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Analyzing customer attitudes towards online banking and its impact on bank customer relationship management

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Abstract

The evolution of technology has significantly transformed banking systems worldwide, shifting from traditional methods to embrace innovations such as ATMs, core banking, and e-banking. With the fast-paced urban lifestyle, customers find it challenging to visit physical banks for their transactions, thus gravitating toward e-banking and mobile apps, especially among the tech-savvy youth. While these advancements offer opportunities for business expansion, they also present challenges in maintaining service quality and operational efficiency. To navigate the competitive landscape, both public and private banks focus on market strategies to retain existing customers and tap into new markets. Offering value to customers through innovative retention policies like loyalty bonuses and cashback incentives for online purchases has become a common practice. This study aims to examine these customer engagement strategies employed by public and private banks online. It seeks to understand urban customers' attitudes towards these innovations and their impact on fostering long-term relationships with banks. Conducted in the Kolkata metropolitan area, this exploratory study involves a primary survey to analyze customer attitudes toward technology adoption. The findings reveal a diversity of attitudes among customers and shed light on their expectations from the banking industry. The analysis includes factor analysis and regression analysis to delve into customer preferences and their implications for maintaining sustained relationships with banks.

Keywords: Innovation, e- banking, mobile apps, customer satisfaction

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 Liberalised, Privatised, and Global (LPG) economy. Leveraging the advancements in mobile technology, banking has become swifter and more accessible, offering added value to customers. Modern banking, departing from traditional tele-banking services that were limited to balance inquiries and fund transfers (Kim, Shin, & Lee, 2009) ^[25], 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) ^[41]. 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) ^[34]. The inception of internet banking gained momentum when ICICI bank introduced online banking in 1996, paving the way for others like HDFC, City Bank, and numerous others to follow suit (Iyengar & Belvalkar, 2004) ^[21]. E-banking, defined as a cyber portal facilitating a range of banking transactions and investments, distinguishes itself from informational websites lacking transactional capabilities (Pikkarainen, Pikkarainen, Karjaluoto, & Pahlila, 2004) ^[37]. As technology evolved, mobile devices became pivotal in expediting banking operations. Smartphones equipped with diverse mobile banking apps enable swift fund transfers, balance checks, utility bill payments, and commodity purchases (Barnes & Corbitt, 2003) ^[7].

Banking through the internet and mobile platforms represents relatively new concepts 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 levels of e-banking technology within the West Bengal region. Utilizing a technology acceptance model administered through a questionnaire, the study endeavours to unravel the primary factors influencing internet usage in financial operations. Understanding these factors becomes pivotal in navigating the landscape of technology adoption within 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 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, 43 foreign banks, together these group contribute to over 90% of the total banking asset. 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) [20]. With the introduction and growth of ITes services, the practice of internet banking became easy. A report from (IAMAI, 2014) [19] informs the overall transaction through internet in 2014 was Rs. 81525 crore that is 53% more than the total transaction in 2013 and the market expect to attain an Rs 1, 08,428 crore valued business. This high valued market is also creating

opportunity to the banking industry to increase their volume of business appending with the 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 internet. Government and Reserve Bank of India is promoting the usage of internet banking. The Indian public banks faced a great challenge when the foreign and private banks stepped into the Indian banking business with newer technologies as ATM, credit card and internet banking facilities after the recommendations of the Committee on Financial System, 1991 (Jamaluddin, 2013) [22]. IT act, 2000 has acknowledged the electronic banking transactions and trading legally (RBI, 2011) [39]. Requirement of internet connections through additional devices and requirement of computers/ laptops sometimes makes it inconvenient and blockade while 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) [46]. Mobile banking (M - banking) is defined as operating the banking and financial activities through the mobiles and personal digital assistance devices whereas, the same operation through internet is called e-banking (Barnes & Corbitt, 2003) [7]. Smart phones enabled the mobile banking in paying for purchased goods at the point of sales or remotely using the WAP technology which was first introduced by the European banks in 1999 (Chandran, 2014) [9]. Less waiting time, Scope of flexi-time operation, round the clock access to banking services, self-service facility, economizing time and money are some important benefits of virtual banking system (Chauhan & Choudhury, 2015) [11]. The usage pattern of mobile banking is showing a growth trend as the volume and value increasing by 108.5% (53.30 million in FY13 vis-a-vis 25.56 million in FY12) and 228.9% (USD 1.1 billion in FY 13 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	5,342
Axis Bank	26.7L	1,897
HDFC Bank	17.5L	5,686
Kotak Mahindra	7.5L	946
Yes Bank	5.7L	268
Citibank	4.2L	397
Canara Bank	2.9L	1,987
Union Bank	2.1L	118
State Bank of Hyderabad	1.2L	7

