_____

"Mobile Commerce Adoption in India, a Revised Technology Acceptance Model"

_____

Supervisor

Daniel FERNANDES

Assistant Professor of Marketing

Católica Lisbon School of Business and Economics

Student

Beatrice PINI

Double Degree Student, Bocconi University

ID 152113219

May 2016

Acknowledgements

To mom and dad,
backbones of my existence.

To my friends,
laughs in my life.

To my beloved,
serenity of my soul.

For all they have done,
For supporting me,
For loving me,

Thank You.

Bea

INDEX

LIST OF ABBREVIATIONS

ATB   Attitude Toward Behavior

BI   Behavioral Intention

CFA   Confirmatory Factor Analysis

FC   Facilitating Conditions

ICT   Information and Communication Technology

IDT   Innovation Diffusion Theory

MC   Mobile Commerce

PBC   Perceived Behavioral Control

PEOU   Perceived Ease of Use

PU   Perceived Usefulness

SEM   Structural Equation Model

SI   Social Influence

SN   Social Norm

TAM   Technology Acceptance Model

TPB   Theory of Planned Behavior

TRA   Theory of Reasoned Action

TRAI   Telecom Regulatory Authority of India

UTAUT   Unified Theory of Acceptance

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Nowadays, Mobile Commerce (M-Commerce) is expected to make a substantial impact on the business landscape. In India, the mobile cellular market is the fastest growing telecommunication market in terms of subscribers and popularity and is expected to grow by 55% from its present size of $2 billion to $19 billion by 2019.

This research presents an extended Technology Acceptance model (TAM) that integrates extracts from the Unified Theory of Acceptance and Use of Technology (UTAUT), Personal Innovativeness and Trust into the TAM to investigate what determines user Mobile Commerce (MC) acceptance in India. The proposed model was empirically tested using data collected from a survey of 249 Indian Mobile Commerce users. Confirmatory Factor Analysis (CFA) was performed to examine the reliability and validity of the measurement model and Structural Equation Modeling (SEM) to evaluate the causal model.

The findings demonstrate the applicability of the modified TAM in assessing Mobile Commerce acceptance in India. From the study it can be seen that Mobile Commerce acceptance in India is influenced directly by Perceived Usefulness ($\beta=0.443$, $p<0.001$) Perceived Ease of Use ($\beta=0.442$, $p<0.001$) less so by Social influence ($\beta=0.086$, $p<0.05$) and indirectly by Facilitating Conditions ($\beta=0.554$, $p<.001$) and Trust ($\beta=0.068$, $p<0.05$).

A Multi-Group analysis based on gender (exogenous) and Frequency of Use (endogenous) was also conducted to gain a better understanding of the underlying Sub-Group dynamics. The recommendations made for the Indian Mobile Commerce sector based on the implications of the research and the typology for future research are also outlined.

CHAPTER 1

Introduction

This chapter will be focused on the research approach, the background and motivations and the research questions leading to this study. Contributions to research and the thesis structure will also be outlined.

1. OVERVIEW

Mobile Commerce incorporates all e-commerce transactions completed through "hand held" mobile devices and for this reason it has been defined by Hameed et al. (2010) as "doing business in a state of motion". Thanks to the advancement in cutting edge wireless technology, together with the growing penetration rate of the Internet, Mobile Commerce has been inexorably promoted as a critical application for both consumers and enterprises (Pascoe et al. , 2002; Rupp & Smith, 2002).

The reasons linked to the increasing success of Mobile Commerce in the business arena are not only limited to easier communications and financial transactions (Balasubramanian et al., 2002), but also to the creation of new business scenarios implemented over mobile such as sales-force automation, advertising, inventory management and many other functions that are being released from the limitations of space and time (Scornavacca et al., 2006; Varshney & Vetter, 2002).

This said, Mobile Commerce can be deemed as "the natural successor of Electronic Commerce" (Mahil, 2008; Au & Kauffman, 2006) and ought not to be seen as a constrained form of E-Commerce, but rather a new kind of E-Business with its own characteristic s and novel advantages (Scornavacca et al., 2006). In last two decades both the business community as well as industries around the globe have witnessed major changes induced by the introduction of Mobile Commerce. Considering that in several countries the number of mobile phone subscribers has overcome that of internet users (Xie et al., 2009), M-Commerce is poised to make an impact comparable to, if not greater, than that of E-Commerce. With the hastening of business competition, it is therefore imperative to understand the factors that would entice users to accept and take advantage of M-Commerce services.

By virtue of its lower cost, the higher flexibility and the convenience provided to its users if compared to the traditional wired line, mobile has been chosen by Indians as the primary mean for accessing communications (Singh, 2007). Despite the fact that mobile Commerce in India is still at its embryonic stage (Gupta & Vyas , 2014), this sector, fostered by the booming mobile telephony sector and the declining average selling price for the devices, is intended to grow rapidly in the near future since, as anticipated, India's mobile cellular market is the fastest growing telecommunication market in terms of subscriber numbers and popularity in the world (TRAI).

1.1. Background and Motivation

As anticipated, Mobile Commerce defines wireless transactions executed through mobile devices. According to Tsalgatidou & Pitoura (2001), due to its unique characteristics, the limitation to mobile terminals and the dependence upon wireless technology, M-Commerce operates in a partially different domain when compared to E-Commerce as it not only opens up opportunities for business-to-consumer (B2C), but it also uncovers prospects for business-to-business (B2B) commerce to be done more productively through the use of mobile technology.

In a country like India, where the majority of people are first time, mobile-only internet users (60% or of total 354 million internet users in India), M-Commerce seems to be the natural successor of E-Commerce (IAMAI). It is also worth to notice how such numbers increased exponentially in a rather short time span, quadrupling in scale since June 2012.

This said, India's E-Commerce platforms are rushing to embrace this recent, game-changing innovation, with some forsaking their web platforms entirely to go mobile only like Myntra and India's E-Commerce giant Flipkart. It is a revolutionary innovation; for the first time Indians are getting connected to the Internet, they are coming upon and getting national and international products and services at very competitive prices right at their doorsteps.

Owning to this remarkable success and the considerable number of business opportunities that opened up in the Indian market, understanding the dynamics that lead to the adoption of M-Commerce in India seems to be a worthwhile topic to study. In line with Giaglis et al. (2002) whom postulated that it is key to comprehend M-Commerce dynamics and value network as such awareness can provide tremendous management insights into developing successful marketing strategies allowing companies to remain competitive and hold their market. Anyhow, if compared to E-Commerce, academic research covering this matter is limited, chiefly in India because M-Commerce is still in an emergent stage.

Hence, the aim of this research is to validate the factors that determine consumer M-Commerce acceptance adopting the Technology Acceptance Model developed by Davis (1989) integrated with Social influence (Venkatesh & Davis, 2000), Facilitating Conditions (Venkatesh, Morris, Davis, & Davi, 2003), Personal Innovativeness (Agarwal & Prasad, 1998) and Trust (Gefen, Karahanna, & Straub, 2003a).

1.2.   Objective of the study

The fundamental aspiration of this research is to identify the factors that predict the intention to use M-Commerce systems in India. An important goal throughout is to provide an empirical basis on which Mobile Commerce services providers can ground their marketing strategy. In this research, factors from various theories are combined in order to develop a model able to:

- Investigate the adoption and use of Mobile Commerce in India to shed light on the behavioral pattern characterizing this developing country.

- Elaborate constructs concerning the current state of consumer beliefs and attitudes toward M-Commerce, develop and validate the relationships between the factors that drive the adoption and acceptance of such services.

- Propose opportunities for both participants and researchers to uncover unseen problems, thereby improving the use and acceptance of M-Commerce in India.

1.3.   Problem Definition

Although people started experimenting with M-Commerce, some still diher to introduce this new technology in their routine life. This paper aims at evaluating which are the most relevant factors affecting M-Commerce adoption in the Indian scenario. Some issues have already been highlighted by Agarwal & Bhatawal (2015) and grouped accordingly to the analysis that will be carried out in this research.
- Perceived Usefulness and Perceived Ease of Use
    - *Lack of Mobile Commerce awareness,*
    - *Little brand recognition,*
    - *Cash on delivery preference due to low Credit Card penetration (~0.15%),*
- Personal Innovativeness
    - *Late adopters bias,*
- Trust
    - *Research Online and Purchase Offline tendency,*
    - *Security and privacy concerns,*
- Facilitating Conditions

- o *Insufficient 2G and 3G coverage especially in rural areas,*
- o *Unstable wireless infrastructure due to power outages,*
- o *Low Internet speed (India ranks 133th in the world with 6.60 Mbps),*
- Social Influence
  - o *Strong influence by family members*

1.4.   Research Questions

The research questions of this study are:

- What are the factors influencing M-Commerce adoption in India?
- What is the role of Social Influence on M-Commerce adoption in India?
- What is the role of Personal Innovativeness on M-Commerce adoption in India?
- What is the role of Trust on M-Commerce adoption in India?
- What is the role of Facilitating Conditions on M-Commerce adoption in India?

1.5.   Practical and Theoretical Value of the Study

Discerning the factors inhibiting the adoption of Mobile Commerce in India is important for managers, providers and researchers. Some of the practical and theoretical applications of this study can be defined as follows:

1. Mobile Commerce is a rather new technology in India and as such it is worth to study the factors affecting its adoption. Results could be used to improve the way in which Indian local and foreign companies conduct business through this new media, enhancing the quality of the service and foster its future diffusion. Research insights could foster Mobile Commerce operators' understanding of consumers' mobile behavioral pattern in India.

2. Undertaking investigation on technology acceptance could enrich the research centers in India, providing insights that may receive wider future recognition.

The battle for customers has never been fiercer than it is today. Therefore, understanding who are their customers and how they behave is critical in order to gain a competitive edge over rivals.

1.6.   Structure of the Study

This dissertation is organized into 6 Chapters as shown below.

Figure 1 - Structure of the Study

Ch. 1 — • Introduction

Ch.2 — •Literature Review

Ch.3 — • Country Profile

Ch.4 — • Methodology

Ch.5 — • Data Analysis & Discussion

Ch.6 — • Conclusions
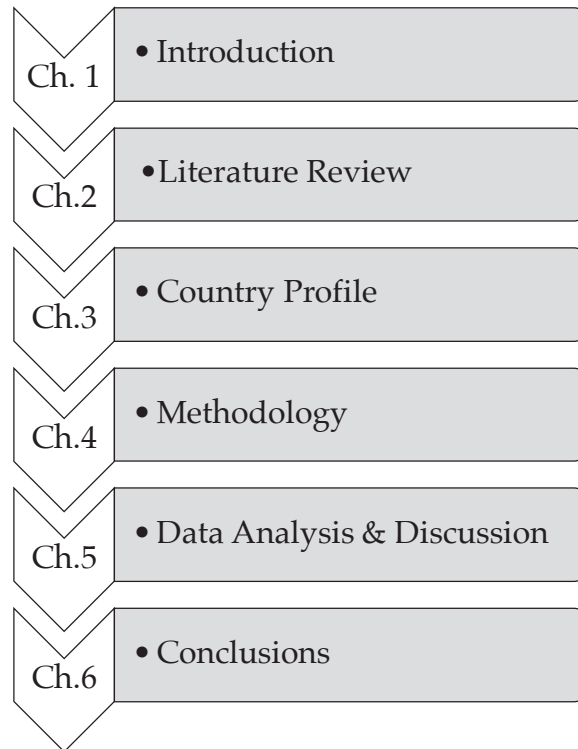
CHAPTER 2

Literature Review

Chapter two is structured along several themes. First, the basic aspects of Mobile Commerce and Mobile Commerce Adoption are explained. Second, the definition of technology adoption according to various schools of thought is outlined. Third, the modified TAM model relevant to this study is introduced. Finally, the research model and hypotheses are summarized.

2. MOBILE COMMERCE

The unfolding of the Internet, coupled with the progress in information and communication brought forth new ways of conducting business which revolutionized the economic arena, the E-Commerce (Zwass, 2003; Turban, King, Lee, & Viehland, 2004). As a consequence of this, Mobile Commerce materialized allowing for business-to-business (B2B) and business-to-consumer (B2C) transactions without constraints of time and place. Wu and Wang (2005) defined Mobile Commerce as "any transaction, either direct or indirect, with monetary value implemented via a wireless telecommunication network", with or without an intermediary (Mallat et al., 2004).

If used wisely, M-Commerce technologies can enhance business automation mechanisms by means of reduced operational costs, greater efficiency and improved decision making leading to a higher degree of productivity and customer satisfaction (Lee & Park, 2008). In the same way, M-Commerce notably boost user efficiency as mobile users are able to gain access to information, communicate and purchase anywhere, at any time.

For these reasons, M-Commerce has been adopted by countless companies in developed countries as it provides grounds for major innovations while inducing a number of opportunities for organizations (Steendern, 2002; Snowden al., 2006; Chong Chang & Ooi, 2011) to engender or sustain their competitive advantage (Daniel & Grimshaw , 2002). Henceforth, as companies consistently strive to create better products and services for their customers, M-Commerce progressively grows to become an indispensable part of firm's business strategies to effectively complement other business channels (Martin, 2012; Heng-Sheng & Gururajan, 2005; Ling, 2001; Whiteley, 1998; Longenecker et al., 1997).

According to Shankar et al. (2010) M-Commerce is creating a shift in the sales paradigm where consumers are not required to enter the company's sales environment anymore as the seller itself is able to directly influence the consumer' behavior through mobile. In this regard, Chaffey (2009) discussed five advantages that M-Commerce provides to its users: (1) Ubiquity, (2) Reachability, (3) Convenience, (4) Security and (5) Instant access. See Appendix A for basic differences between E & M Commerce and Chaffey's Mobile-Commerce advantages definitions.

With respect to previous literature, several researchers studied antecedents and determinants for M-Commerce (Langendoerfer, 2002; Martin, 2012; Jaradat & Rababaa, 2013). According to a study of the factors affecting mobile shopping by Lu

and Su (2006), the primary obstacles experienced by the user when interfacing with mobile are poor connectivity and the limited functionality of the device which leads to users feeling stress and uncertainty towards conducting mobile transactions. In line with Lu and Su's findings, the low network speed of service and the confined screen size of mobile devices was found by Carlsson and Walden (2002) to be the main deterrent to mobile commerce adoption. Mobile terminals restrictions were deemed to be the cause of the fragmentary and inadequate information received by M-Commerce users (Wu and Wang ,2005) whereas Langendoerfer (2002) hypothesized psychological factors i.e. trust and privacy rather than technological ones to be the main barrier to effective M-Commerce adoption.

To conclude, even though M-Commerce is a burgeoning business model in developing countries, academic and business research highlighted some of the determinants that are likely to influence the diffusion of Mobile Commerce in the market. "The M-Commerce wave is quickly catching on in other markets across the region (Asia-Pacfic), and will play a key role in shaping the future of retail in Asia" (Nielsen, 2013). Mobile Commerce is meant to have a prosperous future.

.

2.1.　Mobile Commerce Adoption

According to Qingfei et al. (2008), user acceptance is one of the key fundamentals for the development and success of new technologies. Once acceptance is achieved, marketers can effortlessly access real time information and develop new business opportunities. Nonetheless, M-Commerce adoption has to be treated differently if compared to general technology acceptance decisions since M-Commerce users are not only choosing whether to adopt or reject a technology per se, but a new way of doing business. Moreover, because said decisions integrate both transactional and non-transactional dimensions, consumers' intentions should be regarded as multi-dimensional (Pavlou, 2002).

The pioneers in Mobile Commerce review were Scornavacca, Barness and Huff (2006). An analytical framework based on reviews of technological application articles was developed by Ngai and Gunasekaran (2007) and later applied to review papers on M-Commerce trends (Park & Saplan, 2011; Kourouthanassis & Giaglis, 2012).

With respect to country specific cases, a study conducted by Malik et al. (2013) revealed that M-Commerce acceptance in India is positively affected by perceived usefulness and ease of and negatively influence by perceived financial risk. An analysis similar to the one proposed in this study based on the Technology Acceptance Model in India was performed by Thakur & Srivastava (2013). In line with Malik et al. they found that perceived usefulness, perceived ease of use together with social influence significantly impacted M-Commerce adoption whereas perceived risk and security issues had the opposite effect.

The phenomenon of mobile Internet acceptance was also studied in Korea by Je and Myeong-Cheol (2005) whom developed an extended version of the original TAM as it will be done in this paper to better reflect the country's peculiar context. With respect to China, Park et al. (2007) found performance expectancy, effort expectancy, social influence, and facilitating condition as major factors influencing the adoption of M-Commerce. "Good pricing", "Quality of Service" and "Ubiquity" of M-Commerce were instead identified by Kini and Bandyopadhyay (2006) as the main drivers of M-Commerce acceptance in Thailand.

Demographical factors such as gender, age and education level were instead investigated by Alkhunaizan and Love (2013) in Saudi Arabia. The findings indicated

that gender and education level did not impact actual use unlike age, which was statistically significant in contrast with Park et al. (2007).

With respect to the European setting, Vrechopoulos et al. (2002) found significant differences in M-Commerce adoption rates among consumers in Finland, Germany and Greece. High adopting rates were associated to better devices quality, security, coverage and speed, user friendly interfaces and more useful applications.

Taking clues from all previous studies, this paper aims at creating a theoretical base for the study of Mobile Commerce adoption with reference to Indian consumers. To summarize, Table 1 shows the principal theories applied to Mobile Commerce adoption and respective variables of interest.

Table 1 - Theories Applied to Mobile Commerce Adoption and Relevant Variables

Theory	Author	Year	Variables
Theory of Reasoned Action (TRA)	Fishbein & Ajzen	1975	Attitude Toward Behavior Subjective Norm Behaviour Intention
Innovation Diffusion Theory (IDT)	Rogers	1983	Relative Advantage Complexity Compatibility Trial ability Observables
Theory of Planned Behavior (TPB)	Ajzen	1985	Attitude Toward Behavior Subjective Norm Perceived Behavioral Control Behaviour Intention
Technology Acceptance Model (TAM)	Davis	1989	Perceived Usefulness Perceived Ease of Use Attitude Behaviour Intention

Table 2 instead shows the factors relevant for this study in explaining Mobile Commerce Adoption and related theoretical framework.

Table 2 - Research Model Variables and Related Literature

Variable	Definition	Reference
Perceived Usefulness	The extent to which a person believes that using a particular application would enhance his or her performance	
Perceived Ease of Use	The extent to which a person believes that using a particular application would be free of effort	Davis et al. (1989)
Behavioral Intention	The user's likelihood to engage in online transactions via Mobile Commerce	
Personal Innovativeness	Individual's willingness to try out any new technology	Agarwal & Prasad (1998)
Social Norms, Influences	Person's perception that people who are important to him/her think he/she should perform the behavior in question	Venkatesh & Davis (2000)
Facilitating Conditions	Extent and type of support provided that influences the use of the technology	Venkatesh et al. (2003)
Trust	Trustworthiness of the wireless mobile environment	Gefen (2003)

2.2. Theoretical Framework and Hypothesis

2.2.1. Consumer Behavior

Consumer buying behavior is studied as a part of marketing and its main objective is that of understanding the way in which individuals, groups or organizations behave in the marketplace when purchasing a product or services (Kotler & Kelle, 2015). Tough it may sound straightforward and comprehensible, said needs can vary tremendously as they depend both internal i.e. age, psychology, personality and external factors acting beyond the consumers' control.

