

MOBILE BANKING SERVICES ADOPTION: AN EXPLORATORY STUDY

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Abstract

Over the last two decades, there has been a rapid advancement in telecommunication infrastructure, particularly in the field of wireless technology. This has facilitated an immense growth in Mobile commerce (m-commerce), thereby making it an increasingly important part of our daily lives. Moreover, there has been recent evolution in mobile technologies like 3G, 4G and massive upspring in the use of mobile devices (especially smartphones). With this, m-commerce have provided various significant opportunities for telecom companies and mobile service providers to create and offer new value added services such as mobile wallets to their customers. The purpose of this paper is to examine the overall status and the increasing relevance of mobile banking or payment services in India. Further, the objective of this study is to analyze and gain a meaningful insight into the various key drivers and inhibitors that has an impact on consumer's value perception and thus influences their behavioural intention to adopt and use an innovative technology which is wireless or Mobile banking (m-banking) in this context. For this we have conducted an extensive review of extant literature in context of m-banking adoption with respect to various developed and developing countries by using 'NVivo 11 Plus'. The findings highlighted that the most commonly applied model by majority of the studies for understanding m-banking adoption is technology acceptance model and its various extensions. Furthermore, it was revealed that the most significant facets or attributes of adoption are compatibility, perceived usefulness, perceived risk, perceived trust and attitude in both developing and developed countries.

Keywords: Mobile commerce, Telecommunication infrastructure, Wireless technology, Mobile banking/payment, Adoption, Literature review, Technology acceptance model.

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1. Introduction

Scientific and Technological development over the years have impacted human knowledge immensely and have always simplified the life of people. This is evident from technological innovations across various fields including telecommunication, infrastructure, medicine, health, banking etc. In India, banking has its origin ever since the Ancient and Vedic times. Eventually banking has evolved in its modern sense, from traditional branch based banking in the 70's to internet based online banking in late 90's and finally to present day non-personalized mobile based banking.

According to Donner and Tellez (2008) “The terms m-banking, m-transfers, m-payments and m-finance refer collectively to a set of applications that enable people to use their mobile telephones to manage their bank accounts, make payments, transfer money, store value or even access credit or insurance products.” Therefore, Mobile banking refers to the use of mobile devices such as smartphone, basic cellular phone, tablet and PDAs (Personal Digital Assistants) to perform various financial and non-financial transactions such as acquiring real-time account information, checking account balance, conducting different sale and purchase transactions, paying utility bills, online shopping, funds transfer, review past transactions, phone recharge, DTH recharge, airline and bus tickets, movie tickets, hotel booking, insurance premium payment etc. These banking activities can be performed anytime and anywhere without requiring a visit to bank's branch or without using a personal computer.

Thus, in simple terms M-banking refers to online banking that occurs via mobile phone rather than via a PC, that is, it literally converts your mobile phone into your bank. M-banking is free from spatial and temporal restrictions as compared to Internet banking (Kim et al., 2009). M-banking operates through one of the following ways- SMS banking, USSD (Unstructured supplementary service data) codes, mobile phone browsers and multiple applications designed and developed by banks as well as e-payment wallets built by private players. In fact many private players not traditionally involved in banking business have started developing e-wallets, digital wallets or mobile wallets for the users, to tap on this emerging opportunity.

The soaring popularity of m-wallets can also be explained through Prime Minister Narendra Modi led government's recent revolutionary decision of ‘Demonetization’ (an act of stripping a currency unit of its status as legal tender) (Kaur, 2017) of the highest denomination currency notes (₹500 and ₹1000) on November 8, 2016. It's one of the most important measures undertaken by the government of India to curb corruption, counterfeit currency and black money used for anti-national and illegal activities and to

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wipe out unaccounted and tax evaded money. To make it a success, Mr. Modi is increasingly emphasising on electronic transactions, to help move India towards a complete cashless based economy. This has resulted into a greater upswing in the usage of plastic money (debit/credit cards) at various online merchants and offline retail outlets via Point of Sale (POS) machines. It has also resulted into an explosion of various digital payment options in India such as Net Banking, Unified Payments Interface (UPI) apps like Bharat interface for money (BHIM), USSD for GSM cellular phones (*99#), E-Wallets, Aadhaar Card Enabled Payment System (AEPS), National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS) (Kaur, 2017).

