QATAR UNIVERSITY

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DRIVERS OF MOBILE CREDIT CARD ACCEPTANCE IN QATAR

BY

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ABSTRACT

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Title: Drivers of Mobile Credit Card Acceptance in Qatar

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The main purpose of this study is to investigate the factors that influence consumers' intention to use near field communication (NFC) technology based smart credit card (SCC) payment in the Qatari context. The study examines the impact of six important factors derived from theories of technology acceptance, psychology, and diffusion of innovation.

Data was collected through an online and self-administered questionnaire from 325 respondents with a response rate of 88 percent. All the measurement statements in English were adapted from previous studies to ensure instrument reliability and validity. Correlation and multiple regression techniques were employed for the analysis.

The proposed model has a 60.8% predictive power of intention to use (IU) SCC. This study revealed that perceived usefulness (PU), perceived ease of use (PEOU), social influence (SI), perceived innovativeness in information technology (PIIT) and perceived trust (PTR) have significant and positive impact on intention to use SCC in Qatar, whereas perceived risk (PR) was found not to be significant.

The findings of this study are significant as they provide decision makers in the banking sector in the Qatari market with valuable information when formulating their strategies. It may also help marketers in banks when devising their marketing campaigns regarding mobile credit card payment systems. The study findings of the study are also

relevant to researchers in this domain as the model formulated in the study is much more comprehensive in the number and diversity of factors investigated.

DEDICATION

I dedicate this research to my honorable mother whom I credit for supporting me to continue this MBA program. I want to thank her for always being there and her continuous prayer for me during difficult time

I also dedicate this research to my wife and my daughter who have suffered from my shortcomings due to the amount of time I've dedicated to MBA program. Thank you so much for being the support I needed, and I apologize for all my shortcomings

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CHAPTER 1: GENERALITY OF THE STUDY

1.1 Introduction of the Study

In the near past, paying for goods, services or bill is done through cash or card. With the introduction of the smartphone, new methods of payment have emerged. The widespread use of smartphones and proliferation of mobile communication technology make smartphones the favorite candidate for payment for the near-future (Tan, Garry Wei-Han et al., 2014). It is considered by many experts as the future star application in the mobile industry (Ghezzi, Renga, Balocco, and Pescetto, 2010; Hu, Li, and Hu, 2008; Ondrus, Lyytinen, and Pigneur, 2009). In addition to that, mobile phones become part of our daily life (Hwang et al., 2007) and it is considered as the most influential innovation in the history of mankind (Rakhi, Srivastava, 2014). The rate of adoption of this technology is rated as the highest of all consumer technologies in the history (Jack and Suri, 2011). Most of our daily activities are performed in the virtual world by the mean of those mobile phones (Rakhi, Srivastava, 2014). The U.K. Payment Council (2013) expects that the physical wallet will be no more used in the future and it will be replaced by mobile phones.

Mobile payment term usage is vague and inconsistent (Au and Kauffman, 2008). In the literature, we found various definitions of mobile payment. Dewan and Chen (2005) define mobile payment as the process of performing a payment via mobile devices such as personal digital assistants and NFC based devices. Furthermore, mobile payment refers to financial transactions performed by mobile phone, smartphone or PDA to pay for goods, services or bill. Those transactions use communication technologies such

wireless as infrastructure (Dahlberg, Mallat, Ondrus, and Zmijewska, 2008). Mobile

payment refers also to the use of mobile devices to perform banking transactions (Gerpott

and Kornmeier, 2009). Mobile payment has been defined also as a transaction that

consists of fund transfer against a good or service where the mobile phone is an element

of this transaction (Innopay, 2012). Ghezzi, Renga, Balocco, and Pescetto (2010)

summarized the previous definitions on mobile payment is a sequence of phases in which

at least one step of the payment is performed by using a mobile devise such as

smartphone or any device equipped with wireless. This device has the capability to

perform the payment in a secure way over a wireless network based on protocol such us

RFID or NFC.

Mobile payment methods can be classified into three categories: mobile remote

commerce, mobile proximity payments and mobile peer-to-peer (Tode, 2016). In

general, payment solutions are not user-friendly as consumers need to go through

multiple steps to process payment (Tan et al., 2014a). It also requires more time and

effort from consumer to be familiar with those applications (Ooi, Keng-Boon et al.,

2016).

The emergence of smartphone credit card (SCC) overcomes all the drawbacks of

the traditional mobile payment solutions. SCC is user-friendly, it needs a little power and

it is easy to setup (Egger, 2013; Madl- mayr, Langer, Kantner, and Scharinger, 2008; Teh

et al., 2014). SCC is defined as payment for goods and services through smartphone by

using Near Field Communication (NFC) technology (Ooi, Keng-Boon et al., 2016). NFC

is a communication protocol that enables two devices to communicate within a distance

of 10 centimeters or less (Ooi, Keng-Boon et al., 2016). By waiving the smartphone

equipped with NFC over a point of sale terminal, the payment process can be completed quickly with minimum effort (Ooi, Keng-Boon et al., 2016). The widespread use of SCC is expected to alter the lifestyle of consumers and revolutionize the mobile payment industry. Despite the benefits of SCC, SCC has not yet experienced widespread adoption (Zhou, 2014) and market analysts are doubting about its adoption (Feijóo, Gómez-Barroso, and Ramos, 2016). Its adoption rate is much lower than any other activity performed with the smartphone (GfK, 2015) and the number of users of this service is still low (Agarwal, 2016). Attitudes and intention of customers are the main factors behind the low rate of adoption of this technology (Shen, 2015).

Acquirer banks and merchants will be encouraged to invest in this technology only if the critical mass of consumers is willing to use it.

In the literature, many studies are available for mobile payment acceptance but few of them are about SCC.

Qatar was not randomly chosen as a context for this research. The cost of holding a smartphone in Qatar is not an obstacle to implement mobile credit card payment. This technology is also in its initial stage where such study will have an added value to the decision-maker to have the parameters required for adopting this technology or not.

The objective of this research is to identify the main factors that affect the intention of adoption SCC in Qatar Market.

1.2 Problem Statement

The problem that needs to be tackled in this study is why most of the banks in Qatar did not implement mobile credit card for their customers. Associated factors have been studied in order to discover the main cause of the problem.

1.3 The Purpose and the Research Questions of the Study

The main goal of this study is to answer the following questions related to mobile credit card:

- What are the mains drivers that affect the intention to accept mobile credit card in Qatar Market?

- How those drivers influence customer behavior?

- What are the barriers that need to be overcome in order to accelerate the acceptance of mobile credit card payment?

1.4 The Importance and Significance of the Study

The literature shows that there is modest effort to discover the drivers of mobile credit card acceptance over the world and no academic studies were performed in Qatar market for the same subject.

To the best of the researcher's knowledge, this study is the first one in Qatar market that provides a deeper understanding of factors that influence the intention to accept mobile credit card payment from customers' perspective. It will allow decision

makers in payment field to evaluate the market based on the discovered drivers and study

the available opportunities to launch this technology from issuer or acquirer banks.

1.5 Organization of the Study

       The remaining of this paper is organized as follows. Section 2 reviews the literature of the proposed models for SCC adoption followed by research hypotheses subject of test in the study. Section 3 will carry the research methodology including data collection methods, questionnaire design, measures. Section 4 will present discussion and analysis of results. In sections 6, 7 and 8, we will discuss managerial implication, limitation and recommendation for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Overview of Contactless NFC Payments with Smartphones

With the increase of fraudulent transactions performed using payment cards equipped with magnetic-stripe, major card networks such as MasterCard, Visa JCB, and American Express have formed a new organization called EMVCo (EMVCo, 2013). This organization is responsible for creating and maintaining the specification of the protocol EMV. EMV is a technical specification of chip payment that involves chip card, point-of-sale (POS) or ATMs that have the capability to read chip cards. This specification is also called "Chip and pin" (Norman Shaw, 2014). Card chip embeds encrypted data that belong to the cardholder (Norman Shaw, 2014). Transactions performed in EMV context, prompt the cardholder to enter his personal identification number (PIN) into a chip terminal (EMVCo, 2013). More than 1.55 billion chip cards and 21.6 million chip terminals are available globally as of the middle of 2012 (EMVCo, 2013).

Transactions with lower amount can be performed faster by waiving PIN entry and allowing the cardholder to waive their cards near the chip terminal (MasterCard PayPass, 2013; Visa payWave, 2013) in the context of Near Field Communication (NFC; Norman Shaw, 2014). By replacing the physical card with the smartphone equipped with NFC capability and stored data in a mobile wallet, the smartphone can be used to transact in financial context by waving the mobile near terminals equipped with NFC (Norman Shaw, 2014).

NFC is a kind of short-range contactless technologies (Oliveira, Tiago et al., 2016) that combines RFID technology with contactless chip cards. This protocol enables

data-transfer between devices that operate at a frequency band of 13.56 MHz (Ooi, Keng-Boon et al., 2016) over a distance up to 10 centimeters (Leong, Lai-Ying et al., 2013). Azhari (2014) believes that theoretically, this technology can transmit data up to 20 centimeters (Ooi, Keng-Boon et al., 2016). The speed of data exchanged is 424 Kbit/s (Ooi, Keng-Boon et al., 2016). In 2004, Nokia, Sony, and Phillips created the NFC standard (Ooi, Keng-Boon et al., 2016). In 2006, Nokia introduced the first mobile implementing 2004 NFC forum (Ooi, Keng-Boon et al., 2016). Businesses start showing interest in NFC mobiles starting from 2010 when Samsung introduced Samsung Nexus S smartphone (Ooi, Keng-Boon et al., 2016). An NFC device has three operational modes: read/write, peer-to-peer and card emulation mode (Leong, Lai-Ying et al., 2013). Card emulation mode is used in the context of smart card and smartphone where data can be read using a chip reader (Leong, Lai-Ying et al., 2013). NFC technology can be applied in several industries such as transportation and manufacturing (Leong, Lai-Ying et al., 2013). NFC becomes a popular protocol to exchange quick data between devices, readers and NFC tags (Volpentesta, 2015; Ooi, Keng-Boon et al., 2016).

The NFC mobile payment technology has been implemented in many countries such as US, Canada, Hong Kong, Korea, Japan and Taiwan (Tan, Garry Wei-Han et al., 2014). The usage of this type of payment has increased tremendously for the recent years mainly with the introduction of Android Pay by Google in May 2011for Android smartphone and Apple Pay by Apple in October 2014 (Khalilzadeh, Jalayer et al, 2017).

For example, the Toronto-based lender Canadian Imperial Bank of Commerce (CIBC) launched the first NFC mobile application for Visa and MasterCard in 2012

jointly with BlackBerry and Rogers Communications (Cocosila, Mihail and Houda Trabelsi., 2016).

