



**ANALYZING CUSTOMER ATTITUDES TOWARDS ONLINE BANKING
AND ITS IMPACT ON BANK CUSTOMER RELATIONSHIP
MANAGEMENT**

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Abstract

The study specifically aims to: (1) identify and analyze customer engagement strategies used by public and private banks online, (2) assess urban customers' attitudes toward banking technology innovations, and (3) evaluate how these strategies and attitudes influence long-term relationships between customers and banks. Conducted in the Kolkata metropolitan area, this exploratory study uses a primary survey to explore customer attitudes toward technology adoption. The analysis includes factor and regression analyses to examine customer preferences and their implications for maintaining sustained bank relationships.

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Introduction

The banking sector has undergone a significant transformation in its operations and customer Outreach with the integration of advanced technology. Embracing internet capabilities, banks across the board have adopted e-banking systems or online portals to navigate the fiercely competitive landscape of the Liberalized, Privatized, and Globalized (LPG) economy. Leveraging advancements in mobile technology, banking has become faster and more accessible, offering greater value to customers. Modern banking, departing from traditional Tele-banking services that were limited to balance inquiries and fund transfers (Kim, Shin, & Lee, 2009) , now offers a gamut of services through internet banking. These include direct Bill payments, electronic fund transfers, remote account management, and support for trade and

commerce (Renugadevi, 2013). Services once confined to physical branches, such as Account opening, fund transfers, and loan or bill payments, are now seamlessly accessible Online, minimizing the necessity for new physical branches and catering to both urban and Rural customers (Ming, 2002) . The inception of internet banking gained momentum when ICICI Bank introduced online banking in 1996, paving the way for others, such as HDFC and City Bank, to follow suit (Lyengar & Belvalkar, 2004). E-banking, defined as a cyber-portal that facilitates a range of banking transactions and investments, distinguishes itself from informational websites lacking transactional capabilities (Pikkarainen , Pikkarainen, Karjaluoto, & Panola, 2004). As technology evolved, mobile devices became pivotal in expediting banking operations.



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Smartphones equipped with diverse mobile banking apps enable swift fund transfers, balance checks, utility bill payments, and commodity purchases (Barnes & Corbett, 2003). Banking through the internet and mobile platforms is a relatively new concept for customers to grasp. However, the uptake and integration of such technology don't always unfold seamlessly. Customer apprehensions about cybercrime and financial insecurity pose challenges in promoting e-banking systems. Consequently, enhancing customer awareness regarding the workings and security measures of e-banking becomes a crucial focus for banks. This paper aims to gauge the awareness and acceptance of e-banking technology in West Bengal. Using a technology acceptance model administered via a questionnaire, the study aims to identify the primary factors influencing internet usage in financial operations. Understanding these factors is pivotal for navigating the landscape of technology adoption in the banking sector.

Literature review

Internet Banking and Mobile banking: the Indian Scenario

The banking sector in India plays a pivotal role in economic growth. According to a report by the RBI (2014), the banking sector in India is divided into two scheduled commercial banks and scheduled co-operative banks. Out of 157 scheduled commercial banks, there are 26 public sector banks, 20 private sector banks, and 43 foreign banks; together, these group contribute to over 90% of the total banking assets. Rest in the group: scheduled commercial, 64 regional rural banks, and 4 local banks. Indian banks engage in a multifaceted operation spanning retail banking, dealing with diverse loan types; wholesale banking, involving trades with mid and large corporate houses; treasury operations, encompassing investments in Equity, Derivatives, Commodities, Mutual Funds,

Bonds, Trading, and Forex operations; and other banking services, including Merchant Banking, Leasing business, Hire purchase, and Syndication services (ICRA, 2012). With the introduction and growth of its services, the practice of internet banking became easy. A report by IAMAI (2014) states that internet transactions in 2014 totaled Rs. 81525 crore, 53% more than in 2013, and the market is expected to reach Rs 108428 crore. This highly valued market is also creating.

Opportunity for the banking industry to increase its volume of business associated with e-commerce and online trading companies. E-Banking is a combination of internet technology and banking. Customers can perform any banking through the use of the internet. The Government and the Reserve Bank of India are promoting the usage of internet banking. Indian public banks faced a significant challenge when foreign and private banks entered the Indian banking business, introducing newer technologies such as ATMs, credit cards, and internet banking, following the recommendations of the Committee on Financial System (1991) (Jamaluddin, 2013). The IT Act, 2000, has recognized electronic banking transactions and trading as legal (RBI, 2011).