This transition phase from cash to cashless economy has opened massive opportunities for various payment processing players and wallet companies like Paytm, Oxigen, Mobikwik, Freecharge etc. Thus, it has increased the need for these players to work with banks and regulators for broadening the spectrum of their service offering.

According to Telecom Regulatory Authority of India (TRAI)'s Quarterly Press Release dated 7th April, 2017 "total wireless (GSM+CDMA) subscriber base increased from 1,049.74 million at the end of Sep-16 to 1,127.37 million at the end of Dec-16, registering a quarterly growth rate of 7.40% over the previous quarter. For Dec- 2016, 11.52% is the year-on-year (Y-O-Y) growth rate of wireless subscribers. Wireless Tele-density (which is defined as the number of telephone subscribers per 100 population) increased from 82.17% to 88.00% during the same period". This shows a positive impact of demonetization and the growing demand for m-banking services.

Further, mobile commerce, an extension of e-commerce services is playing a major role in helping India achieve faster financial inclusion, which is the motto of 12th five year plan of Niti Ayog. This faster, sustainable and more inclusive growth is made possible due to deep penetration of telephones in the country and by reaching out even to the rural population with its different value added and payment services.

As per the TRAI's Annual Report (2016-2017), "India is the second largest country in the world in terms of telecom network, just next to china, with 1124.41 million telephone connections, including 1099.97 million wireless telephone connections. The Tele-Density in the country is 87.85% overall. This indicates the deep penetration of telephone in the country. The portion of wireless telephones in total telephones is 97.83%. India, in comparison to the world has the second largest smart-phone subscriber base, with 275 million smart-phone subscribers. The mobile industry in India currently contributes 6.5% (USD140 billion) to country's GDP".

Thus, mobile commerce has emerged as new business phenomenon and has become a market with great potential. Moreover deep mobile penetration of nearly 85% in India has opened up various new opportunities and challenges for mobile service providers, banks, other financial institutions, system and software providers, researchers and practitioners etc. With the number of people having a mobile phones in India being much higher than those having a bank account, m-banking has huge potential in the near future. Yet consumer adoption towards using their mobile handsets for banking purpose is not commensurate to the number of mobile users. This indicates that even though there is widespread availability of mobile phones which offers advantages like instantaneity, ubiquity, localization, immediacy etc, users are still using their cell phones for other mobile value added services such as gaming, ringtone & image download, connecting with friends and family, instant messaging and searching the mobile browser than conducting banking transactions.

Since m-banking is a relatively new concept, being still in its infancy, majority of the people are unaware of its potential. Hence its usage largely remains under-utilised. Thus, there is a great scope for research and development in this field (Luarn & Lin, 2005). This highlights the immense growing need to explore and review extant literature relevant to mobile banking, an emergent mobile service. Furthermore, there is need to conduct research in context of India to identify key drivers and inhibitors that determine consumer's acceptance and usage of m-banking, most innovative and novel technology in the banking sector.

The remaining portion of the paper is divided into six sections which are as follows:

Section- 2 explores, review and synthesizes various existing studies in context of m-banking or payment adoption to know the major theories that researchers have used in their work and the most common drivers and inhibitors that influences consumer's intention to use such wireless m- banking services. Third Section deals with methodology wherein the previous research literature is managed analysed and interpreted by using 'NVivo 11 Plus'. In the fourth part we attempt to discuss various NVivo and literature review findings. Lastly, part- 5 & 6 concludes and synthesizes the above results and findings in an attempt to point out the limitations of the present study and thereby identify the literature gap that can be further researched in future studies in this area.