2.2 Models

To understand the drivers of SCC acceptance, there is a need to understand the existing IT/IS adoption models (Ooi, Keng-Boon et al., 2016). A variety of theoretical perspectives are used in the IT/IS to comprehend the drivers behind adopting and using the new technological innovations. In other word, consumers' intention to use new technology can be explained from various models (Thanh-Thao T. Pham, Jonathan C. Ho, 2015). Among widely accepted models which have been developed are "Technology Acceptance Model (TAM)", "Diffusion of Innovation (DOI)", "Unified Theory of Acceptance and Use of Technology (UTAUT)" and "Model of Adoption of Technology in Households (MATH)". (Ooi, Keng-Boon et al., 2016). Each model has its limitations (Ooi, Keng-Boon et al., 2016).

In addition to those models, there are some theories that try to understand and explain adoption behavior in IT (Ajzen, 1991; Ajzen, Fishbein, and Heilbroner, 1980). The primary theories used in this field are "the theory of reasoned action (TRA)" and "theory of planned behavior (TPB)" (Ooi, Keng-Boon et al., 2016). Most of these models deducted their principles from psychology, marketing and IT (Khushbu Madan, Rajan Yadav, 2016).

Those models use behavioral intention as a proxy for user behavior (Khalilzadeh, Jalayer et al, 2017). The Same proxy will be used in our study.

2.2.1 Theory of Reasoned Action (TRA)

Theory of reasoned action (TRA) was formulated in 1975 by Ajzen and Fishbein (Leong, Lai-Ying et al., 2013). This model resulted from attitude research from the Expectancy-Value Models (Leong, Lai-Ying et al., 2013). It depicts individual behavior from social psychology's point of view (Kim, Changsu et al., 2010). This theory permits to understand the voluntary behavior of an individual (Doswell, Willa Marlene et al., 2011). The theory became well established and it is used to predict human behavior in various domains ever since (Wu and Wang, 2005) and it is corroborated by several studies (Bagozzi, Baumgatner, and Yi, 1989; Davis, 1989). The idea behind this theory is to link the action performed with the individual's basic motivation. According to this theory, the actual behavior is an outcome of the intention to perform this behavior (Ajzen I. and Madden T. J., 1986). This intention is known in the TRA context as behavior intention and the individual will perform this behavior if he believes that this action will lead to a given outcome. Behavioral intention is a critical component of this theory. Prior studies show that behavioral intention correlates with actual behavior (Al-Maghrabi and Dennis, 2011; Venkatesh et al., 2012; Yiu et al., 2007). Hence, measuring intention will give an indication of the actual behavior. According to the theory, behavioral intention (BI) is determined by two variables: attitudes and subjective norms (Colman and Andrew, 2015). Attitude is influenced by belief and evaluations while subjective norm depends on normative beliefs and the necessity to imitate (Leong, Lai-Ying et al., 2013). In this situation, attitude can refer to the level to which an individual has a favorable or unfavorable assessment of the behavior, while subjective norms are subject to one's belief others think he should embrace in such a behavior (Leong, Lai-Ying et al., 2013).

Attitude and subjective norms are not weighted equally in predicting behavior. Situational factors (circumstances) such as the characteristics of the tasks, of the interface or of the user, the type of development implementation, the political influences, the organizational structure might have different impacts on behavior intention (Ajzen and Icek, 1992; Davis, Bagozzi, and Warshaw, 1989).

Although the theory became well established, it has some limitations. The theory looks only to behavioral intention and ignores the goal intention. Azjen acknowledged that some behavioral can be controlled more than others and so we will not be able to assert that an intention will be carried out (Sheppard, Blair H. et al., 1988). In addition to that, there is no one to one relationship between behavioral intention and actual behavior.

The theory of reasoned action has been summarized into the following equation:

$$BI\ =\ (W1)AB +\ (W2)SN$$

where:

- BI: behavioral intention

- AB: one's attitude toward performing the behavior

- W: empirically derived weights

- SN: one's subjective norm related to performing the behavior
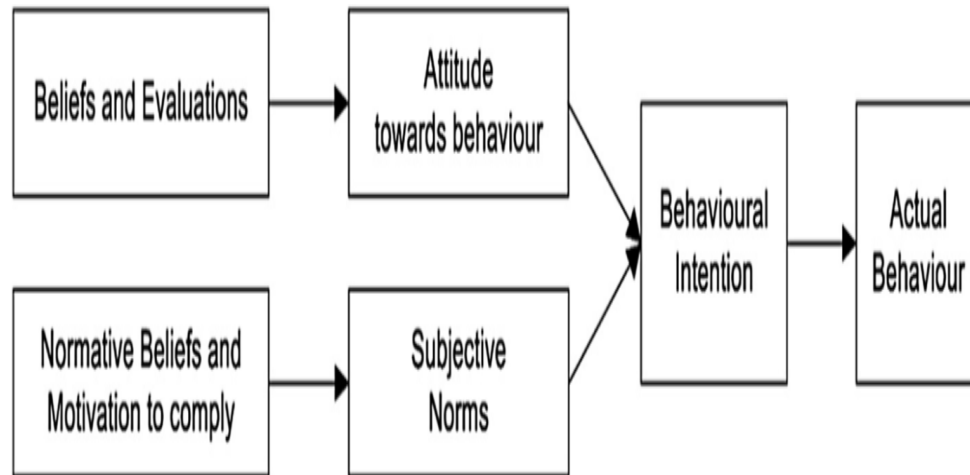
Figure 1: TRA (Fishbein and Ajzen, 1975).

2.2.2 *Theory of Planned Behavior (TPB)*

Ajzen and Fishbein introduced the TRA after trying to understand the variance between attitude and behavior. Voluntary behavior was the foundation of the TRA. Afterwards, researchers found that behavior is not always voluntary and it is not 100% under control. The behavior can be deliberative and planned. In 1986, Acek Ajzen extended TRA by introducing a new predictive variable called perceived behavioral control to TRA (Tan, Garry Wei-Han et al., 2014). The new construct takes into consideration cognitive and situational resources required for performing a job (Ajzen and Madden, 1986). This improvement of TRA has the capability to predict deliberated

behavior in addition to the planned behavior (Tan, Garry Wei-Han et al., 2014). This new theory is called Theory of planned behavior (TPB). Like TRA, TPB was based on behavioral intention that is considered the most influential predictor of the behavior (Rakhi, Srivastava, 2014). Perceived behavioral control can be defined as our perception about our ability to control and perform any given action (Wikipedia, 2017). This theory mention that people are expected to perform a behavior when they feel that they can performed it successfully (Wikipedia, 2017). Perceived behavioral control consists of two components: self-efficacy and controllability (Wikipedia, 2017). Broad definition of efficacy is the person's belief in his ability to perform a specific action as well as the prediction of the outcome of executing this action. This definition introduces two distinctive types of the efficacy: self-efficacy and outcome-efficacy (Bandura, A., 1994). Self-efficacy is a person's belief in his ability to perform a given action and it focuses on one's ability to produce outcomes (Bandura, A., 1994). It is specific to action and specific to context (Wikipedia, 2017). Self-efficacy was taken from social cognitive theory and was introduced by Albert Bandura in 1977. According to Bandura, self-efficacy is the most critical prerequisite for behavioral change since it really governs our choices regarding our behavior. We like doing things that we feel like we are successful at and don't like to do things that we are expecting to fail at. Previous studies have found that person's behavior is strongly influenced by his confidence in his ability to execute a given action (Bandura, Albert et al., 1980). Controllability refers to the external factors that the person believes that have control over the performance of the behavior. It represents the uncontrollable factors (Wikipedia, 2017). High perceived behavioral control gives

increased confidence to the person about his capability of performing a given behavior successfully (Wikipedia, 2017).

Some scholars claim that TPB is based only on cognitive processing (Wikipedia, 2017). It ignores the person's needs prior to performing a certain behavior. Those needs would influence behavior performance regardless of his expressed intention.

According to TPB, behavioral intention can be expressed as the following mathematical equation:

$$\text{BI} = (W1)\, AB \left[\sum (b)(e)\right] + (W2)\, SN \left[\sum (n)(m)\right] + (W3)\, PBC \left[\sum (c)(p)\right]$$

where:

- BI: behavioral intention

- AB: one's attitude toward performing the behavior

- b: the strength of each belief concerning an outcome or attribute

- e: the evaluation of the outcome or attribute

- SN: Subjective norms

- n: the strength of each normative belief of each referent

- m: the motivation to comply with the referent

- PBC: Perceived Behavioral Control

- c: the strength of each control belief

- p: the perceived power of the control factor

- W: empirically derived weight/coefficients
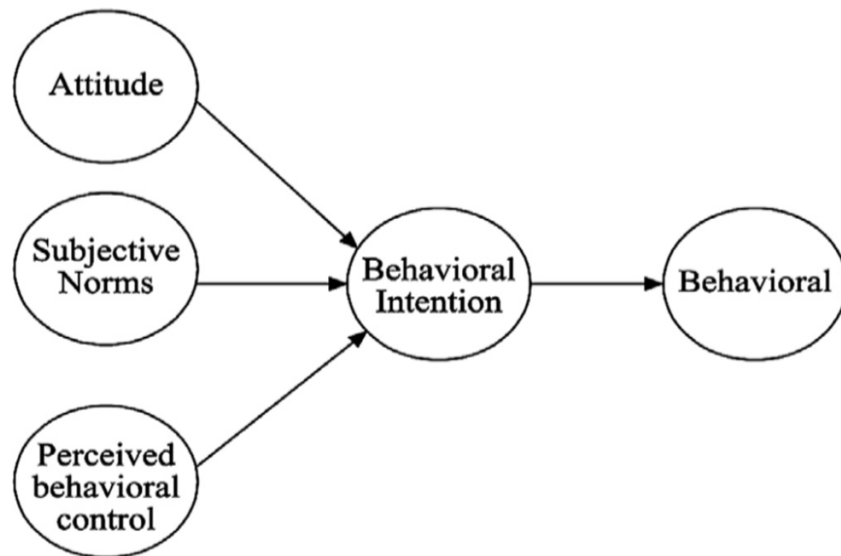
Figure 2: TPB (Ajzen, 1985, 1991).

