emerald**insight**

Benchmarking: An International Journal
Mobile banking: consumer perception towards adoption
Richa Priya, Aradhana Vikas Gandhi, Ateeque Shaikh,

Article information:

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Mobile banking adoption in an emerging economy: An empirical analysis of young Indian consumers

Abstract

Purpose: This paper aims to analyze the factors affecting Mobile Banking Adoption among Young Indian consumers.

Design/methodology/approach: We use a cross-sectional survey research design to empirically examine the factors affecting Mobile Banking Adoption among young Indian consumers. The study sample consists of 269 respondents aged between 23-30 years from India.

Findings: The findings of the study suggest that Perceived usefulness, Perceived ease of use, Perceived credibility and Structural assurance are strong determinants of User satisfaction and Behavioral intention to use the mobile banking service. User satisfaction was found to partially mediate the relationship between Perceived usefulness, Perceived ease of use, Perceived credibility and Structural assurance and Behavioral Intention to use the service. Perceived risk was found to be statistically insignificant in terms of its relationship with Behavioral intention to use the service.

Research Limitations/implications: The results of this study provide good evidence for banks to further revamp their work practices in the area of mobile banking to enhance the overall penetration of mobile banking in India.

Originality/value: The study identifies factors influencing mobile banking adoption among young Indian consumers. Further, this study suggests that user satisfaction partially mediates the relationship between factor influencing mobile banking adoption and behavioral intention.

Keywords: Mobile Banking Adoption, Perceived usefulness, Perceived ease of use, Perceived credibility, Perceived risk, Structural assurance, Behavioral intention, User satisfaction, India.

Paper Type: Research Paper

Mobile banking adoption in an emerging economy: An empirical analysis of young Indian consumers

1. Introduction

Technological advancements in the areas of telecommunications and information technology over the past few decades have revolutionized business operation systems in both developed and developing economies especially in the financial service industry. The advent of information and communication technology has led to the proliferation of electronic-based banking products, and has offered tailor-made banking solutions to customers at their doorstep. Internet banking as a technological improvement offered the prospect of changing the structure and nature of banking from "Bricks" to "Clicks". The use of mobile technologies for viable activities has initiated the concept of mobile commerce (m-commerce). Mobile banking is an application of m-commerce that enables customers to bank virtually at any convenient time and place (Bankole and Brown, 2011).

Mobile services consist of applications that help deliver services, enhance flexibility, mobility and efficiency for users within business and life domains (Rao and Troshani, 2007). The range of services that is undertaken with a mobile is immense because mobile phones are likely to evolve as ubiquitous payment devices. Mobile banking enables customers to access their bank accounts through mobile devices and to check their balance or conduct financial transactions. Mobile banking operations can be generally categorized as mobile accounting, mobile brokerage and mobile financial information services. These include fund transfer, commercial and bill payment, cell-phone recharge and micro-payment handling. In contrast, monitoring account transactions and alerts on account activity are examples of non-transaction-based mobile services.

Despite the wide adoption of mobile banking around the world, the "use of mobile banking is still considered low", even in the developed countries such as Europe and Western America (Riquelme and Rios, 2010). The consumer's reluctance to use mobile banking is driven by the poor product quality and insufficient technology. The present subscriber base of mobile phone SIM cards in India is pegged at 350 to 550 million users. However, the number of banking customers is estimated to be 22 million indicating lesser use of mobile banking services among Indian consumer's (RBI Report, 2014). Therefore, banks in India can leverage the mobile and smart phone penetration to offer financial services in an efficient manner. Mobile banking can also be leveraged to reach out in the remote areas, which reduces the operational cost of offering the financial services. Table I depicts that there is significant growth in the value of mobile banking transactions over the period 2011-12 to 2014-15. The growth in the number of users and volume has shrunk in 2013-14 as compared to 2012-13 as per data collected by the Reserve Bank of India (RBI). RBI is taking relevant steps to provide accessible, convenient, as well as cost effective services to mobile banking customers.

Table I: Trends in Mobile Banking

Year Ended March	No. of users (in millions)	Volume (in millions)	Value (in billions)
2011-12	12.96	25.56	18.21
2012-13	22.51 (73.69%)	53.31 (108.56%)	59.90 (228.49%)
2013-14	35.53 (57.84%)	94.71 (77.66%)	224.38 (274.59%)
2014-15	-	172 (81.60%)	1035 (361.27%)

Source: RBI Report

(Figures in parentheses is change over previous year)

Therefore, it is imperative for banks to identify factors, which influences their decision to adopt mobile banking services in India. The topic under study is contemporary and relevant, given the recent push of the government of India for cashless economy and digital push. Banks

are also investing to offer mobile banking services to the consumers. However, the success of mobile banking services hinges upon the adoption of mobile banking by the consumers in India. Therefore, the purpose of this paper is to analyze the factors affecting Mobile Banking Adoption among the Indian consumers. Our literature review on adoption of mobile banking amongst young Indian consumers suggests that there is very limited number of studies exploring adoption of mobile banking amongst Indian consumers (Sangle and Awasthi, 2011).

2. Literature Review

Banks are constantly in search of solutions that help them to reduce their cost of operation and improve customer experience. In this regard, the banking industry has introduced several technologies for better delivery of their services. Introduction of Automated Teller Machines (ATMs) as a self-service delivery channel was one such step. ATMs have initiated a new era of self-service banking. The wave of self-service banking was taken further with the advent of Internet banking, which also introduced the concept of "anywhere banking". Technology-led delivery channels have caught up with traditional branch banking, but this was still restricted to the availability of computers and the Internet. This issue was overcome by the introduction of mobile banking, a technology for mobile-savvy customers. Over the years, mobile banking has evolved from a simple information-providing medium to a comprehensive banking channel. This journey of mobile banking has been fueled by both innovation in mobile technology and growth in business.

The Diffusion of Innovation theory (DIT) has been widely used to understand the adoption of Internet and Banking services (Rogers, 2010). DIT is a theory that explains how, why, and at what rate a new technology is accepted through cultures. Further, Technology Acceptance Model (TAM) is one of the most commonly used frameworks to examine factors

that influence the adoption behavior on information systems. The key purpose of the TAM is to analyze the impact of external factors on internal beliefs, attitude and intention (Davis et al., 1989). The model emphasizes that an individual's system usage depends upon his/her behavioral intention, which is, in turn, determined by two parameters: (1) perceived usefulness (i.e. the extent to which a person believes that by using a system he/she will improve job performance) and (2) perceived ease of use (i.e. the extent to which a person believes that use of the system will be effortless).

The TAM model has been extended with addition of Trust based construct and resource based construct (Kesharwani and Singh, 2012; Akhlaq and Ahmed, 2013; Chaouali, 2016; Szopiński, 2016; Luarn and lin, 2005; Zhou 2011 and Gu et al. 2009). Amin (2007) observed that perceived usefulness, perceived ease of use, perceived credibility, normative pressure and the amount of useful information provided through mobile banking are factors that lead to user acceptance of mobile banking. Riquelme and Rios (2010) stated that security is the most important factor that motivates consumers to adopt any new technology. Bankole and Brown (2011) established that perceived advantages, uncertainty avoidance, gender, financial cost, age and lower self-estimation affect the behavioral intention to adopt mobile banking services.Koenig-Lewis et al. (2010) examined the factors that determine intention to use mobile banking among customers. They found that compatibility, cost, trust and credibility are significant factors for adoption of mobile banking. Zhou (2011) indicated that structural quality and information quality help in building initial trust, based on which the customer tends to use mobile banking services. Self-efficacy, software visibility and clearance are also important factors for mobile banking acceptance (Püschel et al. 2010). According to Lee et al., (2013), service coverage, type of mobile devices supported by mobile banking software and the security

of user information add to the customer's intention to use mobile banking. Manglam (2013) also stated that people sometimes tend to use mobile banking features just to increase their social status. Income level, age, marital status, experience and confidence in using a mobile phone also add to parameters that affect mobile banking adoption (Iddris, 2013). Further internet and mobile adoption has been looked at from social cognitive theory persepective (Boateng et al., 2016).