The need of internet access via additional devices and the need of computers/laptops sometimes make it inconvenient and a barrier when performing banking operations. Mobile banking has brought the idea of "anytime", "anywhere" banking, which made the banking operations easy, faster, and pervasive and 365X24X7 than ever (Sknlakshmi, 2012). Mobile banking (M-banking) is defined as conducting banking and financial activities on mobile devices and personal digital assistants, whereas the same operation via the internet is called e-banking (Barnes & Corbett, 2003). Smartphones enabled mobile banking for paying for purchased goods at the point of sale or



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remotely via WAP technology, which was first introduced by European banks in 1999 (Chandran, 2014). Less waiting time, greater scope of flexi-time operations, round-the-clock access to banking services, self-service facilities, and time and money savings are among the important benefits of the virtual banking system (Chauhan & Choudhury, 2015). The usage

pattern of mobile banking is showing a growth trend, with volume and value increasing by 108.5% (53.30 million in FY13 vis-à-vis 25.56 million in FY12) and 228.9% (USD 1.1 billion in FY13 vis-à-vis USD 0.2 billion in FY12), respectively (RBI, 2014). The table below shows the mobile transactions with their value by banks:

Table 1: Mobile transactions in April 2015

Banks	No of Mobile Transactions	Value of Transactions
State Bank	78.5L	1,701
ICICI Bank	38.6L	5,324
Axis Bank	26.7L	1,897
HDFC Bank	17.5L	5,686
Kotak Mahindra	7.5L	946
Yes Bank	5.7L	268
Citi bank	4.2L	397
Canara Bank	2.9L	1,987
Union Bank	2.1L	118
State Bank of Hyderabad	1.2L	7

Source: (Settee, 2015)

Technology Acceptance

The study of customers' attitudes is one of the important determinants of behavior (Fishbone & Adze, 1975) and is hence emphasized as an area of research in consumer behavior. The success of any new technology depends on the behavior of the customers' acceptance, which can be presumed from trust and confidence in the technology (Adze and Fishbone, 1980). The three factored [Behavior intention (BI), Attitude

(A) and Subjective norm (SN)] theory of Reasoned action (TRA) proposed by (Adze & fashion, 1980; Adze, 1991), were furthered by (Davis, 1989) [15] by incorporating three variables namely perceived ease of use, perceived usefulness and attitude towards using the technology persuade the interest in accepting the technology. Hence adoption of new technology often face challenges due to individual prejudices, lack in conviction, less or



ill educated about the usage and operations of the technology, fear of insecurity and unknown and perceived risk (Chung & Kwon, 2009; Donner, 2007; Luo, 2010) , lu, financial cost (yang), demographic profile ((Amin, 2008; Laforet & Li, 2005; Lee & Lee, 2007) . The growth pattern of a particular technology adoption has been explained with the aid of technology diffusion theory (Rogers, 1962) [44] that takes into account the economic issues. The paper examines the effects of customers' perceptions of the utility of new technology, perceived ease of use, Trust, demographic variables, customer satisfaction, and perceived risk.

Perceived utility of a new Technology

The factor affecting the technology adoption intention is the customers' perception of the usefulness of the technology (Davis, 1989) . The probability of adopting new technology is influenced by individual adoption intention, based on self-perception of the extent of favorableness of the technology to provide an extra advantage over the existing system or service. The perceived usefulness of innovation strongly influences purchasing intention and the use of the technology, which, in turn, is influenced by the perceived expectancy of performance (Venkatesh, Morris, Davis, & Davis, 2003). The importance of the factor "Perceived utility" in both purchasing intentions and the actual use of online banking services makes it essential to include it in this study. Based on this, the following hypothesis is proposed.

H1: A consumer's perceived utility of e-banking/m-banking technology will have a positive influence on the adoption intention of the technology.