2.2.3 Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is a popular information systems model that tries to explain how users come to accept technology within organizations (Wikipedia, 2017). It provides a framework that allows assessing the effect of external variables on information technology usage (Kim, Changsu et al., 2010). Originally, it was introduced to predict user's adoption of electronic mail system within the organizations' context (Ooi, Keng-Boon et al., 2016). This theory suggests that there are several factors that affect users' decision about the way and time to use new technology when they are presented with it (Wikipedia, 2017). It determines the causal relationship between personal attitudes and perceptions towards innovation and the actual behavior of

accepting the innovation (Leong, Lai-Ying et al., 2013). Like TPB, TAM adapted TRA. TAM tries to predict user's acceptance across a variety of information systems (Fishbein and Ajzen, 1975; Leong, Lai-Ying et al., 2013; Tan, Garry Wei-Han et al., 2014); however, it is considered to be more parsimonious than TRA and TPB (Mathieson, 1991; Tan, Garry Wei-Han et al., 2014). A number of studies have asserted the explanatory power of TAM in predicting the use of different information technologies (Mallat, Niina et al., 2008). Jeyaraj et al. (2006) reviewed a number of articles published between 1992 and 2003 related to technology adoptions' predictors and he found that TAM is among the most adopted technology adoption models by organizations and individuals (Alain Yee-Loong Chong et al., 2010).

TAM model consists of two constructs, which are perceived usefulness (PU) and perceived ease of use (PEOU) (Leong, Lai-Ying et al., 2013). A user will consider using an information system when he believes that this system will improve his work performance (Davis, 1989; Leong, Lai-Ying et al., 2013). PU is defined as the degree to which an individual believes that using a particular system would improve his or her job performance and PEOU as the degree to which an individual believes that using a particular system will not require physical or mental effort (Davis, 1989; Leong, Lai-Ying et al., 2013). Those two variables will determine use intention (Mallat, Niina et al., 2008). Use intention then will try to predict the actual system use (Mallat, Niina et al., 2008). Some studies found that TAM can explain up to 53% of the variance in behavioral intention (Leong, Lai-Ying et al., 2013). This model has been validated with several contexts, populations and information systems by several studies such as mobile

entrainment (Leong, Lai-Ying et al., 2013). Many recent studies have used TAM when studying the adoption of online technologies like online shopping (Gefen et al., 2003; Tong, 2010), e-commerce (Pavlou, 2003), mobile instant messaging (Jiang and Deng, 2011), mobile payments (Dahlberg et al., 2003) and mobile commerce (Wei et al., 2009; Rakhi, Srivastava, 2014).

Although the wide use of TAM (Tan, Garry Wei-Han et al., 2014), and its quickness and inexpensive cost of gathering information about a user's perception of an ICT (Yen, Yung-Shen and Feng-Shang Wu, 2016), number of research mentioned that TAM itself is not enough to explain users' decision to adopt new information technology systems (Tan, Garry Wei-Han et al., 2014). This model has limited ability and flexibility to predict new ICT adoption by general consumers (Jung, 2014; Cocosila, Mihail and Houda Trabelsi., 2016). It ignores individual characteristics, external factors (Tan, Garry Wei-Han et al., 2014) and factors relevant to the technology under investigation (Venkatesh and Davis 2000; Schierz, Paul Gerhardt et al., 2010). It also excludes economic and demographic factors (Shaikh, Aijaz A. and Heikki Karjaluoto., 2015). TAM assumes also that there is only one technology available to the user and there are no barriers to prevent him from using this new ICT (Shin, Dong-Hee, 2009).

Despite the limitation of this model, TAM can be used as a base model and extended by adding additional factors depending on the types of technology that is the subject of study, main users and the context (Yen, Yung-Shen and Feng-Shang Wu, 2016). For example, personal and cognitive influence factors were added to internet shopping adoption study that was conducted by Kamarulzaman in 2007 (Alain Yee-

Loong Chong et al., 2010). Amin (2007) extended TAM to be used for mobile credit card usage intention. Two extra-constructs were added to the original model: perceived credibility and the amount of information on the mobile credit card (Alain Yee-Loong Chong et al., 2010). Online banking adoption study that was conducted by Pikkarainen et al. (2004) uses TAM as the starting point and incorporates several factors such as security and privacy, enjoyment and amount of information (Alain Yee-Loong Chong et al., 2010).
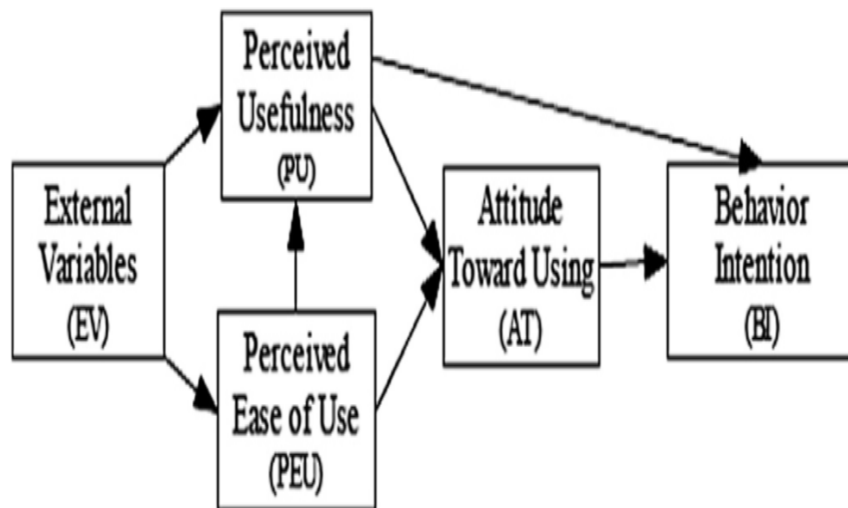
Figure 3: TAM (Davis, 1989).

2.2.4 Diffusion of Innovation (DOI)

The word innovation is of Latin origin. It is derived from the word Innovare which means "to create something new" (Sokolowska, Ewelina., 2015). Innovation means also the application of new knowledge in a production process (Begg et al., 1997).

In a given society, individuals don't adopt an innovation simultaneously (Kim, Changsu et al., 2010). Indeed, an innovation first is adopted by a small number of people and then diffused to more and more people over time (Niklas Arvidsson, 2014). So, adoption behavior of individuals can be segmented into several adopter categories based on the individual adoption speed of the new innovation (Rogers, 1995). The five segments of adopters are innovators (venturesome), early adopters (respectable), early majority (deliberate), late majority (skeptical) and laggards (traditional) (Doswell, Willa Marlene et al., 2011). Personality traits influence individual's readiness to adopt a new innovation (Serenko, 2008). Individuals with higher personal innovativeness have a higher likelihood to have a positive attitude toward new technology adoption compared to a lesser innovative individuals having the same level of belief (Agarwal and Prasad, 1998; Tan, Garry Wei-Han et al., 2014). Innovativeness is defined as the degree to which an individual adopts a new idea (Wikipedia, 2017).

Diffusion of innovations theory (DOI) is a multidisciplinary theory that is often applied in information system adoption studies (Mallat, Niina, 2007). DOI considers innovation attributes are the main determinants of innovation diffusion (Zhang, Liyi et al., 2012). This theory is based on the four key pillars of diffusion, which are communication channels, innovation, social system and time (Tan, Garry Wei-Han et al., 2014). The first version of this theory was introduced by Rogers in 1995 (Tan, Garry

Wei-Han et al., 2014). The DOI consists of five significant innovation characteristics: relative advantage, compatibility, complexity, trialability, and observability. Relative advantage is similar to PU (Leong, Lai-Ying et al., 2013) and refers to the advantage the perceived innovation has over the idea it replaces (Zhang, Liyi et al., 2012). Compatibility is the level to which an innovation is believed to be consistent with the lifestyle of adopters (Zhang, Liyi et al., 2012). The complexity of an innovation refers to the degree to which an innovation is perceived as relatively difficult to use and understand (Zhang, Liyi et al., 2012) and it is similar to PEOU (Tan, Garry Wei-Han et al., 2014). Trialability defines whether an innovation may be experimented with on a limited basis (Zhang, Liyi et al., 2012). Finally, observability is the extent to which the outcomes of an innovation are visible to others (Zhang, Liyi et al., 2012). According to some studies, only three determinants of innovation adoption among the five appear to be constant determinants for this theory. Those determinants are relative advantage, compatibility, and complexity (Zhang, Liyi et al., 2012).

DOI shares some concepts with TAM model. For instance, relative advantage plays the same role of PU and complexity plays the same role as PEOU (Wu and Wang, 2005; Rakhi, Srivastava, 2014). Once DOI and TAM merged together, they can increase the prediction power of information technology adoption behavior (Rakhi, Srivastava, 2014).

DOI has been supported by Empirical research in predicting the use of different technologies such spreadsheets (Brancheau and Wetherbe, 1990), WWW (Agarwal and Prasad, 1997) and operating systems (Karahanna et al., 1999; Mallat, Niina, 2007).

DOI is able to explain a variance up to 87% for technology adoption (Rogers, 2003; Leong, Lai-Ying et al., 2013).
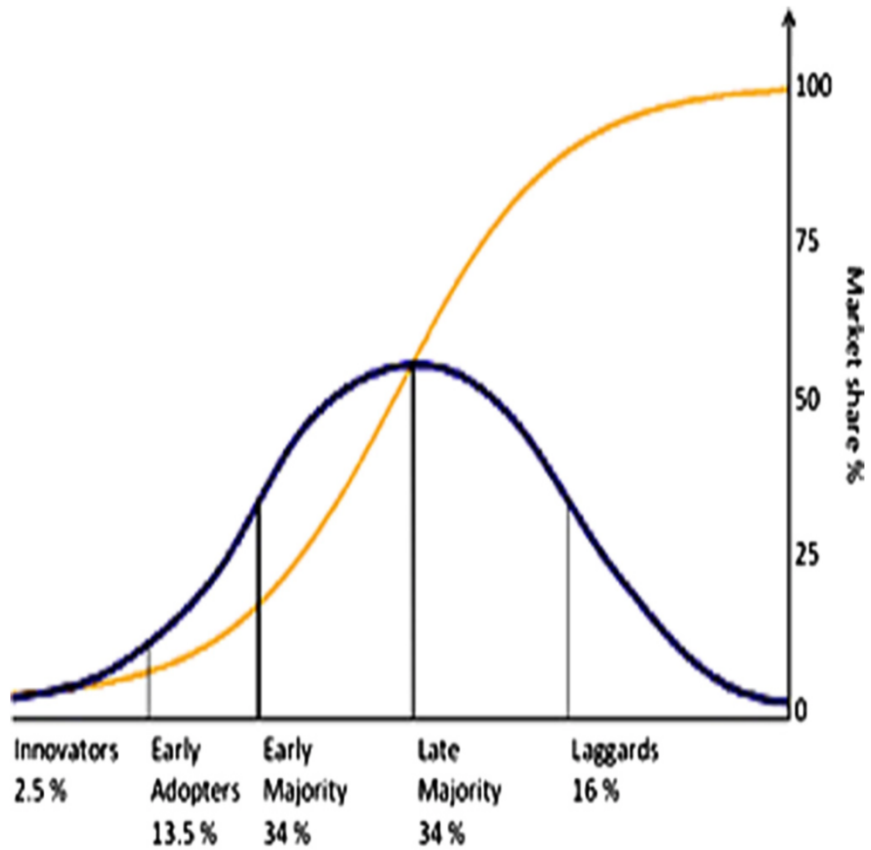
Figure 4: DOI (Rogers, 2003).