Laukkanen and Pasanen (2008) surveyed 2675 respondents via the log-out page of a bank in Finland to establish that demographics such as education, occupation, household income, and size of the household do not influence mobile banking adoption; however, age and gender are main differentiating variables. Laukkanen (2007) conducted qualitative in-depth interviews with customers of a large Scandinavian bank in Finland by using mean-end theory to establish that perceived benefits are the main factors that encourage people to adopt mobile banking. Luarn and Lin (2005) used the extended TAM and surveyed 180 respondents at an e-commerce symposium in Taiwan and empirically established that perceived self-efficacy, financial costs, credibility, ease of use and usefulness had an influence on intention to adopt mobile banking. Lafrot and Li(2005) surveyed 300 respondents on the streets of six major cities in China and established that awareness, confidentiality and security; past experience with computer and new technology are factors that influence mobile banking adoption.

From an Indian perspective, Dasgupta et al. (2011) surveyed 325 MBA students in India and established that perceived usefulness, ease of use, image, value, self-efficacy and credibility significantly affect intention towards mobile banking usage. Natarajan et al.(2010)used the analytical hierarchy process by surveying 40 respondents from banks in India to empirically validate that purpose, perceived risk, benefits and requirements affect the intention to adopt

mobile banking services (Yadav, 2015). Table II summarizes the extant literature taking multiple

perspectives to understand Mobile Banking Adoption.

Table II: Mobile Banking Adoption Studies

Author	Country and Sample Size	Parameters	Findings
Koenig-Lewis et al. (2010)	Germany, 263 respondents	Compatibility, Perceived costs, Perceived usefulness, Perceived ease of use, Credibility, Trust, Risk, Behavioral intention to adopt mobile banking.	Compatibility, perceived usefulness and risk are important MBAPs.
Lee et al., (2013)	United States, 160 banking websites	Service coverage, Size, Charter type, Type of mobiles supported (OS/brand), Types of mobile devices supported, Mobile banking features, Mobile banking security.	Larger financial institutions are more likely to adopt mobile banking.
Riquelme and Rios (2010)	Singapore, 681 respondents	Risk, Ease of use, Adoption, Usefulness, Relative advantage, Social norms.	Ease of use of mobile banking had a stronger influence on female users, whereas relative advantage had a stronger influence on male users.
Zhou (2011)	China, 210 respondents	Structural assurance, Information quality, System quality, Trust propensity, Initial trust, Perceived usefulness, Usage intentions.	Structural assurance and information quality are the main parameters that affect the initial trust of a user to adopt mobile banking.
Sangle and Awasthi (2011)	India, 272 respondents	Personal innovativeness, Compatibility, Perceived usefulness, Perceived ease of use, Context, Perceived value, Perceived risk, Perceived cost, Perceived trust.	Perceived utility value is the most important factor that affects mobile banking adoption.
Amin et al. (2008)	Malaysia, 210 respondents	Perceived usefulness, Perceived ease of use, Perceived credibility, The amount of information on mobile banking, Normative pressure	Modified version of the TAM, which includes parameters, e.g., perceived credibility, the amount of information on mobile banking and normative pressure.

Kazemi et al. (2013)	Iran, 310 respondents	Perceived usefulness, Compatibility, Perceived ease of use, Normative belief, Facilitating conditions, Efficacy, Attitude, Subjective norm, Perceive behavioralcontrol, Behavioral intention, Actual use, Trust, Perceived risk, Interpersonal influences belief.	Perceived usefulness, compatibility, perceived ease of use and trust had a positive effect on mobile banking adoption, whereas perceived risk had a negative effect on adoption.
Rezaei (2013)	Iran, 315 respondents	Compatibility, Perceived risk, Perceived ease of use, Perceived usefulness, Trust, Behavioral intention to adopt mobile banking.	Compatibility is an important predictor of mobile banking adoption apart from perceived ease of use and perceived usefulness.
Govender and Sihlali (2014)	South Africa, 71 respondents	Trust, Perceived value, Perceived ease of use, Social influence, Intention to use, Actual use.	Perceived value and trust significantly impact the behavioral intention to use mobile banking.
Jeong and Yoon (2013)	Singapore, 165 respondents	Perceived usefulness, Perceived ease of use, Perceived credibility, Self-efficacy, Perceived financial cost.	Perceived usefulness and self-efficacy are significant factors that affect consumers' intention to use mobile banking.
Rao and Troshani (2007)	Australia	User Predisposition, Perceived usefulness, Perceived ease of use, Social influence, Facilitating conditions, age, gender.	User predisposition, perceived usefulness, perceived ease of use, social influence and facilitating conditions differ based on moderating factors, e.g., age and gender. Visibility, compatibility, relative advantage and perceived ease of use significantly affect attitude.

Table III summarizes the Mobile banking adoption variables and the major studies conducted in

the Mobile banking adoption arena.

Table III: Review of literature on Mobile Banking Adoption

Mobile Banking Adoption Parameters	Literature
Perceived Usefulness	Koenig-Lewis et al. (2010); Riquelme and Rios (2010); Zhou (2011); Sangle and Awasthi (2011); Amin et al. (2008); Kazemi et al. (2013); Khan (2005); Jeong and Yoon (2013); Ramdhony and Munien (2013); Rao and Troshani (2007); Amin (2007)
Perceived Ease of Use	Koenig-Lewis et al. (2010); Sangle and Awasthi (2011); Püschel et al. (2010); Amin et al. (2008); Govender and Sihlali (2014); Kazemi et al. (2013); Khan (2005); Manglam (2013); Aboelmaged and Gebba (2013); Jeong and Yoon (2013); Mian and Rizwan (2013); Ramdhony and Munien (2013); Rao and Troshani (2007); Amin (2007)
Perceived Credibility	Koenig-Lewis et al. (2010);Amin et al. (2008); Yu (2011); Jeong and Yoon (2013); Mian and Rizwan (2013); Amin (2007)
Perceived Risk	Koenig-Lewis et al. (2010); Riquelme and Rios (2010); Sangle and Awasthi (2011); Rezaei (2013); Dzogbenuku (2013); Cruz et al. (2010); Al-jabri (2012); Ramdhony and Munien (2013)
Structural Assurance	Zhou (2011); Gefen and Creason (2014); Hee-woong et al. (2004); Davis (1991); Wang et al. (2003)
User satisfaction	Bankole and Brown (2011); Al-jabri (2012); Suh et al. (2009); Li and Bai (2010); Polatoglu andEkin (2001)
Behavioral Intentions	Koenig-Lewis et al. (2010); Riquelme and Rios (2010); Püschel et al. (2010); Rezaei (2013); Yu (2011); Bankole and Brown (2011); Aboelmaged and Gebba (2013); Mian and Rizwan (2013); Amin (2007)

3. Hypothesis Development

In reviewing and consolidating the literature, five distinctive constructs emerged from the literature that explains the Mobile banking adoption. In this study, we propose to integrate these constructs to understand mobile banking adoption from the perspective of young consumers in India. The constructs identified during the literature review are Perceived usefulness (PU), Perceived ease of use (PEOU), Perceived credibility (PC), Structural assurance (SU), Perceived risk (PR), Behavioral intention for adoption of mobile banking and User satisfaction (Koenig-Lewis et al., 2010; Riquelme and Rios, 2010; Zhou, 2011&Rao and Troshani, 2007; Martins, et al.,2014).