2. Review of literature

Technology acceptance model (TAM) is one of the most widely used and well-known model of information system. Davis (1989) proposed the TAM to explain the computer

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usage and acceptance of information technology. This model studies the consumers' acceptance and usage of a new technology. It takes into account two beliefs (perceived usefulness and perceived ease of use) which determine attitudes towards adoption of new technologies.

Theory of planned behaviour (TPB) proposed by Ajzen (1985) is a theory that explains human behaviour and information technology use. It links three beliefs (attitude towards behaviour, subjective norms and perceived behavioural control) with consumers' behavioural intentions which further results into actual behaviour.

Luarn and Lin (2005) integrated TAM with TPB to test whether individuals in Taiwan will accept and voluntarily use mobile banking. It was found that perceived credibility have a stronger positive influence on behavioural intention than traditional TAM variables. Perceived financial cost is a significant deterrent for adoption whereas perceived self-efficacy positively effects ease of use, which in turn affects behavioural intention. Moreover, perceived ease of use positively impacts usefulness, credibility and behavioural intention.

Kim et al. (2010) postulated a model of information search (Extended TAM) and empirically tested it using survey data collected from m-payment users. Results indicated that perceived ease of use and perceived usefulness were significant antecedents of intention to use m-payment. Compatibility of m-payment however, has insignificant effect on adoption decision as compared to reachability and convenience. Early adopters rely confidently on their own m-payment knowledge, thus valuing ease of use whereas late adopters respond very positively to the usefulness of m-payment, especially to reachability and convenience of usage.

Zhou et al. (2010) in their article "Integrating TTF and UTAUT to explain mobile banking user adoption" found that both task characteristics and technology characteristics strongly affect the task technology fit (TTF) which in turn effect user adoption. For the UTAUT (Unified Theory of Acceptance and Usage of Technology) model, except for effort expectancy (EE), the other three factors (performance expectancy- PE, social influence- SI, and facilitating conditions- FC) have significant effects on user adoption with performance expectancy's effect being relatively larger. EE indirectly affects adoption via PE. TTF strongly affects PE on one hand and technology characteristics affect EE on the other, thus showing a correlation between TTF and UTAUT.

Schierz et al. (2010) focused on extended TAM to empirically investigate the factors that impacts consumer acceptance of m-payment services in Germany. Results indicated

strong support for the effects of compatibility and individual mobility on usefulness, attitude towards and intention to use m-payment services, with compatibility's effect being the greatest. Perceived security, subjective norms, usefulness and ease of use (through usefulness) are all positively related to attitude.

Riquelme and Rios (2010) took gender as a moderating variable in a survey conducted among current users of Internet banking in Singapore, regarding the factors that influence their adoption of m-banking. Findings indicated that the facets which affect the intention to adopt m-banking services the most are, usefulness, social norms and social risk, in this sequence. Relative advantage and ease of use contributes indirectly through usefulness. Ease of use and social norms has a stronger impact on female respondents, whereas relative advantage has a stronger impact on males. Gender does not have any moderating effect on perception of risk. Thus, risk is a relevant barrier towards adoption for both groups.

Lewis et al. (2010) in their paper "Predicting young consumers' take up of mobile banking services" used TAM and IDT (Innovation Diffusion Theory) to investigate behavioural intention (BI) to adopt m-banking services in Germany. Results indicated that compatibility, perceived usefulness, and risk (negatively) are significant indicators for the adoption of m-banking services. Further, compatibility is also an important antecedent for perceived ease of use, usefulness and credibility. Trust and credibility had no direct effect on BI, but are crucial in reducing the overall perceived risk of m-banking. Similarly, perceived costs also had no influence on BI for early adopters (generally males).