2.2.5 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) model was introduced by Venkatesh et.al. on 2003 (Kim, Changsu et al., 2010). It is considered as the most well-known extension of the TAM model (Oliveira, Tiago et al., 2014). This theory integrates eight models related to the user adoption of new technologies. Those models are: TAM, diffusion of innovation theory (DOI), the motivational model, the TRA, the theory of planned behavior (TPB), TAM2, the model of PC utilization and social cognitive theory. It captures the substance of those theories (Rakhi, Srivastava, 2014). UTAUT was introduced initially to predict technology adoption within an organization environment (Slade, Williams et al., 2014). It is frequently used by studies aiming to test the acceptance of new technologies (Khushbu Madan, Rajan Yadav, 2016) since its introduction by Venkatesh et al. (2003; Khalilzadeh, Jalayer et al, 2017). This theory is used to evaluate a wide range of new technologies (Williams, Rana, Dwivedi, and Lal, 2011). This model outperforms the eight individual models in its predictive power of behavioral intention (Oliveira, Tiago et al., 2014). Hong, Thong, Chasalow, and Dhillon (2011) believe that this model has a salient impact on the information system acceptance. Several studies approve the validity of this model to explain the technology adoption (Shin, Dong-Hee, 2009).

Venkatesh et al. (2003) argue that four core constructs have a direct effect on usage intention. Those variables are performance expectancy, effort expectancy, social influence, and facilitating conditions (Khalilzadeh, Jalayer et al, 2017). Performance expectancy and effort expectancy are similar to perceived usefulness and perceived ease of use respectively in TAM model (Kim, Changsu et al., 2010). Social influence and

facilitating conditions are respectively similar to the subjective norm and perceived

behavioral control (Rakhi, Srivastava, 2014). Individual differences such as age, gender,

experience and voluntariness of use were found to have a moderate effect on the direct

predictors of usage intention (Oliveira, Tiago et al., 2016).

UTAUT model was the base of a number of studies conducted to explain user

acceptance of internet banking (Yu, 2012), mobile banking (Yu, 2012; Zhou et al., 2010)

and mobile wallet (Amoroso and Magnier-Watanabe, 2012; Rakhi, Srivastava, 2014).

This model has been empirically validated in different nations and cultures (Im,

Hong, and Kang, 2011; Khalilzadeh, Jalayer et al, 2017). Previous studies found that this

model is able to explain up to 70% of the variance in predicting behavioral intention to

use new IT/IS while TAM2 able to explain only up to 40% (Khushbu Madan, Rajan

Yadav, 2016).

In spite of its wide usage of this model, UTUAUT was validated only in

organizational contexts among employees (Ooi, Keng-Boon et al., 2016). Our study is

based on user acceptance outside organizations. Our users are actual mobile users and not

simply technology users (Ooi, Keng-Boon et al., 2016). Venkatesh et al. (2012)

introduced an extension of this model (Slade, Williams et al., 2014). This new model is

called UTAUT2 and it is tailored to the consumer context (Slade, Williams et al., 2014).

This theory has added three extra-predictors to UTAUT model. Those variables are

hedonic motivation, price value, and habit (Oliveira, Tiago et al., 2016).
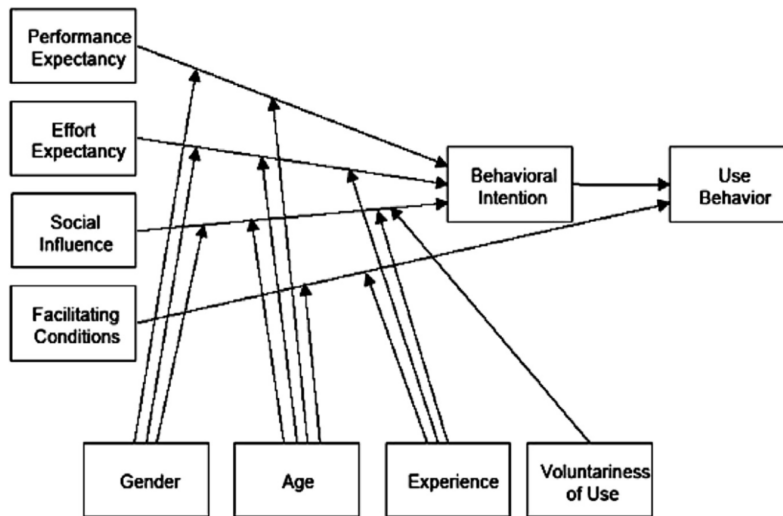
Figure 5: UTAUT (Venkatesh et al., 2003).

2.3 Hypothesis Formulation

First, the user should be aware that using smartphone for banking transaction is available. Second, he must accept the innovation. Lastly, the consumer has to trust organizations and people involved to carry out the payment. In this section, we demonstrate the deduction of our hypotheses based on variables from the models mentioned in the previous section.

2.3.1 Perceived Usefulness (PU)

Perceived usefulness is one of the two primary predictors of use intention in TAM model (Amin, Hanudin, 2007). Davis (1989) defined perceived usefulness as the level to which a potential adopter believes that the use of a given system will enhance his or her

job performance (Amin, Hanudin, 2007). Vijayasarathy (2004) defines perceived usefulness as the level to which individual believes that using new technology in the process will speed up transaction processing (Liébana-Cabanillas, Francisco J. et al., 2014). In order for SCC to be adopted, the new technology has to have more features and advantages and it will bring benefits such as time spend during transaction compared to cash or conventional credit card payment (Tan, Garry Wei-Han et al., 2014). If individuals release that SCC usage may increase their productivity, it will have a positive effect on the intention to use SCC (Tan, Garry Wei-Han et al., 2014). Zmijewska (2005) highlighted that transaction speed is crucial to the success of SCC since transaction does not need either signature nor PIN capture in the PIN PAD device (Tan, Garry Wei-Han et al., 2014). Leavitt (2010) mention that the complex process of entering the card into the terminal is eliminated as the transaction consists of waving the mobile near the terminal over the air (Tan, Garry Wei-Han et al., 2014). NFC-enabled Nokia 3220 mobile phone was used to test this device capability in Dallas against PayPass cards (Leong, Lai-Ying et al., 2013). Results of this benchmarking found out that SCC is six seconds faster than PayPass cards for performing similar payment transaction (Finextra, 2006). This new technology is especially useful for quick payment such as petrol stations, fast-food restaurants, and cinemas (Leong, Lai-Ying et al., 2013). Many research conducted in the IS provides evidence of the significant influence of PU on UI (Cheong and Park, 2005; Chiu et al., 2005; Luarn and Lin, 2005). The outcomes of these research are compatible with the Luarn and Lin (2005) findings, who concluded that perceived usefulness influences the usage intention of mobile banking (Amin, Hanudin, 2007). Cheong and Park (2005) and Chiu et al. (2005) found that perceived usefulness has a positive effect

on online purchase intentions and mobile internet (Amin, Hanudin, 2007). Hence, perceived usefulness is qualified to apply in this study (Amin, Hanudin, 2007).

H₁. There is a significant positive impact of PU on the intention to use SCC.

2.3.2 Perceived Ease Of Use (PEOU)

Besides perceived usefulness, perceived ease of use is also derived from TAM model (Alain Yee-Loong Chong et al., 2010). This construct is defined as the level to which an individual perceives that using a certain technology is simply easy to use or fee of physical and mental efforts (Davis, 1989; Taylor and Todd, 1995; Rakhi, Srivastava, 2014). An individual may perceive the usefulness of new technology but at the same time, he or she might believe that the application is difficult to use (Davis, 1989; Alain Yee-Loong Chong et al., 2010). When the individual believes that the technology is less complicated, the adoption rate of such technology is expected to be higher (Teo, Lim, and Lai, 1999; Leong, Lai-Ying et al., 2013). According to Rogers (1995), the complexity of a given technology will restrain its acceptance (Alain Yee-Loong Chong et al., 2010). For this reason, Moore and Benbasat (1991) believe that this construct has a great influence on the adoption of new applications (Liébana-Cabanillas, Francisco J. et al., 2014). Like perceived usefulness, perceived ease of use has also been supported by various IS adoption as an important determinant in acceptance of many information technologies (Alain Yee-Loong Chong et al., 2010). This variable has been validated for intranet (Chang, 2004), WWW (Lederer et al., 2000), online banking (Wang et al., 2003; Guriting and Ndubisi, 2006), wireless internet (Lu et al., 2003; Shih and Fang, 2004) and mobile

entertainment (Leong, Ooi, et al., 2011; Leong, Lai-Ying et al., 2013; Alain Yee-Loong Chong et al., 2010). Despite the validation of this variable in many studies, Pikkarainen et al. (2004) and Eriksson et al. (2005) found that perceived ease of use does not affect the acceptance of online banking (Alain Yee-Loong Chong et al., 2010). As different research shows various results in the impact of perceived ease of use in information systems, our model will include this construct and *hypothesize that:*

H_2. *There is significant positive impact of PEOU on the intention to adopt SCC.*

2.3.3 Social Influence (SI)

Several information system studies revealed that TAM model is incomplete (Brown and Venkatesh, 2005; Davis, 1989; Hsu and Lu, 2007; Shin, Dong-Hee, 2009). It does not take into consideration the social influence in the acceptance of new technologies (Shin, Dong-Hee, 2009). In the consumer context, social influence refers to the degree to which consumers perceive that important people for him, such as family and friends, think he should use a particular application or technology (Venkatesh et al., 2012). From information systems perspective, people use mobile technology in public social context in which they have to adapt to other's interaction (Shin, Dong-Hee, 2009). In fact, consumers have the tendency to get advice from their social network about new applications (Slade, Dwivedi et al., 2015). The decision to adopt new technology may be influenced by his social network opinions (Slade, Dwivedi et al., 2015). Social influence represents also the influence of environmental factors on consumer's behavior (Venkatesh et al., 2003). Whenever those factors are positive, they motivate the consumer to perform

the behavior and accept the technology (Oliveira, Tiago et al., 2016). The consumer may feel professional by using a particular technology (Oliveira, Tiago et al., 2014). Social influence consists of three elements: Subjective norms, image, and voluntariness (Tan, Garry Wei-Han et al., 2014). According to Fishbein and Ajzen (1975), Subjective norms refer to the extent to which an individual perceives that most people that are important to him believe he should or should not perform the behavior in question (Tan, Garry Wei-Han et al., 2014). This variable highlights the importance of the role played by peer groups, friends, and family and superiors (Tan, Garry Wei-Han et al., 2014). According to Moore and Benbasat (1991), the image is defined as the level of which an innovation can enhance individual's image and social status (Tan, Garry Wei-Han et al., 2014). New technology ownership is considered as a sign of social progress in developing countries (Tan, Garry Wei-Han et al., 2014).