3.1 Perceived Usefulness

This is defined as the extent to which an individual believes that he/she will be benefited by using mobile banking services (Jeong and Yoon, 2013).Perceived usefulness (PU) is strongly associated with productivity. It suggests that if the user perceives the service to be useful, then the service can improve job performance and productivity, and enhance job effectiveness and usefulness. (Amin et al., 2003; Ramdhony and Munien, 2013; Rao and Troshani, 2007; Khan, 2005; Sangle and Awasthi, 2011). Kim et al. (2004) stated that individuals determine the consequences of their behavior and then make a choice based on the need of perceived usefulness. The amount of information, which we get through mobile banking, is an important factor that influences a user to adopt this service. It refers to the parameters that enable individuals to decide whether they are benefited by using mobile banking services in their daily lives. Information system adoption research suggests that "if a system does not help people to perform their task effectively, it is not taken positively". One of the reasons why people use mobile banking is that they find this system useful for their transactions, because it reduces their

cost and time required to go to the brick and mortar bank (Jeong and Yoon, 2013). Mobile banking services, such as money transfer and requests for bank statements, when used as per one's convenience makes banking hassle-free and effortless. Perceived usefulness plays a vital role in decision making, that is, a system is supposed to be useful, when its adopters believe that there is a positive relationship between use and performance on one hand and effectiveness and satisfaction on the other hand. Therefore, we hypothesize that

Hypothesis 4a: There is a positive relationship between Perceived Usefulness (PU) and Behavioral Intention (BI) to use Mobile banking services.

Hypothesis 4b: There is a positive relationship between Perceived Usefulness (PU) and User Satisfaction (US).

Hypothesis 4c: There is a positive relationship between US and BI.

Hypothesis 4d: US mediates the effect of PU and BI.

3.2 Perceived ease of use

Perceived ease of use refers to freedom from difficulty and effort while using mobile banking services (Davis and Davis, 1989). Mobile services that are easy to use will be less threatening to individual customers, that is, they might find them less complex or less tedious to use (Venkatesh and Morris, 2000 & Davis, 1989).Perceived ease of use (PEU) enables users to adopt hassle-free technology of mobile banking and its services in everyday use (Knutsen et al., 2013; Govender and Sihlali, 2014; Kazemi et al., 2013; Manglam, 2013 & Jeong and Yoon, 2013). Ramayah et al. (2003) observed that initial willingness to adopt new technology in banking depends upon accessibility. Details of products or services, their benefits and the usage guidance information, when provided to customers, make it easier for them to adopt mobile banking. The use of certain services on a mobile device becomes dreary, especially while

browsing web pages on a mobile due to its small screen size and small keypad. Thus, a user friendly interface with visible interface, suitable content and graphical layouts, help functions, clear commands, symbols and meaningful error messages are required to tempt users to adopt mobile banking technology. Hence, mobile services that are perceived to be easier to use are willingly accepted by users. This thus leads to a positive relationship between usage intention and perceived ease of use (Luarn and Lin, 2005 & Wang et al., 2003). Further, it also increases the customer's trust in banks to use their mobile banking facility (Wang et al., 2003). Therefore, we hypothesize that

Hypothesis 2a: There is a positive relationship between successful Perceived Ease of Use (PEU) and Behavioral Intentions (BI).

Hypothesis 2b: There is a positive relationship between Perceived Ease of Use (PEU) and User satisfaction (US).

Hypothesis 2c: US mediates the effect of PEU and BI.

3.3 Perceived Credibility (PC)

Perceived Credibility is defined as the belief that mobile banking will be free from security and privacy concerns (Wang et al., 2003). The decision to adopt mobile banking services can involve a high level of risk in the mind of the users. One of the biggest concerns of a mobile banking user is failure of financial transactions (Luarn and Lin, 2005). Consumers are also apprehensive about the possibility of disclosure of private information including username and password (Wang et al., 2003 andFang et al., 2005). The level of trustworthiness in mobile banking depends on reputation, information and economic reasoning (Erdem and Swait, 2004). Enhanced computer literacy has increased awareness among hackers, which is a big security concern. Such high levels of doubt about the authenticity of mobile transactions affect the human

intention to adopt mobile banking (Brown et al., 2011 and Riquelme and Rios, 2010). Assurance of a secure environment to carry out mobile banking and protection of users' private data will positively affect their behavioral intention to adopt mobile banking (Amin et al., 2008). Hence, the higher the credibility of mobile banking, the lower is the customers' perception of risk, which will certainly increase their willingness to adopt mobile banking (Koenig-Lewis et al., 2010 and Luarn and Lin, 2005).

Our literature review suggests that different researchers have used a similar perspective to assess concerns of security and credibility. A study about the use of mobile phones for payments suggests that customers require a secure system (Amin, 2007). In another study, Koenig-Lewis et al. (2010) stated that credibility has a significant negative relationship with the perception of risk, which in turn positively affects mobile banking adoption. Erdem and Swait (2004) opined that a customer believes only in secure mobile banking, in which the partner is trustworthy and has the required expertise to carry out transactions. Therefore, we hypothesize that

Hypothesis 1a: There is a positive relationship between Perceived Credibility (PC) and Behavioral Intentions (BI) to use mobile banking services.

Hypothesis 1b: There is a positive relationship between Perceived credibility (PC) and User satisfaction (US) to adopt Mobile banking services.

Hypothesis 1c: US mediates the effect of PC and BI.

3.4 Perceived Risk

This refers to the degree of uncertainty about the outcome of mobile banking (Gerrard and Cunningham, 2003). This risk arises due to the inconsistency between a user's requirement and the real behavior of the mobile banking technology, which fails in delivering the anticipated result (Koenig-Lewi et al., 2010 and Chen, 2008). The research on the behaviour of customers

who use electronic mobile banking services confirms that pereived risk includes economic risk, functional risk, psychological risk, social risk, etc. (Li et al., 2010).Owing to the high mobility of mobile devices, the risk involved in mobile banking is even higher. Mobile banking customers fear financial frauds, due to tampering of their private data. Loss of PIN code is another big security threat, faced by mobile banking users(Kuisma et al., 2007).There is a need for reducing perceived risk (PR), with regard to mobile banking services (Roy et al, 2016). This will help reassure users and decrease their anticipation of suffering a loss in the outcome, while using Mobile Banking.

The growing knowledge of computers and software has given rise to many hackers, which is yet another big security concern in storing customers' data (Poon, 2008). The loss of mobile devices also adds to risks associated with the use of mobile banking (Luarn and Lin, 2005). Luo et al. (2010) found that user perception of risk directly determines technology acceptance. In this study, it was found that perceived risk has a negative relationship with behavioral intention on mobile banking adoption. Therefore, we hypothesize that

Hypothesis 3a: There is a positive relationship between Perceived Risk (PR) and Behavioral Intentions (BI) to use the technology.

Hypothesis 3b: There is a positive relationship between Perceived Risk (PR) and User satisfaction (US).

Hypothesis 3c: US mediates the effect of PR and BI.

3.5 Structural Assurance

Structural Assurance (SA) means that there exists a technical structure to ensure that the payment is done properly. It also takes account of all the legal aspects (Zhou, 2011). As compared to online banking, mobile banking is more exposed to hacker attack and information

outflow. Mobile banking is based on mobile networks, which are more vulnerable to virus and Trojan attacks (McKnight et al., 2002). Access speed, ease of use, navigation and appearance of the user interface in mobile banking also lead to the assurance of successful use of mobile banking (Kim et al., 2004). Thus, a clear interface, powerful navigation and clean layout help individuals to believe the credibility of the service provider (Zhou, 2011). Assurance often includes three aspects: ability, integrity and goodwill (Benamati et al., 2010). Ability means that service providers have enough knowledge and skills to fulfil their task of providing hassle-free banking services. Integrity means that mobile service providers keep their promises and do not deceive users. Goodwill means that mobile service providers will be concerned about users' interests, and not just their own interests. Poor-quality services from mobile banking service providers affect customers' expectations for acquiring a positive outcome from mobile banking.

Lack of knowledge on mobile banking leads to insecurity; thus, customers that are ignorant are unable to use mobile banking confidently. Strong Structural assurance (SA) is associated with the belief and willingness of customers to depend upon a service; a person is more likely to trust providers who provide a safe and secure environment (McKnight et al., 2002). Therefore, it can be said that structural assurance is necessary to build the initial trust and confidence of customers. Therefore, we hypothesize that

Hypothesis 5a: There is a positive relationship between successful Structural Assurance (SA) and Behavioral Intentions (BI) to use mobile banking services.