Lin (2011) examined potential and repeat customers' attitude and intention to adopt or continue to use m-banking in his article "An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust". Findings showed ease of use, compatibility, perceived relative advantage and competence significantly influences attitude, which in turn lead to BI to adopt (or continue-to-use) m-banking, with compatibility being the best indicator. For potential customers, perceived competence of m-banking firms is of greater importance as compared to repeat customers, whereas, though ease of use is significant for both, but it's relatively more important for repeat customers.

Chen (2013) in one of the studies in Taiwan, made an attempt to examine the effects of diffusion of innovation (DOI) model, adopters (frequent and infrequent users) of m-banking services (MBSs), five perceived risk, brand awareness, and brand image of MBS providers, on attitude toward and intention to use MBSs. The results stated that except for

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complexity, which negatively affects attitude, all other DOI constructs (relative advantage, compatibility, observability and trailability) have a positive effect. However, m-banking users with different behavioural patterns have dissimilar perceptions of innovation benefits and risk, that is, relative advantage, compatibility, trailability and perceived risk significantly effects adoption decision for both frequent and infrequent users whereas observability and complexity effects only frequent ones. Attitude and intention to use MBSs are further influenced by the brand image and brand awareness of the MBS providers.

Hanafizadeh et al. (2014) in their article “Mobile-banking adoption by Iranian bank clients” found that all eight tested variables successfully explain adoption of mobile banking among Iranian clients. Compatibility with life style and needs was identified as the first most influential factor followed by trust, usefulness, credibility, ease of use, need for interaction with staff, perceived risk and lastly perceived cost.

Thakur and Srivastava (2014) integrated variables of TAM and UTAUT in their paper titled “Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India”. Results indicated that usage intention is collectively effected by adoption readiness (AR), personal innovativeness (PI) and perceived risk (PR- negatively). AR with its four sub-constructs, that is, usefulness, ease of use, social influence and facilitating conditions, has relatively larger effect. Among the three dimensions of PR, security risk and privacy risk were significant as compared to monetary risk. PI has a positive and direct effect on AR and usage intention, with usage effect being higher on users as compared to non-users, that is, at early stages of an innovation; PI is an important driving force in its adoption.

Cabanillas et al. (2014) examined the role of gender on acceptance of mobile payment in their study conducted in Spain. Empirical results indicated that external influence which includes social image and subjective norms, have the greatest impact on intention to use m-payment system. For men as compared to women, the impact of ease of use on usefulness and the impact of usefulness on intention is higher. On the other hand, the impact of usefulness and the impact of perceived trust on attitude towards such new system are higher for women than men. Also, attitude establishes significant relationship with women’s intention and insignificant one for men. However, Perceived risk influences both male and female negatively. Finally, male users’ intention to use was found to be higher than women’s intention.

Mortimer et al. (2015) in a cross cultural study investigated how the factors that influence m-banking use differ between predominantly collectivist (Thailand) and individualistic

(Australia) national cultures. Findings indicate that for Australian consumers, perceived ease of use (PEOU), perceived usefulness (PU) and perceived risk (PR) were the primary determinants of mobile banking adoption. For Thai consumers, the main factors were PU, PR and social influence (SI). Need for Interaction's (NFI) negative impact on intention to use mobile banking services, was not found significant for both Australia and Thailand. National culture was thus, found to impact key antecedents that lead to adoption of m-banking.

Lewis et al. (2015) extended TAM and UTAUT models by incorporating perceived enjoyment, social influence, knowledge and perceived risk in their study titled "Enjoyment and social influence: predicting mobile payment adoption". The study revealed that against expectations, PEOU had no significant effect on PU and intention to use, whereas higher PU leads to higher intention to use m-payment services. Perceived risk had a negative relationship with intention to use. Perceived enjoyment (PE) had no direct effect on intention to use but it was found to be a significant predictor of PU, PEOU and it lowers PR. Social influence had a significant positive effect on intention to use, PU, and a negative effect on PR. Higher knowledge levels of m-payment systems led to higher intention to use and actual usage of m-payment services, where Intention to use in turn had a positive effect on actual usage.