This concept is relevant to explain technology acceptance (Hwang, Al-Arabiat, and Shin, 2015; Venkatesh and Morris, 2000). It has been validated by a couple of studies conducted for SCC and online banking (Al-Somali, Gholami, and Clegg, 2009; Baptista and Oliveira, 2015; Chitungo and Munongo, 2013; Montezemi and Saremi, 2015; Oliveira et al., 2014; Shaikh and Karjaluoto, 2015; Zhou et al., 2010; Malaquias, Rodrigo F. and Yujong Hwang., 2016). Rodrigo F. Malaquias and Yujong Hwang (2016) believe that people who used SCC influence people around them in using SCC too, especially if they are considered as reference for the latter (Malaquias, Rodrigo F. and Yujong Hwang., 2016). Pedersen and Ling (2002) see that social influence cannot be excluded from any adoption model due to its contribution to adoption behavior (Hernan E. Riquelme, Rosa E. Rios, 2010). Social influence contribution has been validated also by

many research such as e-mail usage (Karahana and Limayem, 2000), wireless finance

adoption (Kleijnen et al., 2004), and internet banking (Chan and Lu, 2004; Hernan E.

Riquelme, Rosa E. Rios, 2010). Empirical studies (Cheong et al., 2002; Shin, 2007),

review of the literature (Dahlberg et al., 2008), and theories such TRA and TPB (Lucas

and Spitler, 2000; Venkatesh and Morris, 2000) have confirmed the positive influence of

social influence on behavior (Shin, Dong-Hee, 2009). Among the main four constructs of

the UTAUT model, social influence has been the most validated in the context of SCC

and its influence on behavioral intention has acquired more support (Hongxia et al., 2011;

Tan et al., 2014; Yang, Lu, Gupta, Cao, and Zhang, 2012) than rejection (e.g. Shin, 2010;

Wang and Yi, 2012; Slade, Williams et al., 2014). A study conducted by Shen, Laffey,

Lin, and Huang (2006) shows that Social influence explained 39.9% of the variance in

PU and 11.4% in PEOU (Leong, Lai-Ying et al., 2013). A study conducted by Willis

(2008) also concluded that social influence is an important determinant of PU in online

social networking behavior (Leong, Lai-Ying et al., 2013). In the same context, Teo

(2010) found that social influence can affect PEOU (Leong, Lai-Ying et al., 2013).

Hence, the following hypotheses are put forward:

H_3. *Social influence has significant relationship towards SCC adoption.*

2.3.4 Personal Innovativeness in Information Technology (PIIT)

Innovativeness is defined as the level to which a person is prior to embracing new

thoughts than different individuals belonging to the same social environment (Zhang,

Liyi et al., 2012). Personal innovativeness in information technology (PIIT) refers in the

domain of technology to individual's readiness to adopt new information technologies (Agarwal and Prasad, 1998; Leong, Lai-Ying et al., 2013). Some individuals consider new technologies as innovation (Rakhi, Srivastava, 2014). Hence, the degree to which a person has the willingness to try new technologies, represent a sign of his innovativeness trait (Slade, Dwivedi et al., 2015). This construct was conceptualized by Rogers (1995) in the DOI theory for information technology domain (Tan, Garry Wei-Han et al., 2014). This theory describes the spread of innovation among individuals (Tan, Garry Wei-Han et al., 2014). According to this theory, adopters of new technology can belong to one of the following five groups depending on their speed to accept the new technology: innovators, early adopters, early majority, late majority and laggards (Zhang, Liyi et al., 2012). Individuals belong to innovator group tend to take more risk than their peers in other groups (Tan, Garry Wei-Han et al., 2014). In general, they are the first one to embrace and buy new technologies (Midgley and Dowling, 1978; Tan, Garry Wei-Han et al., 2014). Their initiative is explained by their capability to recognize the advantages of new products (Yi et al., 2006; Tan, Garry Wei-Han et al., 2014) and bear extra-risk (Yang, Shuiqing et al., 2012). PIIT vary from one person to another and it is an important user's characteristic to accept a new technology (Thanh-Thao T. Pham, Jonathan C. Ho, 2015). Most people have little knowledge regarding mobile services and then PIIT is considered as an important factor to accept new mobile technologies (Kim, Changsu et al., 2010). Individuals having a higher level of PIIT, they feel comfortable to use the technology and accept its advantage (Oliveira, Tiago et al., 2016). This category of individuals looks actively for new features in the technology field (Tariq, 2007; Kim, Changsu et al., 2010).

TAM, TPB, and DOI focus on different perspectives of technology acceptance. TAM emphasizes internal perceptions, TPB focuses on the external environment and DOI concentrates on innovation traits (Zhang, Liyi et al., 2012). As individuals have a little information about internal and external perception, PIIT should be considered in this context (Zhang, Liyi et al., 2012).

SCC is considered as new technology (Rakhi, Srivastava, 2014). It is offering a novel payment technology that it is using a different technology than cash or credit card (Malaquias, Rodrigo F. and Yujong Hwang., 2016). Hence, PIIT is expected to have a positive effect on the acceptance of this new technology (Rakhi, Srivastava, 2014). Tan et al. (2014) validated this assumption in Malaysian market and found that PIIT is the construct that has the highest variance explanation of the behavior intention (Slade, Williams et al., 2014). This assumption also has been validated in Brazilian market on mobile banking applications (Montezemi and Saremi, 2015; Malaquias, Rodrigo F. and Yujong Hwang., 2016). Previous studies found also that PIIT has an impact on SCC and mobile-banking acceptance (Chitungo and Munongo, 2013; Tan et al., 2014; Malaquias, Rodrigo F. and Yujong Hwang., 2016). In Spite of absence of this construct from the famous technology acceptance models, this variable has been supported by other fields such as innovation acceptance and acquiring of new products (Agarwal and Prasad, 1998; Cowart, Fox, and Wilson, 2008; Slade, Dwivedi et al., 2015). This variable was introduced as a moderator but after conducting several studies, the variable was considered as a factor that has a direct impact on behavioral intention (Oliveira, Tiago et al., 2016). Considering the relative infancy of SCC, it is adequate to validate the impact of PIIT on SCC. Thus, we proposed the following hypothesis:

H₄. There is significant positive impact of PIIT on SCC.

2.3.5 Perceived Trust (PTR)

Trust is a crucial component for maintaining a stable social relationship between people (Oliveira, Tiago et al., 2014). It influences the interpersonal relationships and then the economic transactions (Jarvenpaa, Knoll, and Leidner, 1998; Oliveira, Tiago et al., 2014). Traditionally, research has faced some difficulties to agree on a common definition of trust (Slade, Williams et al., 2014). Hence, several definitions found for the predictor trust (Leong, Lai-Ying et al., 2013). In B2C electronic commerce, Pavlou (2003) had defined trust as customer's belief that the online vendors will take into consideration customers' expectation during transaction execution (Leong, Lai-Ying et al., 2013). Trust is established between online retailers and customers when customers believe that their personal data will not be misused by any party involved in the transaction process and that only authorized amount will be debited from customer's account (Norman Shaw, 2014). This construct refers also to the customer's confidence in the other transaction's player to fulfill its obligation without prior experience in an uncertain environment where the customer does not have control and there is a high risk of financial loss (Lu et al., 2011; Zhou, 2013; Slade, Dwivedi et al., 2015). Van Der Heijden, Verhagen, and Creemers (2003; in Lassala, Ruiz, and Sanz, 2010) define trust in online purchasing as "the willingness of one of the parties (the purchaser) to be vulnerable to the actions of a virtual establishment, based on the expectations that this virtual establishment will carry out an important action for the customer or purchaser,

regardless of his or her ability to conduct or control the virtual establishment" (Liébana-Cabanillas, Francisco J. et al., 2014).

Most of the customers are frequently using physical bank cards due to the high level of trust that they have on the ecosystem (Norman Shaw, 2014). With the introduction of SCC, providers of mobiles and wallets need to work hard in order to gain the confidence of potential consumers about the reliability of the new system (Norman Shaw, 2014). Especially, the risk of being hacked is high (Shin, Dong-Hee, 2009), mobile devices can be the target of viruses and Trojan horses (Malaquias, Rodrigo F. and Yujong Hwang., 2016). In addition to that, this new ecosystem is complex and virtual (Alain Yee-Loong Chong et al., 2010) and there is no face-to-face interaction between different players (Ooi, Keng-Boon et al., 2016). As customers' personal data is involved in the SCC transaction, customers are anxious about the safety of their data (Zhou, 2011; Norman Shaw, 2014). Yang and Lin (2014) confirmed that difficulty of building online trust compared to offline trust is high (Ooi, Keng-Boon et al., 2016). As money and payment transactions are based on trust, the importance of trust is natural (Niklas Arvidsson, 2014). The level of mutual trust between customers and vendors determines the success of this relationship (Khushbu Madan, Rajan Yadav, 2016). The trust had played the role of catalyst for the acceptance of new IT/IS in the recent years (Pham and Ho, 2014; Khushbu Madan, Rajan Yadav, 2016). Trust concept has arisen as an important predictor of mobile commerce acceptance (Mallat, Niina et al., 2008). Zhou (2012b) see that the absence of trust will lead to the rejection of technology (Malaquias, Rodrigo F. and Yujong Hwang., 2016).

Pavlou (2003) has found that trust has a positive influence on predicting behavioral intention (Leong, Lai-Ying et al., 2013). Indeed, the trustworthy system will require less effort from users as the customer will not need to check his account statement on regular basis to look for any misuse of his account or personal data (Leong, Lai-Ying et al., 2013). Rogers's analysis (2014) revealed that trust influences behavioral intention and these findings are in conformance with Duane et al. (2012) results (Norman Shaw, 2014). According to Hernandez and Mazzon (2007), trust was found as an important predictor of behavioral intention in the Brazilian market (Alain Yee-Loong Chong et al., 2010). The study conducted by Jahangir and Begum (2008) confirmed the finding of Hernandez and Mazzon (2007) study in Bangladeshi market. In Chinese environment, Yang, Pang, Liu, Yen, and Michael Tarn (2015) found that trust has a positive impact on behavioral intention (Ooi, Keng-Boon et al., 2016).

