



# Digital Banking : A Survey Report

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**Abstract** - This paper discusses the prominence of DB, the development of banking system in India before and after independence. It discusses the four stages of development. The DB is an important innovation of the 20th century. Transactions of DB traditional banking practices such as cash deposit and withdrawal at tellers, passbook printing, fund transfer, investment in deposits, demat accounts and other services will be done online instead of visiting bank branches. DB gives the privilege to easily access and run banking operations 24/7. DB can be done through ATM, Laptop, Tablet, Cell Phone, Kiosk. The banking sector will get many resources due to organization as effective DB implementation, cost reduction, easy to grow, achieving high consumer interest. The main advantages from the customer's point of view, a great time-saving for customers, simple maintenance. DB provides benefits for the society like ease of use, low cost, ease, continuity in transactions, eliminating the risk of carrying heavy cash etc. DB faces challenges like financial, psychological, privacy, security issue, various types of risks have to face. The purpose of this study is to evaluate the latest DB access to the end customers discussed in this chapter. The research goal is to understand the factors affecting DB services, awareness among customers towards DB services, to analyze the impact of DB on the efficiency of banks and to analyze the loopholes and security features for DB services.

**Keywords** : Banking Sector, Digital Banking, IT, Internet, Mobile Banking

**Introduction**- The banking sector in India is expanding rapidly to achieve the goal of being listed in the global rankings. The current value of the Indian banking industry is around 81 trillion rupees (\$1.31 trillion). Banks are implementing electronic banking, internet banking, mobile banking and digital wallets for the benefit of the customer.

In a broader context, digital banking (DB) is the conversion of a manual system within a bank's branch to a full-fledged electronic banking system. Digital banking has a broad sense of expanding into electronic systems by providing services through the Internet. Digital banking will be done online instead of going to the bank for traditional banking practices like cash deposit/withdrawal at teller, passbook printing, fund transfer, investment in deposits, demat accounts and other services. All banking operations are available online in Digital Banking System.

Digital Banking gives you the privilege to easily access and run banking operations 24/7 without having to go directly to the bank branch to work. Digital banking can be done through ATMs, laptops, desktops, tablets, cell phones or mobile phones, kiosks or customer service points. It becomes necessary for banks to create awareness among the customers about their financial services.

Money is considered as the lifeline of the economy of a country. Digital banking enables customers to exchange goods and undertakings required for the production of products and services.

Banks are the financial source to help consumers meet their financial needs. Banks provide debit and credit facilities to the customers at the lowest possible cost. This makes the economy work efficiently.

Banks are always innovating by providing better services to become a profit making entity. Telecommunications was brought into the banking system in 1846. Thus, the value of the stock difference between the provincial financial exchanges and New York's decreased. The trans-Atlantic cable was introduced in 1866. This allowed the convergence of London and New York securities trading.

During this initial period of adoption of IT in the financial sector, customers accessed the banking system either directly through branches of retail banking or indirectly by members of agencies. Telephone conversations between bank managers and customers are documented as early as the 1890s. Nevertheless, customer service remained untouched due to unchanged front office relationships and intermittent analog systems such as paper-based records and pass-book controls.

In the late 1930s, computers began to be used for tabulation due to the increasing volume of transactions. The increasing number of branches and agents led to the introduction of list, punch-hole and accounting machines. Until the late 1940s and early 1950s, these machines were not fully used. During this time banks adopted new technology. Computerization was introduced in banks to meet the growth in the volume of the industry. Computer manufacturers quickly responded to demanding hardware requirements during this time period. They are unable to meet specifications for consumers. With no custom-made applications available, companies were forced to create their own solutions. Around 1965, computers were installed in most banks in the US and UK and electronic data processing was introduced.

The second major development in the UK was initiated by the National Giro Center (later Girobank) in 1968. The first truly computer-focused bank, Girobank launched another breakthrough in money transmission systems in the UK. The first software applications were implemented in bank-client transactions during this phase. Banks have been allowed to process paper based transactions at the central level.

A clearing bank was established in 1968 (Batiz-Lazzo and Wood, 2001). Due to advances in telecommunications, a third wave of new IT technologies arises in retail finance. The banking sector emerged as a major customer for hardware and software between 1968 and 1980. Banks saw significant cost reduction and increased business volume.

