banks have started outsourcing and sharing of ATM services to reduce costs. Most banks are used to cross sell other products also so as to meet the varied requirements of customers.

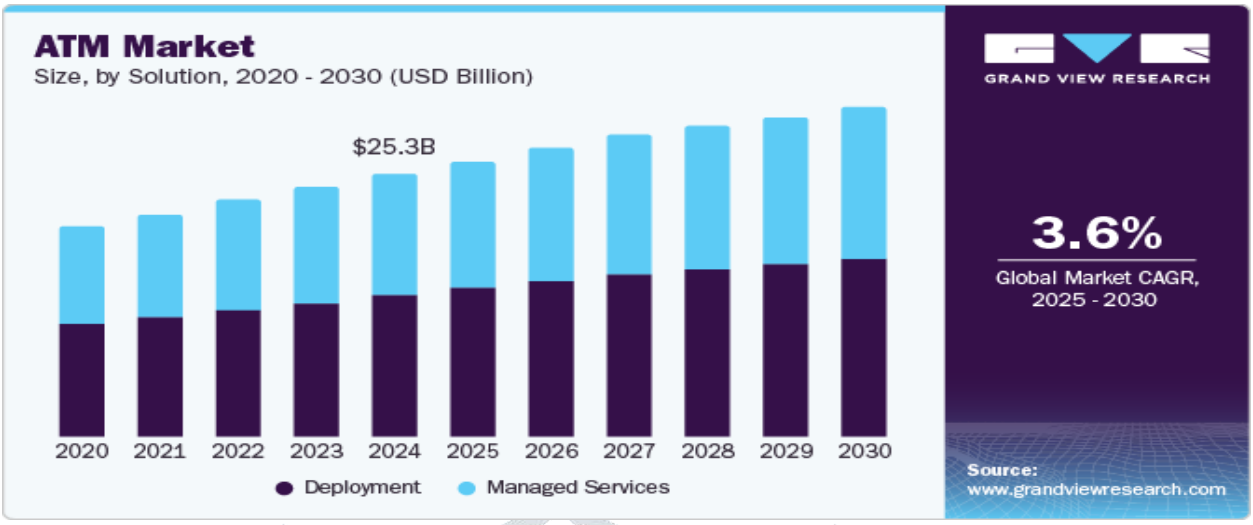
Indian banks offer to their customers following e-banking products and services: Automated Teller Machines (ATMs) Internet Banking Mobile Banking Phone Banking Tele banking Electronic Clearing Services Electronic Clearing Cards Smart Cards Door Step Banking Electronic Fund Transfer.

According to report of RBI According to the Reserve Bank of India (RBI), the number of ATMs in India decreased from 219,000 in September 2023 to 215,000 in September 2024. This is due to a shift in the banking sector towards digital payments.

Banks have started dispensing Railway tickets, Air tickets, Movie tickets etc. through ATMs. Voice activated ATMs; ATMs with finger prints scanning technology etc are on the move. If they become operative they can save the customers from the Hassel of carrying a card .In future a bank's ATM would function like a Kiosk, delivering more on non cash transactions there by reducing fixed and operating costs.

The size of the global ATM market was estimated at USD 25.29 billion in 2024, and it is expected to increase at a compound annual growth rate (CAGR) of 3.6% between 2025 and 2030. Automated teller machines (ATMs) provide a dependable, user-friendly interface for cash withdrawal along with features including 24-hour cash availability, quick fund transfers, and withdrawals. Customers are looking for safe, quick, easy, and dependable ways to get cash thanks to technological improvements, which is why ATMs are being widely used throughout the world. Additionally, the introduction of Smart ATMs for users with particular needs and enhanced security

measures, such as biometric and one-time password authentication systems to prevent fraud, support market expansion.



Real Time Gross Settlement (RTGS):

Real Time Gross Settlement (RTGS) is an electronic form of funds transfer where the transmission takes place on a real time basis. In India, transfer of funds with RTGS is done for high value transactions, the minimum amount being Rs 2 lakh. The beneficiary account receives the funds transferred, on a real time basis. The main difference between RTGS and National Electronic Funds Transfer (NEFT) is that while transfer via NEFT takes place in batches (with settlements and transactions being netted off), in the case of RTGS, the transactions are executed individually and on gross basis. The customer initiating the funds transfer through RTGS has to have the Indian Financial System Code (IFSC) of the beneficiary's bank, along with the name of the beneficiary, account number and name of the bank. The bank branches, both at the initiating and receiving end, have to be RTGS-enabled for the transaction to be processed. Customers with Internet banking accounts can do RTGS transactions on their own.