Source: (Shetty, 2015) [45]

Technology Acceptance

Study of customers' attitude is one of the important determinants of behaviour (Fishbein & Ajzen, 1975) [18] and hence emphasised as the area of research in consumer behaviour. The success of any new technology depends on the behaviour of the customers acceptance which can be presumed from trust and confidence in the technology (Ajzen and Fishbein (1980) [2]. The three factored [Behaviour intention (BI), Attitude (A) and Subjective norm (SN)] theory of Reasoned action (TRA) proposed by (Ajzen & Fishbein, 1980; Ajzen, 1991) [2, 1] 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) [14, 17, 31], Luo, financial cost (yang), demographic profile ((Amin, 2008; Laforet & Li, 2005; Lee & Lee, 2007) [4, 26, 27]. 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 effect of perception of the customers about the utility of new technology, perceived ease in 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 about the usefulness of the technology (Davis, 1989) ^[15]. The probability to adopt new technology is influenced by individual adoption intention, based on self-perception of the extent of favourableness of the technology to provide an extra advantage over the existing system or service. The Perceived usefulness of innovation has a strong influence on purchasing intention or use of the technology which is in turn influenced by the perceived expectancy of the performances (Venkatesh, Morris, Davis, & Davis, 2003) ^[48].

The importance of the factor "Perceived utility" in purchasing intentions and actual use of banking services online has made it important to include 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 adoption intention of the technology.

Perceived ease of use

It is evident from the various researches that the utility of technology is always invented for the betterment of the mankind. However, the acceptance of technology depends on how the users perceive the easiness to understand, learn and use/ operate the technology (Rogers, 1962) ^[44]. Perceived ease of use is also defined by various researchers in different terms as the utility of the technology helps to reduce effort (Davis, 1989; Dholakia & Dholakia, 2004) ^[15, 16], efficiency over the substitute (Rogers E. M., 1983) ^[43].

Online banking and m- banking system has made the banking system easy by reducing the physical effort to operate banking transactions from the long queue in banks and many researchers support the factor "Perceived utility executives" as one major reason to accept technology while banking online (Mathieson, 1991) ^[32]. So, the hypothesis is.

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

Trust and Perceived Risk

The psychological expectation (Bradach & Eccles, 1989) ^[8], "trust" in technology plays an important role in adoption intention. Reliability, honesty and authentication (McKnight & Chervany, 2002; Wang, Lin, & Luran, 2006) ^[33, 49] in operation create trust among the consumers. The consumers' perception about uncertainty in operating technology (Littler & Melanthiou, 2006) ^[29], high risk of leakage of personal financial information via internet and crimes (Cheng, Lama, & Yeung, 2006) ^[12] related to that, often creates distrust and restricts the ready acceptance of technology. The perceived risk in using mobile banking is even more as the mobile is a transmitting device always, whereas the computers have the internet access only when it

is connected in internet. Hence the trustworthiness of mobile banking is influenced by the design of mobile with facilities to prevent unauthorised access of attackers (Pfitzmann, Pfitzmann, Schunter, & Waidner, 1997) ^[36]; secured gateways while transacting online payments through mobiles (Karnouskos, 2004) ^[24], secured technical requirements for trading through mobile banking (Aramudhan, 2008) ^[5]; and strict authentication process (Almuairfi, Veeraraghavan, & Chilamkurti, 2011) ^[3].