Perceived ease of use:

It is evident from the various research that the utility of technology is always invented for the betterment of mankind. However, the acceptance

of technology depends on how users perceive its ease of understanding, learning, and use (Rogers, 1962). Perceived ease of use is also defined by various researchers in different terms, as the utility of the technology helps reduce effort (Davis, 1989 Dholakia & Dholakia , 2004) and improve efficiency over the substitute (Rogers, E. M., 1983). Online banking and m-banking systems have made banking easier by reducing the physical effort required to conduct transactions and eliminating long queues in banks, and many researchers cite the "Perceived utility executives" factor as a major reason for accepting online banking (Mathieson, 1991). So, the hypothesis is.

H2: A consumer's perceived ease of use of e-banking/m-banking service will have a positive influence on the adoption intention of the technology.

Trust and Perceived Risk

The psychological expectation (Breach & Ecclesia, 1989), "trust" in technology, plays an important role in adoption intention. Reliability, honesty, and authentication (McKnight & Chevron, 2002; Wang, Lin, & Luran, 2006) in operation create trust among the consumers. The consumers' perception about uncertainty in operating technology (Littler & Melanthiou, 2006) , high risk of leakage of personal financial information via the internet, and crimes (Cheng, Lama, & Young, 2006) related to that, often creates distrust and restricts the ready acceptance of technology. The perceived risk of using mobile banking is even higher, as mobile devices are always on, whereas computers have internet access only when connected. Hence, the trustworthiness of the mobile. Banking is influenced by the design of mobiles with facilities to prevent unauthorized access of attackers (Pittman ,Pittman, Schumer, & Widener, 1997) ; secured gateways while transacting online payments through mobiles (Karnouskos, 2004); secured technical



requirements for trading through mobile banking (Aramudhan, 2008) ; and a strict authentication process (Almuairfi, Veeraraghavan, & Chilankurti, 2011) . Anonymous activities over the network spaces, different kinds of internet settings (Ratnasingham, 1998; Jarvenpaa & Tract in sky, 1999; Lee & Turban, 2001) absence of direct contact with vendors and banks, uncertainty in transactions, information asymmetry (Lu, Yu, Liu, & Yao, 2003; Cho, Kwon, & Lee, 2007), third party transaction and loss of individual control on completion of the transactions (Pavlov, 2003) are some of the major sources of risk and distrust. Hence, the factor of worth testing is considered when studying the customer's attitude.

H3: A consumer's trust in technology will have a positive impact on the adoption intention of the technology.

H4: A consumer's perception of risk in using technology will have a negative impact on the adoption intention of the technology.

Demographic Profile

Often, demographic variables such as age, gender, education, income, and social culture play a vital role in technology adoption. Although there is no absolute proof that age is one of the most important variables in technology use, research has made it clear that young people are more ready to learn, use, and practice technology (Venkatesh & Morris, 2000; Wood, 2002). Researchers also found that, in some cases, male customers adopt and use the technology faster than female customers (Aziz, Badrawy, & Hussien, 2014; Venkatesh & Morris, 2000). Using the internet and mobile devices for banking requires knowledge of how technology is used and the conditions that apply when banking, trading, or transferring funds to a third party. Hence, a positive correlation is established between the level of education and adoption of technology (Riddell & Song, 2012)

H5: The influence of demographic profile on acceptance of online banking/m-banking technology will have a positive influence on intention to adopt and actual use.

Customer services

A new variable is introduced into the model: customer service by banks and its effect on technology adoption. Modern banks use various innovative sales and promotional tools to attract and retain customers, such as cash-back offers for credit and debit card purchases and online purchases. Promotional offers can be a motivating factor in adopting the technology.

H6: The influence of satisfaction with the services has a positive effect on acceptance of online banking/m-banking technology, which will have a positive influence on intention to adopt and actual use.

Objectives

1. To study customers' attitudes towards adopting the e-banking system.
2. To compare the customers' acceptance of technology in the case of m-banking and banking.