National Electronic Funds Transfer (NEFT):

One-to-one money transfers are made possible via the National Electronic Funds Transfer (NEFT), a nationwide payment mechanism. People can use this scheme to electronically transfer money from any bank branch to anyone who has an account with any other bank branch in the nation that is taking part.

How is RTGS different from NEFT? Timing:

As mentioned above, NEFT operates in hourly batches. Currently, it has 11 settlements from 9am to 7pm on weekdays and five settlements from 9am to 1pm on Saturdays. So, in case you

initiate a transaction after a settlement time you have no option but to wait till the next settlement time. But that's not the case with RTGS transactions, since they are processed constantly throughout the RTGS business hours. The service window for RTGS at banks is available from 9am to 4.30pm on week days and from 9am to 1.30pm on Saturdays for settlement at the RBI end. Keep in mind that the timings that each bank follows may vary

Amount: As far as NEFT goes, it does not have a minimum or maximum limit of amount you can transfer. But the maximum amount per transaction is limited to Rs 50,000 for cash-based remittance and remittance to Nepal. As far as RTGS goes, it is mostly meant for large transactions. The minimum amount that can be remitted through it is Rs 2 lakh. RTGS does not have an upper ceiling for transactions. Charges: For NEFT, inward transactions (when you receive funds via NEFT) are free, as no charges are to be levied from the person to whom fund are being transferred to. When you use NEFT to make an outward transaction (when you send funds via NEFT) at a bank branch for amounts up to Rs 1 lakh, the charge is up to Rs 5 plus service tax. For transactions above Rs 1 lakh and up to Rs 2 lakh, the charge is up to Rs 15 plus service tax. For transactions above Rs 2 lakh, the charges can't exceed Rs 25 plus service tax. For RTGS, inward transactions (when you receive funds through RTGS) are free. For outward transactions (when you send funds via RTGS), if the amount is between Rs 2 lakh and Rs 5 lakh, the charges will be up to Rs 30 per transaction. If the amount transferred is above Rs 5 lakh, the charges can't exceed Rs 55 per transaction.

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FEATURES OF ELECTRONIC BANKING:

1. Easy Electronic Fund transfer facility.
2. Better efficiency in Customer relationship management.
3. Making the Payments of bills like electricity, telephone bills, and mobile recharge.
4. It introduces virgin & innovative banking products & services.
5. It can view of balance of accounts and statements;
6. E-banking can bring doorstep services.
7. Balance and transaction history search.
8. Transaction history exports.
9. Order mini statements.
10. Mobile banking.
11. Pay anyone payments Multi Payments.
12. SMS banking services.

Advantages of Internet Banking:

Round The Clock Banking: E-banking facilities perform of basic banking transactions by customers round the clock globally. World-wide 24 hours and 7 days a week banking services are made possible. In fact there are no restricted office hours for E-banking. Convenient Banking: E-banking increases the customer's convenience. No personal visit to the branch is required .customers can perform basic banking transactions by simply sitting at their office or at home through PC or LAPTOP. Customers can get drafts at their door steps through e-mail call. Thus E-banking facilitates home banking.

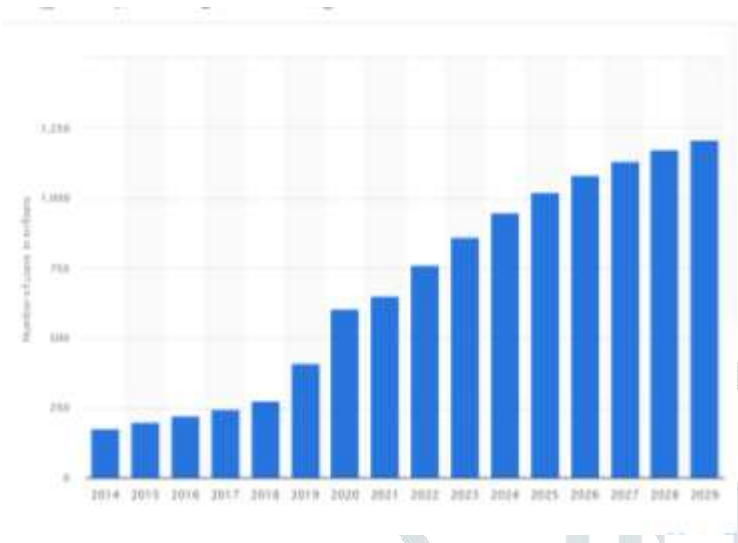
Low Cost Banking: The operational costs have come down due to technology adoption. The cost of transactions through internet banking is much less than any other traditional mode. Profitable Banking: The increased speed of response to customer's requirements under E-banking vis-a-vis branch banking can enhance customer satisfaction and consequently can lead to higher profits via handling a larger number of customer accounts. Banks can also offer many cash management products for the existing customers without any additional cost.