Anonymous activities over the network spaces, different kinds of internet settings (Ratnasingham, 1998; Jarvenpaa & Tractinsky, 1999; Lee & Turban, 2001) ^[38, 23, 28] absence of direct contact with vendors and banks, uncertainty in transactions, information asymmetry (Lu, Yu, Liu, & Yao, 2003; Cho, Kwon, & Lee, 2007) ^[30, 13], third party transaction and loss of individual control on completion of the transactions (Pavlou, 2003) ^[35] are some of the major sources of risk and distrust. Hence the factor proves to be worthy to test while studying the customer's attitude.

- **H3:** A consumer's trust in technology will have positive impact on adoption intention of the technology.
- **H4:** A consumer's perception about risk in using technology will have negative impact on adoption intention of the technology.

Demographic Profile

Often it is found that age, gender, education, income; social culture etc., demographic variables plays a vital role in adopting technology. Though there is no absolute proof that age is one of the most important variable in using a technology, but certain researches have made it clear that young people are more ready to learn, use and practice technology (Venkatesh & Morris, 2000; Wood, 2002) ^[47, 50]. Researchers also found that in some cases it is the male who adopt and use the technology faster than the female customers (Aziz, Badrawy, & Hussien, 2014; Venkatesh & Morris, 2000) ^[6, 47]. Using internet and mobile while banking requires some knowledge about the usage of technology and conditions applied while banking, trading or transferring funds to third party. Hence there is a positive correlation is established between the level of education and adoption of technology (Riddell & Song, 2012) ^[42].

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 in the model: customer services by the banks and its' effect on adoption of technology. Modern banks are using various innovative sales promotional tools to attract and retain the customers such as: cash back offers in using credit and debit cards, or online purchasing etc. The promotional offers can be motivating aspect in adopting the technology.

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

Objectives

1. To study the customers attitude towards accepting e - banking system

2. To study the customers attitude towards accepting m - banking system
3. To compare between customer's acceptance of technology in case of m- banking and e - banking

Research Methodology

Data was gathered from respondents representing various sectors, including education, service industries like banks and hospitals, engineering works, as well as 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, resulting in 291 returned 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%) 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, 24.2% earned below 60,000 but above 40,000 per month, and only 5.8% had an income exceeding 60,000 per month.

Research Instrument: The independent variables in this paper are demographic profile, and other variables. The validated questionnaire on Technology acceptance model by Ajzen, 1991^[1], Ajzen & Fishbein, 1980^[2] and Davis, 1989^[15] are used. The reliability of 29 items was tested with cronbach alpha and the results shows 0.933 which indicates the reliability of the data and suggest proceeding further. The paper investigates influence of the demographic profiles on the acceptance of technology and the study is furthered calculating the effect of latent variables on customers' readiness to accept the technology and retaining customer.

Analysis

The study consisted of 240 respondents who are earning at least Rs. 15000 per month. A five point Likert type scale is used where 5= strongly agree, 1 = strongly disagree. A chi-square testing is done in these two different groups. The hypothesis1 is tested, which establishes 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). The table 1a also confirms the correlation between the two variables.

The association between e- banking/ m- banking and perceived ease in use, Trust, demographic variables,

customer services, and perceived risk using a chi-square method (Table 2). The chi- square test establishes a significant relation between e- banking/ m- banking and perceived ease in use, Trust, demographic variables, customer services, and perceived risk. To understand whether there is any usage pattern difference among the respondents or not a one- way ANOVA is calculated across the gender, age, qualification and income. The null hypothesis predicts that there is no difference in usage/ acceptance of the technology based on demographic profile. Table 3 shows the one way ANOVA computed for both the technologies differently to understand that whether there is any mean difference in opinion related to adopting of e-banking m-banking system. The F statistics calculated for e-banking and m- banking shows a difference in values 0.036 ($p < 0.05$) and 0.685 ($p > 0.05$) respectively which depicts that there is an opinion difference among male and female related to m-banking. Qualification difference is found to be significant in adopting the m-banking system while, qualification and income do not create any difference in adopting the e-banking system. This shows that as the e-banking technology is widely spread and the people are almost conversant now in handling the technology, more but the technology related to m-banking is found to be very new to adopt.