Hypothesis 5b: There is a positive relationship between Structural Assurance (SA) and User satisfaction (US).

Hypothesis 5c: US mediates the effect of SA and BI.

3.6 User Satisfaction

The importance of user satisfaction (US) in financial services has been discussed broadly in the literature. User satisfaction in adopting mobile banking services plays an important role in deciding the customers' desire to use the service in the future (Mittal and Kamakura, 2001). Besides, satisfied users will share their good experiences with others, and will thus help build brand loyalty (Jamal and Naser, 2002). Arbore and Busacca (2009) state that user satisfaction in a banking service entails (i) functional quality (i.e. reliability, speed, accuracy, functionality); (ii) relational quality (i.e. work responsiveness, assurance, software friendliness); (iii) problem-solving quality (i.e. handling and recovery). Saleem and Rashid (2011) found that belief in mobile banking depends upon organizational factors, technological factors, strategic factors and functional factors. According to Gaffar (2009), mobile banking may help increase customer satisfaction ratio if the following means are adapted: (i) customized services are provided to value-adding customers, (ii) the work efficacy of an individual customer is increased by sharing knowledge and benefits about mobile banking.

To enhance security features, mobile banking service providers should practice secure and transparent banking services (Kazemi et al., 2013). Ignorance about the features and benefits of mobile banking makes customers feel less assured, and this significantly affects their acceptance rate of mobile banking (Polatoglu and Ekin, 2001). Based on literature review appropriate hypotheses has been formulated as mentioned below:

3.7 Behavioural Intention

The concept of behavior intention (BI) stems from consumer attitudes. It is a measure of liking or disliking of a person towards an external stimulus (Mian and Rizwan, 2013). The ultimate goal of business is to attract customers to adopt its services (Yu, 2012). Ajzen and

Driver (1991) believed that behavior is determined by the intentions of individuals. Consumers' attitudes towards products or services affect their behavior intention to use a service (Cheng et al., 2013). Behavioral intention to use mobile banking services increases sale, which directly affects the profit of a firm. Brady et al. (2001) also pointed out that the relationship between service qualities and behavior intention was impacted by the overall value of services and satisfaction.

The hypothesized relationships are represented in the Figure **I.**

. **Figure I: Conceptual model of Mobile Banking Adoption**
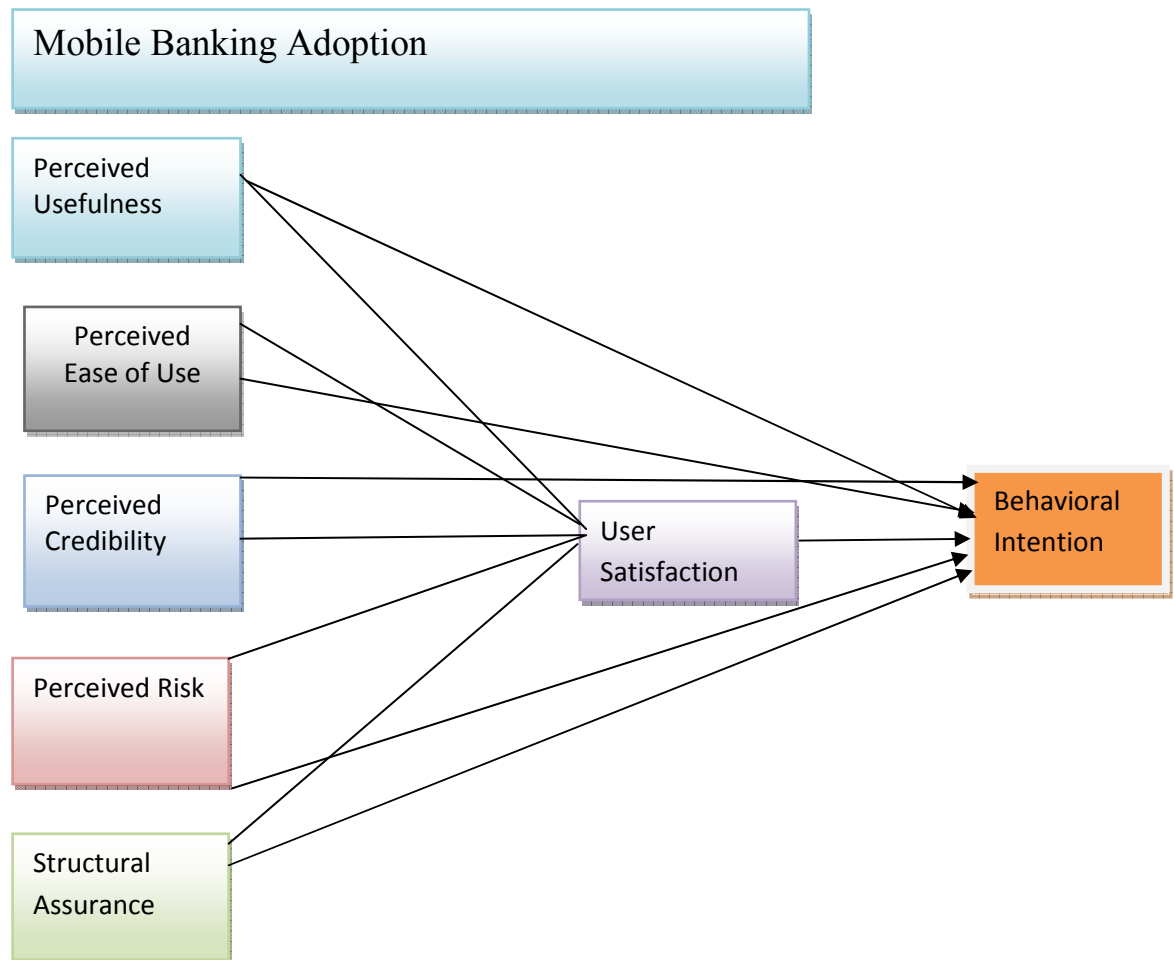
4. Research Methodology

4.1 Sample and Research Setting

Data for the study were collected through an electronic survey from 269 participants out of 1040 alumni of SCMHRD passed out between 2011 to 2014, a management institute based in Pune, India who were aged between 23-29 years. The response rate was approximately 26 percentages. The respondents were alumni who used mobile banking for conducting their banking transactions. Seventy percent of the people were from metropolitan

cities in India, including Mumbai, Delhi, Kolkata and Chennai. The remaining respondents were from tier II cities in India, namely, Jaipur, Pune, Ahmedabad, Gwalior, Bhubaneswar, Surat and Shillong. Therefore, the data collection represents the views of people in different regions of the country. Among them, 35.31 percent were male and 64.69 were female. An Anova test was conducted to understand the difference in the perception of male and female and the analysis ascertained that the $P > 0.05$ for each of the construct and therefore there was no significant difference between the two genders. The Cronbach's alpha for all the constructs is >0.6 as suggested by Hair et al. (2010) and is depicted in Table IV. This proves that the reliability is established based on which we can use the constructs for further analysis.

4.2 Measures

The measuring instrument was adopted from the measures developed by Bankole and Brown (2011), Zhou (2011), Koenig-Lewis et al. (2010), Riquelme and Rios (2010), Al-jabri et al., (2012) and Lee et al., (2013). The scale items of each construct have been listed in Appendix 1. The questionnaire was divided into two sections: the first section consists of a brief profile of the respondents and to which part of the country they belong. The second part consists of factors related to the role of MBA in US and BI. During the final survey, the respondents were given a five-point Likert scale ranging from 1 "Strongly disagree" to 5 "Strongly agree".

