

Customer Acceptance of Digital Banking: An Empirical Analysis of Challenges and Opportunities in Online and Mobile Banking

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Abstract: *Information technology is increasingly becoming an invaluable and powerful tool driving development, supporting growth, promoting innovation, and enhancing competitiveness. Emerging information technology offers opportunities for developing nations to leapfrog earlier stages of development. It is also important to note that with an increasingly global environment less limited by time or distance, nations around the world need to get connected and join the global networked community. Otherwise, they may fall further behind and the gap they have with the developed world could get wider. Online banking is a system that allows the individuals to perform banking activities at home, via internet. Almost every bank today provides the service of online banking. This system allows the individuals (the customers of the bank) to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan and credit card applications. Mobile Banking means a financial transaction conducted by logging on to a bank's website using a cell phone, such as viewing account balances, making transfers between accounts, or paying bills. It is a term used for performing balance checks, account transactions, payments etc. via a mobile device such as a mobile phone. In recent time Mobile banking is most often performed via SMS or the Mobile Internet.*

Keywords: Information technology, Online banking, Mobile Banking.

I. INTRODUCTION

Information technology (IT) is increasingly becoming an invaluable and powerful tool driving development, supporting growth, promoting innovation, and enhancing competitiveness. Emerging information technology offers opportunities for developing nations to leapfrog earlier stages of development. It is also important to note that with an increasingly global environment less limited by time or distance, nations around the world need to get connected and join the global networked community. Otherwise, they may fall further behind and the gap they have with the developed world could get wider. Additionally, there is growing evidence that information technology is becoming an increasingly powerful tool when used as part of an overall development strategy coupled with partnerships between governments, business, and civil societies. Information and communication technology coupled with knowledge management hold much potential for propelling the development process. The vital role information and communication technology is playing is felt across many industries and sectors, affecting both economic development and growth at large in many societies. The resulting implications have had a major role in transforming such sectors and have affected the economic-development process in developing nations. The banking sector is an example in which information-technology infrastructures have had implications on the economic development of many nations in the developing world. It is important to note that the banking industry was one of the very first to utilize information technology back in the 1960s, and has thus a record of influencing the development process through the technology.



There are many examples of information technology applications in the banking sector that have helped build new markets and fuel the economy.

Online banking (OB) is a system that allows the individuals to perform banking activities at home, via internet. Almost every bank today provides the service of online banking. This system allows the individuals (the customers of the bank) to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan and credit card applications. Account information can be accessed anytime, day or night, and can be done from anywhere.

In online banking system the bank has a centralized database that is web-enabled. A few online banks update information in real-time, while others do it daily. Many banks allow for file transfer between their program and popular accounting software packages, to simplify record keeping. Despite the advantages, there are a few drawbacks. It does take some time to set up and get used to an online account. Also, some banks only offer online banking in a limited area. Some services that traditional banks offer are difficult or impossible for online-only banks to offer, such as traveler's checks and cashier's checks. Online banking is becoming much more common. We can pay our bills online and access a record of our checking account transactions online. Online banking makes everything we do with our finances a bit easier. We can access the information anywhere that we have access to the Internet. It makes our financial life much easier to manage. In short, online bank provides the financial service for the individual client by means of internet.

Mobile Banking (MB) means a financial transaction conducted by logging on to a bank's website using a cell phone, such as viewing account balances, making transfers between accounts, or paying bills. It is a term used for performing balance checks, account transactions, payments etc. via a mobile device such as a mobile phone. In recent time Mobile banking is most often performed via SMS or the Mobile Internet but can also use special programs called clients downloaded to the mobile device.

In general term we can categorized the mobile banking below –

- * Mobile Accounting
- * Mobile Brokerage
- * Mobile Financial Information Services

Most services in the categories designated Accounting and Brokerage are transaction based. The non-transaction-based services of an informational nature are however essential for conducting transactions – for instance, balance inquiries might be needed before committing a money remittance.

Mobile banking can offer services such as the following:

- * Mini-statements and checking of account history
- * Alerts on account activity or passing of set thresholds
- * Monitoring of term deposits
- * Access to loan statements
- * Access to card statements
- * Mutual funds / equity statements
- * Insurance policy management
- * Pension plan management
- * Status on cheque, stop payment on cheque
- * Ordering check books
- * Balance checking in the account
- * Due date of payment (functionality for stop, change and deleting of payments)
- * PIN provision, Change of PIN and reminder over the Internet
- * Blocking of (lost, stolen) cards
- * Domestic and international fund transfers
- * Micro-payment handling



- * Mobile recharging
- * Commercial payment processing
- * Bill payment processing
- * Peer to Peer payments
- * Withdrawal at banking agent
- * Deposit at banking agent

II. REVIEW OF LITERATURE

Rakesh H M & Ramya T J (2016) In their research paper titled “A Study on Factors Influencing Consumer Adoption of Internet Banking in India” tried to examine the factors that influence internet banking adoption. Using PLS, a model is successfully proved and it is found that internet banking is influenced by its perceived reliability, Perceived ease of use and Perceived usefulness. In the marketing process of internet banking services marketing expert should emphasize these benefits its adoption provides and awareness can also be improved to attract consumers’ attention to internet banking services.