To explore the impact of team effectiveness on employee engagement, both exploratory and confirmatory factor analyses were conducted. The reliability coefficient, assessed by Cronbach's Alpha at 0.933 for 30 items, confirmed the data's suitability for further analysis. Factor analysis was utilized to condense the 33 original variables into seven factors, with a cumulative variance of 69.288%, effectively reducing the variables. The derived factors - perceived ease in use, trust, perceived utility of technology, customer services, perceived risk, m-banking, and e-banking-demonstrated strong positive associations with their respective observed variables, exhibiting notably high factor loadings. Confirmatory factor analysis, performed on these seven factors with 351 distinct sample moments, revealed a CMIN χ^2 value of 569.524 with a probability of 0.000. While the RMSEA indicated a moderate fit for the measurement model at 0.055, the NFI (0.867) and CFI (0.928) values supported data adequacy. Significant and positive correlations among the factors further strengthened their interrelations, with Trust exhibiting substantial influence on customer satisfaction. The inter-item correlations reflected overall positive and significant associations, except for perceived risk regarding technology, which displayed insignificant correlations with other factors and a negative correlation with customer satisfaction in banking facilities.

Transitioning to the structural model, which encompassed 33 observed variables and 561 distinct sample moments, the CMIN χ^2 value stood at 795.494 with 385 degrees of freedom and a probability level of 0.000. Despite an RMSEA of 0.05, signaling a good fit for this model, the NFI (0.744) and CFI (0.821) values indicated adequate but not optimal description of the sample data. Nevertheless, the covariances underscored significant relationships ($p < 0.05$) among all factors, affirming the model's alignment with the data.

The standardised regression weights (table 1) are showing positive and significant relations with constructs. The association of the observed variable "easy to learn" is

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 the banks, Efficient Generation of Identification codes for transaction etc., are showing a very high influence on their respective constructs. The table 6 shows the standardized regression estimations.

The result shows that perceived utility of technology, Trust, customer services by the banks are showing a high association and significant relations with the usage of e-banking and m-banking among the respondents. The result describes that the respondents have shown a greater trust on e-banking than the m-banking.

The measures of covariances calculate the how the two random variables change together. The covariances between perceived utility with ease of use, trust and innovative customer services are showing significant and positive covariances. Trust is positively related with ease of use, and customer service and hence influences loyalty of the customers. Perceived risk is showing a negative relation with other factors. Demography is also showing negative covariances with ease of use and trust with the technology. As it is understood from the in depth interview that with the advancement in age, the easy learning and adoption of technology becomes harder and more respondents above age 45 reported that they also distrust the online banking security system and not likely to accept the technology.

It can be concluded that the model fairly and 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 dummy in nature and takes the value 0 if the customer is not happy with the support provided by the, 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 are established through a structural model. The log likelihood is calculated as 195.421 with p value $0.000 < 0.05$. The chi-square values calculated as 80.259 with p value < 0.05 depicts the model fit. Though the adjusted R square found to be 0.397 i.e. 40% of model fit. Table 6 shows the higher association of customer's satisfaction with e_banking system facilities.

Discussion

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 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 faster the adoption in mass scales, more the growth of the economy. With the abolition of boundaries across the nation, the requirement of online banking became most important requisite of the era. Managing all banking accounts at finger tip, third party transactions across border, growing craze of online trading makes it obligatory for the

banks to provide online facilities to their customers and it is also became important for the customers to learn and understand the e-banking system. Though the technology of m-banking introduced late in the country, but with the growing number of "SMART" handsets and various "APPS", mobile banking has popularized itself within a short time span. Several banks are also providing rewarding sales promotional offers to popularize the technology. As the raw data states (Table - 7) that the respondents of age group 25 - 40 are already familiar with the usage and operation pattern of e-banking and m-banking system. But the age groups above 45 are still showing apathy to accommodate and adopt the new technology. It was found while administering the interview that this group is not even aware and concern about various facilities/ services/ benefits provided by the banks on using online transactions. While administration of questionnaire it is found that the respondents are more using e-banking system as they are now accustomed with the technology. But the penetration of m-banking system is still in its introduction phase. A simple frequency calculation on the question of overall adoption intention of e-banking shows that 55.4% respondents agree on using the online banking system while 45.1% respondents agree on m-banking usage. The paper identified that the perceived risk is the one factor which decreases the adoption intention of technology. Innovative customer services can also increase the chances of adopting the technology. The paper has limitation as it is restricted only to 240 respondents from only Kolkata area. The scope of the paper is also restricted to only six factors which can be extended by including the social influence on selection of technology, etc. The mobile banking usage is still found to be in its introductory stage. It is also understood that creating more awareness and faith in using the mobile banking can be a better customer relationship management strategy.