4.3 Data Collection

The field study was carried on a sample of 269 SCMHRD, alumina working with various organizations in the country and using m-banking for more than 6 months. Data collection was administered using modified version of Dillman (2007), total design method. The questionnaire was pre-tested with five practicing professionals who are using m-banking for the last 2 years and five academicians in the technology arena to ensure that the content and criteria related validity of the instrument is established. Perceived Risk originally had 6 items, which were reduced to 3 items; Perceived ease of use originally had 6 items, which were reduced to 3 items; Perceived credibility originally had 6 items which were reduced to 3 items; User Satisfaction originally had 6 items, which were reduced to 3 items and Structural Assurance originally had 6 items, which were reduced to 4 items. The 28 questionnaire items are depicted in Table IV. After conducting the pretest of the questionnaire, pilot testing was conducted. With the help of pilot testing, the reliability of the instrument was established. After pilot testing, we went for the large scale e-survey. Initially we received 185 usable responses. After following up constantly through e-mail and phone calls, another 84 usable responses were received. The Cronbach's Alpha indicating the internal consistency reliability of the measures for the seven constructs of MBA, US and BI were all close to the suggested value of 0.60 (Malhotra and Dash, 2011) as depicted in Table IV.

4.4 Non-response bias

To ensure that there is no Non-Response bias, the response obtained in the two phases were checked using wave analysis as advocated by Armstrong and Overton (1977). The p–value

of the Chi-Square test is less than 0.05, and therefore the two set of data, Wave 1 and Wave 2 are not statistically different from each other.

4.5 Exploratory Factor Analysis

In the current research, a total of twenty-eight dimensions of MBA, US and BI were identified from the literature. Principle Factor with Varimax Rotation was used with each variable to demonstrate the factor structure. After seven rotations, the final factor matrix produced a seven-factor matrix with no cross-loadings. The structures of all the seven factors were stable. The Eigen value of all the seven factors was >1. All variables held one significant factor loading with one factor. The lowest factor loading was 0.530, which is above the 0.50 threshold value. All the factors were interpretable and could be grouped into logical factors based on the literature review and past studies. The total variance explained by the six factors is 57.94%. After obtaining a parsimonious factor matrix, an attempt was made to give some name to the factor loadings as shown in Table IV. The factor solution was found to be viable. Although the questionnaire was selected based on previously developed scales through a literature review, the questionnaire had to go through a new set of respondents or samples and therefore there was a need to put each scale through Exploratory Factor Analysis.

Table IV Factor loadings, Cronbach's alpha, SCR and AVE

Component	Items	Factor Loading	Cronbach's alpha	SCR
Perceived Usefulness	X1: Flexibility to conduct banking transaction 24 hrs. per day.	.710	.829	0.846
	X2: Mobile banking is quick, convenient and cost effective.	.747		
	X3: Ability to conduct financial transactions of even smaller denominations.	.670		
	X4: Use of mobile banking would make it easier for me to get information, e.g., bank statements, standing orders.	.608		
	X5: Banking transactions on a mobile phone eliminates time and space constraints.	.737		
	X6:Mobile Banking can improve my living and work effectiveness.	.670		
Perceived ease of use	X7: Mobile banking provides flexibility to search information information for conducting transactions.	.667	.704	0.728
	X8: Instructions in the Mobile banking system are clear and understandable.	.722		
	X9: Mobile banking has a user friendly interface.	.671		
Perceived Credibility	X10: As there is no human interface, chances of error are less.	.747	.765	0.754
	X11: Use of mobile banking would not divulge my personal information.	.711		
	X12: I believe my mobile service provider is competent and trustworthy.	.673		
Perceived Risk	X13: Lack of acknowledgement/receipt of transaction at times, due to network congestion or failure.	.702	.615	0.759
	X14: We always have to use the most up-to-date system version of mobile device, and regularly run updates	.774		
	X15: It is difficult and time consuming to install the set-up of mobile banking into our handsets.	.669		
Structural Assurance	X16: I would trust my telecommunication operator to provide secure data connections to conduct	.619	.752	0.780

	mobile banking.			
	X17: I feel confident that encryption and other technological advances on the mobile internet make it safe for me to use mobile banking.	.715		
	X18: I feel assured that legal and technological structures adequately protect me from payment problems on mobile internet.	.761		
	X19 Mobile internet is a robust and safe environment in which to use mobile banking.	.643		
User Satisfaction	X20: I derive utmost enjoyment in using mobile banking services.	.530	.596	0.627
	X21 I place a great value on improved quality of life and other personal gains that can be achieved from using mobile banking services.	.578		
	X22: A mobile banking transaction is relevant to my work and helps me in attaining personal satisfaction.	.686		
Behavioral Intention	X23: If banking transactions on a mobile phone were available in my bank I would adopt it straight away.	.592	.769	0.736
	X24: If banking transactions on a mobile phone were available in my bank I would adopt it mainly for information search (not for transaction purposes).	.530		
	X25: Assuming that I have access to mobile banking systems, I intend to use them.	.583		
	X26: I intend to increase my use of mobile banking systems in the future.	.568		
	X27: I will use mobile banking as my family and friends do so.	.546		
	X28: I am Quick to use technologies when introduced.	.557		

Table IV depicts that the constructs of the theoretical framework possess convergent validity because the standardized factor loadings of the items are mostly >0.7 and not <0.5. The Scale

Composite Reliability (SCR) is found to be >0.7 in most cases, except for User Satisfaction and

Perceived risk, which are close to the threshold limit.

5. Data Analysis

The hypotheses were tested using Hierarchical Regression as suggested by Baron and Kenny (1986) and Preacher and Hayes (2004). The relationship between MBA and BI mediating through US was examined. The respondents were asked about the services that they used while making transactions through their mobile. In terms of e-payment (Ticket booking, bill payment, online shopping), there is a positive significant behavior in adoption of mobile banking. Security is still a major concern for people using mobile banking for interbank or intrabank money transfer despite SMS alerts for banking transactions. It was noted that approximately more than half of the respondents used mobile banking for carrying out different banking operations such as ordering of checkbooks, making of balance enquiries/Statement request and requesting of product information. It was also observed that people who sell and purchase stocks and securities were active users of mobile banking because it provides hassle-free and location-free technology usage. Stock market enquiries and reports, current exchange and interest rates were easily available and used by consumers via SMS alerts.

To conduct Hierarchical regression, the assumptions of regression were checked. For checking linearity assumption, scatter plots were obtained and the contours of the scatter plots were examined. This depicted the linearity of the relationship between dependent and independent variables. Normality assumption is checked on the basis of descriptive statistics, namely, Mean, Median, Mode, Skewness and Kurtosis. The maximum absolute values of Skewness and Kurtosis were found to be 1.825 and 5.467 respectively, which is well within the recommended limits (Curran et al., 1996). Histograms and normal probability plots were also examined to understand whether data were normal or not. The error term distribution when plotted depicted a normal curve. To check the homoscedasticity (equality of means) assumption,

residual plots were drawn. The residual plot shows that the variance around the straight line is constant. Multicollinearity was checked using Variance Inflation Factor (VIF), which is a common measure. A VIF value of 1 denoted no multicollinearity. Collinearity statistics is depicted in Table V; this reveals that multicollinearity does not exist. From Table V, we can see that the value of Durbin-Watson statistics is between 1.5-2.5 as suggested by Hair et al. (2010), and therefore, there is no autocorrelation. Neither the statistics nor the plots (or histograms) indicate any deviances beyond limits suggested for fulfilling the assumptions of regression analysis.

We can see from Table V that all the hypotheses, which have been put forth for empirical validation, have been well supported, except the relationship between Perceived risk (PR) and User satisfaction (US), which is insignificant. If we analyze the path, connecting User Satisfaction (US) and Behavioral Intention (BI) to use the mobile banking service, we can see that US has a very strong impact on the BI of mobile banking users. This explains nearly 43.8 percent of the total BI variance. The Beta Coefficient of this path is 0.633 and found to be statistically significant at $p < 0.000$. Similarly, Perceived usefulness (PU) has a very strong impact on the BI to use mobile banking service. It explains nearly 24.1 percent of the total BI variance. The Beta Coefficient of this path is 0.496 and found to be statistically significant at $p < 0.000$.