Considerable research has been conducted by academics and researchers to identify those factors influencing consumer's buying behavior and several elements have been determined. Wiedermann et al. (2007) classified them into external and internal factors, Winer (2009) grouped them into social, psychological and personal factors however, the various categorizations brought about similar outcomes in purpose and scope (Rao K. , 2011).

It has to be noted how these aspects are generally beyond the bounds of marketers yet, they have to be taken into consideration when trying to untangle the complex behavior of the consumers. For this reason, the study of consumer behavior is defined as the scrutiny of the processes involved when individuals or groups "select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires" (Solomon, 2014). Or, similarly "those acts of individuals directly involved in obtaining, using and disposing of economic goods and services, including the decision processes that precede and determine these acts" (Lancaster et al., 2010).

Because simple observation has limited power in providing a detailed understanding of the intricate nature of consumer choice, researchers have progressively looked for more refined concepts and tactics provided by behavioral sciences to discern, predict and conceivably control consumer behavior in a more efficient manner.

2.2.2.　　　Consumer Adoption

The "acceptance and continued use of a product, service or idea" has been defined by Sathye (1999) as the process identifying consumer adoption. According to Rogers and Shoemaker (1971), before being ready to embrace a product or service, consumers go through five steps as shown in Figure 2.
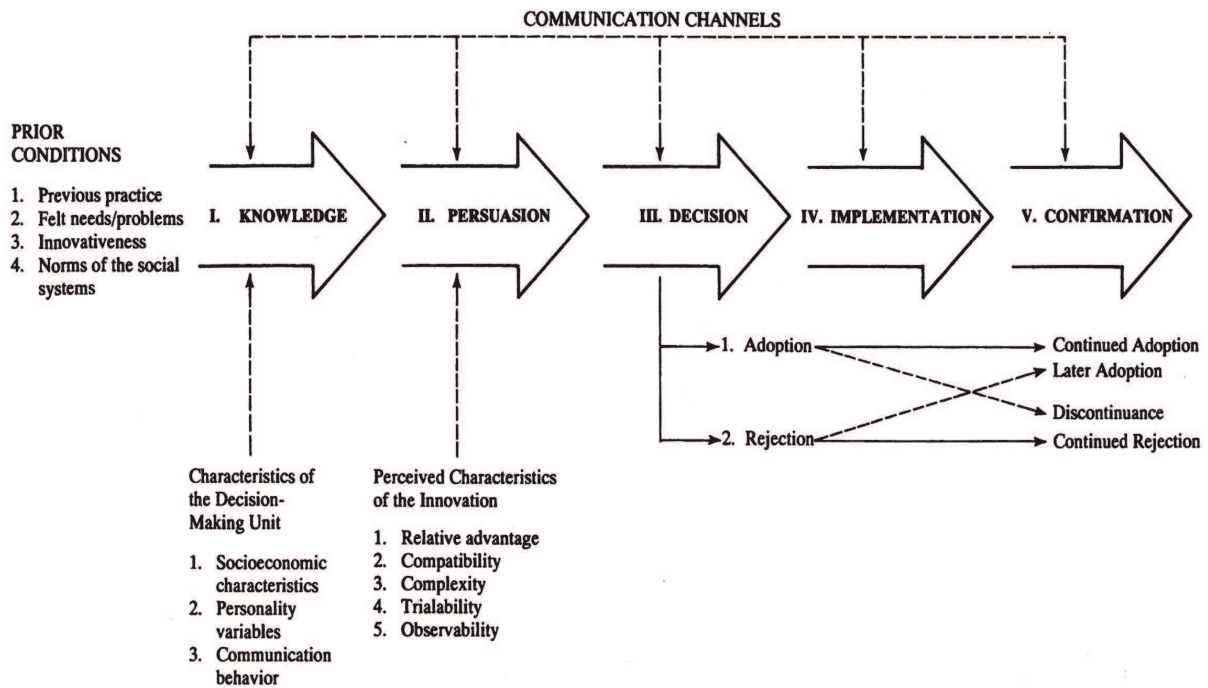
Figure 2 - A model of stage in the Innovation-Decision Process, Rogers (1995)

The first stage is about creating awareness of the product in the market, the second is to stimulate interest towards the product, the third is related to product comparison and evaluation, the fourth about product trial and the last, of course, about product adoption. Moreover, in his research, Rogers identified five attributes affecting the rate of technological adoption: (1) Relative Advantage, (2) Compatibility, (3) Complexity, (4) Trialability, (5) Observability. However, a study by Chen et al. (2000) found that only relative advantage, compatibility and complexity are persistently related to innovation adoption.

2.2.3.   Theory of Reasoned Action (TRA)

The Theory of Reasoned Action is an extensively studied persuasion model from social psychology used to anticipate individuals' behavior in relation to pre-existing attitudes and beliefs (Fishbein & Ajzen, 1980; 1975). Expectancy value models provide groundwork for understanding the relationship between a person's attitudes and their elemental beliefs. Expectations about the consequences of an action are defined as "Outcome Expectancy" whereas the intrinsic value associated to that outcome is known as "Outcome Value" (Ajzen & Fishbein, 1980; Eagly & Chaiken, 1993; McGuire, 1985); algebraically $Attitude = Expectancy \, x \, Value$. The higher the outcome value associated to a given behavior, the higher the motivation to perform said behavior.

Figure 1 is a schematic representation of the relationships among constructs in TRA. In the hypothesized model of TRA, Behavioral intention (BI), the motive to perform a given demeanor, is simultaneously determined by the individual's Attitude Toward performing the Behavior (ATB) and Subjective Norm (SN), which is the overall perception of what relevant others think the individual should or should not do. By all means, the importance of ATB and SN to predict BI will vary by behavioral domain. This model has been successfully applied to a large number of situations to predict the performance of behavior and intentions proving its robustness across settings.
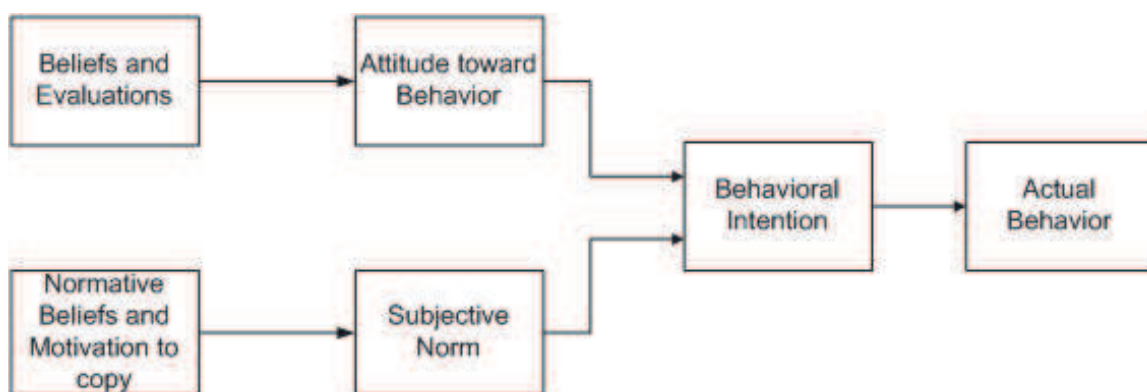
Figure 3 - Theory of Reasoned Action, Fishbein & Ajzen (1975)

2.2.4. Theory of Planned Behavior (TPB)

In spite of the reported consistency of the TRA, the model becomes problematic if the behavior under study is not under full volitional control. Two major issues with TRA were brought up by Sheppard et al. (1988). First, TRA requires the researcher to be abele to discern the tricky difference between behavior and intention and secondly, whether failing to perform is due to failures in one's behavior or one's intention.

For these reasons, in his Theory of Planned Behavior, Ajzen (1985) included an additional determinant of Behavioral Intention called Perceived Behavioral Control (PBC) and defined as "people's perception of the ease or difficulty in performing the behavior of interest". In addition, as Figure 2 shows, TPB broadens TRA's boundaries by elaborating two additional constructs: (1) Attitude toward Behavior (ATB), defined as a person's mindset over a certain behavior and (2) Subjective Norm (SN), the perceived social pressure which leads to perform a certain behavior (Ajzen & Fishbein, 1980).

As with TRA, the relative significance of BI predictors varies with the behavioral domain. Similarly, the capacity of PBC and BI to predict AB will also vary across conditions. To conclude, TPB has been prosperously applied to various circumstances in predicting behaviors and intentions' performance. The general conclusion was that TPB proved to be more efficient in predicting behavior if compared to TRA.
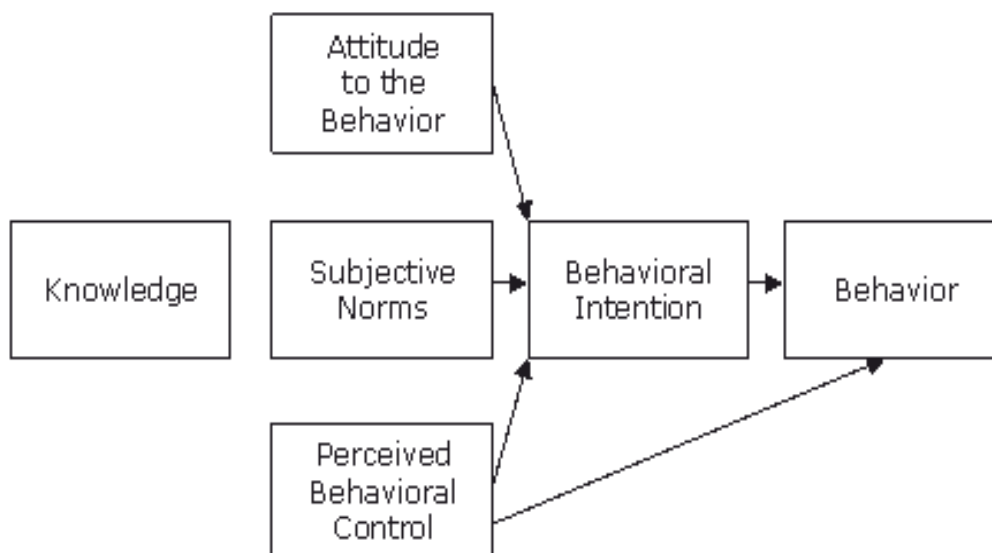
Figure 4 - Theory of Planned Behavior, Ajzen (1985)

2.2.5.   Technology Acceptance Model (TAM)

The Technology acceptance model (TAM) (Davis, 1989) received upscale empirical support throughout the years and is considered as one of the most influential theories in the field of information systems (Lee et al., 2003). In his study, Davis (1989) identifies two important concepts: perceived usefulness (PU) and perceived ease of use (PEOU) as determinants of Behavioral Intention. Perceived usefulness represents the subjective belief of how much the usage of certain application will increase one's performance whereas Perceived Ease of Use identifies one's expectations of how easy the application is to use.

TAM is based on the theory of reasoned action (Fishbein & Ajzen, 1975) and has been influenced by at least five Management Information System (MIS) studies and few non-MIS ones. With reference to these theories, the underlying factors resulting in high technology acceptance rate were elaborated, revised and simplified. The five ground theories and the marketing study by Hauser and Simmie (1981) are briefly presented in Table 1 to provide a basic theoretical understanding of the model's fundamentals.

Table 3 - Theoretical Foundations of TAM

Theory	Fundamentals
Self-Efficacy (Bandura, 1982)	Self-efficacy, which is similar to PEOU, is the extent to which individuals believe in their own ability to complete tasks and fulfill goals.
Cost-benefit paradigm from behavioral decision theory (Beach & Mitchell, 1978)	CBP explains people's choice in terms of cognitive trade-off between the effort and the quality of the resulting strategic decision.
Adoption of innovations (Tornatzky & Klein, 1982)	Like TAM, it advocates for a prominent role of PEOU in shaping adoption of innovations, as it proved to have the most significant link.

Evaluation of information Reports (Larcker & Lessig, 1980)	Echoes the distinction between usefulness and ease of use.
Channel disposition model (Swanson, 1982)	Explains the choice and use of information reports. Based on the tradeoff between attributed information quality and attributed access quality, potential users choose and use information reports.
Non-MIS studies	Marketing study by Hauser and Simmie (1981) examined use perceptions of alternative communication technologies similarly derived two underlying dimensions: ease of use and effectiveness.

In short, the model clarifies how the user's intention to use a technological solution is determined by certain factors which, in turn, lead to the actual usage behavior i.e. acceptance or dismissal of the application. The aim being that of providing a general framework to exemplify the antecedents of computer acceptance while explaining user behavior over an extensive variety of end-user computing technologies and populations. According to Chooprayoon et al. (2007), the primary goal of TAM is to introduce an innovative way to "study the effects of external variables towards people's internal beliefs, attitudes and intentions". As anticipated, TAM relies on two main constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as shown in Figure 5 and defined in the next section.
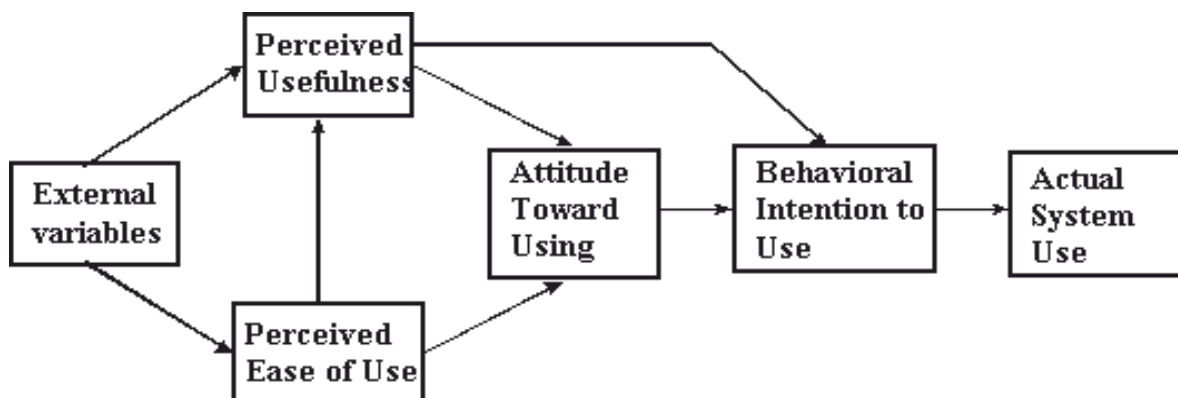
Figure 5 - Technology Acceptance Model, Davis (1989)

2.2.5.1. Perceived Usefulness

Davis (1989) defined Perceived Usefulness (PU) as "the extent to which an individual believes that he or she would benefit from using a given technology". It has been found that perceived usefulness is generally regarded as the benchmark for the evaluation of the consequences of one's actions (Kim et al., 2009) ans, as a consequence, will most likely influence the intention to adopt a given system (Bhatti, 2007). In the context of M-Commerce, people might use it to save time and money. Benefits are also observed by users in the form of increased product variety by online suppliers. This leads to our first hypothesis:

Hypothesis 1 (H1): *"Perceived Usefulness has a positive and significant effect on Behavioral Intention to Use Mobile Commerce."*

2.2.5.2. Perceived Ease of Use

Refers to the "degree to which a prospective user believes that using a particular system would be free of effort" (Davis, 1989). Because effort is a scarce resource that can be allocated to the various activities, *ceteris paribus*, the likelihood that a technology will be accepted by users increases as the perceived easiness of use increase (Venkatesh and Morris, 2000).

Previous studies have shown that perceived ease of use (PEOU) has a significant effect on usage intention, either directly or indirectly through its effect on perceived usefulness (Davis, 1989; Venkatesh, 2000; Venkatesh and Davis, 1996). In the context of M-Commerce, information such as details of products or services, their benefits, and usage guidelines needs to be provided in order to make it easier for consumers to adopt said technology. This leads to the second and third hypothesis:

Hypothesis 2 (H2): *"Perceived Ease of Use has a positive and significant effect on Perceived Usefulness."*

Hypothesis 3 (H3): *"Perceived Ease of Use has a positive and significant effect on Behavioral Intention to Use."*

2.2.6.   Unified Theory of Acceptance and Use of Technology (UTAUT)

Because productivity gain can occur exclusively if a certain technology is accepted and used by target users, Venkatesh (1998; 2003) developed and refined the Unified Theory of Accetance of Technology, an enhancement of Davis' TAM introduced in the previous section. As shown in Figure 6, UTAUT consists of four core determinants of intention and usage: (1) Performance Expectancy, (2) Effort Expectancy, (3) Social Influence and (4) Facilitating Conditions and also of four moderators of key relationships: Gender, Age, Experience and Voluntariness (Venkatesh et al. 2003, 447).

The core constructs represent the key factors, which directly influence behavioral intention whereas moderators are factors which reinforce or weaken the influence of the key factors on Behavioral Intention and Use Behavior.
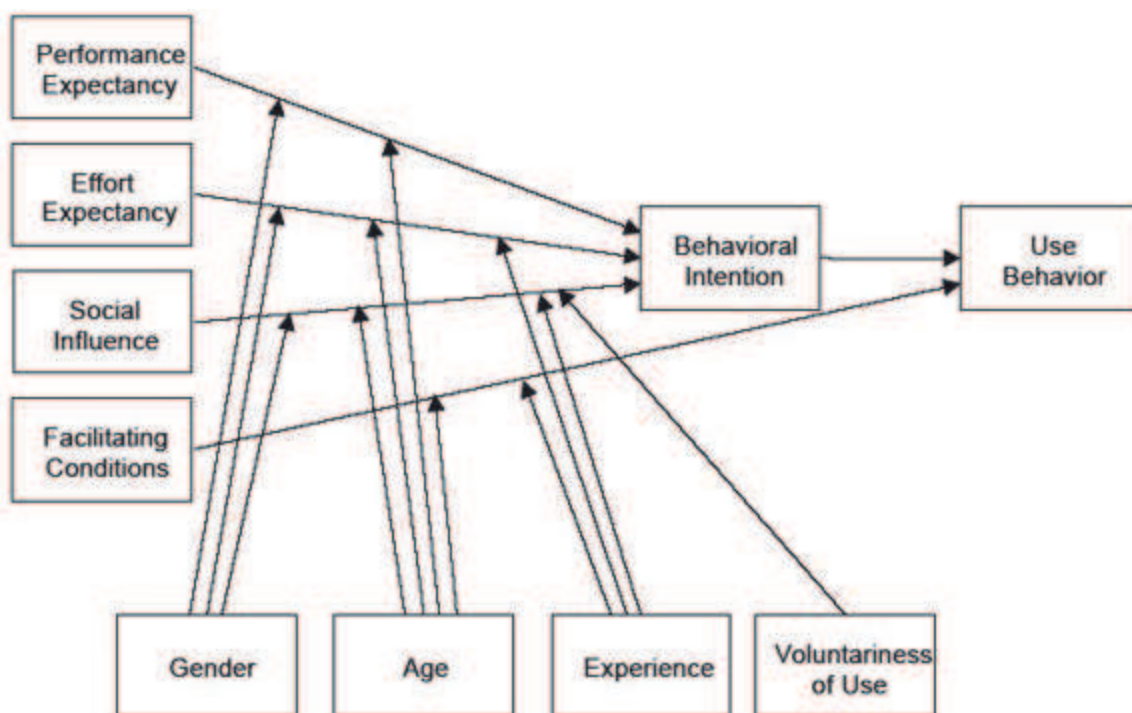
Figure 6 - Unified Theory of Acceptance and Use of Tehcnology, Venkatesh et al.