Barclays Bank (UK) issued plastic cards with a magnetic stripe and ATM in 1969. Such developments are milestones in electronic banking history. Management Information System (MIS) emerged during this period. Technological changes in banking-customer relations have affected the internal aspects of the banking sector. Even, banks are known to have multi-channel organizations in their service portfolio. The integration of telecommunications and computational power during this period has resulted in real-time IT applications. The emphasis of technological development shifted from information preparation to communication. The design of the banks' internal structure and strategic development was central to providing financial resources in a cost-effective manner rather than generating consumer interest.

The impact of the IT-related transition was an unparalleled increase in the speed, volume and consistency of knowledge regarding cross-border transactions. Commercial banking envisaged a technology revolution by applying IT to all aspects of internal infrastructure and customer relations of banks. Consumer-oriented development took place widely during this time, as information technology supported all contact points between banks and customers. During the delivery cycle related to transportability, the impact of specialized technologies for banks flooded the market.

Innovations in IT have been instrumental in reducing the barriers to entry in banks by providing benefits to the consumers. Additionally, digitization and standardization of software applications helped bolster the

growth of the market. Finally, there are four important stages of development and technology adoption in the banking sector.

**(i) Automation of Back Office – Phase I:**

Mainframe computers were first used in the banking industry. During this process the information and documents in hard copy were sent to the processing center at the end of the day's transaction. In this phase, the use of the system was limited to changes in machine data of registration and manual records. The 1960s allowed back-office automation and removal of cards and ledgers from branches, and regular account transactions at the end of the day were sent to mainframe computers for an updated process. Improvements in back office automation in the 1970s allowed branches to perform daily tasks by storing their data on a magnetic medium. Data collection and database maintenance are also done on the central server. The main milestones in this first phase are speed, accuracy in juggling bank accounts, withdrawal of cards and notebooks of accounts. This process does not have any major impact on the welfare of the customers and the competitions for the banks.

**(ii) Automation of Front Office – Phase II:**

During this process the emphasis changed from "back office" to "front office". Bank employees started banking operations electronically in the second phase. In the late 1970s, instant data transfer was introduced through front office terminals. These terminals were like today's personal computers and were connected by telecommunication lines to mainframe computers. In this phase banks have proprietary telecom network for automation of front office. The use of dedicated communication networks was very expensive. The volume of customer bank accounts, services and knowledge sharing boomed during the 1980s. The number of bank employees did not decrease as the employees need to take care of new customers for the coming modern technology. During this phase, the software was not integrated. Customers should visit bank branches for various banking services.

**(iii) Link customers to their accounts- Step 3:**

In the mid-1980s, the third phase began in the banking sector, which enabled access to bank accounts electronically. Customers now connect to their accounts and are able to receive and transfer funds electronically. Telephones, ATMs, PCs and magnetic or smart cards were meant for electronic fund transfers. The pressure on front office operations gradually eased, resulting in the use of bank manpower for other services. Banks began to use wireless and satellite networks. Better services are being provided to the customers. Half of banking operations went electronic. Nevertheless, depositing and withdrawing money, and passbook printing were major manual tasks for banks.

**(iv) System Integration and Linking of Customers to Banking Operations – Phase IV:**

The cycle begins when all previous period's conclusions are fully transferred to the electronic operating system. Users will receive the required details reliably and consistently due to electronic operation. Banks in earlier times lacked a coherent organizational strategy but developed automation process. In addition, the fourth phase requires an efficient, advanced and secure communication network. The focus in phase four is:

- Creating new integrations according to customer needs.
- Creating an integrated operating system by standardizing hardware and software.

Throughout the process, customers can access various e-services anytime and anywhere, using a Smartphone, computer or ATM, without visiting the bank. Big savings on the workforce were possible during this time. The currency was in digital form. Credit, insurance and other services are provided without going to the banks. Advancements in the banking sector have changed the characteristics of the bank from traditional banking to DB. DB has brought about a complete structural transformation in the banking industry which has resulted in growth and performance.