Research Methodology

Data were gathered from respondents representing various sectors, including education, service industries such as banks and hospitals, engineering works, and government and public sector companies in the Kolkata metropolitan area. The study involved 240 respondents with a monthly income exceeding 15,000. A five-point Likert scale was employed, where 5 denoted "strongly agree" and 1 denoted "strongly disagree." Initially, 390 questionnaires were distributed, yielding 291 completed responses. Out of these, 51 were rejected due to incomplete responses, resulting in a final analyzed sample size of 240. Among the respondents, 158 (65.8%) were male, and 82 (34.2%) were female. The distribution across age groups was as follows: 169 respondents (70.4%) were below 30 years old, 67 (27.9%)



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were between 30 and 50 years old, and 4 (1.7%) were above 50 years old. In terms of education, 171 respondents (71.3%) held postgraduate degrees, while 69 (28.8%) had graduated at the undergraduate level. The income threshold for inclusion was set at a minimum of 15,000 per month, assuming that individuals earning above this threshold would be more inclined to transact online and have the financial capacity to afford smartphones. Among the respondents, 32.1% fell within the income bracket of 15,000 to 25,000 per month, 37.9% earned between 25,000 and 40,000 per month, 24.2% earned between 40,000 and 60,000 per month, and only 5.8% had an income exceeding 60,000 per month.

Research Instrument:

The independent variables in this paper include demographic profile and other variables. The validated Technology Acceptance Model questionnaire by Ajzen (1991), Ajzen & Fishbein (1980), and Davis (1989) is used. The reliability of 29 items was assessed using Cronbach's alpha, yielding 0.933, indicating high reliability of the data and suggesting proceeding further. The paper investigates the influence of demographic profiles on technology acceptance, and further calculates the effects of latent variables on customers' readiness to adopt the technology and on customer retention.

Analysis

The study consisted of 240 respondents who were earning at least Rs. 15000 per month. A five-point Likert-type scale is used, where 5 = strongly agree and 1 = strongly disagree. Chi-square testing is performed on these two groups. The hypothesis is tested to establish the association between perceived utility and e-banking and m-banking as a whole. The Pearson chi-square was calculated 168.267 for m-banking and 173.467 for e-banking with p value 0.000 which is less than 0.05 (table - 1), resulting in rejection of the null hypothesis and

accepting the alternative hypothesis (H1) that the employees of the selected IT companies accepted that the team effectiveness and organizational performance is significantly associated in organizations of all size (Table -1). Table 1a also confirms the correlation between the two variables. The association between e-banking/m-banking and perceived ease in use, Trust, and demographic variables. The study consisted of 240 respondents who were earning at least Rs. 15000 per month. A five-point Likert-type scale is used, where 5 = strongly agree and 1 = strongly disagree. Chi-square testing is performed on these two groups. The hypothesis is tested to establish the association between perceived utility and e-banking and m-banking as a whole. The Pearson chi-square was calculated 168.267 for m-banking and 173.467 for e-banking with p value 0.000 which is less than 0.05 (table - 1), resulting in rejection of the null hypothesis and accepting the alternative hypothesis (H1) that the employees of the selected IT companies accepted that the team effectiveness and organizational performance is significantly associated in organizations of all size (Table -1). Table 1a also confirms the correlation between the two variables. The association between e-banking/m-banking and perceived ease in use, Trust, and demographic variables. showing a somewhat less influence on the construct. Sufficiency in security in terms of passwords/OTPs, anytime, anywhere banking, less time-consuming, Safe for transactions, Personal care taken by banks, Efficient Generation of Identification codes for transactions, etc., are showing a very high influence on their respective constructs. Table 6 shows the standardized regression estimations. The results show that the perceived utility of technology, Trust, and customer service by the banks are strongly associated with and significantly related to the use of e-banking and m-banking among the respondents. The results



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show that the respondents have greater trust in one-banking than in m-banking. The measures of covariances calculate how the two random variables change together. The covariances among perceived utility, ease of use, trust, and innovative customer services are significant and positive. Trust is positively related to ease of use and customer service, thereby influencing customer loyalty. Perceived risk shows a negative relationship with other factors. Demography is also showing negative covariances with ease of use and trust in the technology. As the in-depth interview indicates, with advancing age, the ease of learning and adopting technology becomes harder, and more respondents aged 45 and older reported distrust in online banking security systems and are unlikely to adopt the technology. It can be concluded that the model fairly accounts for the variables observed in the data. Some of the regression weights show a significant relationship ($p < 0.05$) among all factors with acceptance and adoption of e-banking and m-banking. From the above discussion, it is evident that trust in technology is the most vital parameter to accept the technology. To understand the relation between adoption of technology and retention motivation on the assumption that customer retention is a function of customer satisfaction, a binary logistic regression is conducted where the dependent variable is a dummy variable and takes the value 0 if the customer is not happy with the support provided by the company, otherwise 1 if they are happy. The dependent variable is regressed on two factors of adoption intention of M-banking and E-banking, with which the relationship of the other variables is established through a structural model. The log-likelihood is 195.421, with a p-value of 0.000 (< 0.05). The chi-square value of 80.259, with a p-value < 0.05 , indicates a good model fit. Though the adjusted square was found to be 0.397, i.e., 40% of model fit.