Conclusion

Though the study focused on the five personal variables and one company variable in promoting and accepting the technology but there are many other variables which 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 focus on creating awareness among the customers about the security policy and advantage to use online banking and protection schemes against cyber crimes through the local groups of NGOs, municipality/ corporation, and banking professionals etc. More vigorous learning modules about "how to use e-banking/ m-banking system" should be promoted through audio, video and print media. Stricter authentication process of the person while banking online should be increased to maintain more confidentiality. More personal approach from the banks to educate their customers specially those are aged and relatively technically not very updated and less confident, can be an effective policy to retain customers. The banks may focus to manage mobile banking operations

and the technology easier to understand and manage. Initial innovative promotional offers on using m-banking facility while opening an account in the bank could work wonder in retaining and attract customers. With the introduction and advancement in 4G technologies, it is evident that the adoption of m-banking will be faster and the penetration will be more. The private banks are sometimes more efficient in handling the online facilities than the public banks. Some of the private banks and few public banks are using an winning strategy to retain their customers by maintaining 24 hours helpline that provide prompt service on customers complaints or problems. A 24 hour helpline from banks to educate people about the knowhow 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 the customer care executives should be more friendly, caring and should be using local dialects to create awareness about the usage of the technology amongst those people who are not so technically sound and not highly educated. Promotional offers to the corporate clients on using m-banking can help the technology to penetrate more. More efficient and convenient online banking and m-banking facility can improve the mass adoption of technology.