Table V Regression Analysis

Hypothesis	R	R^2	Adjusted R^2	F	Beta Coefficient	P	Durbin-Watson	VIF
PU – US	.389	.152	.148	47.714	.410	.000	1.992	1
PU – BI	.494	.244	.241	86.111	.496	.000	1.667	1
US – BI	.664	.440	.438	210.195	.633	.000	1.563	1
PEU – US	.343	.118	.115	35.708	.314	.000	2.069	1
PEU – BI	.330	.109	.106	32.713	.288	.000	1.582	1
PC – US	.405	.164	.161	52.427	.312	.000	2.112	1
PC – BI	.392	.154	.150	48.445	.287	.000	1.579	1
PR – US	.080	.006	.003	1.700**	.065	.193	1.931	1
PR – BI	.160	.026	.022	6.993	.125	.009	1.568	1
SA – US	.374	.140	.137	43.536	.332	.000	1.958	1
SA – BI	.452	.204	.201	68.521	.382	.000	1.589	1

**Insignificant.

The extension of the approach of Baron and Kenny (1986) as suggested by Preacher and Hayes (2004) was considered more appropriate due to the limited sample size in the current study. The results of Mediating Regression Analysis output are presented in Table VI. The statistic suggests that Perceived Usefulness (PU) under the partial mediating effect of User satisfaction (US) is an important predictor of Behavioural Intentions (BI). This has been checked with the help of Sobel Statistics (Sobel, 2013) with a $p < .05$, which signifies that the Mediating Regression is significant. The study revealed that the direct effect *(c' = .279)* of PU on BI is significant, whereas the indirect effect (a*b = .2173, $p<0.05$) is significant. This indicates that US plays a partial mediating role between the relationship of PU and BI. PU accounted for 24.1 percent of variability in BI, but when US was introduced as a mediating variable between PU and BI, the variability increased to 50.2 percent, which is almost double compared to that of the PU–BI model. Thus, the model improved with the introduction of US as a mediator. Similarly, the other hypotheses, that is, PEU-US-BI, PC-US-BI and SA-US-BI are also well supported for partial mediation. The relationship between Perceived risk (PR) and User satisfaction (US) is insignificant, and there is no mediation between the relationships of PR with BI, mediating through US.

Table VI Mediating Regression Analysis(Baron and Kenny, 1986 &Preacher and Hayes, 2004)

IV	MV	DV	Effects of IV on MV (a)	Effects of MV on DV (b)	Direct effect (C')	Indirect effect (a*b)	Total effects	Mediation	Sobel p-value
PU	US	BI	.410 (.059)*	.633 (.044)*	.279 (.047)*	.2173	.496 (.053)*	Partial Mediation	0.000
PEU	US	BI	.314 (.053)*	.633 (.044)*	.097 (.131)*	.1871	.288 (.050)*	Partial Mediation	0.000
PC	US	BI	.312 (.043)*	.633 (.044)*	.108 (.036)*	.1795	.287 (.041)*	Partial Mediation	0.000
PR	US	BI	.065 (.050)	.633 (.044)*	.084 (.036)*	.0407**	.125 (.047)*	No Mediation	0.195
SA	US	BI	.332 (.050)*	.633 (.044)*	.200 (.040)*	.1819	.382 (.046)*	Partial Mediation	0.000

Notes: IV, independent variable; MV, mediating variable; DV, dependent variable; PU, perceivedusefulness; PEU, perceived ease of use; PC, perceived credibility; PR, perceived risk; SA, structural assurance; US, user satisfaction; BI, behavioural intention. *p<0.05, **insignificant.

6. Conclusions

Theoretical Implications

This study makes significant contribution to the mobile banking adoption literature. This study empirically tested the factors influencing mobile banking adoption from young consumer's perspective in India. We empirically tested the relationship between "Perceived usefulness", "Perceived ease of use", "Perceived Risk", "Structural assurance", "Perceived Credibility" and intention to adopt mobile banking. Further we tested the mediating effect of user satisfaction on mobile banking adoption. Finally, the structural model of Mobile banking adoption, having a strong relationship with BI mediating through user satisfaction (US), has been validated through empirical research.

The study also contributed to prove that US plays a partial mediating role between adoption factors (i.e. Perceived Usefulness (PU), Perceived ease of use (PEU), Perceived Credibility (PC) and Structural Assurance (SA)) and BI. The results depict that Perceived risk (PR) does not have a significant impact on BI, which means consumers of mobile banking do not seem to believe that there is any significant risk in using mobile banking for conducting banking transactions.

The study also investigated whether US plays a mediating role in the relationship between MBAP and BI. The results confirmed that the overall effect of MBAP on BI is stronger when US acts as a mediator. This result emphasizes the role of US as a critical determinant of BI. Among the five adoption factors, special focus in terms of time, effort and investment should be made to enhance perceived usefulness and structural assurance, because both these are important drivers of US and BI. Perceived usefulness is found to be the most significant factor influencing the intention to use mobile banking in line with the study conducted by Jeong and Yoon (2012).

Managerial Implication

User acceptance of mobile banking technology is of utmost importance to industry practitioners and researchers. An in-depth analysis of the factors that impact mobile adoption and thus motivate consumers to use this technology in an emerging market is a prerequisite. There is a good amount of penetration of mobile phones in India, but mobile Internet penetration is still less. Mobile banking is still not used widely by customers in India. Thus, there is a need to identify the factors affecting user adoption.

From a practical implication point of view, this study can encourage banks and prompt them to take necessary care while implementing mobile banking, because the adoption factors has an impact on both the US and the BI. Based on this result, banks will have to make an extra effort to ensure that they design a mobile banking platform that is free from errors and electronic threats. The results of this study provide good evidence for banks to further revamp their work practices in the area of mobile banking to enhance the overall penetration of mobile banking.

From a policy perspective, the findings emerging from empirical investigations can help decision makers to devise a targeted policy to accelerate the rate of mobile banking diffusion to sustain and develop the sector. Banks strongly interested in developing a mobile banking environment and sustaining should develop innovative strategies, which focus on enhanced perceived usefulness, perceived ease of use, perceived credibility and structural assurance as drivers.

The findings suggest that users should perceive mobile banking as useful, easy, convenient and a quicker way to conduct banking transactions, which will enhance its adoption.

Banks should take advantage of this finding and offer value-added services to promote mobile banking adoption. If customers perceive that a mobile banking structural system is capable of performing their financial transactions without any error, their perception of privacy and safety risk will reduce and they will be tempted to shift over to this new banking system. A satisfied customer will always have a positive attitude towards the adoption of mobile banking services and thus behavioral intention to use the service. The market is flooded with smart phones, which helps in improving the adoption of mobile banking. However, some features of some of the lower-end smart phones, including screen size, need for high data storage and shorter battery life, seem to affect the perceived ease of use. Therefore, banks need to collaborate with mobile companies to develop handsets and must keep in mind the requirements of mobile banking. Ease of use of operation of handsets can definitely enhance mobile banking adoption as analyzed in the empirical study.

Limitations of the study

This study has some limitations: This study pertains to one emerging economy, and could be extended further to other emerging markets to draw comparisons and inferences to see if the Indian experience is unique or similar to that experienced by other emerging markets. The findings and implications were derived from a specific age group that is 23-29 years. Therefore, future studies are required to generalize our findings and must include people of other age groups as well. The research design of the study is cross sectional in nature. Future studies could explore a longitudinal research design to provide a better understanding of the causality and the interrelationships   between   variables.

References:-

Abadi, D. H. R., Kabiry, N., & Forghani, M. H. (2013). Factors Affecting Isfahanian Mobile Banking Adoption Based on the Technology Acceptance Model. *International Journal of Academic Resarch in Business and Social Sciences*, *3*(5), 611–624.

Abdullah, M. A., Manaf, N. H. A., Owolabi Yusuf, M.-B., Ahsan, K., & Azam, S. M. F. (2014). Determinants of Customer Satisfaction on Retail Banks in New Zealand : An Empirical Analysis Using Structural Equation Modeling. *Global Economy and Finance Journal*, *7*(1), 63–82.