Alalwan et al. (2016) studied the Jordanian consumers' intention to adopt mobile banking by empirically examining extended TAM. They found that behavioural intention is significantly influenced by perceived usefulness, perceived ease of use (via usefulness), and perceived risk (negatively). Further self-efficacy was the key predictor of usefulness, ease of use and risk.

Afshan and Sharif (2016) integrated UTAUT, TTF and ITM to examine the role of behavioural, technological and environmental dimensions respectively for predicting mobile banking acceptance behaviour. Results highlighted a positive contribution of task (TAC) and technology characteristics (TEC) towards facilitating task technology fit, with TAC's effect being smaller. Initial trust (IT) is also found to be facilitated by both structural assurance (SA) and familiarity with bank (FB), with SA's effect being greater. Among UTAUT variables, facilitating conditions (FC) contributes dominantly in influencing behavioural intention to use m-banking whereas performance expectancy (PE), effort expectancy (EE) and social influence (SI) were found to possess no direct effect on adoption intention, but have indirect link with initial trust and task technology fit. This shows significant association of TTF, IT and FC with intention to adopt m-banking.

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Based on the above literature analysis, a proposed research model is developed by extending technology acceptance model (TAM) to illustrate the relationships between independent and dependent variables (As seen in Fig. 5). This model may be tested using empirical data.

3. Methodology

This study is based on an exploratory research design for identifying, evaluating or reviewing key attributes or factors that determine m-banking services adoption across different countries. This study has focused on secondary source of information/data. To find published articles relating to m-banking adoption, a wide scan of literature was carried across various newspapers, official websites of TRAI, RBI etc, and top business and information systems online journals such as Science direct, Emerald, Taylor & Francis, Wiley, JStore, Google scholar, Springer link, Sage journals, Wikipedia etc. Some of the keywords used for literature search were mobile banking adoption, m-banking usage behaviour, mobile payment (m-payment) services adoption, m-payment acceptance, mobile wallet adoption and so on. Besides searching the keywords, we have also explored and reviewed bibliographies or references of most papers to identify important articles that were not found in the initial literature search.

The search resulted in various relevant publications belonging to different geographical region and applying various research models and constructs. Each paper was tabulated into various sections such as author, year, title, sample size, abstract, methodology, findings and source link by using reference manager software ‘Endnote X7’ library. This information or data was then properly analysed and interpreted at a single convenient location by using qualitative data analysis software ‘NVivo 11 Plus’.

4. Findings and Discussions

For the analysis and interpretation of extant literature in context to mobile banking services adoption, various tools have been used within NVivo.

First, the “word frequency query” (WFQ) was used. This tool tells how frequently words or key concepts appear in the literature, in an attempt to find out how many times different authors have mentioned or have talked about a specific word in their study. For literature analysis, the WFQ was run for all internal sources to identify 100 most frequent words with a minimum length of 4. Results are summarized in a tabular form as follows:

Table 1: 20 most frequent words

Word	Length	Count	Weighted percentage (%)
Mobile	6	7793	2.65
Banking	7	4179	1.42
Services	8	3003	1.02
Perceived	9	2955	1.01
Payment	7	2873	0.98
Adoption	8	2670	0.91
Intention	9	2215	0.75
Technology	10	2202	0.75
Trust	5	2189	0.74
Information	11	1999	0.68
Internet	8	1426	0.49
Acceptance	10	1396	0.48
Risk	4	1333	0.45
Factors	7	1100	0.37
Behaviour	8	937	0.32
Value	5	936	0.32
Ease	4	796	0.27
Payments	8	779	0.27
Consumers	9	667	0.23

Source: Compiled by authors

For convenience the above table shows only 20 most frequent words and the number of times they have appeared in literature. This gives an idea of what most authors are talking about in terms of the keywords, thereby, highlighting the importance of words like mobile, banking, payment, services, adoption, intention, technology and so on.

These words can also be seen in a visual form through ‘word cloud’.