References

1. Ajzen I. The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*. 1991;150:179-211.
2. Ajzen I, Fishbein M. *Understanding Attitudes and Predicting Social Behavior*. New York: Prentice-Hall; c1980.
3. Almuairfi S, Veeraraghavan P, Chilamkurti N. IPAS: Implicit Password Authentication System. In: *Advanced Information Networking and Applications (WAINA), IEEE Workshops of International Conference on Advanced Information Networking and Applications (WAINA)*; c2011. p. 430-435.
4. Amin HE. The adoption of mobile banking in Malaysia: The case of Bank Islam Malaysia Berhad (BIMB). *International Journal of Business and Society*. 2008;9(2):45-53.
5. Aramudhan M. User assigned security policy framework for m-commerce applications. In: *Computer and Communication Engineering: ICCCE 2008. International Conference on*; c2008. p. 148-150.
6. Aziz RA, Badrawy RE, Hussien MI. ATM, Internet Banking and Mobile Banking Services in a Digital Environment: The Egyptian Banking Industry. *International Journal of Computer Applications*. 2014;90(8):45-52.
7. Barnes SJ, Corbitt B. Mobile banking: Concept and potential. *Int. J Mobile Communications*. 2003;10(10):1-16.
8. Bradach J, Eccles R. Price, authority, and trust: from ideal types to plural forms. *Annual Review of Sociology*. 1989;15:97-118.
9. Chandran R. Pros and cons of Mobile banking. *International Journal of Scientific and Research Publications*. 2014;4(10):1-5.
10. Chaudhary A. Airtel Reduces 4G Data Tariff; Who Really Uses Airtel 4G; c2013 Retrieved 2014, from www.medianama.com: <http://www.medianama.com>.
11. Chauhan V, Choudhury V. Internet Banking: Challenges and Opportunities in Indian Context. *Journal of Management Sciences and Technology*. 2015;2(3):29-40.
12. Cheng T, Lama D, Yeung A. Adoption of internet banking: an empirical study in Hong Kong. *Decision Support Systems*. 2006;42(3):1558-1572.
13. Cho D, Kwon H, Lee H. Analysis of trust in internet and mobilecommerce adoption. In: *40th Hawaii International Conference on System Science*. USA; c2007.
14. Chung N, Kwon SJ. The effects of customer's mobile experience. *Cyber Psychology and Behavior*. 2009;12(5):539-548.
15. Davis F. Perceived usefulness, perceived ease of use, and User acceptance of information technology. *MIS Quarterly*. 1989;13:319-340.
16. Dholakia RR, Dholakia N. Mobility and markets: Emerging outlines for m-commerce. *Journal of Business Research*. 2004;57(12):1391-1396.
17. Donner J. M-banking and m-payment services in the developing world: Complements or substitutes for trust and social capital. In: *Annual Meeting of the International Communication Association*. San Francisco: Microsoft Research, India; c2007.
18. Fishbein M, Ajzen M. *Belief, Attitude, Intention and Behaviour: an Introduction to Theory and Research*. New York: Addison-Wesley; c1975.
19. IAMA. All India Estimates. IAMA and IMRB i-cube; c2014.
20. ICRA. Indian Banking Industry. RBI; c2012.
21. Iyengar J, Belvalkar M. Case Study of Online Banking in India: User Behaviors and Design Guidelines. *Pure IT usability research study*; c2004.
22. Jamaluddin N. E-Banking: Challenges and Opportunities in India. In: *23rd International Business Research Conference*. Melbourne, Australia: World Business Institute, Australia; c2013. p. 1-15.
23. Jarvenpaa S, Tractinsky N. Consumer trust in an internet store: A cross-cultural validation. *Journal of Computer Mediated Communication*. 1999;5:1-33.
24. Karnouskos S. Mobile payment: A journey through existing procedures and standardization initiatives. *IEEE Communications Surveys & Tutorials*. 2004;6:44-66.
25. Kim G, Shin B, Lee HG. Understanding dynamics between initial trust and usage intentions of mobile banking. *Information Systems Journal*. 2009;19:283-311.
26. Laforet S, Li X. Consumers attitudes towards online and mobile banking in China. *International Journal of Bank Marketing*. 2005;23(5):362-380.
27. Lee K, Lee H. Factors influencing the adoption behaviour of mobile banking: A South Korean perspective. *Journal of Internet Banking and Commerce*. 2007;12(2):1-9.
28. Lee M, Turban E. A trust model for consumer internet shopping. *International Journal of Electronic Commerce*. 2001;6:75-91.
29. Littler D, Melanthiou D. Consumer perceptions of risk and uncertainty and the implications for behaviour towards innovative retail services: the case of internet banking. *Journal of Retailing and Consumer Services*. 2006;13(6):431-43.
30. Lu J, Yu C, Liu C, Yao J. Technology acceptance

model for wireless internet. *Internet Research: Electronics Networking Applications and Policy*. 2003;13(3):206-222.

31. Luo XE. Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems*. 2010;49(2):222-234.
32. Mathieson K. Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information Systems Research*. 1991;2(3):173-191.
33. McKnight DH, Chervany NL. What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology. *International Journal of Electronic Commerce*. 2002;6:35-60.
34. Ming F. E-banking; c2002. Retrieved from: *Computer Sciences*: <http://www.encyclopedia.com>.
35. Pavlou P. Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*. 2003;7(3):101-134.
36. Pfitzmann A, Pfitzmann B, Schunter M, Waidner M. Trusting mobile user devices and security modules. *Computer*. 1997;30:61-68.
37. Pikkarainen T, Pikkarainen K, Karjaluoto H, Pahnla S. Consumer acceptance of online banking: an extension of the technology acceptance. [Location unknown]: [Publisher unknown]; c2004. p. 224-235.
38. Ratnasingham P. The importance of trust in electronic commerce. *Internet Research: Electronic Networking Application and Policy*. 1998;8:313-321.
39. RBI. Legal issues. India: Reserve Bank of India; 2011.
40. RBI. Banking Sector in India: India Sector Notes. Economic, Finance and Business. IIMJOBS; c2014.
41. Renugadevi S. A Study on Customer's Attitude towards E-Banking in Madurai City. *International Journal of Scientific Research and Management (IJSRM)*; c2013. p. 1-5.
42. Riddell WS, Song X. *The Role of Education in Technology Use and Adoption: Evidence from the Canadian Workplace and Employee Survey*. Bon, Germany: Arbeit Institute for the Study of Labor; c2012.
43. Rogers EM. *Diffusion of Innovations* (4th ed.). New York, NY.: The Free Press; c1983.
44. Rogers EM. *Diffusion of Innovations* (First edition). Glencoe: Free Press; c1962.
45. Shetty M. Mobile banking comes of age. Retrieved from: *The Times of India Tech*: <http://timesofindia.indiatimes.com/tech/tech-news/Mobile-banking-comes-of-age/articleshow/47918016.cms>; 2015.
46. Sknlakshmi. Advantages of Mobile Banking: The Science of funds management made easy; c2012. Retrieved November 2015, from: *India finance bazaar*: <http://www.indiafinancebazaar.com/personal-finance/advantages-mobile-banking>.
47. Venkatesh V, Morris M. Why don't men ever stop to ask for directions? Gender, social influence and their role in technology acceptance and usage behavior. *Management Information Systems Quarterly*. 2000;24:115-139.
48. Venkatesh V, Morris M, Davis G, Davis F. User acceptance of information technology: Toward a unified view. *MIS Quarterly*. 2003;27(3):425-478.
49. Wang YS, Lin HH, Luran P. Predicting consumer intention to use mobile service. *Information Systems Journal*. 2006;16:157-179.
50. Wood S. Future fantasies: A social change perspective of retailing in the 21st century. *Journal of Retailing*. 2002;78:77-83.