Next, the factors of the UTAUT model relevant for this study (Social influence, and Facilitating conditions) will be discussed.

2.2.6.1. Social Influence

Venkatesh et al. (2003) defined Social Influence (SI) as "the degree to which an individual perceives that important others believe he or she should use the new system.". This construct was incorporated in several e-commerce studies finding a discrete degree of empirical support (Hsu & Chiu, 2004; Lewis et al., 2003; Lu et al., 2003; Venkatesh et al., 2003). In particular, Chin et al. (2009) focused on two prominent components affecting willingness to purchase online (1) trust in the Internet structure and (2) susceptibility to social influence. The hypothesis that trust and social influence are significantly correlated to consumer intention to purchase online is backed by the findings, in line with Lee & Turban (2001) and George (2002; 2004). This leads to the fourth and fifth hypothesis:

Hypothesis 4 (H4): "*Social Influence has a positive and significant effect on Perceived Usefulness.*"

Hypothesis 5 (H5): "*Social Influence has a positive and significant effect on Behavioral Intention to Use.*"

2.2.6.2. Facilitating Conditions

Facilitating conditions (FC) is defined by Venkatesh et al. (2003) as the "degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system". It mirrors the consciousness of external constraints on behavior that encompass resource and technology facilitating conditions (Ajzen, 1991; Taylor & Todd, 1995a; 1995b). The study by Gu et al. (2009) proved that Facilitating Conditions directly affect the perceived Ease of Use of a given technology, which leads us to the sixth hypothesis:

Hypothesis 6 (H6): "*Facilitating Conditions have a positive and significant effect on Perceived Ease of Use.*"

2.2.7. Personal Innovativeness and TAM

Derived from IDT and TAM, perceived innovativeness (PI) has been proposed by Agarwal & Prasad (1998) and is defined as the willingness of an individual to try out any new information systems. Behavioral scientists assert that psychological traits such as personal innovativeness, significantly influence technology adoption given that individuals with a higher degree of personal innovativeness are more likely to take risks as they are generally more open to new ideas and experiences (Agarwal & Karahanna, 2000; Compeaue et al., 1999; Eastlick & Lotz, 1999; Jackson et al., 1997).

Although a number of empirical studies acknowledged the impact of personal innovativeness (PI) on different technologies (Agarwal & Karahanna, 2000; Lewis et al., 2003; Hung & Chang, 2005; Lu et al., 2005; Lassar et al., 2005; Yiet al., 2006; Lian & Lin, 2008), relatively few studies have been carried out regarding the potential effects on Mobile Commerce. Considering that personal innovativeness alters individuals beliefs about new technologies as well as the perception of their capabilities (Thatcher & Perrewé, 2002), it is expected to have a positive effect on the adoption of Mobile Commerce (Bhatti, 2007; Li, Liu, & Ren, 2007). And because it has been found that the formation of a favorable attitude towards mobile services is associated to the individual's creative propensity (Agarwal & Prasad, 1998; Pagani, 2004; Bauer et al., 2005; Rao & Troshani, 2007) this study will investigate for the first time the effects of Personal Innovativeness on Trust and the potential indirect effect on Behavioral Intention to use Mobile Commerce. Hence the seventh hypothesis:

Hypothesis 7 (H7): *"Personal Innovativeness has a positive and significant effect on Trust."*

2.2.8.   Trust and TAM

Trust is a convoluted construct that has been defined from different perspectives and by various disciplines. Due to the uncertain environment characterizing the M-Commerce environment, Trust is deemed to be an important "ingredient" affecting technology adoption (Holsapple and Sasidharan, 2005). As indicated by Lu (2003), M-Commerce is associated to a higher degree of insecurity if compared to traditional E-Commerce, fact that corroborates the relevance of Trust in this context.

The relationship between Trust and TAM have been broadly discussed in literature with reference to the online business environment (Gefen et al, 2003a, b; Pavlou, 2003; Saeed et al., 2003; Gefen, 2004); noteworthy is the study by Gefen et al. (2003a). As can be seen in Figure 7, the above mentioned model explicitly indicates their relationship of trust as an antecedent of PU and directly affecting Intended Use.
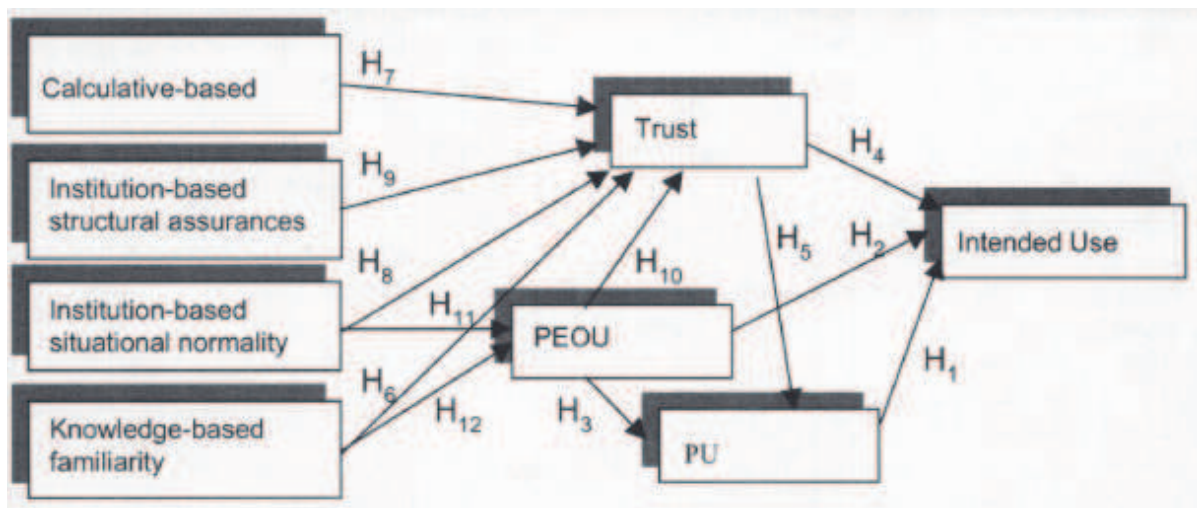
Figure 7 - Trust and TAM, Gefen (2003a)

Trust is one of the determinants of PU, specifically in an online environment, because a portion of the expected usefulness derived from web interactions is intrinsically determined by the sellers behind the web site. In short, if consumers trust their e-vendors, they will believe the online service is useful (Gefen et al., 2003a). This leads to the eight and last hypothesis:

Hypothesis 8 (H8): *"Trust has a positive and significant effect on Perceived Usefulness"*

2.2.9.   Behavioral Intention to Use (BI)

Davis et al. (1989) defined BI as "the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior.". According to TAM, BI is directly and positively affected by PU, indirectly affected by PEOU and directly influencing the individual's Actual Use. Since the introduction of TAM by Davis in 1989, researchers tested this model into several research streams. Some focused on establishing the roots cause of perceived ease of use and perceived usefulness (Karahanna & Straub, 1999; Koufaris, 2003; Wixom & Todd, 2005). In this research the direct effects of Perceived Usefulness, Perceived Ease of Use, Social Influence and the indirect, mediated effects of Facilitating Conditions, Trust and Personal Innovativeness on Behavioral intention will be tested. Below the proposed model and hypothesized relationship are reported.

Figure 8 - Proposed Model
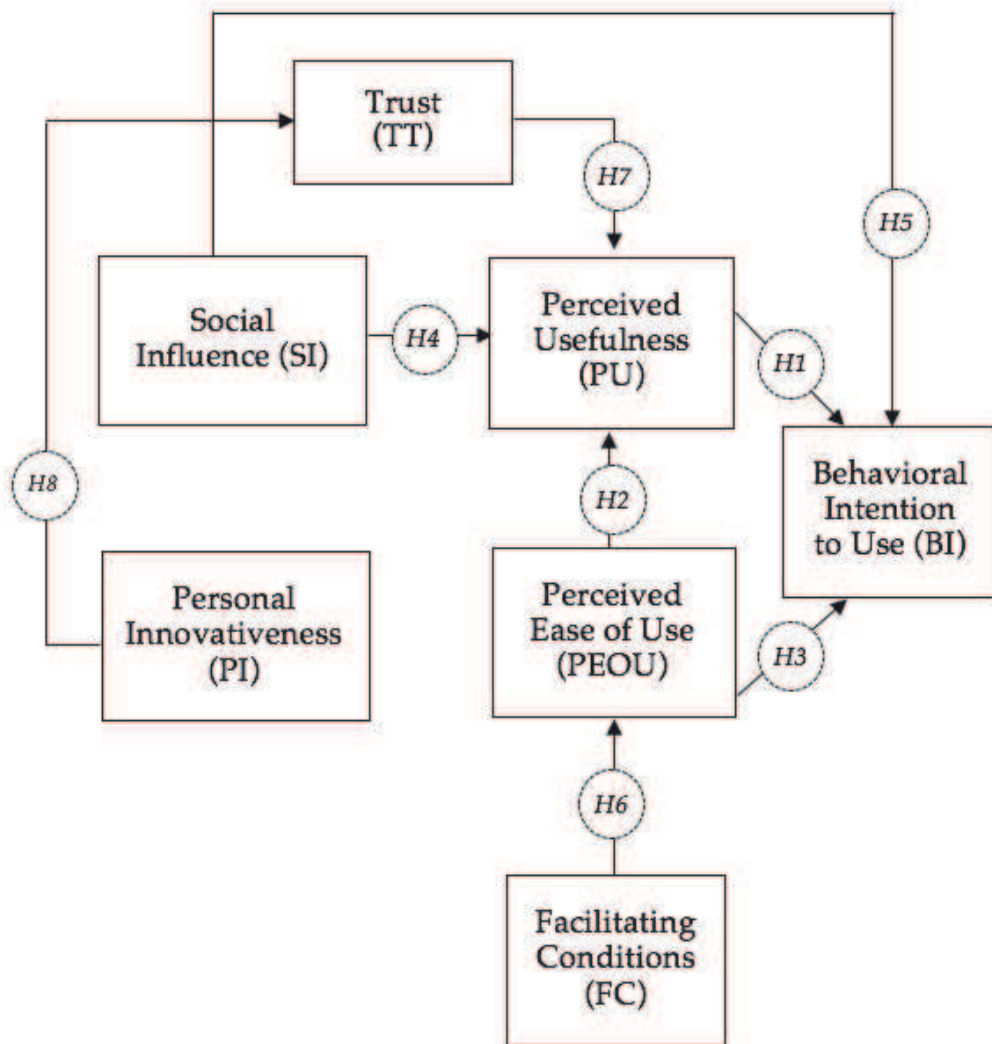
2.2.10.   Summary of Hypotheses

Table 4 - Summary of Hypotheses: Direct Effects

H1	"Perceived Usefulness has a positive and significant effect on Behavioral Intention to Use M-Commerce."	PU	→	BI
H2	"Perceived Ease of Use has a positive and significant effect on Perceived Usefulness."	PEOU	→	PU
H3	"Perceived Ease of Use has a positive and significant effect on Behavioral Intention to Use."	PEOU	→	BI
H4	"Social Influence has a positive and significant effect on Perceived Usefulness."	SI	→	PU
H5	"Social Influence has a positive and significant effect on Behavioral Intention to Use."	SI	→	BI
H6	"Facilitating Conditions have a positive and significant effect on Perceived Ease of Use:"	FC	→	PEOU
H7	"Personal Innovativeness has a positive and significant effect on Trust."	PI	→	TT
H8	"Trust has a positive and significant effect on Perceived Usefulness."	TT	→	PU

Table 5 – Hypothesized Mediation Effects

H9	"Perceived Usefulness mediates the effect of Perceived Ease of Use on Behavioral Intention"	PEOU	→	(PU)	→	BI
H10	"Perceived Usefulness mediates the effect of Social influence on Behavioral Intention"	SI	→	(PU)	→	BI
H11	"Perceived Usefulness mediates the effect of Trust on Behavioral Intention"	FC	→	(PEOU)	→	BI
H12	"Perceived Ease of Use mediates the effect of Facilitating Conditions on Behavioral Intention"	TT	→	(PU)	→	BI

CHAPTER 3
India

This chapter features a brief description of of the world's largest democracy's geography, demography and key economic facts relevant to this study.

3. INDIA

3.1.   Country Profile

India, officially the Republic of India *Bhārat Gaṇarājya* (Clémentin-Ojha, 2014), is located in South Asia and evolved from Indus Valley Civilization, one of the oldest in the World. With its 1,27 billion people, it is second most populated country and the world's biggest democracy. It is a federal constitutional republic governed under a parliamentary system consisting of 29 states and 7 union territories.

India's currency is the Indian Rupee (INR), which is equivalent to USD 0.15 or USD 1 equals 67 Indian Rupees. According to the International Monetary Fund (IMF), as of October 2015, the Indian economy is nominally worth USD 2.182 trillion. It is the 7th-largest economy by market exchange rates, and is, at USD 8.027 trillion, the third-largest by purchasing power parity, or PPP. The Indian economy is expected to grow at 7.5 % in 2015-16, followed by further acceleration to 7.9 %in 2016-17 and 8 % in 2017 (World Bank). The 492.4 million worker Indian labour force is the world's second-largest, as of 2014, following China.

Against this background, India is one of the world's fastest-growing economies and one of the most significant achievements of our times. After barely six and half decades since independence, the country has accomplished some remarkable revolutions: life expectancy has more than doubled, literacy rates have quadrupled, health conditions have improved, and a sizeable middle class has emerged. Today, India hosts numerous globally recognized companies in sectors ranging from pharmaceuticals to IT and space technologies, and is proving to be growing voice on the international stage.

With more than 50% of population below the age of 25 and over 65% below the age of 35, India now has that rare window of opportunity to improve the quality of life for its citizens and lay the foundations for a truly prosperous future that will impact the country and its people for generations to come.

3.1.1. Indian Culture

Hofstede defines culture as "*the collective programming of the mind that distinguishes the members of one group or category of people from another*". Therefore, culture reflects how people think and solve every-day struggles (Kumar & Sethi, 2005). Four dimensions were specified by Hofstede to explain countries' cultural differences:

1. Individualism-Collectivism: the role of an individual and the group in a society;
2. Power Distance: the degree of unequally distributed power in a society;
3. Uncertainty Avoidance;
4. Masculine-Feminism.

While India has traditionally been portrayed as a collectivistic society (Neelankavil et al., 2000; Nelson & Devanathan, 2006), coexistence of individualism and collectivism in India is well evidenced in research literature (Hofstede, 2001; Kumar & Sethi, 2005). Some scholars reported that Indians tend to behave in an individualistic fashion when they interact with non-family members. This could be justified by the high power distance, which implies expected dependence and paternalism, reported by Hofstede with reference to the Indian context.

On the Uncertainty avoidance dimension, India scores low, meaning that Indians feel less threatened by uncertain or unknown situations, which is pragmatically evidenced by a favorable disposition towards products and services coming from different countries and characterized by different cultures (Kumar & Sethi, 2005).

Lastly, India retains the masculine dimension, suggesting the preponderance of assertiveness and the abhorrence of failures in favor of achievements (Kumar & Sethi, 2005). To summarize, India has a coexistence of individualism and collectivism, high power distance, weak uncertainty avoidance, and the masculine dimension.

3.2.   State of the Mobile Industry

3.2.1.   Smartphones Market

The ever increasing need for consumers to take on the Internet through their mobile devices and the former's rapidly declining average selling price have been the key drivers of smartphones uptake in India. Smartphones have become the device of choice for Indians as smartphones shipment grew about 80% Y-o-Y in 2014 to reach 79 million units with sales expected to keep on their growth trajectory at a projected CAGR of 53.8% in the period 2013-2017. As highlighted in Figure 10 highlight India witnessed a much higher smartphone's shipments growth if compared to other developed and developing markets.

Figure 9 - CAGR Smartphone Shipments, 2013-2017

Source: KPMG in India Analysis, 2015
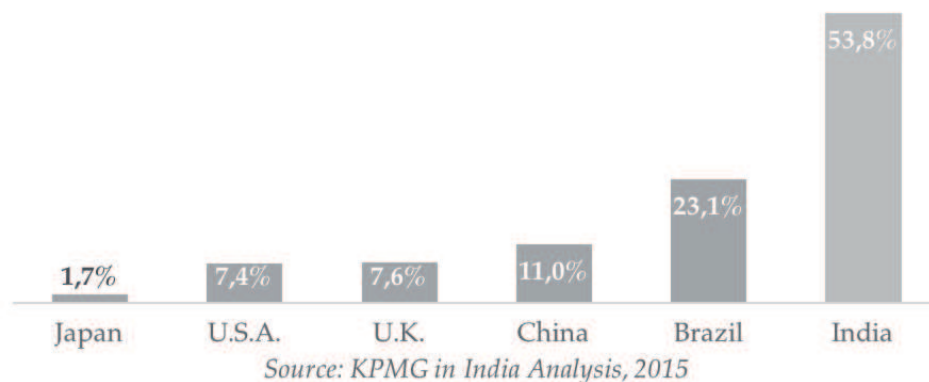
With 122 million smartphone users in 2014, India is the third largest smartphone market in the world after China and U.S. Although the overall smartphone user base is high, the smartphone penetration is low (~17 per cent) in the country, which implies good margins for future growth (KPMG & IAMAI, 2015).

3.2.2.   Mobile Phone Internet Penetration in India

In India, the number of people who own mobile phones is greater than the number of people who own desktops or personal computers. More than 50 per cent of Internet users are mobile-only Internet users (Avendus, 2013). The number is growing continuously; it accounted for approximately 159 million in 2014 and is expected to reach 314 million by end of year 2017 registering a CAGR of 27.8 per cent for the period 2013-2017 (IAMAI & IMRB, 2014).

3.2.3.　　Mobile Payments

The rapid expansion in the urban population, the heightened popularity of online shopping and the increased acceptance of cards by organised retailers were among the most important driver of the growth in plastic money in 2015. The majority of cashless payments came from retail electronic clearing ≈71%, whereas prepaid instruments contributed to not even 1% of the total. Customers and merchants are holding two poles of the ecosystem, while different players are attempting a 'land-grab' in different areas to ensure they're not marginalized as the sector continues its rapid development. See Appendix B for Indian Mobile Wallet Ecosystem.

3.2.4.　　Mobile Commerce in India

India has the third largest Internet user base in the world and in 2014 the country topped as fastest growing smartphone market in the world. According to the Indian telecom regulator TRAI, in the first half of 2015 the number of mobile phone subscribers in India reached 980.81 million users, recording a 6.71% YoY compared to the same duration last year. As anticipated, the number of Mobile Internet users is expected to reach 314 million by end of 2017 (IAMAI) whereas the number of 3G subscribers is projected to 284 million by the end of 2017 from 100 million in 2015. Further, 4G user base is expected to grow at an annual growth rate of 344 % and a CAGR of 103% from 2013 to 2018 (Cisco VNI report 2014).