Technological advances focusing on computers and other digital services that are automated and interconnected have replaced the manual method. Electronic billing and payment replaced ledger records, paper invoices and written documents. The introduction of DB is a notable innovation of the 20th century. DB offers various benefits to the bank as well as the customers. Better branding and greater customer response are benefits for banks that provide DB services. Automated DB services offer a great opportunity to optimize profits. Various surveys reveal that DB platforms are cost effective delivery networks for banks. DB provides many opportunities for the banks. some of them are:

- Lower bank operating cost
- high profit margin
- scope for expansion of services
- There are other benefits of DB such as organizational efficiency, rapid expansion, cost reduction, high customer volume and online marketing.
- The major benefits from customer point of view are saving time by automating DB processes and implementing simple and easy techniques.

DB provides the following benefits to the customers:

- Reduction in access charges for use of banking services.
- Improved convenience, time saving, 24/7 accessibility.
- Improved DB services enable customers to access their accounts anytime, anywhere. This improves account management.

DB offers the following social benefits:

- user friendliness
- Facility
- saves time
- Quality of Service
- transaction openness
- business globalization
- eliminating the need to carry heavy cash

### **DB challenges**

DB challenges can be classified into different categories of risks such as business, psychological, security issues, functional and electronic distribution and microeconomic challenges.

#### **Business Challenges:**

The main goal of banks is to protect the interest of consumers by providing low-cost, reliable services. Banks introduced new DB services to capture customers and attract new customers. In this process, banks face various challenges. When banks are unable to provide standard DB services to their customers due to competition from competitors in the market, banks lose their customer base, and their profits are going to be affected.

#### **Psychological Challenges:**

If customers are not familiar with the electronic domain and are intrigued by it, there can be psychological challenges. Psychological challenges will have a negative impact on DB service acceptance and development.

#### **Security Challenges:**

The success of a DB depends on secure transactions. The rapid growth of NIS is causing warnings for DB security. The most important constraint in the development of DB is the security challenges. Data loss due to technical errors, lack of security measures and low confidence are some of the problems that customers face.

#### **Functional Challenges:**

Weak network, lack of computer literacy, limited personnel resources, aesthetic and language barriers hinder the development of DB. DB requires certain specifications which are among the primary specifications of telecommunications and hardware equipment.

### **Economic Challenges:**

As the emergence of the DB rapidly transforms the financial environment and increases the potential for rapid cross-border movement of resources, macroeconomic policymakers face many questions.

1. If the DB makes national borders obsolete by promoting the movement of resources, what does it mean for macroeconomics to take over?
2. Whether monetary policy is affected when the use of digital delivery channels makes it easier for banks to transmit reserve requirements. Do foreign currencies have the same effect on convenient trading as domestic currency?
3. How will the choice of exchange rate scheme be affected, and how will the DB affect the central bank's target amount of foreign reserves?

DB has made life a lot easier for the customers. It raised issues relating to various types of risks which may also affect the liquidity, productivity, credibility of banks. They are operational, credit, strategic, interest rate, reputation, liquidity, foreign exchange, money laundering, legal, transactional and compliance risks.

ICICI Bank introduced DB facilities called "Infinity" in 1997 and was recognized in 2000. DB emerged and developed in India after the implementation of legal, security and e-commerce standards by Indian bankers.

Indian banking reforms introduced DB opportunities which ushered in a new era in the economy of the country. The present study depends on the scope, problems of DB within the banking sector.

### **Research objective**

There are four stages of technological development in the Indian banking sector. The banking sector implemented several technological improvements which resulted in the addition of new services for the convenience of the customers. The present study focuses on the accessibility of DB services to the end customer, whether the customer avails the DB services or not.

### **Importance of research**

Banking is essential to everyday life. Commercial banks are updating their online services as per the requirement of their customers. Banks are introducing the latest innovations, providing their DB services and secure usage information. The benefit of using DB services is complete secure banking anytime, viewing account details online, intra and inter-bank fund transfer, card to card money transfer, online bill payment, transaction view option etc. Because of all these features there is a customer perception towards DB nowadays. The services are positive and customers are attracted to DB Payments.

### **Research Methodology**

To prepare this paper, information was collected from the data of various banks and also collect information from bank customers etc and it was tried to find out how many customers are increasingly using digital banking.