Aboelmaged, M. G., & Gebba, T. R. (2013). Mobile Banking Adoption : An Examination of Technology Acceptance Model and Theory of Planned Behavior. *International Journal of Business Resarch and Development*, *2*(1), 35–50.

Akhlaq, A., & Ahmed, E. (2013). The effect of motivation on trust in the acceptance of internet banking in a low income country. *International Journal of Bank Marketing*, *31*(2), 115–125.

Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Resarch*, *13*(4), 379–391.

Amin, H. (2007). Internet Banking Adoption Among Young Intellectuals. *Journal of Internet Banking and Commerce*, *12*(3), 1–13.

Amin, H., Baba, R., & Muhammad, M. Z. (2007). An analysis of mobile banking acceptance by Malaysian customers. *Sunway academic journal*, *4*, 1-12.

Amin, H., Rizal, M., Hamid, A., Lada, S., & Anis, Z. (2008). The Adoption of Mobile Banking In Malaysia : The Case of Bank Islam Malaysia Berhad (BIMB). *International Journal of Business and Society*, *9*(2), 43–53.

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, *14*(3), 396.

Bai, X., & Li, Z. (2010). Influences of Perceived Risk and System Usability on the Adoption of Mobile Banking. *Proceedings of the Third International Symposium On Computer Science and Computational Technology (ISCSCT'10)*, *14–15*(August), 51–54.

Bankole, F. O., Bankole, O. O., & Brown, I. (2011). Mobile Banking Adoption in Nigeria. *The Electronics Journal on Information System in Developing Countries*, *47*(2), 1–23.

Baron, R. M., & Kenny, D. a. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182.

Boateng, H., Adam, D. R., Okoe, A. F., & Dorson, T. A. (2016). Assessing the determinants of internet banking adoption intentions : A social cognitive theory perspective Computers in

Human Behavior. *Computers in Human Behavior*, *65*(December), 468–478.

Chaouali, W., Yahia, I. Ben, & Souiden, N. (2016). The interplay of counter-conformity motivation , social influence , and trust in customers â€™ intention to adopt Internet banking services : The case of an emerging country. *Journal of Retailing and Consumert Services* , *28*(January), 209–218.

Cheng, S., Jong, D., Chen, H., & Chen, S. (2013a). Investigating the impact of service quality on consumers' intention. *International Journal of Management Research and Business Strategy*, *2*(3), 13–22.

Chitungo, S. K., & Munongo, S. (2013). Extending the Technology Acceptance Model to Mobile Banking Adoption in Rural Zimbabwe. *Journal of Business Administration and Eduction*, *3*(1), 51–79.

Cruz, P., Neto, L. B. F., Muñoz-Gallego, P., & Laukkanen, T. (2010). Mobile banking rollout in emerging markets: evidence from Brazil. *International Journal of Bank Marketing*, *28*(5), 342–371.

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, *1*(1), 16–29.

Dasgupta, S., Paul, R., & Fuloria, S. (2011). Factors Affecting Behavioral Intentions towards Mobile Banking Usage: Empirical Evidence from India. *Romanian Journal of Marketing*, *3*(1), 6–28.

Davis, F. D. (1989). Perceived Usefulness , Perceived Ease of Use , and User Acceptance of lnformation Technology. *MIS Quarterly*, *13*(3), 319–340.

Dillman, D. A. (2007). *Mail and Internet Surveys: The Tailored Design Method -- 2007 Update with New Internet, Visual, and Mixed-Mode Guide*. John Wiley & Sons.

Dzogbenuku, R. K. (2013). Banking Innovation in Ghana: Insight of Student's Adoption and Diffusion. *Journal of Internet Banking and Commerce*, *18*(3), 1–21.

Fang, X., Chan, S., Brzezinski, J., & Xu, S. (2006). Moderating Effects of Task Type on Wireless Technology Acceptance. *Journal of Managment Information Systems*, *22*(3), 123–157.

Gerrard, P., & Cunningham, J. B. (2003). The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing*, *21*(1), 16–28.

Govender, I., & Sihlali, W. (2014). A Study of Mobile Banking Adoption among University Students Using an Extended TAM. *Mediterranean Journal of Social Sciences*, *5*(7), 451–

460.

Gua, J. C., Leeb, S. C., & Suhc, Y. H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications*, *36*(9), 11605–11616.

Hair, Joseph F. , Black, Jr, William C. Babin, Barry J. & Anderson, R. E. (2010a). *Multivariate Data Analysis*. *Anderson* (7th ed.). Prentice Hall.

Hair, Joseph F. , Black, Jr, William C. Babin, Barry J. & Anderson, R. E. (2010b). *Pearson - Multivariate Data Analysis, 7/E - Joseph F. Hair, Jr, William C. Black, Barry J. Babin & Rolph E. Anderson. Anderson*. Prentice Hall.

Iddris, F. (2013). Barriers to Adoption of Mobile banking: Evidence from Ghana. *International Journal of Academic Research in Business and Social Sciences*, *3*(7), 356–370.

Jeong, B. K., & Yoon, T. E. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Business and Management Research*, *2*(1), 31–40.

Fatima, J. K., & Razzaque, M. A. (2010). *Understanding the role of Service quality, Customer involvement and Rapport on Overall Satisfaction in Bangladesh Banking Service* (pp. 1-8). Working Paper of University of New South Wales.

Kazemi, D. A., Nilipour, D. A., Kabiry, N., & Hoseini, M. M. (2013). Factors Affecting Isfahanian Mobile Banking Adoption Based on the Decomposed Theory of Planned Behavior. *International Journal of Academic Research in Business and Social Sciences*, *3*(7), 230–246.

Kesharwani, A., & Singh Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India. *International Journal of Bank Marketing*, *30*(4), 303–322.

Khan, M. Z. A., & Khan, S. (2012). Internet versus Mobile Banking: A Study of Peshawar City (Pakistan). *Journal of Internet Banking and Commerce*, *17*(3), 1–14.

Kim, H. W., Xu, Y., & Koh, J. (2004). Comparison of Online Trust Building Factors between Potential Customers and Repeat Customers. *Journal of the Association for Informations System*, *5*(10), 392–420.

Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International Journal of Bank Marketing*, *28*(5), 410–432.

Kuisma, T., Laukkanen, T., & Hiltunen, M. (2007). Mapping the reasons for resistance to Internet banking: A means-end approach. *International Journal of Information Management*, *27*(2), 75–85.

Lafrot, S., & X, L. (2005). Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing*, *23*(5), 326–380.

Laukkanen, T. (2007). Internet vs mobile banking: comparing customer value perceptions. *Business Process Management Journal*, *13*(6), 788–797.

Laukkanen, T., & Pasanen, M. (2008). Mobile banking innovators and early adopters: How they differ from other online users? *Journal of Financial Services Marketing*, *13*(2), 86–94.

Lee, H., Zhang, Y., & Chen, K. L. (2013). An Investigation of Features and Security in Mobile Banking Strategy. *International Information Management Association*, *22*(4), 23–46.

Luarn, P., & H. H. Lin. (2005). Towards an uUnderstanding of the Behavioural Intension to use Mobile Banking. *Computers in Human Behaviour*, *21*(2), 873–891.

Luo, X., Li, H., Zhang, J., & Shim, J. P. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems*, *49*(2), 222–234.

Martins, C., & Oliveira, T. (2013). Understanding the Internet banking adoption : A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1–13.

Masrek, M. N., Omar, N., Uzir, N., & Khairuddin, I. E. (2012). Mobile Banking Utilizations , Satisfaction and Loyalty : A Case Study of Malaysian Consumers. *Science Series Data Report*, *4*(12), 20–29.

McKnight, D. H., Choudhary, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *The Journal of Strategic Information Systems*, *11*(3–4), 297–323.

Mian, T. S., & Rizwan, M. (2013). Determinants of Customer Intention to Use Mobile Banking : An Empirical Research Based on Extended Technology Acceptance Model. *Journal of Basic and Applied Scientific Resarch*, *3*(11), 201–211.