According to PayPal mobile commerce transactions increased by over 250% in 2014 compared with the last financial yearn as major E-Tail companies in India are promoting M-Commerce by offering special discounts on purchases made from their mobile apps. Indeed, more than 50 % of E-Tailers' online orders come from mobile handsets only. Modern retail, with a penetration of only 5%, is expected to grow about six times from the current 27 billion USD to 220 billion USD, across all categories and segments (India Vision 2020).

Analysts expect the M-Commerce market in India to grow at a CAGR of approximately 71% over the period 2012-16, with forecasted USD 1.26 billion revenues for the network-based segment of M-Commerce applications i.e. ticketing, utility payments, recharge and travel. Shopping for products via mobile or M-Tailing is catching on and is soon expected to become a conventional channel for retailers considering that more than 25% of all online retail transactions are forecasted to happen in the mobile paradigm by 2017 (eMarketer).

CHAPTER 4
Methodology

This chapter discusses the research methodology of the dissertation. It outlines research strategy and sampling methods and presents validity and reliability of measurements used in this research.

4. METHODOLOGY

4.1.   Research Approach

In order to assess Indian respondents' attitudes and their intention to use M-Commerce technology, a survey elaborated on Qualtrics was administered online. On the basis of literature review, the questionnaire for the study was designed and pilot testing was done with a sample of 10 selected individuals. Few modifications in terminology of statements and clarity were carried out after pilot survey; a brief description of M-Commerce was provided for respondents to be informed about the concept of interest.

A total of 7 constructs were tailored to M-Commerce from prior studies, many of which had already established reliability and validity namely Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Social Influence (SI), Trust (TT), Personal Innovativeness (PI), Facilitating Conditions (FC), Behavioral Intention (BI) and Frequency of Use. All items were measured on a Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Frequency of Use was tested on a scale ranging from 1 (Extremely Infrequent) to 7 (Extremely Frequent). See Appendix C for Questionnaire Format. The questionnaire was divided into three sections: (1) demographic details, (2) smartphone type and usage and (3) questions related to the above mentioned constructs.

A total of 379 responses were recorded; 130 were discarded because of incompleteness for a final dataset of 249 complete responses of which 67% males (167) and 33% females (82). Data was analysed with SPSS 23.0 and AMOS 23.0.

4.2.   Sampling and Data Collection

Due to time and resources constraints, non-probability sampling was adopted for this study, in particular snowball sampling. Snowball sampling uses a small pool of initial informants to nominate, through their social networks, other participants who meet the eligibility criteria in order to contribute to a specific study. The sample for this research was selected from middle-class generally educated Indian citizens whom owned a Mobile Device to conduct Mobile Commerce transactions. The survey was launched on the 17th of November 2015 and closed on December 11th 2015.

4.3.   Measurement of Constructs

Table 6 - Measurement of Constructs

Construct	# of Items	Definition	Source
Perceived Usefulness (PU)	5	The extent to which a person believes that using a Mobile Commerce would enhance his or her performance	
Perceived Ease of Use (PEOU)	5	The extent to which a person believes that using a Mobile Commerce would be free of effort	Davis et. al (1989)
Behavioural Intention (BI)	3	The user's likelihood to engage in online transactions via Mobile Commerce	
Personal Innovativeness (PI)	3	Individual's willingness to try new Mobile Commerce platforms	Agarwal & Prasad (1998)
Social Influence (SI)	3	Person's perception that people who are important to him/her think he/she should engage in Mobile Commerce activities	Venkatesh & Davis (2000)
Facilitating Conditions (FC)	5	Extent and type of support provided that influences the use of Mobile Commerce	Venkatesh et al. (2003)
Trust (TT)	4	Trustworthiness of the wireless mobile environment	Gefen et al. (2003)

See Appendix C for Questionnaire Format i.e. Constructs' items

43

4.4.   Sample Adequacy

To begin with, missing data and unengaged responses i.e. those exhibiting biased repeating or random patterns were identified and removed from the dataset. Then, sample adequacy had to be evaluated in order to evaluate Factor Analysis appropriateness.

In most academic and business studies, Kaiser-Meyer-Olkin Measure of Sampling Adequacy & Bartlett's test play an important role in adequacy testing. KMO tests whether the partial correlations among variables are small and ranges from 0 to 1; the world-over accepted index is over 0.6. Bartlett's Test of Sphericity shows the validity and suitability of the responses collected to the problem being addressed through the study and should be less than 0.05.

As can we see from the table below, the sample passes both tests with a KMO value of 0.944 and a p value < 0.001 for the Bartlett's test, implying significance and providing grounds to reject the null hypothesis "H0: *The correlation matrix is an identity matrix i.e. a matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0*".

Table 7 - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
	Approx. Chi-Square Sphericity	5652.634
Bartlett's Test of	*Degrees of freedom*	378
	Significance level	.000

In addition, MacCallum et al. (1999, 2001) advocates that, to justify Factor analysis with smaller samples, all items in a factor model should have communalities i.e. the extent to which an item correlates with all other items, of over 0.60 or an average communality of 0.7. As shown in the communalities table in Appendix D, all communalities are above the cutoff point ranging from 0.706 to 0.854 with a satisfactory average communality of 0.77.

4.5.   Quality Standards

In order to reduce results bias, attention must be paid to: Reliability and Validity (Saunders & Thornhill, 2003).

4.5.1.   Reliability

Reliability defines the degree to which measurements are free from error and, thence, yield dependable results. Practically, reliability is defined as the internal consistency of a scale, which assesses the degree to which the items are homogeneous. In this study, the reliability of the constructs was tested through Cronbach's alpha, which measures how closely related a set of items are as a group.

Higher values of alpha are more desirable; the generally accepted reference point is 0.70 or higher. Although Nunnally (1978) is often cited when it comes to this rule, he has actually never stated that 0.7 is a reasonable threshold in advanced research projects, which resulted in a wide variance of test reliability. In the case of psychometric tests, most fall within the range of 0.75 to 0.83 with at least one claiming a Cronbach's alpha above 0.90.

Table 8 - Reliability of Constructs

Construct	Number of Items	Cronbach's alpha
PU	5	**0.92**
PEOU	5	**0.92**
BI	3	**0.91**
PI	3	0.83
SI	3	0.84
FC	6	**0.91**
TT	4	0.84

As can be seen, all constructs pass the reliability test by far, four of them being above the 0.9 cutoff point, implying good internal consistency among the scales employed for the present study.

4.5.2. Validity

Many different aspects have been proposed in the psychometric literature (Bagozzi, Yi, & Philips, 1991) to evaluate validity. Construct validity (Straub et al., 2004), which determines the extent to which a scale measures a variable of interest is composed of two elements: convergent and discriminant. When convergent validity is acceptable, it means that each measurement item correlates strongly with the one construct it is related to, while correlating weakly or not significantly with all other constructs.

Preliminary fit was conducted through PCA with Varimax rotation on 30 measurement items to screen them and identify the underlying dimensions of consumers' adoption of M-Commerce. In the extraction phase, the fixed number of factors i.e. 7 option was selected. Only those items with factor loadings greater than .05 in PCA were kept for the analysis and 2 items were dropped as they were not appropriately loaded on any factor. From the table below, we see that all items have satisfactory loadings ranging from .507 to .855 above the 0.5 cutoff point, ensuring adequate convergent validity (Hair et al.,2010).

Table 9 - Factor Loadings

Constructs	Indicator	Factor Loading
Personal Innovativeness	PI_1	.760
	PI_2	.771
	PI_3	.791
Social Influence	SI_1	.831
	SI_2	.855
	SI_3	.671
Trust	TT_1	.556
	TT_2	.580
	TT_3	.784
	TT_4	.731
Perceived Ease of Use	PEOU_1	.715
	PEOU_2	.728
	PEOU_3	.673
	PEOU_4	.720
	PEOU_5	.681
Perceived Usefulness	PU_1	.507

	PU_2	.746
	PU_3	.793
	PU_4	.603
	PU_5	.675
Facilitating Conditions	FC_1	.691
	FC_2	.746
	FC_3	.712
	FC_4	.804
	FC_5	.757
Behavioral Intention to Use	BI_1	.679
	BI_2	.584
	BI_3	.624

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Composite reliability (CR) was also calculated in relation to the structural model in order to evaluate scale reliability i.e. the internal consistency of a measure (Fornell & Larcker, 1981). All values were above the 0.7 cutoff point suggesting convergent validity (Nunnally, 1978).

Discriminant validity instead refers to the extent to which factors are distinct and uncorrelated. Average Variance Extracted (AVE) i.e. the degree that a latent is explained by its observed variables, Maximum Shared Variance (MSV), and Average Shared Variance (ASV) i.e. the extent to which a variable can be explained by another variable, were calculated to check for discriminant validity. All items reported an MSV < AVE and ASV < AVE implying discriminant validity of the sample (Fornell & Larcker, 1981; Hair et al., 2003). Given the exploratory nature of the study, sample adequacy, validity and reliability of the scales were deemed adequate.

CHAPTER 5

Data Analysis and Discussion

In this chapter we will analyze the data collected based on the theoretical basis of the thesis and discuss the theoretical and practical implications of this research.

5. DATA ANALYSIS

5.1.   Demographics

Variable	Definition	Frequency	Percentage
Gender	Male	167	67
	Female	82	33
Age	Between 18-24 years old	33	13.3
	Between 25-34 years old	159	63.9
	Between 35-44 years old	51	20.5
	Between 45-54 years old	6	2.4
	More than 55 years old	0	0
Region	North India	62	24.9
	North East India	11	4.4
	East India	6	2.4
	Central India	12	4.8
	West India	117	47
	South India	41	16.5
Martial Status	Single	125	50.2
	Married	117	47
	Divorced	6	2.4
	Widow	1	0.40
Education	Diploma	14	5.6
	Undergraduate	16	6.4
	Bachelor Degree	81	32.5
	Master Degree	133	53.4
	PhD	1	0.40
	Other	4	1.6
Occupation	Employee	121	48.6
	Self-Employed	45	18.1
	Professional	49	19.7
	Full-Time Student	19	7.6
	Homemaker	6	2.4
	Unemployed	7	2.8
	Other	2	0.8
Annual Income	Less than 2,00,000 INR	25	10.0
	Between 2,00,000 to 4,99,999 INR	44	17.7
	Between 5,00,000 to 9,99,999 INR	65	26.1
	Between 10,00,000 to 19,99,999 INR	38	15.3
	More than 20,00,000 INR	53	21.3
	Currently not earning	24	9.6

Variable	Definition	Frequency	Percentage
Smartphone Price	Less than 5,000 INR	8	3.2
	Between 5,000 to 9,999 INR	32	12.9
	Between 10,000 to 14,999 INR	51	20.5
	Between 15,000 to 19,999 INR	39	15.66
	Between 20,000 to 24,999 INR	27	10.8
	More than 25,000 INR	92	36.9
Mobile Data Plan (MDP)	Prepaid	104	41.8
	Postpaid	145	58.2
Average Monthly Expenditure for MDP	Less than 499 INR	75	30.1
	Between 500 to 999 INR	76	30.5
	Between 1,000 to 1,499 INR	39	15.7
	More than 1,500	59	23.7

According to the table, most respondents are single (50.2%) males (67%) coming from West India (47%), between 25 and 34 years old (63.9%) whom own a Master Degree (53.4%) and are employees (48.6%) earning between 5,00,000 to 9,99,999 INR per year (26.1%). The majority owns high end smartphones priced above 25,00,000 INR (36.9%) and spend on average between 500 to 999 INR per month on their Postpaid Mobile Data Plans (58.2%).

Previous research has revealed that Indian online buying behavior is related to certain demographics (Li, Cheng, & Russell, 1999; Weiss, 2001), indicating that, compared with brick-and-mortar shoppers, online consumers tend to be "better educated, have higher income, and more technologically savvy" (Li et al., 1999; Weiss, 2001; Swinyard & Smith, 2003).

Hence, this sample can be considered satisfactorily representative of Indian Mobile Commerce users as the majority holds a Master degree, has an annual income between 5,00,000 to 9,99,999 INR, higher if compared to the average Indian per capita income of 74,920 INR per year in 2014 (World Bank) and owning high end smartphones offering a broader range of technologically advanced applications.

5.2.   Data screening

Data screening was conducted to confirm reliability and validity of the data. Simple linear regression on linearly summed items was performed on SPSS to investigate multicollinearity through the Variance Inflation Factor (VIF). The values were all below the recommended 5 cutoff point and tolerance above the 0.1 threshold (Craneya & Surlesb, 2002; O'brien, 2007; Dormann et al., 2013).

Independence of residuals was also tested through the Durbin-Watson Statistic resulting in a value of 1.77 indicating no serial correlation (Durbin & Watson, 1950). The hypothesis of the F-Test i.e. all of the regression coefficients are equal to zero is also rejected. Significant relationships are found for all bi-variate associations.

Table 10 - Correlation between latent variables

	PI	SI	TT	PEOU	PU	FC	BI
PI	-	-.468**	.452**	.493**	.430**	-300**	-444*
SI		-	.496**	.411**	.509**	-366**	.460**
TT			-	.648**	.623**	-586**	.619**
PEOU				-	.729**	.721**	.718**
PU					-	.689**	.736**
FC						-	.711**
BI							-

** *Significantly different from zero at the 0,01 level (two-tailed).*

According to linear regression results, Social Influence as well as Trust were found to be insignificant i.e. unrelated to Behavioral Intention to use Mobile Commerce. However, both predictors were kept for further analysis considering that simple linear regression does not take into consideration the more complex interactions between variables characterizing this research. For this reason, structural equation modeling comes in the picture, allowing to test multiple regression simultaneously as per the proposed model. To conclude, the reported R^2 i.e. the percentage of variance accounted for by the model including Social influence and Trust was equal to 0.66.

5.3. Structural Equation Modeling

Structural Equation Modelling (SEM) is a multivariate statistical analysis technique widely used across disciplines. SEM grows out of and serves purposes similar to multiple regression, but in a more powerful way. It can be viewed as a combination of factor analysis and regression or path analysis and it is preferred because it estimates the multiple and interrelated dependence in a single analysis.

The interest in SEM is often on theoretical constructs represented by latent factors. The relationships between the theoretical constructs are represented by regression or path coefficients between the factors, often visualized in by a graphical path diagrams. A typical SEM includes a "measurement model" and a "structural model". The former explores the relationship between observed variables and latent variables i.e. how measured variables come together to represent the theory, whereas the latter examines the relationship between latent variables i.e. how constructs are related to other constructs (Huang, 2000).

5.3.1. Measurement Model, CFA

In SEM, Confirmatory Factor Analysis (CFA) is adopted to test the factorial structure between items (Chiu, 2003), the hypothesized relationship between the observed variables and latent variables and the model fit. The latter refers to how well our proposed model accounts for the correlations between variables in the dataset. If we are accounting for all the major correlations inherent in the dataset, with regards to the variables in our model, then we will have good fit; if not, then there is a compelling "inconsistency" between the proposed and the observed correlations, suggesting a poor fit of the model.

CFA was applied to test for Fit of Internal Structure of Model Criteria and consistency of the theoretic model. To estimate the parameters, Maximum Likelihood Method (MLE) with a 0.05 significance level was chosen to test the fit of the theoretic model. Below, a table with the recommended thresholds by Hu and Bentler (1999) is reported showing a satisfactory fit. See Appendix E for Confirmatory Factor Analysis Output and fit measures interpretation. In additions, all items showed standardized regression weights ranging from 0.682 to 0.9 and R squared from 0.47 to 0.809 implying a proper representation of the latent variables.

Table 11 - Goodness-of-fit measures for CFA

Fit Measures	Values	Recommend Values
CMIN	1.89	< 3
CFI	.948	> .90
GFI	**.856***	> .90
AGFI	.818	> .80
RMSEA	.06	< .08 fair fit

* Even though the GFI value is lower than the recommended one i.e. 0.90, several studies such as Chang et al. (2005), reported a GFI value lower than 0.80. In addition, Zikmund (2003) argued that values of GFI less than 0.9, do not necessarily imply a poor fit. Also note that in CFA all latent variables including Social influence and Trust are significant at the .001 level.

5.3.2.   Structural Model, SEM

As for CFA, the most widely respected and reported fit indices are covered here in relation to the proposed research model. Covariance between errors was allowed to account for similar wording, phrasing and/or systematic misunderstanding of the questions. Again, all latent variables were deemed significant. See Appendix F for AMOS path diagram.

Table 12 - Goodness-of-fit measures for SEM

Fit Measures	Values	Recommend Values
CMIN	2.072	< 3
CFI	.995	> .90
GFI	.984	> .90
AGFI	.936	> .80
RMSEA	.065	< .08 fair fit

5.3.3. Results of Hypotheses Tests

Table 13- Results of Hypotheses Test, Direct Effects

Hypothesis	Effect	Path Coefficient	P-value	Remarks
H1	PU → BI	0.443	***	Supported
H2	PEOU → PU	0.703	**	Supported
H3	PEOU → BI	0.442	***	Supported
H4	SI → PU	0.204	***	Supported
H5	SI → BI	0.086	*	Supported
H6	FC → PEOU	0.883	***	Supported
H7	PI → TT	0.739	***	Supported
H8	TT → PU	0.128	**	Supported

*** *Significantly different from zero at the 0,001 level (two-tailed).*
** *Significantly different from zero at the 0,01 level (two-tailed).*
* *Significantly different from zero at the 0,05 level (two-tailed)*

The original TAM relationships were confirmed as both correlation analysis and SEM proved the significance of perceived usefulness and perceived ease of use towards behavioral intention to use.

Results show that the **Behavioral Intention** to use Mobile Commerce in India is predicted by Perceived Usefulness (β=0.443, p<0.001), Perceived Ease of Use (β=0.442, p<0.001) and less so by Social Influence (β=0.086, p<0.05). **Perceived Usefulness** is predicted by Perceived Ease of Use (β=0.703, p<0.01), Social Influence (β=0.204, p<0.001) and Trust (β=0.128, p< 0.01). **Perceived Ease of Use** is predicted by Facilitating Conditions (β=0.883, p<0.01). Lastly **Trust** is predicted by Personal Innovativeness (β=0.739, p<0.001).

Bootstrapping, a non-parametric method based on resampling with replacement, was performed to test the hypothesis for indirect effects on the dependent variable. A confidence interval of 95 was selected for the analysis to avoid inflation of measures for a total of 5000 iterations.

Table 14 - Mediation Effects

| Hypothesized Mediation	Direct Effect	Indirect Effect	Result
PI → (TT→PU) → BI	.041 (ns)	.046*	Full Mediation
SI → (PU) → BI	.085*	.090***	Partial Mediation
FC → (PEOU) → BI	.150 (ns)	.567**	Full Mediation
TT → (PU) → BI	.090 (ns)	.058*	Full Mediation

ns = Not Significant

Partial Mediation occurs when the mediator only mediates part of the effect of the intervention on the outcome, that is, the intervention has some residual direct effect even after the mediator is introduced into the model. Full Mediation instead occurs when, after the mediator is introduced, the intervention on the outcome becomes statistically insignificant.