### **Data sources**

Information received from branches of banks and customers of banks etc.

### **Literature Review**

Suganthi Balachander and Balachandran (2001) attempted to find out the factors influencing internet banking adoption. Accessibility, reluctance cost, once-in-bank trust, security concerns, convenience and ease of use were seen. The authors found from their study that more promotional activities should be carried out by the banks to create more awareness among the customers about the usefulness of internet banking adoption, keeping in mind the internet banking users and non-users.

Sudeep. S (2007) observed that quantitative analysis of the model (TAM) confirmed that the factors identified by the researcher such as perceived usefulness, ease of use, customer awareness, consumer safety concerns, quality of facilities, subjective criteria and trust. He also studied the impact of privacy on customer acceptance of Internet Banking. He said that five variables have had a positive impact on internet banking. They found that trust in security and privacy has a negative impact on Internet banking.

Dipavita Dutta (2010) observed that the modern business world is filled with inexhaustible deadlines with lots of appointments, meetings etc. An average person was becoming more and more preoccupied with the work life necessitates in order to make ends meet. In such circumstances the need of the hour was that the financial needs and requirements should be easily available. The answer was mobile banking. This new banking model not only catered to the needs of the next generation of people but also helped a lot in the campaign of financial inclusion. Covering the unbanked in African countries was a case in point like in Kenya, Zambia, South Africa and the Philippines. Mobile banking has immense potential in the coming years. Mobile phones hold a huge promise for financial transactions.

Dr. Padmashree Karmala and Dr. Bharathi Devi Anchula (2012) provided a detailed study on the awareness of the various banking services provided to the customer in Cuddapah Town, and about the gender, age and occupation level of the customers. Tried to identify the difference. Awareness about the various services provided by e-banking. The Reserve Bank of India has played an important role in the implementation of information technology in the banking sector. RBI had appointed various committees to work in this area and their reports are briefly presented in this article.

Irabatti (2013) stated that customers can conduct financial transactions on a secure website operated through internet or online banking. For better lifestyle everyone use instant banking solution which makes things very easy and saves a lot of time.

Dr Harshita Bhatnagar (2015) described the implementation of new age banking facilities by the rural poor. Traditional banking services may not be able to provide more facilities to customers in rural areas. With new technology playing an important role, the cost of delivering services has also come down drastically. Lack of trust and awareness is the major obstacle in proper implementation of new technology in the banking sector.

Dr Karthikeya Koti (2016) revealed that the awareness about internet banking among banking customers was low. Further it is observed that male users using the online service were less in number. The study revealed that 18 to 24% of customers disagree with internet banking services due to various reasons such as security, privacy, trustworthiness, resistance to change in transaction pattern, trust in paper, e-illiteracy, poor experience etc.

Chandravati Nirala, Dr. B. B. Pandey, and Guru Ghasidas Vishwavidyalaya, (2017) talk about the role of e-banking services in Digital India. It further explains the role of Indian banks towards Digital India and how digitization changes the face of branch banking.

Ipsita Paria, Dr. Arunangshu Giri, (2018) The main objective of the present paper was to explain the benefits of digitization in the banking sector. The study further explains, impact of digitization on rural banking in India, awareness of banking system among rural people and improvement in rural life after digitization in banking. The main focus of the present paper was to analyze the rural banking system and its impact on the rural economy of India.

Dr. Rajeshwari M. Shettar, (2019) presented the Role of Digitization in Indian Banking, Factors Influencing the Scope of Digital Banking in India, Trends of Digital Banking in India, Technological Milestones in Indian Banks. The study also found that digital banking has immense potential to change the landscape of financial inclusion. Easy access to digital banking can accelerate the integration of an unbanked economy into the mainstream.

## Findings

Currently, the banking industry is experiencing a golden period in India, and its main objective is to move towards a cashless economy. A move towards digital transformation in India laid the foundation for a cashless economy.