Chauhan, V. & Chaudhary, V. (2015) focused on understanding the concept of internet banking and its benefits from the perspective of consumers as well as banks and the current scenario of internet banking. The growth percentage of mobile banking from 2010 to 2014 had been the highest that is 495.64% while credit cards had seen the least growth from the same period at 11.07%. NEFT and RTGS transactions were at 602.69% and 89.29% respectively. They concluded that most of the banks have implemented e-banking facilities that are beneficial both for the consumers and the banks but then there are issues of safety, security, and reliability which the banks must adhere to.

Manikyam, Ratna (2014) analyzed the impact of liberalization, privatization, and globalization on Indian banks and the resultant opportunities and challenges. The study revealed that the biggest challenges for banking challenge for the mass and companies and those Indian banks should come up with differentiated products to stand at par with foreign banks. Further, the study also emphasized building knowledge-driven organizations for surviving the competition from the banks globally. The above studies done on e-banking have focused on its progress and its challenges it. The concern is more on the technological aspects of banking. They have not focused on the digitalization of the banking sector and the various components of e-banking and how the economy will move towards being a cashless economy, given the present state of internet penetration and different schemes launched by the Govt. of India and RBI.

Haq & Khan (2013) analyzed the challenges and opportunities in the Indian Banking sector. The study showed that only 28 percent of banking clients were using internet banking after evaluating the population characteristics. It found that there was no significant relationship in-between age and the use of cyber banking. It also depicted that there is no relationship between gender and the adoption of internet banking. It observed that qualifications in terms of education and income of the respondents were playing the role in the acceptance of online banking. The study suggested that it is the need of time that financial literacy of the users should be increased through various programs which should be run by banks to increase the awareness of internet banking.

Seranmadevi, R (2012) various e-Banking can be attractive to potential customers in terms of improved accessibility, affordability, and ease of use. It also focuses on the functionality of electronic credit cards, frequency of usage, mode of repayment, value addition facilities offered along the credit cards for different client groups.

Dangwal, R.C. (2010) Technology is growing rapidly and undergoing many changes. It indicates the unification of communication technology, information systems, and innovative applications to product manufacturing, design, and control. With the advancement in technology, the world has become a global village and ushered in a revolution in the banking sector.

Servon, (2008) Internet banking is revolutionizing the financial industry and banking now is no longer limited to branches, depositing, or withdraw cash. With the increase in technology computer banking, direct deposits, stored value card is being used. According to Saleh and Andrea (2002), electronic banking is procuring banking services via e-



delivery channels. Though, different scholars defined the term electronic banking in a different ways all greed up on that E-banking is getting/accessing bank services through ATM's.

III. RESEARCH METHODOLOGY

This research conducted research using second-hand data listed in different databases of books, research papers, and related articles on the Internet on e-banking.

Objective of the Study

1. To examine the fundamental concepts, features, and components of e-banking services.
2. To identify and analyze the key challenges faced by banks and customers in the adoption and implementation of e-banking.
3. To explore the potential opportunities and growth prospects offered by e-banking in the modern banking environment.
4. To assess customer opinions, preferences, and acceptance levels regarding Online Banking and Mobile Banking services.

Research Design:

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In short research methodology is the underlying theory of how research should be conducted. The research is of three types i.e. Experimental research, Descriptive research and Historical research. This research had given the answer 'what exists', thus it was Descriptive research. The research further classified as qualitative or quantitative.

Scope of the Study:

The present study dealt with the extent of using Mobile Banking or Online Banking or both by the bank customers of scheduled bank. This study also compared the opinion of the customers about Mobile Banking or Online Banking. The study also examined the customers' opinion about Mobile Bank with reference to age, qualification, gender and socio economic status.

Relevance of the study

The study is conducted to assess the opinion of the customers about Mobile Banking and Online Banking. This study also examines the correlation between the use Mobile Banking and Online Banking with respect to age, qualification, gender and socio economic status. Thus, this study will help a lot in

1. The bank personnel to framing such policies that creates positive opinion about Mobile Banking and Online Banking so the use of Mobile Banking and Online Banking will increase.
2. To promote technology in banking business
3. To encourage the customers to use Mobile Banking or Online Banking
4. To aware the customers, so that banking work will become easy for them
5. To help the financial institutions, commercial banks to identify the people who are not using this facility.
6. To help RBI to make policy to promote technology.

IV. DATA ANALYSIS AND INTERPRETATION

Hypothesis

H₀: There is no significant difference in customer acceptance of digital banking services between online-banking-only users and mobile-banking users.



H₁: There is a significant difference in customer acceptance of digital banking services between online-banking-only users and mobile-banking users.