The above word tree shows what different authors are saying or writing frequently about ‘mobile banking’.

Third, “auto coding” function was run for indentifying auto-coded themes that can be converted into various ‘nodes’ automatically. Nodes are like buckets used for grouping information from multiple reference material to find different themes, topics and theories for literature review. This makes it convenient to see how ideas or concepts are manifested across articles and authors. It’s helpful in indicating what trends are followed in the literature. The summary of 17 auto-coded themes is as follows:

Table 2: 17 auto-coded themes

Name of the theme	Number of Sources coded	Number of References
Adoption	43	349
Banking	48	567
Consumer	45	243
Factor	51	315
Information	48	204
Intention	42	196
Mobile	53	943
Model	50	461
Online	47	234
Payment	45	467
Research	51	311
Services	52	670
Studies	50	257
System	48	220
Technology	53	418
Transactions	47	203
Users	53	444

Source: Compiled by authors

The above table indicates the most frequently appearing themes organised by number of times they appear across multiple articles. For this literature analysis, the most prominent term appears to be ‘mobile’ with 943 references across 53 sources followed by ‘services’ with 670 references across 52 sources and so on.

Auto-coding results can also be shown pictorially through “Hierarchy charts”. The type

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of hierarchy chart shown below is called a ‘tree map’. It visualizes coding for multiple articles and authors in the literature and clearly shows which topics are more and which are less important. This tree map indicates according to the box size that ‘mobile’ is the most prominent term followed by ‘services’, ‘banking’, ‘payment’ and so on.

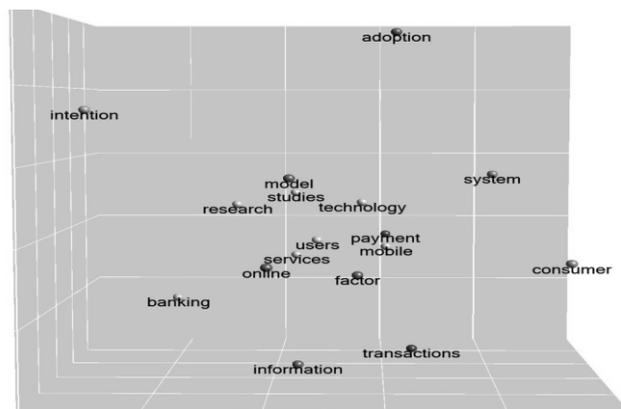
Figure 3: Hierarchy chart (tree map)



Source: Compiled by authors

Fourth, “cluster analysis” function was performed. It’s an exploratory tool used for visualizing patterns in data analysis by graphically grouping nodes or sources that appear similar on any characteristics such as words, attributes values etc. Its results are shown below in form of a ‘cluster map’ based on coding similarities using jaccard’s coefficient. This map depicts that the nodes which are appearing together are more similar as compared to those which are far apart. In this case, users, online, services, factors, mobile and payment are closely related, whereas transactions, intention, consumer, adoption are not related identically or similarly.