Some studies conducted for similar technologies by (Chong et al., 2012; Zhang et al., 2012; Chong, 2013a, 2013b) assert the importance of this predictor (Khushbu Madan, Rajan Yadav, 2016). Some others found that this predictor has the highest explanation power among other predictors and it is replacing traditional factors such as usefulness (Slade, Dwivedi et al., 2015).

Despite the support of several studies conducted for SCC and similar technologies for the importance of trust to predict the behavioral intention, one study conducted by (Thanh-Thao T. Pham, Jonathan C. Ho, 2015) found no effect of this predictor on SCC adoption. But due to the number of supporting studies, we propose the following hypothesis:

H₅. There is significant positive impact of TR on SCC.

2.3.6 Perceived Risk (PR)

Aside from the perceived benefits related to innovation such as perceived

usefulness and ease of use, innovations also introduce new risks (Cho 2004; Schierz, Paul

Gerhardt et al., 2010). Users often hesitate to adopt innovations due to the risks

associated with them (Tommi Laukkanen, 2016). Researchers associated perceived risk

to fraud. With the increase of online transactions, researchers extended the perceived risk

to include also financial, psychological, physical, or social risks of online activities

(Forsythe and Shi, 2003; Tommi Laukkanen, 2016). Perceived risk refers to the

subjective belief of missing out the desired outcome and expecting a loss by using a risky

technology (Amoroso et al., 2012). It is defined also as the feeling of worry about an

uncertain outcome that can have a negative consequence on the consumer (Slade,

Williams et al., 2014). Risk perception comprises three dimensions: misuse of the owner

personal information, moving money to third parties without owner authorization, and

vulnerability of smartphone to hackers and Trojan horses (Malaquias, Rodrigo F. and

Yujong Hwang., 2016). As smartphones store sensitive information related to the mobile

holder, using this kind of devices to conduct payment transactions emphasize security

issues (Emmeline Taylor, 2016). Despite the advantages offered by smartphones related

to its ubiquity, smartphones and networks are both vulnerable to hacker attacks (Au and

Kauffman, 2008; Zhou, 2014; Slade, Williams et al., 2014). Several scholars highlight the

importance of studying the impact of perceived risk associated with innovations (Lim

2003; Mitchell 1999; Schierz, Paul Gerhardt et al., 2010). Those studies reveal that consumers have a particular concern about the security risk (Lwin et al. 2007). First, many consumers don't have previous experience with mobile payment (Bauer et al. 2005a; Schierz, Paul Gerhardt et al., 2010). Second, services are intangible products and they are hard to evaluate as perceived products as riskier than tangible products (Gefen et al. 2003; Mitchell 1999; Schierz, Paul Gerhardt et al., 2010). Finally, mobile payment services are often related to high risk of losing sensitive data and financial losses (Bauer et al. 2005b; Schierz, Paul Gerhardt et al., 2010). The perceived risk in our context comprises three components: security risk, privacy risk and monetary risk (Rakhi, Srivastava, 2014). The security risk is defined as the technical part of the risk of ensuring the integrity, confidentiality, and authentication (Rakhi, Srivastava, 2014). Privacy risk refers to the risk of the misuse of personal data (Rakhi, Srivastava, 2014). Monetary risk is customer feeling that the adopted channel will cost more than its alternatives (Rakhi, Srivastava, 2014). A mobile credit card is considered inherently risky (Slade, Dwivedi et al., 2015).

The risk factor may be amplified when the payment involves mobile devices due to mobility factor (Hernan E. Riquelme, Rosa E. Rios, 2010). The perceived risk may be high because of the potential of losing or stealing of the mobile phone (Hernan E. Riquelme, Rosa E. Rios, 2010). In addition to that, mobile phones have limited battery life (Tommi Laukkanen, 2016).

Perceived risk is a common extension of the model UTAUT (Williams et al., 2011; Slade, Williams et al., 2014). Recent studies on electronic banking found that perceived risk is an important factor affecting customer intention to adopt electronic

services provided by banks (Chen, 2013; Tommi Laukkanen, 2016). It is affecting

negatively and significantly the attitudes toward adopting mobile financial services and

the intention to use (Chen 2013; Yen, Yung-Shen and Feng-Shang Wu, 2016).

Consumers with a high level of perceived risk are expected to have greater intentions to

use less mobile financial services than the ones having a lower level of perceived risk

(Yen, Yung-Shen and Feng-Shang Wu, 2016). The effect of perceived risk on behavioral

intention has been supported in some studies (Zupanovic, 2015; Cheong et al., 2014;

Pham and Ho, 2014; Liébana-Cabanillas et al., 2014; Slade et al., 2015; Slade, Dwivedi

et al., 2015) and rejected by others (Kapoor et al., 2014; Tan et al., 2014; Kapoor,

Dwivedi, and Williams, 2014; Slade, Williams et al., 2014; Slade, Dwivedi et al., 2015).

Given the novelty of method as a payment solution and confusing structure, and

the relationship between product and dimensions of risk, we hypothesized that people

that perceive higher levels of risk in mobile credit card tend to feel less confident to adopt

it.

H$_6$. There is significant negative impact of PR on SCC.

2.4 Research Model

The conceptual model includes six independent variables and one dependent variable as shown in the below figure.
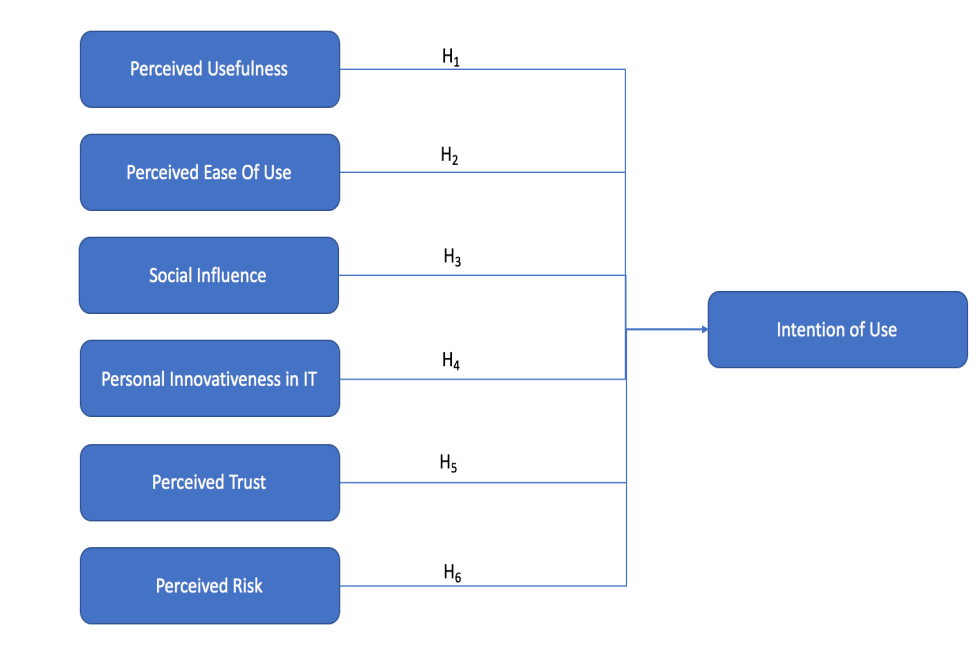
Figure 6: Research Model.

CHAPTER 3: RESEARCH METHODOLOGY

In this section, we present the details of the methodology applied to the research, the preparation of the measurement instrument, the procedure of collection of data, analysis, the characteristics of the sample and the techniques used for data processing.

3.1 Instrument

This study was designed with the research method of cross-sectional survey to measure the drivers of mobile credit card acceptance in Qatar. The questionnaire is composed of two parts for ease of use in the research. The first part collected mainly demographic information and general details about the respondents such as their gender, age group, employment status, education level, credit card usage, smartphone possession, and awareness about NFC technology. The second part that constitutes the core of the questionnaire invited respondents to answer questions about the drivers of the adoption of mobile credit card.

The questionnaire is composed of six sections for the constructs representing the independent variables including perceived usefulness (PU), perceived ease of use (PEOU), social influence (SI), personal Innovativeness in information technology (PIIT), perceived trust (PTR) and perceived risk (PR) and one section for the construct representing the dependent variable. Each construct is measured by multiple statements.

All the measurement statements in English were adapted from previous studies to ensure that reliability and validity are met. Four statements were used to capture each independent variable. While five statements were used to represent the dependent

variable IU. Back translation procedure was used to ensure that the meaning of statements is preserved during the translation (Brislin, 1986). The Arabic statement was translated by the researcher and reviewed by colleagues at the workplace to ensure that the meaning is preserved from English to Arabic. The Arabic statements were translated by other colleagues from Arabic to English to ensure that meaning is same as the original statements. Each item is measured on a five-point Likert scale in which, 1 indicating strongly disagree through 5 indicating strongly agree. 2 represented "Disagree", 3 represented "Neither Agree nor Disagree" and 4 represented "Agree".

During the pilot-test, ten respondents were asked to answer the questionnaire before its distribution to the public. The respondents were asked about the clarity of statements in both English and Arabic and if they notice any difference in meaning between the two languages English and Arabic.

Data collection for this study is done online via the Survey Monkey tool. The participation in this survey was completely voluntary. The respondents can decline to participate in this survey or withdraw at any time. The responses were confidential and are totally anonymous as no personal data are captured by the survey. The expected time to complete the survey was less than fifteen minutes. Participants were informed about privacy and confidentiality conditions before agreeing to participate in the survey.

The data collected from online tool regarding the questionnaire was processed using Microsoft Excel software and the Statistical Package for Social Sciences (SPSS).