Table 15 - Result of Hypotheses Test, Mediated Effects

Hypothesis	Effect	Indirect effect	Remarks
H9	PI → (PU) → BI	.665***	Supported
H10	SI → (PU) → BI	.090***	Supported
H11	FC → (PEOU) → BI	.665***	Supported
H12	TT → (PU) → BI	.057*	Supported

5.3.4. Results Graphical Representation

Figure 10 - Hypothesis Test Results
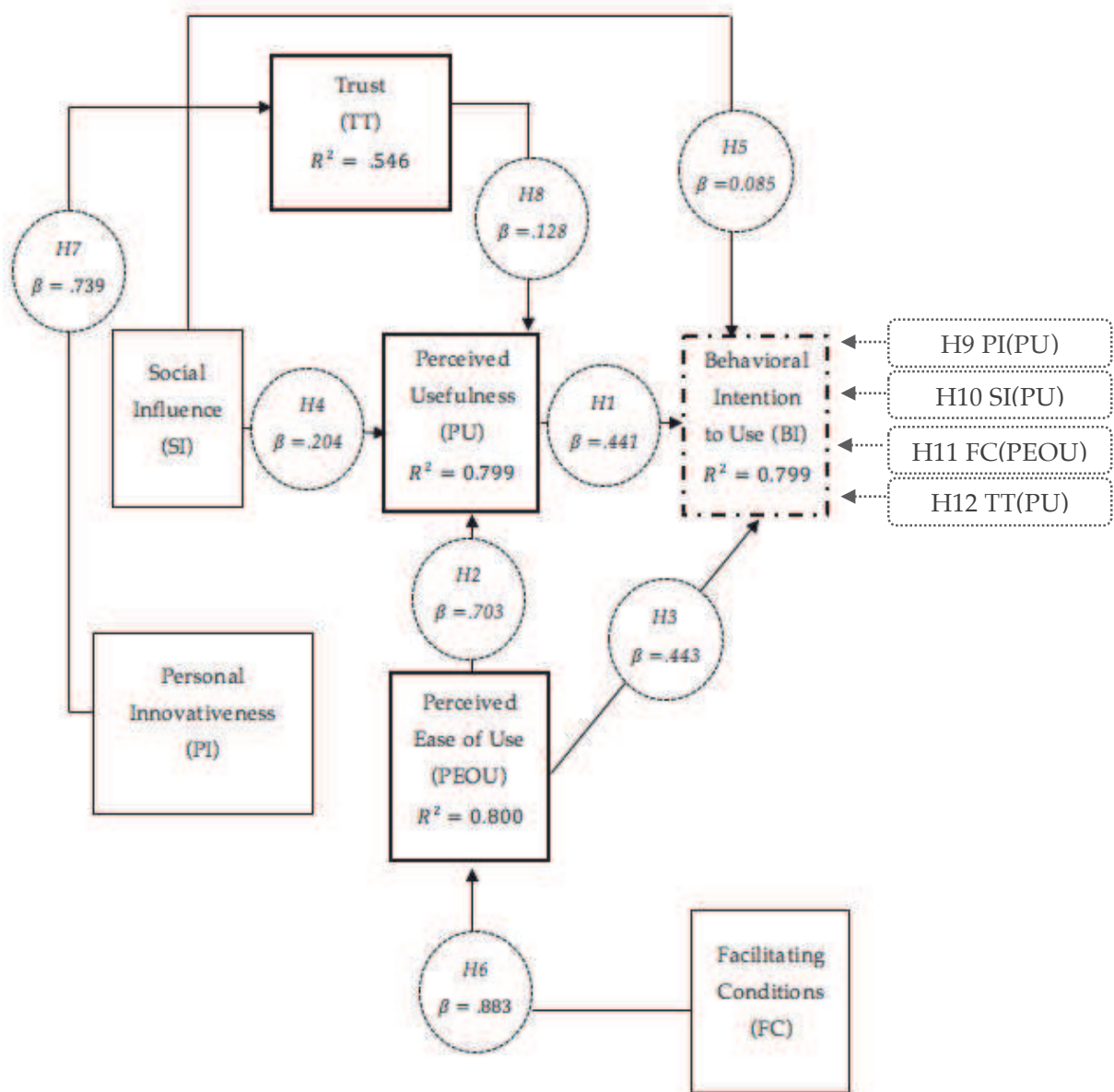
5.4.   DISCUSSION

5.4.1.   Explaining Behavioral Intention

The intention to use Mobile Commerce services in India is jointly predicted by Perceived Usefulness (β= 0.443), Perceived Ease of Use (β= 0.442) and Social Influence (β= 0.086). These variables explain ≈ 78% of Behavioral Intention variance, in line with Thakur & Srivastava (2013) study based on TAM and analyzing factors influencing the acceptance of mobile commerce in India.

Hypothesis 1 and **Hypothesis 3** are both strongly supported since Perceived Usefulness and Perceived Ease of Use have the greatest impact on Behavioral Intention to Use Mobile Commerce in accordance with work of Venkatesh and Davis as well as more recent studies focused on the Indian landscape by Bashir & Madhavaiah (2015), Mishra (2015) Dwivedi et al. (2014) Malik et al. (2013) and Chandrima Das (2011) and Mobile Commerce in general (Wei et al., 2009; Khalifa et al., 2008a; Kim & Garrison, 2009). According to Wei et al. (2008), the Perceived Usefulness construct assess the extrinsic characteristics of mobile commerce and further shows how mobile commerce can help users to achieve task-related goals, effectively and efficiently.

PEOU is instead considered as an important determinant in adoption of past Information Technologies such as intranet (Chang P. , 2004), 3G (Liao, Tsou, & Huang, 2007), online banking (Guriting & Ndubisi , 2006; Jahangir & Begum, 2008), wireless internet (Lu, Yu, Liu, & Yao, 2003), internet commerce (Cho, Keum, & Han, 2007) and recently M-Commerce (Lin & Wang, 2005; Wang & Barnes, 2007; Mallat & Tuunainen, 2008; Luarn & Lin, 2005) given that respondents are not necessarily adept in tehcnlogy. In addition, as shown in the Bootstrapping table, Perceived Usefulness partially mediates the effect of Perceived Ease of Use on Behavioral Intention, the effect being partial since both the direct and the indirect paths are still significant after testing for mediation (Davis, 1989; Teo, 2011).

Hypothesis 5 is, however, weakly supported by the analysis, as noted in linear regression output, as the effect of Social Influence on Behavioral Intention to Use Mobile Commerce seem to play a less important roleif compared to previous literature Thakur & Srivastava (2013); Algethmi & De Coster (2013); Khalifa & Cheng (2002). Few recent studies of developing countries found insignificant connection between social influence and intention (Shen, Laffey, Lin, & Huang, 2006; Wang Q. , 2006). This might be due to the fact that India is located in the middle between collectivism and individualism displaying characteristics of both, which makes it harder to interpret

results in an objective manner. In addition, considering that India is a rapidly developing economy characterized by a growing middle class, personal resources may be a more of an important factor compared to social influence per se. Lastly, the underestimation of this construct might be due to the fact that respondents did not exhibit their exact self-nature (Browne & Keeley, 1998).

The indirect effect of Social influence on Intention over Perceived Usefulness was also investigated through the Sobel test however, no mediation occurred since the indirect effect (.205*.440=.0902) was slightly greater than the direct effect (.086) (Sobel, 1982) in line with the Bootstrapping findings. Sub-Group analysis was compassed to check for differences related to Gender (*exogenous* variable). Based on Westland's research (2010), the minimum sample size for model structure, with respect to the number of latent variables and parameters, was estimated at 100, close to the study's sub-sample of 82.

Females reported the highest SI to BI path coefficient of .135 and explained variance in BI (R^2 =.875) if compared to Males, where the relationship loses significance at the 0.05 level. This can be explained by the fact that women behavior is subject to a higher degree of influenceability (Eagly & Carli , 1981), especially if we take into consideration India's patriarcal society. Males instead tend to place more importance on income, in line with the India's middle-class considerations elucidated above.

5.4.2. Explaining Perceived Usefulness

Perceived Usefulness is predicted by Perceived Ease of Use (β=0.703), Social Influence (β=0.204) and Trust (β=0.128) jointly explaining 80% of variance. This result is consistent respectively with findings from Davis (1989), Todd and Taylor (1995b), Gefen et al. (2003a). **Hypothesis 2, 4** and **8** are therefore supported by the results.

To begin with, the usefulness of Mobile Commerce increases the more it is perceived as being easy to use and effortless. Social Influence might effect potential users of Mobile Commerce insofar as the people important to him or her contribute in increasing the perception of the service' usefulness. On the other hand, Trust affects perceived usefulness by reducing safety concerns (Wei et al., 2009). Perceived Ease of Use played a major role in explaining variance in Perceived Usefulness for Females in contrast with findings by Ma & Yuen (2006), but in line with Lowe & Krahn (1989) and Frankel (1990) whom found that women experience higher anxiety than men in using technology.

In predicting Perceived Usefulness, Males reported a higher Social influence coefficient if compared to Females, in contrast with the previous results. This implies that men are more sensitive to Social Influence when determining the Degree of Usefulness of a given technology whereas Females are more susceptible to Social Influence in determining Behavioral Intention to use Mobile Commerce. Considering that males are greater influencers if compared to females and that they tend to interact more with the same sex (Carli, 2001), it is understandable that they would be more prone to conformity in evaluating usefulness for a given technology, therefore explaining the higher coefficient. Although it might seem as a contrasting conclusion, we know that the relationship between Social influence and Behavioral intention for Males has been rejected on the basis of an economic reasoning however, said aspect, does not come into the picture when analyzing the Social Influence to Behavioral Intention relationship. As a matter of fact, the perception of Usefulness is independent of money related considerations i.e. I might consider a technology useful and let other people influence my perception of the same albeit I might not let other influence my intention to use it as I posit more emphasis on personal resources when it comes to decision making i.e. Intention.

Trust was found to be significant only for Males (p<.05). The direct relationship of trust to BI was deemed insignificant and no mediation effect was recorded, to understand the intriguing relationship between Trust and Perceived Usefulness, a

model in which PEOU does not have a direct path to PU was tested. In the absence of the link from PEOU to PU, the path between TT and PU became significant for Females suggesting the fully mediating role of PEOU rather than PU and demonstrating the path through which Trust impacts Perceived Usefulness and, indirectly, Behavioral Intention. Although in the revised model the relationship TT → PU becomes significant, the variance explained in PU dropped significantly from 80% to 56% percent. Hence, we conclude that the hypothesized mediated model provides a better explanation of the relationships between the theorized constructs.

5.4.3.   Explaining Perceived Ease of Use

Perceived Ease of Use is predicted by Facilitating Conditions (β=0.883) which explain 78% of variance. This result supports **Hypothesis 6**, in line with previous research by Gu et al. (2009, p. 11605) and Taylor and Todd (1995a, p. 144) according to which the perception of adequate support i.e. technical, personnel enables users to take advantage of Mobile Commerce services without effort. Multi-Group effects were investigated for Perceived Ease of Use for Gender (*exogenous* variable) and Frequency of Use i.e. High, Low (*endogenous* variable). Frequency of use was introduced to verify whether Low Frequency users relied more on Facilitating Conditions when compared to High Frequency users. Whereas results did not show any significant differences in Gender, β_M=.893 vs. β_F=.860, Δ=3.7%; Low Frequency users reported a higher Facilitating Conditions coefficient if compared to High Frequency Users β_{LF}=.888 vs. β_{HF}=.814, Δ=8.3%. Low Frequency users might in fact be more influenced by their perception of available support structures when determining the Ease of Use of a given technology considering their occasional use of M-Commerce.

To conclude, the relationship holds true for both Sub-Groups and is easily understandable since users cannot adopt Mobile Commerce if they do not have the resources available to access and use its services regardless of them being Males, Females, High or Low Frequency users. In addition, considering that Mobile Commerce is a relatively new concept in India and that the infrastructures to back such services are still in a developing stage, reliance on support structure is of paramount importance.

5.4.4.   Explaining Trust

Trust is predicted by Personal Innovativeness (β=0.739) explaining 55% of variance and supporting **Hypothesis 7**. Since this hypothesis introduced a new relationship between TT and PI, a more detailed analysis will be conducted to determine whether Trust and Personal Innovativeness have significant indirect effects on the other variables. It was found that Perceived Usefulness fully mediated the (weak) effect of Trust on Behavioral intention (β=0.068, p<0.05). The direct link between Trust and Behavioral intention was in fact found to be statistically insignificant.

While a lot of research has been conducted on the Technology Acceptance Model, most researchers have ignored the effects of gender even though, in the socio-linguistic field, it represents a fundamental aspect. In this section, we will try to understand why Personal Innovativeness positively affects Trust.

The effect on PI on TT was positive and significant at the .001 level for both males and females. This finding suggests that people that are more innovative towards new technologies i.e. that show a greater willingness to "change" their habits, trust more Mobile Commerce. An explanation could be that, by perceiving themselves as being more knowledgeable and insightful in dealing with new technologies, the degree of risk associated to experiencing new ways of doing things, such as purchasing through Mobile Commerce, decreases as a consequence. In particular, because these individuals might be more apt to problem solving in uncertain situations that may arise from Mobile Commerce adoption such as placing a wrong order, returning an item, asking for refund etc.

In addition, because Frequency of use might effect the degree of Trust towards a technology, Sub-Group analysis was conducted with respect to Frequency. As expected, High Frequency Users reported the lower coefficient on the path from Personal Innovativeness to Trust. Because they already consider themselves heavy users, the influence of PI on TT might be less important in building trust if compared to Low Frequency users, whom reported a much higher coefficient (β_{LF}=.740 vs. β_{HF}=.500), $\Delta = 33\%$. On the other hand, individuals that acknowledge their occasional use of Mobile Commerce might in fact have to rely more on their innovative skills in order to build trust towards mobile commerce so to exploit its potential, in line with the Facilitating Conditions reasoning.

CHAPTER 6

Conclusions

A summary of the findings, the academic and practical contributions of this study, its limitations and future research are presented in this last chapter.

6. CONCLUSIONS

The research by Davis et al. (1989) is extended in this study to explore the Mobile Commerce acceptance in India. Based on this theory, with extensions from other papers, a comprehensive research framework was developed and examined with the help of structural equation modelling. On the basis of the test results, the following conclusions were proposed.

Perceived Usefulness and Perceived Ease of Use significantly predict Behavioral Intention in accordance with previous studies (Davis, 1989; Khalifa & Shen, 2008a; Wei et al., 2009; Kim & Garrison, 2009; Das, 2011; Dwivedi et al. , 2014; Mishra, 2015; Bashir & Madhavaiah, 2015) less so does Social influence as found in Shen et al. (2006) and Wang (2006). Sub-Group analysis revelaed that Social influence was only significant for Females in predicting Behavioral Intention. Insignificance for males can be explained by the fact that Indian's individualistic attitude is emphasized by the interaction with non-family members as it happens in Mobile Commerce (Hofstede, 2001) and beacuse the rising Indian middle-class, in particular males, may posit more influence on personal resources rather than Social influence. A parallel analysis was conducted on Facilitating Conditions and it was found that perceived Ease of Use fully mediates the effect of Facilitating Conditions on Behavioral Intention for Females.

Perceived Usefulness was predicted by Perceived Ease of Use, Social Influence and Trust. Perceived Ease of Use was more significant for Females whom, according to Lowe & Krahn (1989) and Frankel (1990) usually experience higher anxiety if compared to males. Interestingly, Males reported a higher Social influence coefficient in determining usefulness, mostly because economic considerations do not come into the picture when defining usefulness. Trust was found to be only significant for Males whereas for Females the effect was fully mediated by Perceived Ease of Use.

Perceived Ease of Use was explained by Facilitating Conditions in line with research by Gu et al. (2009) and Taylor and Todd (1995a). Low Frequency had a higher coefficient compared to High Frequency users, implying the greater relevance of support structures for the occasional users. Lastly, Perceived Innovativeness explained Trust and Females reported the highest coefficient. Since women are generally more risk averse compared to men (Chaudhuri & Gangadharan, 2003), the higher reliance on Personal Innovativeness may contribute in lowering the perceived risk related to Mobile Commerce. Same applies to Low frequency users if we consider their irregular use of Mobile Commerce hence the higher necessity to build Trust.

6.1. Academic Contributions of the Study

The foremost contribution of this study was the development of a conceptual model able to explain and predict the factors that influence Mobile Commerce Adoption in India. From an academic perspective, it provides empirical support for the proposed hypotheses based on the integrative research framework and literature, adding a new relationship to previous studies namely the relationship between Personal Innovativeness and Trust. It provides groundwork for future country specific research given the model's generalization potential. Lastly, the proposed moderating influence of some constructs in key relationships in technology acceptance further enhanced the understanding of this complex behavioral process and related practical implications.

The findings also suggest that IT theories should attempt to account for gender and other cultural effects on constructs as culture has long been proposed as a cornerstone for international organizational research by Hofstede (1980), and, with the growing global economy (Cash, McFarlan, & McKenney, 1988; Ives & Jarvenpaa, 1991), has also been touted as a critical element in IT studies.

6.2. Practical Implications of the Research

From a practical point of view, the findings of the study will help Mobile Commerce retailers to better understand the psyche of Indian consumers and equip themselves to attract consumers towards mobile format, a potentially breakthrough, low cost alternative to brick and mortar options.

To begin with, companies offering mobile services should start taking measures to eliminate the risk factor and build trust in this form of retail since Indian consumers are still comfortable with the brick and mortar format as they appreciate the social element of shopping. Live chat support could remedy the "disconnection" feeling related to mobile shopping as it provides immediate access to help while providing the salesman's friendliness feeling. In addition, as live chat representatives talk to customers, they can find out ways to improve a company's products and services benefiting both the brand and the business.

To access more potential adopters, information about Mobile Commerce services should be provided and include the "time saving", "convenience", "anywhere any time", "low costs", and "information availability" propositions increasing

Perceived Usefulness. To enhance the Perceived Ease of Use instead, mobile platforms should focus on user friendliness in order to encourage exploration of the application's features and products/services related offers.

Because in the Indian culture family and friends play an important role in decision making, marketing managers should consider this secondary audience to be as critical as the individual itself and devise strategies that address the influence of these groups. De facto, 48% of respondents reported "Friends" as the main influencer in their Mobile Commerce related decisions implying that, once a brand supports friends and family values, it tends to become popular and easily accepted in the Indian market.

Like family members, people in position of authority strongly influence behaviors in India as confirmed by the second greatest influencer "Media" (22%). The endorsement of strong opinion leaders, celebrities and famous sportsmen in marketing campaigns (as Coca-Cola, Reebok and Mc Donald's successfully did in the mid 2000s) may motivate individuals in adopting Mobile Commerce and have a perceptible impact on males whom seemed unaffected by Social Influence.

In addition, to increment traffic to the Mobile Commerce platform, a bargaining factor may also be incorporated to keep people in sync with their buying habits. This could be done by offering a fixed and a variable component in the pricing and letting people choose based on the variable element, spurring curiosity while boosting Personal Innovativeness.