Figure 4: Cluster map



Source: Compiled by authors

Figure No.5: Proposed mobile banking adoption model based on literature review

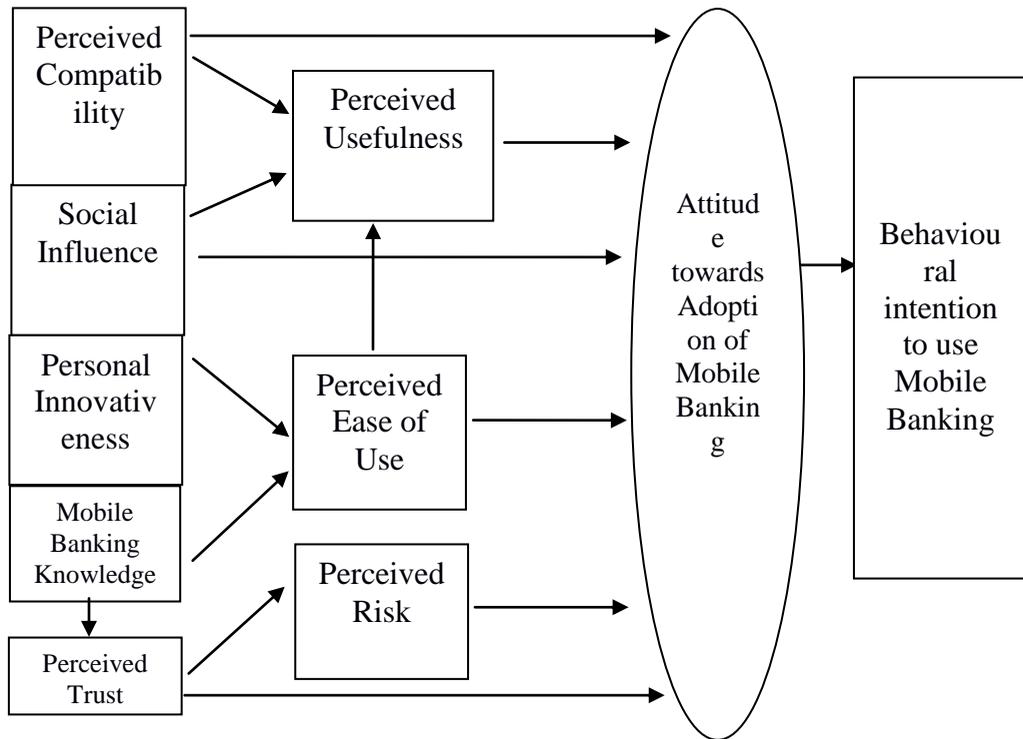


Table 3: Research model constructs

Constructs	Definition	Studies/ Sources
Attitude	An individual's positive or negative feeling about performing the target behaviour which in turn is determined by his beliefs and evaluations of the consequences of such behaviour.	Pedersen (2005), Shin (2009), Schierz et al. (2010), Yang (2010), Lin (2011), Amoroso and Watanabe (2012), Zhang et al. (2012), Chen (2013), Cabanillas et al. (2014), Yang et al. (2015)
Behavioural intention	A person's intentions to perform various behaviours.	Pedersen (2005), Shin (2009), Kim et al. (2010), Lin (2011), Zhang et al. (2012), Chen (2013), Thakur and Srivastava (2014), Oliveira et al. (2014), Lewis et al. (2015), Alalwan et al. (2017)
Compatibility	The degree to which an innovation is perceived as consistent with the existing lifestyle, belief, values,	Mallat (2007), Kim et al. (2010), Schierz et al. (2010), Lewis et al. (2010), Lin (2011), Lu et al. (2011), Yang et al. (2012),