- The study on frequency of the branch shows that 12.0% of the respondents visited the branch on a weekly basis, 4.4% fortnightly, 15.4% of the respondents visited the branch monthly and the remaining (68.2%) respondents Rarely visited the bank branch. This clearly shows that most of the people are familiar with online transactions.
- It has been shown that there is less correlation between gender, age, occupation, income, work industry, work area and frequency of bank visits.
- The study shows that there is a greater correlation between variables – duration of use, location of access, frequency of access, time per week using the Internet, comfort using a computer, comfort experience with banking services and bank frequency of travel.
- The study shows that there is less correlation between age, occupation, income, gender and accessibility of bank services.
- The study shows that there is no significant mean difference between the 'objectives to prioritize the use of DB services' and the age of the respondents. No significant mean difference was found with respect to the 'objectives to prioritize the use of DB services' and the education of the respondents. There is no significant mean difference with respect to the 'objectives to prioritize the use of DB services' and the income of the respondents.
- It is observed from the study that no significant mean difference was found between the 'awareness level on bank services' and the age of the respondents. A substantial average difference was not found between the level of awareness on the services of banks and the educational qualifications of the respondents. A significant average difference was found between 'awareness level on bank services' and 'services offered by the bank'.
- 99.4% of the respondents disclosed that they are getting information about DB services and 0.6% said that they are not getting the information.
- There is less correlation between bank information about the variables age, occupation, income, gender and DB services.

## Problems faced by customers using DB services

- Respondents expressed that they experienced lack of literacy (7.9%), computer awareness (3.9%), internet awareness (9.5%), difficulty in understanding vocabulary (9.4%), problems due to problem while using e-banking services. had to face. Not in regional language (1.3%), lack of technical awareness (68%).
- Respondents disclosed that they lacked literacy (7.2%), computer awareness (4.5%), internet awareness (13.2%), banking experience (6.5%), due to difficulty in understanding vocabulary while using m-banking services problems were encountered. 1.3%), lack of technical awareness (67.3%).
- Respondents expressed that they lacked literacy (8.5%), occupation (2.7%), computer awareness (14.7%), internet awareness (8.9%), banking experience (5.4%), difficulty while using digital wallet services. Because of the problems encountered. Problems in understanding vocabulary (6.5%), lack of regional language (1.3%), lack of technical awareness (52%).
- 50.2% of the respondents expressed that the technology standards of e-banking services were very good. 17.7% of the respondents said that the standards were good. 7.9% disclosed that the standards were moderate. Less than a quarter of the respondents expressed low to very low level of satisfaction about the technology standards of e-banking services. 49.0% of the respondents disclosed that the technology standards of m-banking were very good. 24.5% of the respondents reported that the standards were good. 11.3% of the respondents expressed that the standards were moderate. 11.7% of the respondents said that

the standards were below moderate. Very few (3.5%) respondents disclosed that the technology standards in m-banking were below satisfactory levels.

- Half the respondents disclosed that the privacy level was satisfactory when using e-banking, m-banking and digital wallets. A quarter of respondents expressed that privacy levels were moderate. Less than a quarter of the respondents expressed that they experienced very low levels of privacy using e-banking, m-banking and digital wallets.

### **Fraud in DB services and security standards**

Generally, customers are aware of internet banking scams and frauds such as phishing scams, lottery and competition scams, legacy scams, work from home scams, money transfer frauds, auction and shopping frauds, weight loss scams. , Health & Medical Scams, Fake Online Pharmacies, Free Offer Scams, Fake Frauds, Business Opportunity Scams, Nigerian 419 Scams, Check Overpayment Scams, Spyware & Key Loggers etc. Banks follow several techniques to provide high security. The main and important aspect in digital banking services is security. The customer should have a lot of confidence about the security while using the DB services. Threats to security include breach of privacy of individuals and theft of sensitive information. RBI issued detailed documents, techniques and guidelines to be followed by bankers while providing DB services. The guidelines describe Internet banking services information, standards, legal issues, risks involved and control issues. Banks providing internet banking services must comply with these guidelines as a legal obligation.

### **Legislative and regulatory landscape**

A circular on 'Fraud-Classification and Reporting' was issued by RBI. Clear guidelines were provided to prevent fraud in banks, exposing them to a new horizon of financial risks. Notably, banks were to report all details of frauds and their actions to the RBI. M-Banking is increasingly being used as an important medium for delivering services to the customers. RBI has issued operational guidelines to regulate the mobile banking system, indicating that suspicious transactions should be reported to its Financial Intelligence Unit.