Mittal, V., & Kamakura, W. A. (2001). Satisfaction, Repurchase Intent, and Repurchase Behavior: Investigating the Moderating Effect of Customer Characteristics. *Journal of Marketing Resarch*, *xxxviii*, 131–142.

Natarajan, T., Balasubramanian, S. A., & Manickavasagam, S. (2010). Customer's Choice amongst Self Service Technology (SST) Channels in Retail Banking: A Study Using Analytical Hierar chy Process (AHP). *Journal of Internet Banking and Commerce*, *15*(2), 1–16.

Peevers, G., Douglas, G., Marshall, D., & Jack, M. a. (2011). On the role of SMS for transaction confirmation with IVR telephone banking. *International Journal of Bank Marketing*, *29*(3), 206–223.

Polatoglu, V. N., & Ekin, S. (2001). An empirical investigation of the Turkish consumers' acceptance of Internet banking services. *International Journal of Bank Marketing*, *19*(4), 156–165.

Poon, W. (2013). Users' adoption of e-banking services: the Malaysian perspective. *Journal of Business and Industrial Marketing*, *23*(1), 59–69.

Preacher, K. J., & Hayes, A. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour Resarch Methods, Instruments & Computers*, *36*(4), 717–731.

Püschel, J., Mazzon, J. A., & Hernandez, J. M. C. (2010). Mobile banking: proposition of an integrated adoption intention framework. *International Journal of Bank Marketing*, *28*(5), 389–409.

Rajarathinam, V., & Mangalam, C. K. (2013). Internet banking User's Competence and its Infulance On Usage Satisfaction- A View from India. *Journal of Internet Banking and Commerce*, *18*(3), 1–14.

Ramayah, T., Jantan, M., Noor, M. N. M., Ling, K. P., & Razak, R. C. (2003). Receptiveness of Internet Banking By Malasysian Consumers: The Case of Penang. *Asian Academy of Management Journal*, *8*(2), 1–29.

Ramdhony, D., & Munien, S. (2013). An Investigation on Mobile Banking Adoption and Usage : A Case Study of Mauritius Ramdhony & Munien. *World Journal of Social Sciences*, *3*(3), 197–217.

Rao, S., & Troshani, I. (2007). A Conceptual Framework and Propositions for the Acceptance of Mobile Services. *Journal of Theoritical and Applied Electronic Commerce Resarch*, *2*(2), 61–73.

Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, *28*(5), 328–341.

Rogers, E. M. (2003). Elements of diffusion. *Diffusion of innovations*, *5*, 1-38.

Roy, S. K., Balaji, M. S., Kesharwani, A., & Sekhon, H. (2016). Predicting Internet banking adoption in India : a perceived risk perspective. *Journal of Strategic Marketing*, 1–21.

Sangle, P. S., & Awasthi, P. (2011). Consumer's expectations from mobile CRM services: a banking context. *Business Process Management Journal*, *17*(6), 898–918.

Sobel, M. E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models - download. *Wiley*, *13*, 290–312.

Söllner, M., Pavlou, P. A., & Leimeister, J. M. (2014). Understanding Trust in IT Artifacts : A New Conceptual Approch. *ACM SIGMIS Database*, *45*(4), 30–50.

Swait, E. and. (2004). JSTOR: Journal of Consumer Research, Vol. 31, No. 1 (June 2004), pp. 191-198. *Journal of Consumer Resaech*, *31*(1), 191–198.

Szopiński, T. S. (2016). Factors affecting the adoption of online banking in Poland. *Journal of Business Research*, *69*(11), 4763–4768.

Venkatesh, V., & Morris, Mi. G. (2000). Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and their Role in Technology Acceptance and Usage Behaviour. *MIS Quarterly*, *24*(1), 115–139.

Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International Journal of Service Industry Management*, *14*(5), 501–519.

Yadav, R., Chauhan, V., & Pathak, G. S. (2015). Intention to adopt internet banking in an emerging economy: a perspective of Indian youth. *International Journal of Bank Marketing*, *33*(4), 530–544.

Yu, C. (2012). Factors Affecting Individuals to Adopt Mobile Banking: Emperical Evidance from the Utaut Model. *Journal of El*, *13*(2), 104–121.

Zhou, T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*, *21*(5), 527–540.

RBI (2014), Report of the Technical Committee on Mobile Bankinghttps://www.rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=760 accessed on 13th Dec 2016.

Appendix I Measurement Scale

Scale items	Source
Perceived Usefulness	
Flexibility to conduct banking transaction 24 hrs per day	(Bankole et al., 2011)
Mobile banking is quick, convenient and low cost.	(Bankole et al., 2011)
Ability to conduct financial transactions of even smaller denominations.	(Zhou, 2011)
Use of mobile banking would make it easier for me to get information such as bank statements, standing orders.	(Zhou, 2011)
Banking transactions on a mobile phone eliminates time and space constraints.	(Koenig-Lewis et al., 2010)
Mobile Banking can improve my living and work effectiveness.	(Riquelme & Rios, 2010)
Perceived ease of Use	
Mobile banking provides flexibility to search your required information for conducting transactions.	(Riquelme & Rios, 2010)
Instruction in Mobile banking system is clear and understandable.	(Zhou, 2011)
Mobile banking has user friendly interface.	(Zhou, 2011)
Perceived Credibility	
As there is no human interface so chances of error are less.	(Koenig-Lewis et al., 2010)
Using mobile banking would not divulge my personal information.	(Koenig-Lewis et al., 2010)
I believe my mobile service provider is competent and trustworthy.	(Zhou, 2011)
Perceived Risk	
Lack of acknowledgement/ receipt of transaction at times, due to network congestion or failure.	(Koenig-Lewis et al., 2010)
We always have to use the most up-to-date system version of mobile device, and regularly run updates.	(Lee et al., 2013)
It is difficult and time consuming to install the setup of mobile banking into our handsets.	(Lee et al., 2013)
Lack of acknowledgement/ receipt of transaction at times, due to network congestion or failure.	(Koenig-Lewis et al., 2010)
We always have to use the most up-to-date system version of mobile device, and regularly run updates.	(Lee et al., 2013)
Structural Assurance	

Item	Source
I would trust my telecommunication operator to provide secure data connections to conduct mobile banking.	(Koenig-Lewis et al., 2010)
I feel confident that encryption and other technological advances on the mobile internet make it safe for me to use mobile banking.	(Zhou, 2011)
I feel assured that legal and technological structures adequately protect me from payment problems on mobile internet	. (Zhou, 2011)
Mobile internet is a robust and safe environment in which to use mobile banking.	(Zhou, 2011)
I would trust my telecommunication operator to provide secure data connections to conduct mobile banking.	(Koenig-Lewis et al., 2010)
I feel confident that encryption and other technological advances on the mobile internet make it safe for me to use mobile banking.	(Zhou, 2011)
I feel assured that legal and technological structures adequately protect me from payment problems on mobile internet.	(Zhou, 2011)
User Satisfaction	
I derive utmost enjoyment in using mobile banking services.	(Bankole et al., 2011)
I place a great value on improved quality of life and other personal gains that can be achieved from using mobile banking services.	(Bankole et al., 2011)
A mobile banking transaction is relevant to my work and helps me in attaining personal satisfaction.	(Bankole et al., 2011)
I derive utmost enjoyment in using mobile banking services.	(Bankole et al., 2011)
Behavioral Intension	
If banking transactions on a mobile phone were available at my bank I would adopt it straight away.	(Riquelme & Rios, 2010)
If banking transactions on a mobile phone were available at my bank I would adopt it mainly for information search (not for transaction purposes).	(Riquelme & Rios, 2010)
Assuming that I have access to the mobile banking systems, I intend to use it.	(Bankole et al.,2011)
I intend to increase my use of the mobile banking systems in the future.	(Zhou, 2011)
I will use mobile banking as my family and friends do so.	(Bankole et al., 2011)
I am quick to use technologies when introduced.	(Al-Jabri & Sohail, 2012)
If banking transactions on a mobile phone were available at my bank I would adopt it straight away.	(Riquelme & Rios, 2010)