Discuss reviewing various literatures, it is understood that out of several factors affecting the acceptance and adoption of technology, the most important are the personal variables, such as the perception about the utility of the technology to the individual, ease of access, cost, trust, etc. With the advancement of technology, “change” is inevitable, and the faster the adoption on a mass scale, the greater the growth of the economy. With the abolition of boundaries across the nation, the requirement of online banking became the most important requisite of the era. Managing all banking accounts at fingertips, third-party transactions across borders, and the growing craze of online trading make it obligatory for banks to provide online facilities to their customers, and it has also become important for customers to learn and understand the e-banking system. Though the technology of m-banking was introduced late in the country, with the growing number of “SMART” handsets and various “APPS”, mobile banking has popularized itself within a short time span. Several banks are also offering rewarding sales promotions to popularize the technology. As the raw data states (Table 7), the respondents of the age group 25 - 40 are already familiar with the usage and operation pattern of e-banking and m-banking systems. But the age group above 45 is still showing apathy toward adopting and using new technology. During the interview, it was found that this group is not even aware of, or concerned about, the various facilities/services/benefits provided by banks when conducting online transactions. While administering of questionnaire, it was found that the respondents are more likely to use the e-banking system as they are now accustomed to the technology. But the penetration of the m-banking system is still in its introduction phase. A simple frequency analysis of overall adoption intention for e-banking shows that 55.4% of respondents agree with using the online banking



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system, while 45.1% agree with m-banking. The paper identified that perceived risk is the only factor that decreases the technology adoption intention. Innovative customer services can also increase the chances of adopting the technology. The paper has a limitation: it is restricted to 240 respondents from the Kolkata area. The scope of the paper is also restricted to Six factors, which could be extended by including social influence on technology selection, for example. Mobile banking usage is still in its introductory stage. It is also understood that increasing awareness and trust in mobile banking can be a more effective customer relationship management strategy.

Conclusion:

Though the study focused on five personal variables and one company variable in promoting and accepting the technology, many other variables also restrict the mass adoption of the technology. As understood from the in depth interview of some bank officials that the factors that creates barrier to promote mass adoption of e-banking and m-banking system are: less awareness of the internet and computer based technology, fear of less authenticity and less personal interaction with the banking officials and personal endorsements of the transactions, infrastructural lacuna of the country specially in the rural areas, less awareness of safety and security policies and facilities provided by the banks etc. The paper suggests focusing on raising customer awareness of the security policy and the advantages of online banking, as well as protection schemes against cybercrime, through local groups of NGOs, municipalities/corporations, and banking professionals. More vigorous learning modules about “how to use the E-banking/m-banking system” should be promoted through audio, video, and print media. The authentication process of individuals while banking online should be strengthened to enhance confidentiality. A more personal approach by

banks to educating their customers, especially those who are aged, relatively technologically outdated, and less confident, can be an effective policy for retaining customers. The banks may focus on managing mobile banking operations, and the technology is easier to understand and manage. Initial innovative promotional offers for using the m-banking facility when opening an account could work wonders in retaining and attracting customers. With the introduction and advancement of 4G technologies, it is evident that m-banking adoption will accelerate and penetration will increase. Private banks are sometimes more efficient at handling online services than public banks. Some of the private banks and a few public banks are using a winning strategy to retain their customers by maintaining 24/7 helplines that provide prompt service for customer complaints or problems. A 24-hour helpline from banks to educate people about the know-how of the technology related to m-banking and e-banking, and management of risks, can help to create a bigger customer base. The approach of customer care executives should be more friendly and caring, and they should use local dialects to raise awareness of technology among people who are not very technically proficient or highly educated. Promotional offers to the corporate clients on using m-banking can help the technology penetrate further. More efficient and convenient online banking and m-banking facilities can improve the mass adoption of technology.

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