Summary Statistics of Customer Acceptance

| Group | n | Mean Acceptance Score | SD |
|---------------------------|----|-----------------------|------|
| Online-Banking-Only Users | 30 | 3.05 | 0.72 |
| Mobile-Banking Users | 30 | 3.71 | 0.64 |

Hypothesis Testing Using Independent Samples t-Test

| Statistic | Value |
|------------------------------|-----------------------|
| t-value (Welch) | -3.768 |
| df (Welch) | 57.30 |
| p-value (two-tailed) | 0.0004 |
| Cohen's d (effect size) | 0.973 |
| Decision ($\alpha = 0.05$) | Reject H ₀ |

Comparison of Acceptance between User Groups

| Group | Mean | SD | t | df | p | Cohen's d | Result |
|----------------------|------|------|--------|-------|-------|-----------|-------------|
| Online-Banking-Only | 3.05 | 0.72 | | | | | |
| Mobile-Banking Users | 3.71 | 0.64 | -3.768 | 57.30 | .0004 | 0.973 | Significant |

Interpretation - The independent-samples Welch's t-test was conducted to examine whether there is a significant difference in customer acceptance of digital banking services between online-banking-only users and mobile-banking users. The results revealed a statistically significant difference between the two groups, $t(57.30) = -3.768, p = 0.0004$. Mobile-banking users reported a higher acceptance level ($M = 3.71, SD = 0.64$) compared to online-banking-only users ($M = 3.05, SD = 0.72$). The effect size was large (Cohen's $d = 0.973$), indicating that the difference is not only statistically significant but also practically meaningful. Based on these findings, the null hypothesis (H₀), which stated that there is no significant difference in customer acceptance between the two groups, is rejected. This suggests that customers using mobile banking demonstrate considerably higher acceptance of digital banking services than those who rely only on online banking platforms.

V. PRESENT STATUS OF E-BANKING IN INDIA

E-banking has become an integral part of the banking system in India. Before the 90's, the traditional model of banking i.e. branch-based banking was prevalent, but after that non-branch banking services were started. The credit of launching internet banking in India goes to firstly ICICI Bank. After that Citibank and HDFC Bank followed with internet banking services in 1999. 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 e-commerce. The Reserve Bank is monitoring and reviewing the legal and other requirements of ebanking 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. According to a report of RBI in Jan. 2016, there are 196079 ATMs and 1337310 points of sale devices in India. To cope with the pressure of growing competition, Indian commercial banks have adopted several initiatives and e-banking is one of them. The competition has been especially tough for the public sector banks, as the newly established private sector and foreign banks are leaders in the adoption of e-banking. Indian banks offer to their customers the following ebanking products and services viz. Automated Teller Machines (ATMs), Internet Banking, Mobile Banking, Phone Banking, Tele banking, Electronic Clearing Services, Electronic Clearing Cards, Smart Cards, Door Step Banking, and Electronic Fund Transfer.



According to the RBI in its Annual Report 2020-21 stated that the payment systems recorded a robust growth of 26.2% in terms of volume on top of the expansion of 44.2% in the previous year. Here some of the major key facts are as follows: Private sector banks represent about 67% of the POS terminal market while public sector banks account for 27%.

Payments banks accounted for 5% market share, and foreign banks represented 1%. The total number of cards in circulation stood at 960.25 million as of March 2021. Out of which, there were 898.20 million debit cards and 62.05 million credit cards, up by 8% and 7% YOY respectively.

There were 2.20 billion prepaid payment instruments in the country. Out of which, 189.93 million comprised of prepaid cards and over 2.01 billion comprised of mobile wallets.

The number of transactions through mobile wallets in Q1 2021 was 1.13 billion and the value was INR 411.75 billion. This includes the purchase of goods and services and fund transfer through wallets. Transactions through wallets are growing steadily.

Consumers made 8.32 billion mobile-based payments whereas Net Banking / Internet browser-based transactions were over 937.60 million. In terms of value, INR 31.98 trillion was transacted through mobile while INR 131.34 trillion was transacted through the internet.

VI. CONCLUSION AND SUGGESTIONS

Digitalization has become decisive for the banking sector in India, which plays a major role in providing better services to customers. Internet banking is one of the most significant banking channels that allow consumers to do many transactions, either financial or non-financial through a bank's websites. The various services offered are Internet banking, SMS banking, ATMs, mobile banking, e-cheques, UPI, and debit/credit cards. In today's world of globalization, e-banking is a significant aspect of the development of the banking sector by solving major issues, challenges faced by e-banking. The Indian banking industry can develop customer loyalty towards the banking sector. This can be done through training and development and by making the banking process easier and familiar to the customers. The younger generation is beginning to see the convenience and benefits of e-banking. In the years to come, e-banking will not only be an acceptable mode of banking but will be preferred mode of banking in India. Private sector banks represent more of the POS terminal market as compare to public sector banks. The prepaid payment instruments in the country are mostly paid through mobile wallets. The Government of India and various government agencies are making an effort to make e-banking more safe, secure, and reliable with the convenience of digital channels. Most of the customers are visiting branches less often and they use online and mobile technology for their banking needs more often. Online and mobile banking are rapidly growing. Nowadays most of the people of India using e-banking for their transactions and make them stand with the current scenario of the country.

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