Appendix

Table 1: Chi-Square Tests showing an association between perceived utility of the technology and e-banking/ m- banking

Technology	Value	DF	Asymp. Sig. (2-sided)
M - banking	543.987	330	.000
E -banking	478.348	330	.003

Source: Primary Data

Table 1a: Correlation between perceived utility of the technology and e-banking/ m- banking

Technology	Mean	SD	PU	MB	EB
Perceived Utility	3.38	.897			
M - banking	3.53	.806	.560**	1	
E -banking	3.53	.701	.498**	.608**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: Primary data

Table 2: Chi-Square Tests showing an association

	Technology	Value	df	Asymp. Sig. (2-sided)
association between e- banking/ m- banking and perceived ease in use,	M - banking	278.060	210	.001
	E -banking	381.777	210	.005
association between e- banking/ m- banking and Trust,	M - banking	573.848	285	.000
	E -banking	531.958	285	.000
Association e- banking/ m- banking and customer services	M - banking	293.767	165	.000
	E -banking	285.820	165	.000
association between e- banking/ m- banking and perceived risk	M - banking	199.379	180	.000
	E -banking	248.218	180	.000

Source: Primary Data

Table 3: ANOVA Table

	M- banking			Acceptance			E banking			Acceptance			
	Between Groups	.146	1	.146	.165	.685	H0	5.592	1	5.592	4.452	.036	H1
Gender	Within Groups	210.650	238	.885				298.970	238	1.256			
	Total	210.796	239					304.563	239				
	Between Groups	3.153	2	1.577	1.799	.168	H0	8.707	2	4.354	3.488	.032	H1
Age	Within Groups	207.643	237	.876				295.855	237	1.248			
	Total	210.796	239					304.563	239				
	Between Groups	5.462	1	5.462	6.332	.013	H1	1.671	1	1.671	1.313	.253	H0
Qualification	Within Groups	205.333	238	.863				302.892	238	1.273			
	Total	210.796	239					304.563	239				
	Between Groups	1.203	3	.401	.451	.717	H0	2.696	3	.899	.703	.551	H0
Income	Within Groups	209.593	236	.888				301.866	236	1.279			
	Total	210.796	239					304.563	239				

Table 4: Correlations among the team effectiveness and other variables

	Mean	SD	PU	PEO	Trust	CS	PR
Perceived Utility	3.38	.897	1				
Perceived Ease of use	3.62	.767	.407**	1			
Trust	3.22	1.009	.564**	.602**	1		
Customer Services	3.63	.797	.373**	.468**	.553**	1	
Perceived risk	2.78	.926	.090	.053	.076	-.102	1

**. Correlation is significant at the 0.01 level (2-tailed). n = 240 source: Primary Data

** Regression weights are significant at the 0.05 level and * Regression weights are significant at the 0.1 level (2-tailed).