India's Net banking directory

Bank Name	Technology Vendor	Service offering
ABN AMRO Bank	Infosys (BankAway)	NetBanking
Abu Dhabi Commercial Bank	Infosys (BankAway)	ADCB NetLink
Bank of India	I-flex	BOIonline
Centurion Bank	Logica	MyCBOL
Citibank	Orbitech (now Polaris)	Citibank Online
Corporation Bank	I-flex	CorpNet
Federal Bank	Sanchez	FedNet
Global Trust Bank	Infosys (BankAway)	ibank@gtb
HDFC Bank	i-flex/ Satyam	NetBanking
ICICI Bank	Infosys, ICICI Infotech	Infinity
IDBI Bank	Infosys (BankAway)	i-net banking
IndusInd Bank	CR2	IndusNet
Punjab National Bank	Infosys (BankAway)	
Standard Chartered Bank	In-House	Me Standard Chartered Online
State Bank of India	Satyam/Broadvision	onlinesbi.com
UTI Bank	Infosys (BankAway)	iConnect

Competitive Advantage:

Indian Internet users:



The benefit of adopting e-banking provides a competitive advantage to the banks over other players. The Implementation of e-banking is beneficial for bank in many ways as it reduces cost to banks, improves customer relation increases the geographical reach of the bank, etc. The benefits of e-banking have become opportunities for the banks to manage their banking business in a better way.

The number of internet users in India was forecast to continuously increase between 2024 and 2029 by in total 262.9 million users (+27.73 percent). After the fifteenth consecutive increasing year, the number of users is estimated to reach 1.2 billion users and therefore a new peak in 2029. Notably, the number of internet users of was continuously increasing over the past years.

Key Risks

Security Risk: The problem related to the security has become one of the major concerns for banks. A large group of customers refuses to opt for e-banking facilities due to uncertainty and security concerns. According to the IAMAI Report (2006), 43% of internet users are not using internet banking in India because of security concerns. So it's a big challenge for marketers and makes consumers satisfied regarding their security concerns, which may further increase the online banking use. The Trust Factor: Trust is the biggest hurdle to online banking for most of the customers. Conventional banking is preferred by the customers because of lack of trust on the online security. They have a perception that online transaction is risky due to which frauds can take place. While using e-banking facilities lot of questions arises in the mind of customers such as: Did transaction go through? Did I push the transfer button once or twice? Trust is among the

significant factors which influence the customers" willingness to engage in a transaction with web merchants Customer Awareness: Awareness among consumers about the e-banking facilities and procedures is still at lower side in Indian scenario. Banks are not able to disseminate proper information about the use, benefits and facility of internet banking. Less awareness of new technologies and their benefits is among one of the most ranked barrier in the development of e-banking Privacy risk: The risk of disclosing private information & fear of identity theft is one of the major factors that inhibit the consumers while opting for internet banking services. Most of the consumers believe that using online banking services make them vulnerable to identity theft. According to the study consumers" worry about their privacy and feel that bank may invade their privacy by utilizing their information for marketing and other secondary purposes without consent of consumers strengthening the public support: In developing countries, in the past, most e-finance initiatives have been the result of joint efforts

between the private and public sectors. If the public sector does not have the necessary resources to implement the projects it is important that joint efforts between public and private sectors along with the multilateral agencies like the World Bank, be developed to enable public support for e-finance related initiatives.

Availability of Personnel services: In present times, banks are to provide several services like social banking with financial possibilities, selective up gradation, computerization and innovative mechanization, better customer services, effective managerial culture, internal supervision and control, adequate profitability, strong organization culture etc.

Therefore, banks must be able to provide complete personnel service to the customers who come with expectations.

Conclusion

Finally the study concludes that with the passage of time E-banking has gained the momentum in the Indian context. Most of the banks have implemented E-banking facilities which are beneficial to both i.e., banks and the customers. Though there are many challenges and hurdles in the smooth implementation of E-banking system in India but at the same time E-banking is having a bright future. The use of ATMs, Debit and Credit has become a good source of usage of information technology and has paved a way for Digitalization. As the motto of this study is to prove that safety and security is the main challenge of e-banking in India, we found that even the practical users of feel that safer and secure usage of e-banking is a drawback. As discussed above, if the safety measures are adopted by all the banks, e-banking will be a phenomenal implementation by the citizens of India. It might even transform into a revolutionary service by the banking companies.

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