A key component of a successful anti-fraud system was a well-defined framework of governance. Create business guidelines, policies and procedures, regulations are in place to cover goods and services, consistent and adequate data collection, seamless data flow from different systems, data protection to be maintained. Employ trained and skilled staff to allow tracking and monitoring, introduce successful technology solutions to the company to ensure synchronization and regular availability of data, regular review and detailed reporting.

### **Suggestions**

- The study shows that the quality of service in banks was moderate and could be improved till customer satisfaction.
- Technical problems that may arise while using ATMs and transacting online should be resolved quickly and reliably.
- The study reveals high customer satisfaction in private sector banks. It suggested that Public Sector Banks should enhance the behavior, attention, communication skills and service attitude of the employees to achieve customer satisfaction.
- More accountability has been observed in private banks. It is suggested that public sector banks should improve accountability.



- Digital banking should be easily accessible by the users in terms of approach, convenience, availability and suitability. Banks should pay special attention to security while doing digital transactions to instill confidence among customers.
- Digital literacy on banking services was moderate as per the study. More awareness about banking related frauds should be spread among bank customers through easily understandable mediums and even in regional languages.
- Our country is moving towards Digital India. Network connectivity is still moderate to poor in most rural areas. Digital banking solutions should consider connectivity constraints and their solutions should also work on minimum network availability.
- Banks should provide digital banking services at more accessible points like super-markets, fueling stations, shopping malls etc. for convenience and to reach out to the customers.
- Total digitization in banks is required to reduce paperwork across various transactions enabling paperless eco-friendly banking.
- In order to achieve cashless economy, cashless transactions should be encouraged by giving complete exemption from charges on digital transactions. Banks should encourage digital cashless transactions by reducing their service charges on non-cash transactions, folio charges etc.
- Banks should organize digital banking awareness and training camps for senior citizens and customers who are not familiar with technology.
- The customer care services should be simple, user friendly and also in a communicative manner for the common man.
- The grievance redressal mechanism in the banking sector in India should be simple, transparent, responsible, prompt and time bound.
- Customer feedback and input should be considered, and valid input accepted for improvement
- Banks should create necessary alternative instruments in critical situations like natural calamities and technology breakdown.
- The government should work closely with the banks to enhance the digital banking service and build a digital India.

## **Conclusion**

The present study shows that in select bank organisations, majority are male customers and rest are female customers. As per the educational qualification, the education qualification of majority of the account holder is SSC and above (Class X and above). Most of the respondents are married. They have savings accounts in public sector banks. The study analyzed customer service and satisfaction by considering various points of view or to find out the correct opinion of the respondents on banking services.

Most of the account holders are employees, and few are businessmen. Most of the respondents use the Internet. Most of the respondents are getting information about financial services from their respective banks and are happy with the facilities provided by the banks. Customers are using internet banking for fund transfer and mostly for online purchases.

Accountability, mean functional value, mean accessibility value, and mean value of online banking services are higher among private sector banks.

Private banks have more security features, technological advancements and additional services than public sector banks. Utility bill payment options and customer satisfaction are high in private banks. Public banks have less customer retention programs. Customized services are more suitable in private banks.

Demonetisation on 8 November 2016 caused severe liquidity crunch and significant disruption in the Indian economy. At this critical time, digital banking emerged as an effective alternative to traditional cash transactions.

The percentage of net-banking users has doubled in the last few years and this is also evident from the various bulletins of RBI. Told that the behavior of the employees of public sector banks still requires a sharp change in the behavior of their customers. Most of the customers felt that the transaction hours of the banks were comfortable.

Lastly, it is recognized that in the current digital generation, banks need to ensure stringent measures for ease, safety, security and privacy of business transactions. Banks also need to create an environment for creating cordial relations between their employees and customers for higher customer satisfaction.

Finally, the study evaluates improvements in customer service that drive banks' service quality, technology adoption, customer satisfaction, loyalty, and branding of banks that are of paramount importance in the banking industry.

If the banking industry and related sectors adopt the above recommendations, they will certainly enhance all levels of customer services.

Digital banking has replaced the traditional pattern of banking operations. Changes in technology, lifestyle and competition have replaced traditional banking methods with complete digitization.

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