Moreover, in order to realize the true potential of M-Commerce, all the stakeholders including Online Merchants, Banks and Aggregators need to contribute in building a cooperative environment by removing obstacles that threaten to obstruct the growth potential of Mobile Commerce in India. From an infrastructural point of view, India's poor logistics infrastructure creates a challenge for M-Retailers to offer quick delivery services, whereas the lack of stable telecommunications infrastructure across the country could also limit the pace of growth. Such issues should be addressed by the government's ambitious "Digital India" project which aims to offer a one-stop shop for government services that will have the mobile phone as the backbone of its delivery mechanism implying extremely positive spillovers for other participants.

In conclusion, India's sweeping retail opportunity is extraordinary; coupled with a demographic dividend (young population, rising standards of living and upwardly mobile middle class) and soaring mobile internet penetration, strong future growth in Mobile Commerce is expected.

6.3.   Limitations and Further Research

This study had several limitations. To begin with, the sample size has a limitation in terms of age generations and gender. This limitation could be mitigated by a stratified random sampling approach and by assuring an adequate representation of participants in each of the categories of interest. It should be also noted that the variables taken into consideration are subject to people's subjective appraisal of their own performance and effort and might not necessarily reflect objective reality. The fact that the measures performed well psychometrically is promising regarding their appropriateness in the life cycle of Mobile Commerce acceptance however, for future research it is advisable to introduce more control variables such as income and education in order to grasp the ever changing dynamics of the Indian economy. Moreover, variables are merely measured according to individual's responses and cannot be manipulated as it would be the case in an experiment setting, which only allows us to make casual claims.

Additionally, since India is subject to an increasing number of collaborations between disparate categories of players and service providers, a region specific model could be developed based on the demographic profile of the consumers. More empirical studies on trust and risk factors can be conducted in order to provide more reliable and practical recommendations for the relevant stakeholders of the M-Commerce market. Future research should as well consider generational gaps to determine the propensity towards, and consequent acceptance, of new Mobile Commerce technologies allowing corporates to profitably interact with each generation.

It can be seen that many important research areas are still unexplored and more research is required in order to elucidate various aspects influencing the adoption of M-Commerce in India. Nonetheless, even though interactions with Mobile Commerce services are complex and multifaceted, constant ad critical investigation of consumers' behavior may lead to compelling results in the Indian context. It can be concluded that as Mobile Commerce sprints onwards, a specific model tailored to India and mirroring Indian consumers' preferences will ultimately contribute to the economic development characterizing the undergoing modernization process of the World's greatest democracy, India.

BIBLIOGRAPHY

Eagly, A., & Carli , L. (1981). Sex of researchers and sex-typed communications as determinants of sex differences in influenceability: A meta-analysis of social influence studies. *Psychological Bulletin, 90*(1), 9-20.

Abdelkarim, A., & Nasereddin, H. (2010). Mobile Commerce. *Journal of Mathematics and Technology, Journal of Mathematics and Technology*, 51–55.

Agarwal, A., & Bhatawal, H. (2015). M Commerce in India: Promise and Problems. *International Journal of Research in Computer and Communication Technology, 4*(4).

Agarwal, R., & Karahanna, E. (2000). Time Flies When You're Having Fun: Cognitive Absorption and Beliefs About Information Technology Usage. *MIS Quarterly, 24*(4).

Agarwal, R., & Prasad, J. (1998). Aconceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research, 9*(2), 204–301.

Aghaunor, L., & Fotoh, X. (2006). *Factors affecting ecommerce adoption in Nigerian banks.* Jönköping International Business School, Nigeria.

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In J. Kuhland, & J. Beckman, *Action Control: From Cognition to Behavior* (pp. 11-39). Heidelberg: Springer.

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs, New Jersey: Prentice-Hall.

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior.* . Englewood Cliffs, New Jersey: Prentice-Hall.

Ajzen, I., & Madden, T. (1986). Prediction of Goal-Directed Behavior: Attitudes, Intentions, and Perceived Behavioral Control. *Journal of Experimental Social Psychology, 22*, 453-474.

Al-Gahtani, S., Hubona, G., & Wang, J. (2007). Information technology (IT) in saudi arabia: Culture and the acceptance and use of IT. *Information & Management, 44*(8), 681-691.

Algethmi, M., & De Coster, R. (2013). Individual behavior towards mobile services acceptance in the airline sector: A survey in Saudi Arabia. *Academy of Marketing 2013 Conference, University of South Wales, Cardiff, Wales.*

Alkhunaizan, A., & Love, S. (2013). Effect of Demography on Mobile Commerce Frequency of Actual Use in Saudi Arabia. *Advances in Information Systems and Technologies, 206*, 125–131.

Au, Y., & Kauffman, R. (2006). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic Commerce Research and Applications.*

Avendus. (2013). *India's Mobile Internet: The revolution has begun.*

Bagozzi, R., & Yi, Y. (1988). On the Evaluation of Structure Equations Models. *Academic of Marketing Science, 16*(1), 76-94.

Bagozzi, R., Yi, Y., & Philips, L. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly, 36*, 421-458.

Balasubramanian, S., Peterson, R., & Jarvenpaa, S. (2002). Exploring the Implications of M-Commerce for Markets and Marketing. *Journal of the Academy of Marketing Science, 30*(4), 348-361.

Bandura, A. (1977a). Self-Efficacy: Toward a Unifying Theory of Behavioural Change. *Pyschological Review, 84*(2), 191-215.

Bandura, A. (1982). Self-Efficacy Mechanism in Human Agency. *American Psychologist, 37*(2), 122-147.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewood Cliffs, NJ: Prentice-Hall.

Barcalay, D., Thompson, R., & Higgins, C. (1995). The Partial Least Squares (PLS) Approach to Causal Modeling: Personal Computer ersonal Computer Adoption and Use an Illustration. *Technology Studies , 2*(2), 285-309.

Barnes, S. (2002). The Mobile Commerce Value Chain: Analysis and Future Developments International. *Journal of Information Management, 22*(2), 91- 108.

Bashir, I., & Madhavaiah, C. (2015). Consumer attitude and behavioural intention towards Internet banking adoption in India. *Journal of Indian Business Research, 7*(1), 67-102.

Battacherjee, A. (2000). Acceptance of e-commerce services: The case of electronic brokerages. *IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans, 30*(4), 411-420.

Bauer, H., Barnes, S., Reichardt, T., & Neumann, M. (2005). Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study. *Journal of Electronic Commerce & Research, 6*(3).

Beach, L., & Mitchell, T. (1978). *A Contingency Model for the Selection of Decision Strategies, 3*(3), 439-449.

Bellman, S., Lohse, G., & Johnson, E. (1999). Predictors of Online Buying Behavior. *Communications of the ACM, 42*(12), 32-38.

Bhatti, T. (2007). Exploring Factors Influencing the Adoption of Mobile Commerce. *JIBC, 12*(3).

Browne, M., & Keeley, S. (1998). *Asking the right questions: A guide to critical thinking.* Upper Saddle River, NJ: Prentice Hall.

Buchan, N., Croson, R., & Solnick, S. (2008). Trust and Gender: An Examination of Behavior, Biases, and Beliefs in the Investment Game. *Journal of Economic Behavior and Organization*.

Buellingen, F., & Woerter, M. (2004). Development Perspectives, Firm Strategies and Applications in Mobile Commerce. *Journal of Business Research, 57*(12), 1402-1408.

Carli, L. (2001). Gender and Social Influence. *Journal of Social Issues, 57*(4), 725-741.

Carlsson, C., & Walden, P. (2002). Mobile Commerce: Some Extensions of Core Concepts and Key Issues. *Proceedings of the SSGRR 2002s Conference.* L'Aquila, Italy.

Carmines, E., & McIver, J. (1981). Analyzing Models with Unobserved Variables. In G. Borgatta, & E. Bohrnstedt, *Social Measurement: Current Issues.* Beverly Hills, CA: Sage.

Cash, J., McFarlan, F., & McKenney, J. (1988). *Corporate Information Systems Management: The Issues Facing Senior Executives.* Homewood, IL: Irwin.

Chaffey, D. (2009). *E-Business and E-Commerce Management: Strategy, Implementation and Practice* (4th Edition ed.). Pearson Education .

Chang, I., Hwang, H., Hung, W., & Li, Y. (2007). Physicians' acceptance of pharmacokinetics-based clinical decision support systems. *Expert Systems with Applications, 33*(2), 296-303.

Chang, P. (2004). The Validity of an Extended Technology Acceptance Model (TAM) for Predicting Intranet/Portal Usage. *University of North Carolina at Chapel Hill*. USA.

Chaudhuri, A., & Gangadharan, L. (2003). Gender Differences in Trust and Reciprocity. The University of Auckland.

Chen, L., & Skelton, G. (2005). *Mobile Commerce Application Development.* CyberTech Publishing.

Chen, L., Gillenson, M., & Sherrell, D. (2000). Enticing online consumers: an extended technology acceptance perspective. *Information & Management, 39*, 705-719.

Cheong, J., & Myeong-Cheol, P. (2005). Mobile internet acceptance in Korea. *Internet Research, 15*(2), 125-140.

Cheung, S., Chan, K., & Wong, S. (1999). Reexaming the Theory of Planned Behavior in Understanding Wastepaper Recycling. *Environment and Behavior, 31*(5), 587-612.

Chin, A., Wafa, S., & Ooi, A.-Y. (2009). The Effect of Internet Trust and Social Influence towards Willingness to Purchase Online in Labuan, Malaysia. *International Business Research, 2*(2), 72-81.

Chiu, H. (2003). Structural Equation Modeling. Taipei.

Cho, N., Keum, J., & Han, S. (2007). A study on factors affecting e-commerce adoption in steel industry. *Proceedings of 10th International Conference of the Society of Global Business and Economic Development (SGBED).*

Chong, A., Chan, F., & Ooi, K. (2011). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems, 53*(1), 34-43.

Chooprayoon, V., Fung, C., & Depickere, A. (2007). TECTAM, a Modified Technology Acceptance Model to Assess E-Commerce Technologies adoption by Thai SME. *TENCON 2007 – 2007 IEEE Region 10 Conference*, (pp. 1-4).

CIA. (n.d.). The World Factbook. Central Intelligence Agency.

Clarke, I. (2001). Emerging value propositions for M-commerce. *Journal of Business Strategies, 18*(2), 133–149.

Clémentin-Ojha, C. (2014). India, that is Bharat…': One Country, Two Names. *South Asia Multidisciplinary Academic Journal, 10*.

(2002). *Committee on Communication for Behavior Change in the 21st Century.*

Compeau, D., Higgins, C., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study . *MIS Quarterly, 23*(2), 145-158.

Craneya, T., & Surlesb, J. (2002). Model-Dependent Variance Inflation Factor Cutoff Values. *Quality Engineering, 14*(3), 391-403.

Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska. (2008). Past, present and future of mobile payments research: a literature review. *Electronic Commerce Research and Applications, 7*, 165-181.

Daniel, E., & Grimshaw , D. (2002). An exploratory comparison of electronic commerce adoption in large and small enterprises. *Journal of Information Technology, 17*, 133–147.

Danowitz, A., Nassef, Y., & Goodman, S. (1995, 12). Cyberspace across the Sahara: Computing in North Africa. *Communications of the ACM, 38*, 23-28.

Das, C. (2011). A study on validity of modified technology acceptance model of mobile internet with reference to nagpur. *AIMA journal of management & research, 5*(3/4).

Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(2), 319-340.

Davis, F., Bagozzi, R., & Warshaw, P. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science, 35*, 982-1002.

Dishaw, M., & Strong, D. (1999). *Extending the technology acceptance model with task-technology fit constraints, 36*(1), 9-21.

Dormann et al. (2013). Collinearity: a review of methods to deal with it and a simulation study evaluating their performance. *Ecography, 36*(1), 27–46.

Drennan, J., & Mort, S. (2005). Marketing M-Services: Establishing a Usage Benefit Typology Related to Mobile User Characteristics. The. *Journal of Database Marketing and Customer Strategy Management, 12*(4), 327-341.

Durbin, J., & Watson, G. (1950). Testing for Serial Correlation in Least Squares Regression. *Biometrika, 37*(3-4), 409–428.

Dwivedi, Y., Tamilmani, K., Williams, M., & Lal, B. (2014). Adoption of M-commerce: examining factors affecting intention and behaviour of Indian consumers. *International Journal of Indian Culture and Business Management, 8*(3), 345 - 360.

Eagly, A., & Chaiken, S. (1993). *The psychology of attitudes.* Philadelphia: Harcourt Brace Jovanovich College Publishers.

Easterby-Smith, M., Thorpe, R., & Lowe, A. (1991). *Management Research: An Introduction.* London: Sage.

Eastlick, M., & Lotz, S. (1999). Profiling potential adopters and non-adopters of an interactive electronic shopping medium", International Journal of Retail & Distribution Management. *7*(6), 209-223.

Feng, H. H. (2006). Exploring the critical success factors for mobile commerce: IEEE. *ICMB, Proceedings of the International Conference on Mobile Business.*

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research.* Addison-Wesley Pub.

Fornell, C., & Larcker, D. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50.

Foxall, G. (1994). Consumer Choice As an Evolutionary Process: an Operant Interpretation of Adopter Behavior. *Advances in Consumer Research, 21*, 312-317.

Frambach, R. (1993). An integrated model of organizational adoption and diffusion of innovations. *Europe Journal of Marketing, 27*(5), 22-41.

Frankel, K. (1990). Women and Computing. *Communications of the ACM, 33*(11), 34-45.

Fredricks, A., & Dossett, D. (1983). Attitude-Behaviour Relations: A Comparison of the Fishbein-Ajzen and the Bentler-Speckart Models. *Journal of Personality and Social Psychology, 45*, 501-512.

Ganesan, S. (1994). Determinants of long-Term orientation in buyer-seller relationships. *Journal of Marketing, 58*, 1–19.

Gefen, D. (2004). What makes an ERP implementation relationship worthwhile: linking trust mechanism and ERP usefulness. *Journal of Management Information Systems, 21*(1), 263-288.

Gefen, D., Karahanna, E., & Straub, D. (2003a). Trust and TAM in online shopping: an integrated model. *MIS Quarterly, 27*(1), 51-90.

Gefen, D., Karahanna, E., & Straub, D. (2003b). Inexperience and experience with online stores: the importance of TAM and Trust. *50*(3), 307–321.

George, J. (2002). Influences on the intent to make Internet purchases. *Internet Research, 12*(2), 165-168.

George, J. (2004). The theory of planned behaviour and Internet purchasing. *Internet Research, 14*(3), 198-212.

Goldsmith, R. (2001). Using the domain specific innovativeness scale to identify innovative Internet consumers. *Internet Research-Electronic Networking Applications and Policy, 11*(2), 149-158.

Goodman, S., & Green, J. (1992). Computing in the Middle East. *Communication of ACM, 35*(8), 21-25.

Gu, J., Lee, S., & Suh, Y. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications, 36*(9), 11605-11616.

Gu, J.-C., Lee, S.-C., & Suh, Y.-H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications: An International Journal, 36*(9), pp. 11605-11616.

Gupta, D., & Vyas , R. (2014). Benefits and Drawbacks of M-Commerce in India: A Review. *IJARCCE, 3*(4), 6327-6329.

Guriting, P., & Ndubisi , N. (2006). Borneo online banking: Evaluating customer perceptions and behavioral intention. *Management Research News, 29*(1-2), 6-15.

Hair, J., Anderson, R., Tatham, L., & Black. (2003). *Multivariate Data Analysis.* (5. Edition, Ed.) Prentice Hall.

Hair, J., Ringle, C., & Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet. *The Journal of Marketing Theory and Practice, 19*(2), 139–151.

Halbesleben, J., & Buckley, M. (2004). Burnout in organizational life. *Journal of Management, 30*, 859–879.

Hameed, K., Shah, H., Ahsan, K., & Weiju, R. (2010). An Enterprise Architecture Framework for Mobile Commerce. *International Journal of Computer Science, 7*(3), 6-12.

Hancock, G. (2015). Fortune Cookies, Measurement Error, and Experimental Design. *Journal of Modern Applied Statistical Methods, 2*(2), 293–305.

Hauser, J., & Simmie, P. (1981). Profit Maximizing Perceptual Positions: An Integrated Theory for the Selection of Product Features and Price. *Management Science, 27*(1), 33-56.

Heng-Sheng , T., & Gururajan, R. (2005). Determinants for a generic mobile commerce transformation framework . *CollECTeR Conference on eCommerce.* Sidney.

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work Related Values.* London: SAGE.

Hofstede, G. (2001). *Culture's Consequences: comparing values, behaviors, institutions, and organizations across nations* (2nd Edition ed.). CA: Thousand Oaks.

Hsu, M., & Chiu, C. (2004). Internet self-efficacy and electronic service acceptance. *Decision Support Systems, 38*, 369-381.

Huang, J. (2000). *Multivariate Analysis.* (7. Edition, Ed.) Chinese Institute of Economy and Business Administration.

Hung, S., & Chang, C. (2005). User acceptance of wap services: Test of competing theories. *Computer Standards & Interfaces, 28*, 359–370.

Hwang, Y. (2005). An empirical study of online trust and consumer behavior: Cultural orientation, social norms, and personal innovativeness in information technology. *Proceedings of the Twenty-sixth International Conference on Information Systems*, (pp. 25-28). Las Vegas.

IAMAI & IMRB. (2014). *Mobile Internet in India.*

IAMAI-IMRB. (n.d.). *Mobile Internet in India Report 2014.*

IDC Asia Pacific Quarterly Mobile Phone Tracker. (Q42014).

IDC Press Release. (2015). *KPMG in India analysis.*

Ives, B., & Jarvenpaa, S. (1991). Applications of Global Information Technology: Key Issues of Management. *MIS Quarterly, 15*(1), 33-50.

Jackson, C., Simeon, C., & Leitch, R. (1997). Toward an Understanding of the Behavioral Intention to Use an Information System. *28*(2), 357–389.

Jahangir, N., & Begum, N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African Journal of Business Management, 2*(1).

Jaradat, M., & Rababaa, M. (2013). Assessing Key Factor that Influence on the Acceptance of Mobile Commerce Based on Modified UTAUT, , 8, 23, 102-112. *International Journal of Business and Management, 8*(23), 102-112.

Jarvenapa, S., Lank, K., Takeda, Y., & Tuunainen. (2003). Mobile Commerce at Crossroads. *Communications of the ACM, 46*(12).

Jih, W. (2007). Effects of Consumer-Perceived Convenience on Shopping Intention in Mobile Commerce: An Empirical Study, International. *Journal of E-Business Research, 3*, 33-48.

Joreskog, K., & Wold, H. (1982). *The ML and PLS techniques for modeling with latent variables: historical and comparative aspects.* (H. W. K.G. Jo, Ed.) Amsterdam.

Karahanna, E., & Straub, D. (1999). The Psychological Origins of Perceived Usefulness and Ease of Use. *Information and Management, 35*(4), 237-250.

Khalifa, M., & Cheng, K. (2002). Adoption of mobile commerce: role of exposure. *Proceedings of the 35th Annual Hawaii International Conference on System Science (HICSS).* USA.

Khalifa, M., & Shen, K. (2008a). Drivers for transactional B2C m-commerce adoption: Extended theory of planned behavior. *Journal of Computer Information Systems, 48*, 111-117.

Khalifa, M., Cheng, S., & Shen, K. (2012). Adoption of Mobile Commerce: A Confidence Model. *Journal of Computer Information Systems, 53*(1), 14-22.