Table 1: Questionnaire Questions for Perceived Usefulness (PU)

Perceived Usefulness (PU)		Source
Using mobile credit card will enable me to accomplish my transaction more quickly	PU1	Leong, Lai-Ying et al., 2013
Using mobile credit card increases my productivity/performance	PU2	Leong, Lai-Ying et al., 2013
Using mobile credit card makes the handling of payments easier	PU3	Leong, Lai-Ying et al., 2013
Overall, I would find mobile credit card to be advantageous	PU4	Leong, Lai-Ying et al., 2013

Table 2: Questionnaire Questions for Perceived Ease of Use (PEOU)

Perceived Ease of Use (PEOU)		Source
Learning to use mobile credit card will be easy for me	PEOU 1	Leong, Lai-Ying et al., 2013
Using mobile credit care does not require a lot of mental efforts	PEOU 2	Tan, Garry Wei-Han et al., 2014
It would be easy for me to become skillful at using mobile credit card	PEOU 3	Leong, Lai-Ying et al., 2013
Since a mobile credit card uses my mobile phone, hence, a mobile phone credit card is easy to use	PEOU 4	Leong, Lai-Ying et al., 2013

Table 3: Questionnaire Questions for Social Influence (SI)

Social Influence (SI)		Source
Friend's suggestion and recommendation will affect my decision to use mobile credit card	SI1	Leong, Lai-Ying et al., 2013
Family/relatives have influence on my decision to use mobile credit card	SI2	Leong, Lai-Ying et al., 2013
I will use mobile credit card if my colleagues use it	SI3	Tan, Garry Wei-Han et al., 2014
I will use mobile credit card if the service is widely used by people in my community	SI4	Tan, Garry Wei-Han et al., 2014

Table 4: Questionnaire Questions for Personal Innovativeness in Information Technology (PIIT)

Personal Innovativeness in Information Technology (PIIT)		Source
I like to experiment with new ways of doing things	PIIT1	Leong, Lai-Ying et al., 2013
I am very curious of how things work	PIIT2	Tan, Garry Wei-Han et al., 2014
Among my pears, I am the first one to try out new information technologies	PIIT3	Rakhi, Srivastava, 2014
In general, I am hesitant to try out new information technologies	PIIT4	Yang, Shuiqing et al., 2012

Table 5: Questionnaire Questions for Perceived Trust (PTR)

Perceived Trust (PTR)		Source
I would trust my bank to offer secure mobile credit card services	PTR1	Leong, Lai-Ying et al., 2013
I would trust my mobile phone manufacturer to provide a mobile phone which is appropriate for conducting mobile credit card services	PTR2	Leong, Lai-Ying et al., 2013
I believe that if an outsider gains access to my mobile credit card account, the bank will take complete responsibility for my money	PTR3	Leong, Lai-Ying et al., 2013
I believe mobile credit card service providers keep their promise	PTR4	Slade, Williams et al., 2014

Table 6: Questionnaire Questions for Perceived Risk (PR)

Perceived Risk (PR)		Source
The risk of abuse of billing information (e.g., credit card number, bank account data) is low when using mobile credit card	PR1	Tan, Garry Wei-Han et al., 2014
I would find mobile credit card payment services secure in conducting my payment transactions	PR2	Schierz, Paul Gerhardt et al., 2010
I believe that overall riskiness of mobile credit card systems is high	PR3	Slade, Williams et al., 2014
I think using mobile credit card payment for conducting transaction would have a potential risk	PR4	Thanh-Thao T. Pham, Jonathan C. Ho, 2015

Table 7: Questionnaire Questions for Intention to Use (IU)

Intention to Use (IU)		
I am likely to use mobile credit card in the near future	IU1	Leong, Lai-Ying et al., 2013
Given the opportunity, I will use mobile credit card	IU2	Leong, Lai-Ying et al., 2013
I am willing to use mobile credit card in the near future	IU3	Leong, Lai-Ying et al., 2013
I will think about using a mobile phone credit card	IU4	Leong, Lai-Ying et al., 2013
I intend to use mobile credit card when the opportunity arises	IU5	Leong, Lai-Ying et al., 2013

3.2 Sampling and Data Collection

The target population of this study consists of all people living in Qatar that are at least 18 years old. The survey was communicated to the targeted population via email, WhatsApp. It was also published on LinkedIn and Facebook.

From 22nd of October 2017 till 15th of November 2017, 325 respondents participated in the questionnaire. Of this, 286 questionnaires were valid. 38 questionnaires were rejected due to incompleteness. The completeness rate was 88%.

CHAPTER 4: DATA ANALYSIS

4.1 Profile of Respondents

This part of the research describes the demographics and general information of the sample. Demographics' dimensions and general information of this study consist of gender, age, education, employment status, respondent's industry, the period of credit card use, the frequency of credit card use, cell phone's type and awareness about NFC-based mobile payment. Frequency and percentage of the demographics' dimensions of the profile were used to discuss the sample and discover its properties.

Table 8: Demographic Profile of Respondents

Item		Frequency	Percent
Gender			
	Male	193	67.2
	Female	94	32.8
Age			
	Below 20	23	8
	21–25	52	18.1
	26–30	51	17.8
	31–35	61	21.3
	36–40	49	17.1
	Above 40	51	17.8
Highest education level			
	No college degree	42	14.6
	Diploma/advanced diploma	21	7.3
	Bachelor degree/professional qualification	143	49.8
	Postgraduate qualification	81	28.2
Employment status			
	Employed full time	194	67.6
	Employed part-time	13	4.5
	Self-employed	14	4.9
	Full-time student	51	17.8
	Retired	6	2.1
	Unemployed	9	3.1
Respondent's industry			
	Banking	76	26.5
	Financial Institutional	15	5.2
	IT Related	25	8.7
	Manufacturing	14	4.9
	Retail	5	1.7
	Telecommunication	6	2.1
	Tourism	6	2.1
	Education	55	19.2
	Other	85	29.6
Period of credit card use			
	Less than 3 years	77	26.8
	3–6 years	77	26.8
	Over 6 years	133	46.3

Frequency of credit card use (per month)			
	0 time	22	7.7
	1–3 times	49	17.1
	4–10 times	72	25.1
	11–20 times	63	22
	more than 20 times	81	28.2
Kind of cell phone			
	Basic phone	2	0.7
	Smartphone	285	99.3
Heard about NFC-based mobile payment			
	Yes	165	57.5
	No	122	42.5

4.1.1 Respondents Distribution According to the Gender Variable

Males represent 67.2% of the respondents and the remaining are females. The respondent's ratio male-female is almost equal to 2 to 1. Qatar population, that include all residents in the State of Qatar, has the world's highest male to female ratio. For every 1.87 males, you have one female (Qatarliving, 2017). The distribution of the respondents is homogenous with that of the population. This distribution is due to young males that leave their countries without their families in order to seek higher income.

Gender

33%

67%

Male

Female
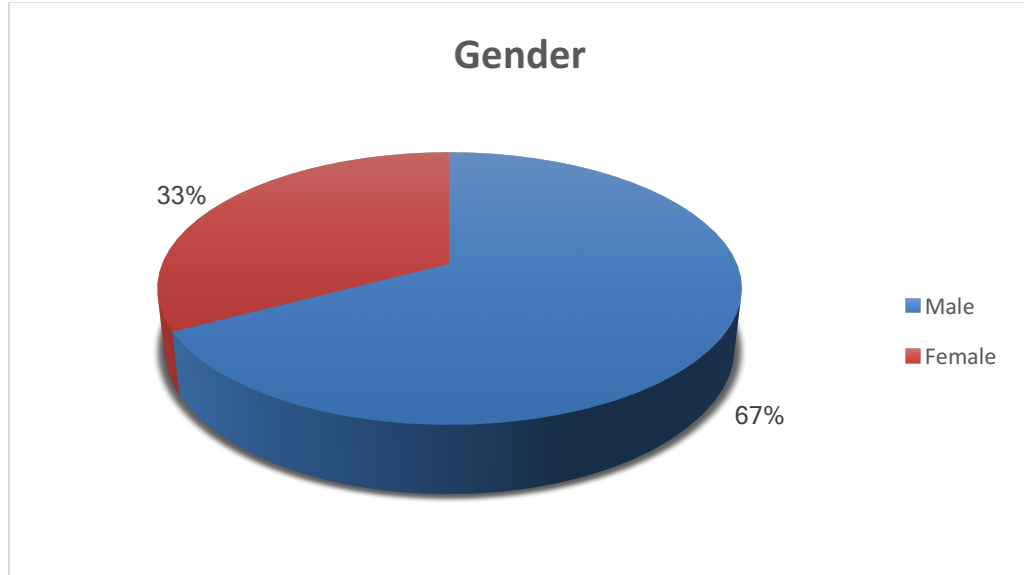
Figure 7: Respondents distribution according to the gender variable.

4.1.2 *Respondents Distribution According to the Age*

Figure for respondents' distribution according to the age shows that 65.2% of the respondents are less than 35 years old. On the other hand, more than half of the population is greater than 31 years old. So, the respondents' median is between 31 and 35 years. Thus, median of the respondents is in line with the median age of Qatar population which is equal to 33 years (Indexmundi, 2017).

Age Group

- Below 20
- 21–25
- 26–30
- 31–35
- 36–40
- Above 40

8%
18%
18%
18%
21%
17%
18%
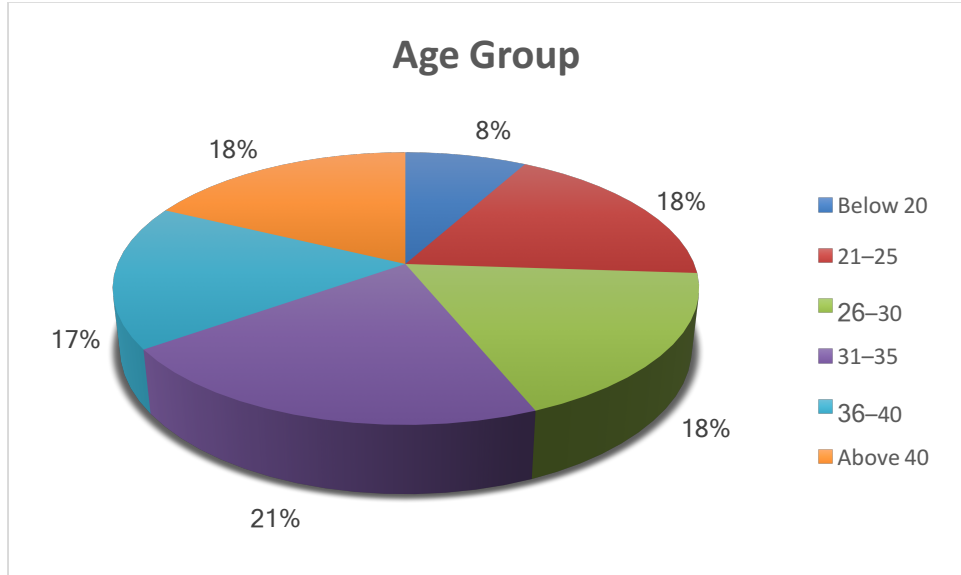
Figure 8: Respondents distribution according to the age.