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	preferences, past experiences and needs of potential adopters	Arvidsson (2014), Hanafizadeh et al. (2014), Mattila (2015), Pham and Ho (2015)
Mobile payment knowledge/ awareness	The degree to which a person is aware/familiar or has knowledge about m-payment system.	Kim et al. (2010), Lewis et al. (2015), Slade et al. (2015)
Perceived ease of use	The degree to which a person believes that using a particular system would be free of effort, easy to understand and use.	Cheong et al. (2004), Luarn and Lin (2005), Shin (2009), Kim et al. (2010), Schierz et al. (2010), Lewis et al. (2010), Lin (2011), Zhang et al. (2012), Arvidsson (2014), Shaw (2014), Cabanillas et al. (2014), Lewis et al. (2015), Mortimer et al. (2015)
Perceived risk (technical and system based)	Refers to the extent to which consumers perceive the possible losses (financial loss, violation of privacy, psychological anxiety) that could be created due to the uncertainties inherent in online transactions.	Luo et al. (2010), Lewis et al. (2010), Riquelme and Rios (2010), Yang et al. (2012), Chen (2013), Arvidsson (2014), Thakur and Srivastava (2014), Cabanillas et al. (2014), Hanafizadeh et al. (2014), Lewis et al. (2015), Mattila (2015), Pham and Ho (2015), Alalwan et al. (2016)
Perceived trust (vendor specific trust)	Belief of an individual in the trustworthiness of others (service providers, banks, m-banking firms) as determined by their perceived competence, benevolence and integrity.	Dahlberg et al. (2003), Mallat (2007), Lee and Chung (2009), Shin (2009), Luo et al. (2010), Lin (2011), Zhou (2013), Arvidsson (2014), Cabanillas et al. (2014), Hanafizadeh et al. (2014), Pham and Ho (2015), Afshan and Sharif (2016), Alalwan et al. (2017)
Perceived usefulness	The degree to which a person believes that using a particular system will enhance his/her job performance by providing unique advantages/benefits.	Cheong et al. (2004), Pedersen (2005), Luarn and Lin (2005), Shin (2009), Kim et al. (2010), Schierz et al. (2010), Lewis et al. (2010), Riquelme and Rios (2010), Arvidsson (2014), Shaw (2014), Hanafizadeh et al. (2014), Lewis et al. (2015)
Personal innovativeness	The willingness/inclination of an individual to try out any new information technology.	Kim et al. (2010), Yang et al. (2012), Zhang et al. (2012), Pham and Ho (2015), Slade et al. (2015)
Social influence (external or inter-personal influence)	The person's perception that most people who are important to him (peer, family, friends and relatives) think he should or should not perform the behaviour in question.	Pedersen (2005), Shin (2009), Riquelme and Rios (2010), Schierz et al. (2010), Zhang et al. (2012), Thakur and Srivastava (2014), Lewis et al. (2015), Mortimer et al. (2015), Olasina (2015), Baptista and Oliveira (2015), Alalwan et al. (2017)

Arranged in Alphabetical order

5. Conclusion

Mobile banking has emerged drastically as a significant and rapidly developing sector of the telecommunication industry. Being at the initial stage of introduction, this newest innovation in the field of e-commerce requires further in-depth research. The extant literature's investigation also highlighted the increasing importance of m-banking/payment in context of both developed and developing countries, for enabling them move towards a cashless economy and achieve the objective of financial inclusion particularly for, India. The immense penetration of mobile phone subscribers worldwide has given an opportunity to the policy makers to achieve this objective through mobile technology. Mishra and Bisht (2013) emphasized on having a joint bank-telecom led mobile banking model for achieving the goal of financial inclusion in case of developing countries because the population prefer security of a bank as well as the accessibility, coverage, and nimbleness of telecom service provider. This paper aimed at conducting a thorough examination and analysis of the existing literature about mobile banking adoption in order to identify and explore the key facets that influences consumer's behavioural intentions to accept and use m-banking services. To get an understanding regarding the current status of research with respect to m-banking adoption, various relevant studies and several pioneered journals were systematically reviewed. The in-depth analysis of literature indicates that the existing research on m-banking is fragmented with varied theoretical frameworks and samples drawn from both developing and developed countries (Shaikh & Karjaluoto, 2015). The most commonly used model by various m-banking adoption studies is Technology Acceptance Model (TAM) and its different extensions and the most important antecedents of its adoption are Perceived usefulness, Perceived compatibility, perceived risk and perceived cost (Ha et al., 2012). Furthermore, it was revealed that the decision-making process of consumers towards the adoption of m-banking services is predominantly influenced by several prominent dependent and independent variables. For example, the main research stream is seemingly defined by two major dependent variables (attitude and intention) and eight independent variables (perceived usefulness, perceived ease of use, trust, social influence, perceived risk, compatibility with existing values and lifestyle, personal innovativeness and m-banking knowledge/awareness) that were used by majority of the publications reviewed (As seen in Fig.5). Among all these constructs perceived usefulness, compatibility and attitude are the most important antecedents of consumer behaviour towards adoption of m-banking services (Shaikh et al., 2015).

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