Kim , M., Kwon , K., & Lee, M. (2009). Psychological characteristics of Internet dating service users: the effect of self-esteem, involvement, and sociability on the use of Internet dating services. *12*(4), 445-449.

Kim, H.-W., Chan, H., & Gupta, S. (2007). Value-based Adoption of Mobile Internet: An empirical investigation. *Decision Support Systems , 43*, 111–126.

Kim, S., & Garrison, G. (2009). Investigating mobile wireless technology adoption: An extension of the technology acceptance model. *Information Systems Frontiers, 11*(3), 323-333.

King, W., & He, J. (2006). A Meta-Analysis of the Technology Acceptance Model. *Information and Management, 43*(6), 740-755.

Kini, R. (2009). Adoption and Evaluation of Mobile Commerce in Chile. *The Electronic Journal Information Systems, 12*(1), 75-88.

Kini, R., & Bandyopadhyay, S. (2006). Adoption and Diffusion of M-commerce. In *Encyclopedia of Mobile Computing and Commerce.* Hershey, PA: IDEA Group Inc.

Kline, R. (2011). *Principles and Practice of Structural Equation Modeling* (3rd Edition ed.). New York: The Guilford Press.

Ko, C., & Seol, S. (2011). Research patterns of mobile commerce: a review in and Korea (2001-2010). *Journal of Internet Electronic Commerce Research, 11*(3), 35- 55.

Ko, E., & Mok, B. (1999). Analysis of Internet Shopping Process to Develop the Web Design Strategy for Apparel Consumers. *Journal of Korean Academy of marketing Science, 4*, 111-131.

Kotler, P., & Kelle, K. (2015). *Marketing Management* (15th Edition ed.). Prentice Hall.

Koufaris, M. (2003). Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior. *Information Systems Research, 13*(2), 205-223.

Kourouthanassis, P., & Giaglis, G. (2012). Introduction to the special issue mobile commerce: the past, present, and future of mobile commerce research. *International Journal of Electronic Commerce, 16*(4), 5-18.

KPMG & IAMAI. (2015). *India on the Go: Mobile Internet Vision 2017.*

Lai, I., & Liang, D. (2009). The socio-demographic profile of generation Y online shoppers in Taiwan. *International Journal of Electronic Customer Relationship Management, 3*(2), 132-148.

Lancaster, G., & Massingham, L. (2010). *Essentials of Marketing Management.* Routledge.

Langendoerfer, P. (2002). M-commerce: Why it Does Not Fly (Yet?). *Proceedings of the SSGRR 2002s Conference.* L'Aquila, Italy.

Larcker, D., & Lessig, V. (1980). Perceived Usefulness of Information: A Psychometric Examination. *Decision Sciences, 11*(1), 121-134.

Lassar, M., Walfried, C., & Sharon, S. (2005). The Relationship Between Consumer Innovativeness, Personal Characteristics, and Online Banking Adoption. *International Journal of Bank Marketing, 23*(2), 176–199.

Lee, M., & Turban, E. (2001). A trust model for consumer Internet shopping. *International Journal of Electronic Commerce, 6*(1), 75-91.

Lee, T., & Park, C. (2008). Mobile Technology Usage and B2B Market Performance under Mandatory Adoption. *Industrial Marketing Management, 37*(7), 833-840.

Lee, Y., Kozar, K., & Larsen, K. (2003). The Technology Acceptance Model: Past, Present, and the Future. *Communications of Association for Information Systems, 12*(50), 752-780.

Leung, L., & Wei, R. (1998). Exploring Factors influencing the Adoption of Interactive TV in Hong Kong: Implications for Advertising. *Asian Journal of Communication, 8*(2), 124-147.

Lewis, W., Agarwal, R., & Sambamurthy, V. (2003). Sources of Influence on Beliefs about Information Technology Use: An Empirical Study of Knowledge Workers. *MIS Quarterly, 27*(4).

Li, H., Cheng, K., & Russell, M. (1999). The impact of perceived channel utilities, shopping orientations, and demographics on the consumer's online buying behavior. *Journal of Computer Mediated Communication, 5*(2), 1-20.

Li, Y., Liu, Y., & Ren, F. (2007). Product innovation and process innovation in SOEs: Evidence from the Chinese transition. *Journal of Technology Transfer, 32*, 63–68.

Lian, J., & Lin, T. (2008). Effects of consumer characteristics on their acceptance of online shopping: Comparisons among different product types. *Computers in Human Behavior, 24*, 48-65.

Liao, C., Tsou, C., & Huang, M. (2007). Factors influencing the usage of 3G mobile services in Taiwan. *Online Information Review, 31*(6), 759-774.

Limayem , M., Khalifa, M., & Frini, A. (2000). What makes consumers buy from Internet? A longitudinal study of online shopping . *IEEE Transactions on Systems, Man and Cybernetics Part A: Systems and Humans, 30*, 421-432.

Lin, H., & Wang, Y. (2005). Predicting consumer intention to use mobile commerce in Taiwan. *Proceedings of the International Conferences on Mobile Business.* Sydney.

Ling, C. (2001). *Model of factors influences on electronic commerce adoption and diffusion in SMEs.* Curtin University of Technology, Australia.

Longenecker, J., Moore, C., & Petty, J. (1997). *Small Business management: An Entrepreneurial Emphasis* (10th Edition ed.). SWC Publishing.

Lowe, G., & Krahn, H. (1989). Computer Skills and Use Among High School and University Graduates. *Canadian Public Policy, 15*(2), 175-188.

Lu, H., & Su, Y. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research, 19*(4), 442-458.

Lu, J., Yao , J., & Yu , C. (2005). Personal Innovativeness, Social Influences and Adoption of Wireless Internet Services via Mobile Technology. *The Journal of Strategic Information Systems, 14*(3), 245-268.

Lu, J., Yu, C., Liu, C., & Yao, J. (2003). Technology acceptance model for wireless Internet. *Internet Research, 13*(3), 206-222.

Luarn, P., & Lin, H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computer in Human Behaviour, 21*(6), 873-891.

Ma, W., & Yuen, A. (2006). Gender Differences in Information Technology Acceptance. In In E. Trauth (Ed.), , *Encyclopedia of Gender and Information Technology* (pp. 550-556).

Madden, T., Ellen, P., & Ajzen, I. (1992). A Comparison of the Theory of Planned Behaviour and the Theory of Reasoned Action. *Personality and Social Psychology Bulletin, 8*, 3-9.

Mahil, C. (2008). *Mobile Payment Systems and Services: An Introduction.* Hyderabad: Institute for Development and Research in Banking Technology.

Malik, A., Kumara, R., & Srivastava, V. (2013). Determinants of Consumer Acceptance of M Commerce. *South Asian Journal of Management, 20*(2), 102-126.

Mallat, N., & Tuunainen, V. (2008). Exploring merchant adoption of mobile payments systems: an empirical study. *"e-Services Journal, 6*(2), 24-57.

Mallat, N., Rossi, M., & Tuunainen, V. (2004). Mobile banking services. *Communications of the ACM, 47*(5), 42-46.

Man , K. (1998). Predicting Unethical Behavior: A Comparison of the Theory of Reasoned Action and the Theory of Planned Behavior. *Journal of Business Ethics, 17*, 1825-1834.

Martin, S. (2012). Factors determining firms' perceived performance of mobile commerce. *Industrial Management & Data Systems, 112*(6), 946-963.

Mathieson, K. (1991). Predicting user intentions: comparing the technolog acceptance model with the theory of planned behavior. *Information Systems Research, 2*(3), 173-191.

McCorkle, D., Alexander, J., & Reardon , J. (2001). Integrating business technology and marketing education: Enhancing the diffusion process through technology champions. *Journal of Marketing Education, 23*(1), 16-24.

McGuire, W. (1985). Attitudes and attitude change. In G. Lindzey, & Aronson, *The Handbook of Social Psychology* (3rd Edition ed., Vol. 2, pp. 233-246). Hillsdale, NJ: Lawrence Erlbaum.

Mick, G., & Fournier, S. (1998). Paradoxes of technology: consumer cognizances emotions and coping strategies. *Journal Of Consumer Research* , 123-142.

Milne, G. R. (2003). The 411 on Mobile Privacy . *Marketing Management, 2*(4), pp. 40-45.

Min, Q., & Ji, S. (2008). A meta-analysis of mobile commerce research in China (2002- 2006). *International Journal of Mobile Communications, 6*(3), 390-403.

Mishra, S. (2015). Drivers of Mobile-Commerce Acceptance in India: An Empirical Study. *XIV International Business and Economy Conference.* Bangkok.

Mitra, A., Lenzmeier, S., Steffensmeier, T., & Avon. (2000). Gender and computer use in an academic institution: Report from a longitudinal study. *Journal of Educational Computing Research, 23*(1), 67-84.

Mort, G., & Drennan, J. (2007). Mobile communications : a study of factors influencing consumer use of m-services. *Journal of Advertising Research, 47*(3), 302-312.

Muthukumar , S., & Muthu, D. (2015). The Indian kaleidoscope: emerging trends in M-Commerce. *International Journal of Advanced Research in Computer and Communication Engineering, 4*(1), 50-56.

Ngai, E., & Gunasekaran, A. (2007). A review for mobile commerce research and applications. *Decision Support Systems, 43*(1), 3-15.

Nielsen. (2013). *The Asian Mobile Consumer Decoded.* Retrieved from Nielson report (2013) The Asian Mobile Consumer Decoded accessed on 23rd Dec, 2013 .

Nor Shahriza, A., Siti Hawa, D., & Ramlah, H. (2006). Mobile phone applications in academic Library services:a students' feedback survey. *ampus-Wide Information Systems, 23*(1), 35–51.

Noteberg, A., Christiaanse, E., & Wallage, P. (2003). Consumer trust in electronic channels. *E-Service Journal, 2*(2), 46-67.

Nunnally, J. (1978). *Psychometric Theory* (2nd Edition ed.). (McGraw-Hill, Ed.) New York.

Odedra, M., Bennett, M., Goodman, S., & Lawrie. (1993). *Sub-Saharan Africa: a Technological Desert, 36*(2), 25-29.

O'brien, R. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity, 41*(5), 673-690.

Pagani, M. (2004). Determinants of Adoption of Third Generation Mobile Multimedia Services . *Journal of Interactive Marketing, 18*(2).

Pajo, K. (2000). Individual characteristics and the adoption of tehcnology in distance education. *International Council for Open and Distance Education Regional Conference for Australia and the Pacific, Distance Education: An Open Question .* Univeristy of South Australia.

Park, J., Yang, S., & Lehto, X. (2007). Adoption of Mobile Technologies for Chinese Consumers. *Journal of Electronic Commerce Research, 8*(3).

Park, T., & Saplan, V. (2011). Current status of mobile commerce research. *The and Journal of Information Systems, 20*(1), 41-74.

Pascoe, J., Sunderam, V., Varshney, U., & Loader , R. (2002). Middleware enhancements for metropolitan area wireless Internet access. *Future Generation Computer Systems, 18*(5), 721–735.

Pavlou, P. (2002). What Drives Electronic Commerce? A Theory of Planned Behavior Perspective. *Proceedings of the Academy of Management Conference*, (pp. 9-14). Denver.

Pavlou, P. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce, 7*(3), 69–103.

Pfeffer, J. (1982). *Organizations and Organization Theory* (1st Edition ed.). Marshfield: Pitman.

Prestholdt, P., Lane, I., & Matthews, R. (1987). Nurse Turnover as Reasoned Action: Development of a Process Model. *Journal of Applied Psychology, 72*, 221-227.

Purao, S., & Campbell, S. (1998). Critical Issues for Small Business Electronic Commerce: Reflections on Interviews of Small Businesses in Downtown Atlanta. *Association of Information Systems Conference.* Baltimore.

Qingfei, M., Shaobo, J., & Gang, Q. (2008). Mobile Commerce User Acceptance Study in China: A Revised UTAUT Model. *Tsinghua Science and Technology, 13*(3).

Rao, K. (2011). *Services Marketing* (2nd Edition ed.). New Delhi NCT: Pearson Education.

Rao, S., & Troshani, I. (2007). A conceptual framework and propositions for the acceptance of mobile services. *Journal of Theoretical and Applied Electronic Commerce Research, 2*(2).

Rita, W., & Henriette, L. (2004). Psychological antecedents of institution-based consumer trust in e-retailing. *Information & Management, 42*, 159–177.

Rogers, E. (1983). *Diffusion of Innovation* (3rd Edition ed.). New York, NY: The Free Press.

Rogers, E., & Shoemaker, F. (1971). *Communications in Innovation.* New York, NY: Free Press.

Rousseau, D., Sitkin, S., Burt, R., & Cammerer, C. (1998). Not so different after all: a cross-discipline view of trust. *Academic Management Review, 23*(3), 393–404.

Rupp, W., & Smith, A. (2002). Mobile commerce: new revenue machine or black hole? . *Business Horizons*, 26-29.

Sadeh, N. (2002). *M-commerce: Technologies, Services, and Business Models.* (C. A. Long, Ed.) United States of America: R. Ipsen.

Saeed, K., Hwang, Y., & Yi, M. (2003). Toward an integrative framework for online consumer behavior research: A meta-analysis approach. *Journal of End User Computing, 15*(4), 1–26.

Sarker, S., & Wells, J. (2003). Understanding mobile handheld device use and adoption . *Communications of the ACM*.

Sathye, M. (1999). Adoption of Internet banking by Australian consumers: An empirical investigation. *International Journal of Bank Marketing, 17*(7), 324-334.

Saunders, M., & Thornhill, A. (2003, 3). Organizational justice, trust and the management of change an exploration. *Personnel Review, 32*, 360-375.

Saunders, M., Lewis, P., & Thornhill, A. (2000). *Research Methods for business students* (2nd Edition ed.). Pearson Educations.

Scornavacca, E., Barnes, S., & Huff, S. (2006). Mobile business research published in 2000-2004: emergence, current status, and future opportunities. *Communications of the Association for Information Systems, 17*, 635-646.

Scornavacca, E., Barnes, S., & Huff, S. (2006). Mobile Business Research Published in 2000-2004: Emergence, Current Status, and Future Opportunities. *Communications of the Association for Information Systems, 17*(28).

Shankar, V., Venkatesh, A., Hofacker, C., & Naik. (2010). Mobile marketing in the retailing environment: current insights and future research avenues. *Journal of Interactive Marketing, 24*, 111-20.

Shen, D., Laffey, J., Lin, Y., & Huang, X. (2006). Social Influence for Perceived Usefulness and Ease-of-Use of Course Delivery Systems. *Journal of Interactive Online Learning, 5*(3).

Sheppard, B., Hartwick, J., & Warshaw, P. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *15*, 325- 343.

Sheppard, B., Hartwick, J., & Warshaw, P. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research". *Journal of Consumer Research, 15*(3), 325-343.

Singh, S. (2007). *The diffusion of mobile commerce in India.* Indian Institute of Technology, Department of Humanities and Social Sciences, Kanpur.

Snowden, S., Spafford, J., Michaelides, R., & Hopk. (2006). Technology acceptance and m-commerce in an operational environment. *Journal of Enterprise Information Management, 19*(6), 525 - 539.

Sobel, M. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology , 13*, 290–312.

Solomon, M. (2014). *Consumer Behavior: Buying, Having and Being* (11th Edition ed.). Prentice Hall.

Steendern, M. (2002). Business applications of WAP. *The Electronic Library, 20*(3), 215-223.

Steenkamp, J.-B., Hofstede, F., & Wedel, M. (1999). A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of Marketing, 63*(2), 55-69.

Stender, M., & Ritz, T. (2006). Modeling of B2B Mobile Commerce Processes. *International Journal of Production Economics, 101*(1), 128-139.

Straub, D., Boudreau, M., & Gefen , D. (2004). Validation Guidelines for IS Positivist Research. *Communications of the Association for Information Systems, 14*, 380-426.

Swanson, E. (1982). Measuring User Attitudes in MIS Research: A Review. *OMEGA, 10*(2), 157-165.

Swinyard, W., & Smith, S. (2003). Why People Don't Shop Online: A Lifestyle Study of the Internet Consumers. *Psychology and Marketing, 20*(7), 567-597.

Tabachnick, B., & Fidell, L. (2007). *Using multivariate statistics* (6th Ed. ed.). (P. &. Bacon, Ed.) Boston.

Taylor, S., & Todd, P. (1995a). Assessing IT Usage: The Role of Prior Experience. *MIS Quarterly, 19*(4), 561- 570.

Taylor, S., & Todd, P. (1995b). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research, 6*(4), 144-176.

Teo, T. (2011). *Technology Acceptance in Education.* Springer Science & Business Media.

Terziyan, V. (2002). (), Ontological Modeling of E-Services to Ensure Appropriate Mobile Transactions. *International Journal of Intelligent Systems in Accounting, 11*(3), 159-172.

Thakur, R., & Srivastava, M. (2013). Customer usage intention of mobile commerce in India: an empirical study. *Journal of Indian Business Research, 5*(1), Thakur,R. & Srivastava,M. (2013),"Customer usage intention of mobile commerce in India: an empirical study", Journal of Indian Business Research, 5(1), 52 – 72.

Thakur, R., & Srivastava, M. (2013). Customer Usage Intention of Mobile Commerce in India: An Empirical Study. *Journal of Indian Business Research, 5*(1), 52 – 72.

Thatcher , J., & Perrewé, P. (2002). An Empirical Examination of Individual Traits as Antecedents to Computer Anxiety and Computer Self-Efficacy. *MIS Quarterly, 26*(4), 381-396.

Timko, C. (1987). *Seeking Medical Care for a Breast Cancer Symptom: Determinants of Intentions to Engage in Prompt or Delay Behavior, 6*(4), 305-328.

Timmor, Y., & Rymon, T. (2007). To do or not to do: the dilemma of technology-based service improvement. *Journal of Services Marketing, 21*(2), 99-111.

Tornatzky, L., & Klein, K. (1982). Innovation Characteristics and Innovation Adoption- Implementation: A Meta-Analysis of Findings. *IEEE Transactions on Engineering Management, 29*(1), 28-45.

Triandis, H. (1980). Beliefs, Attitudes and Values. *University of Nebraska Press*, pp. 195-259.

Tsalgatidou, A., & Pitoura, E. (2001). Business models and transactions in mobile electronic commerce: requirements and properties. *37*(2), 221-236.

Turban, E., King, D., Lee, J., & Viehland, D. (2004). *Electronic Commerce: A Managerial Perspective*. New Jersey: Pearson/Prentice Hall.

Vankatesh, V., & Morris, M. (2000). Why Don't Men Ever Stop Asking for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly, 24*(1), 115-139.

Varnali, K., & Toker, A. (2010). Mobile marketing research: the-state-of-the-art. *International Journal of Information Management, 30*(2), 144-151.

Varshney, U., & Vetter, R. (2002). Mobile Commerce: Framework Applications and Networking Support. *Mobile Networks and Applications, 7*(3), 185-198.

Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 42*(2), 186-204 .

Venkatesh, V., Brown, S., Maruping, L., & Bal. (2008). Predicting Different Conceptualizations of System Use: The Competing Roles of Behavioral Intention, Facilitating Conditions, and Behavioral Expectation. *MIS Quarterly, 32*(3), 483-502.