Table 5: Standardised Regression estimates

	PU	PEO	Trust	PR	CS
Faster transaction	.766***				
Less time consuming	.823***				
Less physical movements/ direct interaction with banks	.792***				
Efficient third party transfer facility	.777***				
Online trading becomes more effective	.803***				
Anytime, anywhere banking	.859***				
Technology is Easy to use		.790***			
Easy to learn		.455***			
Easy fund transfer facility		.724***			
Easy to manage all banking funds		.781***			
Safe for transactions			.814***		
Sufficiency in security in terms of passwords/ OTPs			.908***		
Close supervision by the banks over e- transactions			.874***		
Personal care taken by the banks			.849***		
Efficient Generation of Identification codes for transaction			.865***		
Less authenticity				.821***	
Vulnerable to cyber crimes				.806***	
Managing password are problematic				.703***	
Points accumulation and redeem system for online purchasing					.765***
Participation of banks with different traders for promotional offers					.786***
Different promotional offers in festive seasons					.626***

***. Regression weights are significant at the 0.001 level (2-tailed). Source: Primary Data

** Regression weights are significant at the 0.05 level and * Regression weights are significant at the 0.1 level (2-tailed).

Table 6: Standardised Regression estimates among the constructs

	E- banking	M- banking
Perceived Utility	.333***	.227**
Perceived Ease of use	0.078	0.072
Trust	0.444***	0.211**
Customer Services	0.423***	0.165*
Perceived risk	-.007	-.022
Demographic variable	.055	0.57

** Regression weights are significant at the 0.01 level (2-tailed). Source: Primary Data

Table 7: Covariances among the team effectiveness and other variables

	PU	PEO	Trust	CS	PR	Demo
Perceived Utility						
Perceived Ease of use	.303***					
Trust	.437***	.514***				
Customer Services	.256***	.353***	.439***			
Perceived risk	.056	-.013	-.046	-.075		
Demographic Profile	.014	-.016	-0.15	.033	-.013	

** Correlation is significant at the 0.01 level (2-tailed). n = 240 source: Primary Data

Table 8: Binary Logistics (Parameter Estimates)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[CRM = 0]	8.238	1.420	33.653	1	.000	5.455	11.022
Location	E_banking	1.926	.323	35.603	1	.000	1.293	2.559
	M_banking	1.452	.296	23.973	1	.000	.870	2.033

Link function: Logit.

Adoption intention of technology across the gender, age, qualification and income

		E- banking					M- banking				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Gender	Male	4.4%	11.4%	29.1%	48.7%	6.3%	5.1%	20.3%	26.6%	36.1%	12.0%
	Female	6.1%	6.1%	31.7%	47.6%	8.5%	11.0%	29.3%	20.7%	29.3%	9.8%
Age	Less than 25	5.3%	10.7%	32.5%	45.6%	5.9%	8.9%	21.3%	24.3%	33.1%	12.4%
	Above 25 - 40	3.0%	7.5%	23.9%	56.7%	9.0%	1.5%	25.4%	26.9%	37.3%	9.0%
	Above 40	25.0%	0.0%	25.0%	25.0%	25.0%	21.0%	73.0%	2.0%	3.0%	1.0%
Qualification	PG	7.6%	24.6%	26.9%	28.7%	12.3%	6.4%	8.8%	35.7%	43.3%	5.8%
	UG	5.8%	20.3%	18.8%	46.4%	8.7%	1.4%	11.6%	15.9%	60.9%	10.1%
Income	15000 - below 25,000	2.6%	11.7%	36.4%	44.2%	5.2%	7.8%	19.5%	33.8%	26.0%	13.0%
	25000 - below 40,000	6.6%	8.8%	28.6%	49.5%	6.6%	9.9%	19.8%	17.6%	40.7%	12.1%
	40,000 - below 60,000	3.4%	8.6%	27.6%	50.0%	10.3%	16.1%	32.8%	22.4%	20.1%	8.6%
	above 60,000	14.3%	7.1%	14.4%	57.1%	7.1%	14.3%	28.6%	28.6%	21.4%	7.1%