Venkatesh, V., Morris, M., Davis, F., & Davi. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27*, 425-478.

Vrechopoulos, A., Constantiou, I., & Sideris, I. (2003). The Critical Role of Consumer Behavior Research in Mobile Commerce. *International Journal of Mobile Communications, 1*(3), 329-340.

Vrechopoulos, A., Papamichail, G., & Doukidis. (2002). Identifying patterns in internet retail store layouts. In V. T. Panos M. Pardalos, *Financial Engineering, E-commerce and Supply Chain* (1st Edition ed., Vol. 70). Kluwer Academic Publishers.

Vroom, V. (1964). *Work and motivation* (1st Edition ed.). San Francisco, CA: Jossey-Bass.

Wang, Q. (2006). Quality Assurance: Best Practices for Assessing Online Programs. *International Journal on E-Learning, 5*(2), 265-274.

Wang, S., & Barnes, S. (2007). Exploring the acceptance of mobile auctions in China. *Proceedings of the Sixth International Conference on the Management of Mobile Business*. Toronto.

Wei T. et al. (2008). What Drives Malaysian M Commerce Adoption? An Empirical Analysis. *Industrial Management & Data Systems, 109*(3), 370-388.

Wei, T., Marthandan, G., Chong, A., & Ooi, K. (2009). What drives Malaysian m-commerce adoption? An Empirical Analysis. *Industrial Management & Data Systems, 109*, 370–388.

Weiss, M. (2001). Online America. *American Demographics, 23*(3), 53-56.

Wells, V., & Foxall, G. (2012). *Handbook of Developments in Consumer Behaviour*. Celtenham, U.K.: Edward Elgar Publishing Limited.

Westland, J. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications, 9*(6), 476-487.

Whiteley, D. (1998). EDI Maturity: A Business Opportunity. In C. S. Romm, *Doing Business Electronically: A Global Perspective of Electronic Commerce* (pp. XIII, 220). Springer-Verlag London.

Wiedmann, K., Hennigs, N., & Siebels, A. (2007). Measuring Luxury consumer perception: A cross-culture framework. *Academy of Marketing Science review, 7*.

Winer, R. (2009). New Communications Approaches in Marketing: Issues and Research Directions. *Journal of Interactive Marketing, 23*(2).

Wixom, B., & Todd, P. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research, 16*(1), 85-102.

Wolfradt, U., & Doll, J. (2001). Motives of adolescents to use the Internet as a function of personality traits, personal and social factors. *Journal of Educational Computing Research, 24*(1), 13-27.

Wright, S. (1921). Correlation and Causation. *Journal of Agricultural Research, 20*, 557-585.

Wu, J., & Lederer, A. (2009). A Meta-Analysis of the Role of Environment-Based Voluntariness in Information Technology Acceptance. *33*(2), 419-432.

Wu, J., & Wang, S. (2005). What Drives Mobile Commerce? An Empirical Evaluation of the Revised Technology Acceptance Model. *Information and Management, 42*, 719-729.

Wu, X., Chen, Q., Zhou, W., & Guo, J. (2010). A review of Mobile Commerce consumers' behaviour research: Consumer acceptance, loyalty and continuance 2000-2009. *International Journal of Mobile Communications, 8*(5), 528-560.

Xie, M., Zhang, J., & Zeng, J. (2009). M-Commerce in the Period of 3G.

Yang, K. (2005). Exploring factors affecting the adoption of mobile commerce in Singapore. *Telematics and Informatics, 22*(3), 257-277.

Yee-Loong Chong, A. (2013). Understanding Mobile Commerce Continuance Intentions: An Empirical Analysis of Chinese Consumers. *Journal of Computer Information Systems, 53*(4), 22.

Yi, M., Jackson, J., Park, J., & Probst. (2006). Understanding Information Technology Acceptance by Individual Professionals: Toward an Integrative View. *Information & Management, 43*(3), 350-363.

Young, H., Lierman, L., Powell-Cope, G., & Kasprzy. (1991). Operationalizing the Theory of Planned Behavior. *Research in Nursing and Health, 14*, 137-144.

Zaidan, A. (2007). The Value of m-Commerce for Consumers and mobile Operators.

Zarmpou, T., Saprikis, V., & Vlachopoulou, M. (2012). Examining behavioral intention toward mobile services: An empirical investigation in Greece. In A. Scupola, *Mobile Opportunities and Applications for E-Service Innovations.* IGI Global.

Zikmund, W. (2003). *Business Research Methods* (7th Edition ed.). (T. S. Western, Ed.) Ohio.

Zinnov. (2015). *India's Domestic IT Market Landscape 2015.* Bangalore: Zinnov.

Zwass, V. (2003). Electronic Commerce and Organizational Innovation: Aspects and Opportunities. *International Journal of Electronic Commerce, 7*(3), 7–37.

APPENDIX A

Electronic vs. Mobile Commerce

Table 16 - Electronic vs. Mobile Commerce

Technology	E-Commerce	M-Commerce
Device	PC	Smartphones, tablets…
Operating System	Windows, OS X, Unix, Linux	Android, iOS…
Presentation Standards	HTML	HTML, WML, HDML
Browser	Microsoft Explorer, Chrome, Forefox, Safari…	Chrome, Firefox, Safari…
Bearer Networks	TCP/IP and Fixed Wired internet	USSD, SMS, GPRS…

Generally speaking, many of the E-Commerce applications also apply to M-Commerce, for example, online shopping, Internet banking and e-stock trading. The major attributes that will describe offer the opportunity for development of new applications that are possible only in the mobile environment (Chen & Skelton, 2005). Below Chaffey's M-Commerce advantages are defined.

MC Advantage	Definition
Ubiquity	Being available at any location at any time. A wireless mobile device such as a smartphone or tablet PC can deliver information when it is needed, regardless of the user's location. Ubiquity creates easier information access in a real time environment, which is highly valued in today's business and consumer markets.
Localization	Knowing where a user is physically located at any particular moment key to offering relevant services. Localization may be general, purely based on location, or specific, based on both location and consumer's preferences.

Convenience	Unlike traditional computers, mobile devices are portable, can be set in a variety of monitoring modes, and most feature instant connectivity (i.e., no need to wait for the device to boot up). Mobile devices enable users to connect easily and quickly to the internet, intranets, other mobile devices, and online databases. Thus, the new wireless devices could become the most convenient, preferred way to access many forms of information.
Interactivity	In comparison with the desktop computing environment, transactions, communications, and service provision are immediate and highly interactive in the mobile computing environment. Businesses in which customer support and delivery of services require a high level of interactivity with the customer are likely to find a high value-added component in mobile computing.
Personalization	The personal nature of the computing device, the increasing availability of personalized services, and transaction feasibility via mobile portals means that the mobile computing device could become the primary e-commerce tool for delivering personalized information, products, and services.

APPENDIX B

Wallet Payment Ecosystem in India
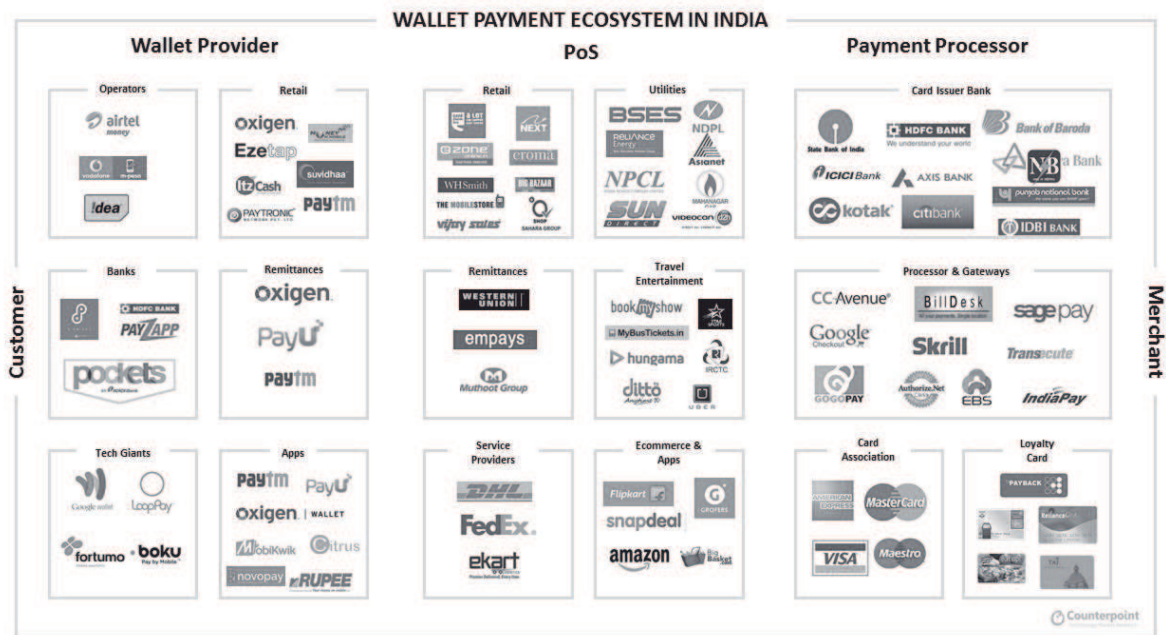
APPENDIX C

Questionnaire Format

(3) CONSTRUCTS
(PI) How does Your APPROACH towards new technologies affect Mobile Commerce adoption? *
PI_1: Among my peers, I am generally considered an early user of M-Commerce platforms
PI_2: If I heard about a new M-Commerce platform, I would look for ways to experiment with it
PI_3: I like to experiment with new M-Commerce platforms
(SI) How much do EXTERNAL INFLUENCES affect Your adoption of Mobile Commerce?
SI_1: My family and friends expect me to use M-Commerce
SI_2: People I look up to expect that I use M-Commerce
SI_3: It is expected that people like me use M-Commerce
(TT) How much do You Agree or Disagree with the following statements?
TT_1: Purchasing through M-Commerce is trustworthy
TT_2: Purchasing through M-Commerce is safe
TT_3: Purchasing through M-Commerce does not violate my privacy
TT_4: M-Commerce platforms act in the best interests of the consumer
(PEOU) How EASY do You perceive Mobile Commerce to be based on the below aspects:
PEOU_1: Learning how to use M-Commerce is easy to me
PEOU_2: It is easy to carryout M-Commerce purchases
PEOU_3: My interaction with M-Commerce services is clear and understandable
PEOU_4: I find it easy to interact with M-Commerce services
PEOU_5: Overall, I find it easy to use M-Commerce services
(PU) How USEFUL do You perceive Mobile Commerce to be based on the below aspects:
PU_1: M-Commerce makes me save time
PU_2: M-Commerce makes me a better consumer
PU_3: M-Commerce improves my efficiency as a consumer
PU_4: M-Commerce services are useful to me as a consumer
PU_5: M-Commerce improves my effectiveness as a consumer
(FC) How much do you Agree or Disagree with the following statements?
FC_1: I have the financial and technological resources required to use M-Commerce services
FC_2: I have access to the software, hardware and network services required to use M-Commerce services
FC_3: The M-Commerce services I use are well integrated and provided in a stable service infrastructure
FC_4: My service provider/operator facilitates the use of M-Commerce services
FC_5: There are no compatibility problems related to the M-Commerce services I use
(BI) In the future I intend to:
BI_1: Use M-Commerce on a regular basis
BI_2: Recommend the use of M-Commerce
BI_1: Download M-Commerce Applications

APPENDIX D

Communalities Table

Table 17 - Communalitites

Constructs	Indicator	Communalities
Personal Innovativeness	PI_1	0.749
	PI_2	0.750
	PI_3	0.760
Social Influence	SI_1	0.806
	SI_2	0.854
	SI_3	0.715
Trust	TT_1	0.760
	TT_2	0.716
	TT_3	0.764
	TT_4	0.762
Perceived Ease of Use	PEOU_1	0.749
	PEOU_2	0.788
	PEOU_3	0.775
	PEOU_4	0.792
	PEOU_5	0.768
Perceived Usefulness	PU_1	0.746
	PU_2	0.818
	PU_3	0.846
	PU_4	0.729
	PU_5	0.800
Facilitating Conditions	FC_1	0.742
	FC_2	0.823
	FC_3	0.706
	FC_4	0.791
	FC_5	0.734
Behavioral Intention to Use	BI_1	0.839
	BI_2	0.789
	BI_3	0.774

APPENDIX E

Confirmatory Factor Analysis, AMOS 23
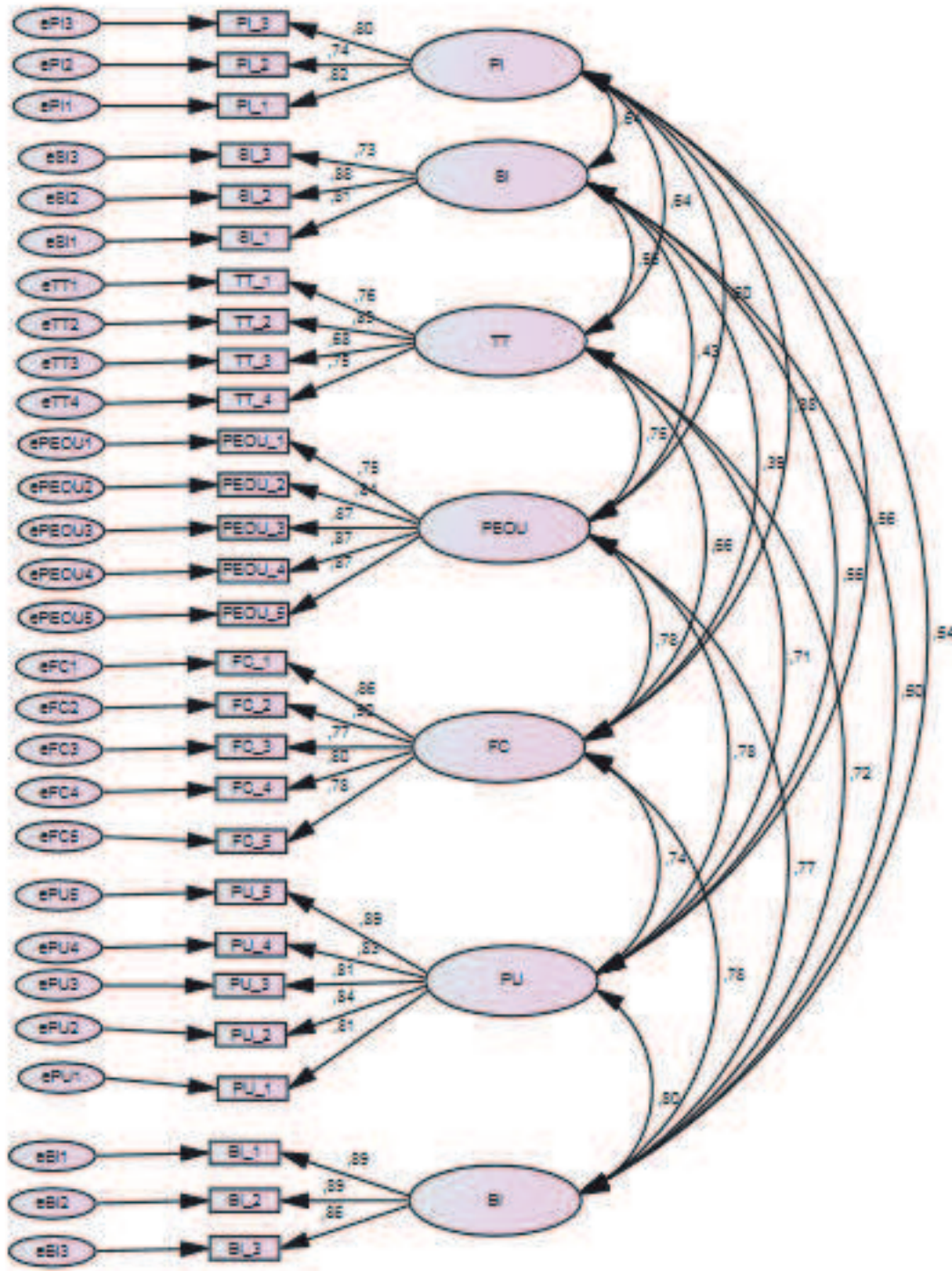
Figure 11 - Confirmatory factor Analysis Output

Table 18 - Fit Measures Interpretation

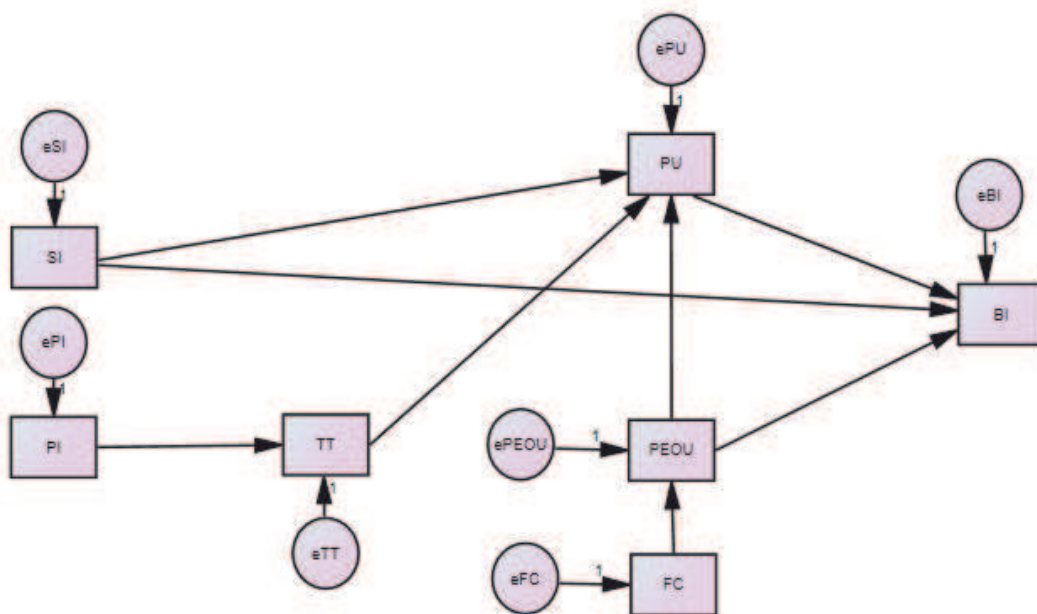| Fit Measures	Interpretation
CMIN/DF	The CMIN/DF measure represents the chi square to degree of freedom ratio.
GFI	The Goodness-of-Fit statistic (GFI) is a measure of fit between the hypothesized model and the observed covariance matrix by calculating the proportion of variance that is accounted for by the estimated population covariance (Tabachnick & Fidell, 2007).
AGFI	The adjusted goodness of fit index (AGFI) corrects the GFI, which is affected by the number of indicators of each latent variable.
CFI	The CFI, also known as the Bentler Comparative Fit Index, compares the fit of a target model to the fit of an independent model i.e. a model in which the variables are assumed to be uncorrelated.
RMSEA	The RMSEA tells us how well the model, with unknown but optimally chosen parameter estimates would fit the populations covariance matrix.

APPENDIX F

Structural Equation Model path diagram and output, AMOS 23

Figure 12 - SEM Path Diagram