4.1.3 Respondents Distribution According to Education Level

With regards to education, more than 85% of respondents hold at least a university degree or equivalent. Among them, half hold a bachelor degree. This is compatible with the general trend in the State of Qatar of attracting educated and skilled expatriates.

Education Level

- No college degree
- Diploma/advanced diploma
- Bachelor degree/professional qualification
- Postgraduate qualification

15%

7%

28%

50%
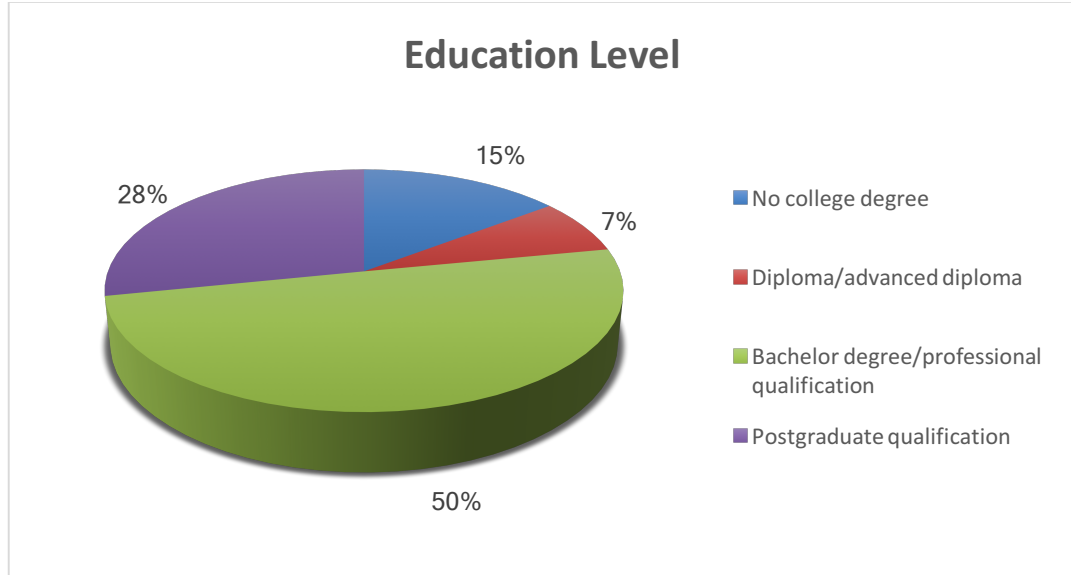
Figure 9: Respondents distribution according to education level.
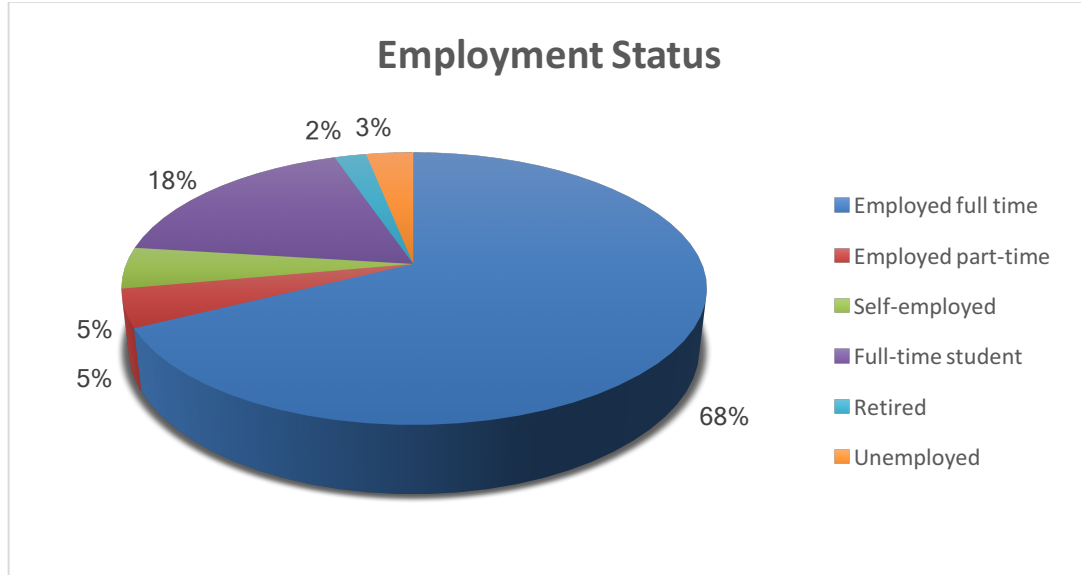
4.1.4 Respondents Distribution According to Employment Status

With regards to employment status, employed constitute the majority at 72%, whereas students constitute 28% of the respondents. The respondents' distribution is in line with Qatar population distribution. In fact, most people that live in Qatar are expatriates. Their residence in Qatar is related to their employment, and once they lose their employment they leave the country. This is what justifies the high rate of employees and low rate of self-employed respondents.

Employment Status

- Employed full time — 68%
- Employed part-time — 5%
- Self-employed — 5%
- Full-time student — 18%
- Retired — 2%
- Unemployed — 3%

Figure 10: Respondents distribution according to employment status.

4.1.5 Respondents Distribution According to Respondent's Sector

More than 25% of the respondents is working in the banking sector and almost 20% are students or working in the education sector. This may not represent the population of Qatar. This distribution may be due to the fact that the researcher is working in the banking sector and is also studying at Qatar University, and thus access to people that belong in these two sectors was more feasible.
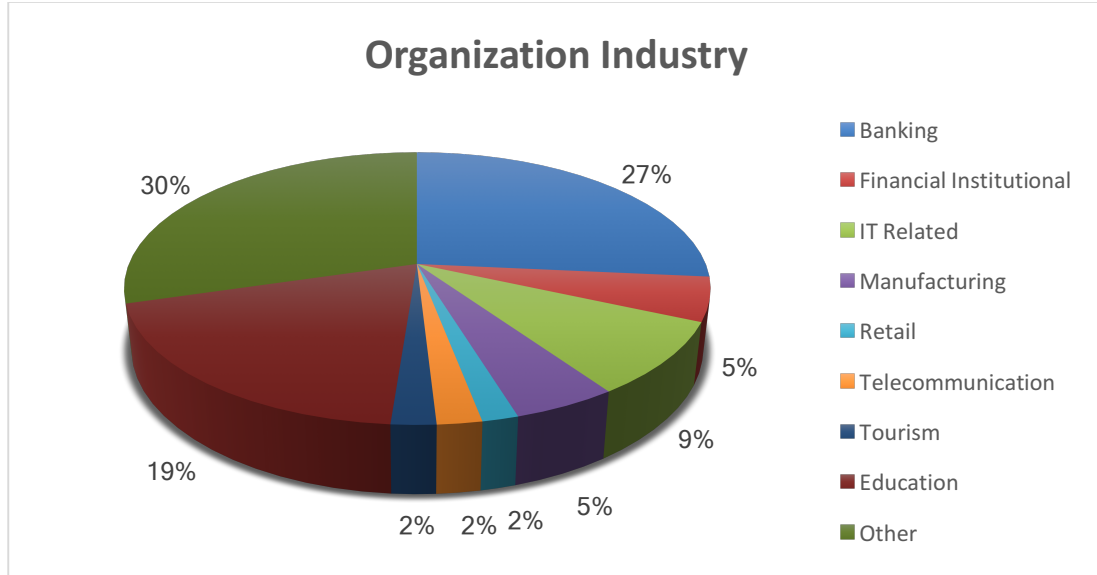
Organization Industry

- Banking — 27%
- Financial Institutional — 5%
- IT Related — 9%
- Manufacturing — 5%
- Retail — 2%
- Telecommunication — 2%
- Tourism — 2%
- Education — 19%
- Other — 30%

Figure 11: Respondents distribution according to sector.

4.1.6 Respondents Distribution According to Credit Card Use

With regards to credit card usage, more than 92% percent of respondents are using the credit card on monthly basis to perform their transactions. Three-quarters of respondents have an experience of more than three years of using a credit card. The high rate of credit card usage may be attributed to the high rate of credit card acceptance at merchants point of sale. In addition to that, the new regulation of Wages Protection System (WPS), developed by Qatar Central Bank and allows the Ministry of Labor to oversee the salary payments of workers in the private sector and guarantee timely and full payment of wages. The payment to workers is done by Qatari banks that need to report

salary via WPS. In addition, government's transactions are performed only by using a

credit card, and no cash is accepted at the government's outlets.

Usage Period
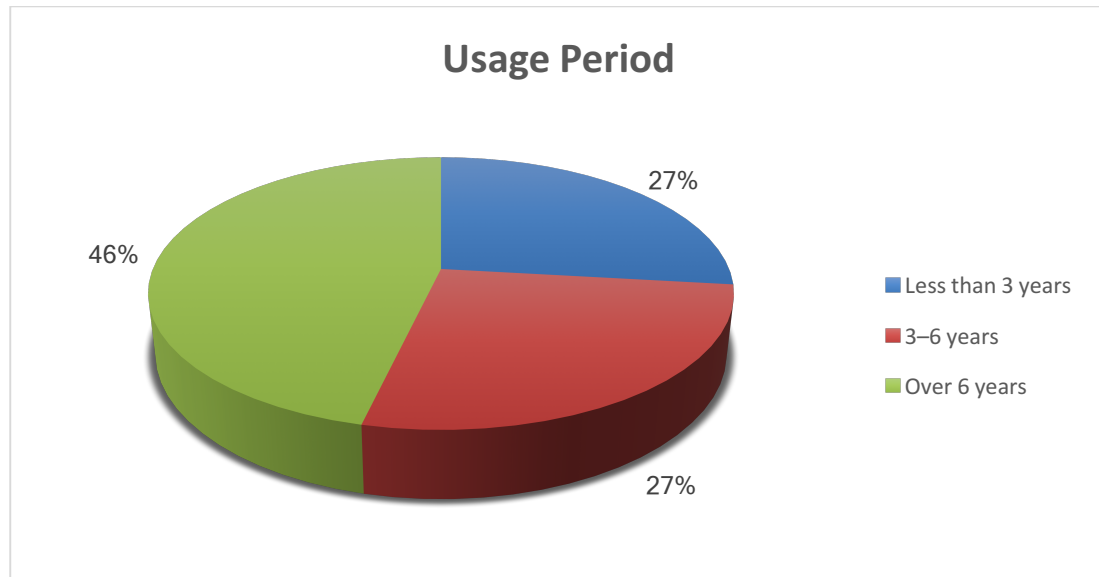
Figure 12: Respondents distribution according to credit card usage duration.

Usage Frequency

8%

28%

17%

- 0 time
- 1–3 times
- 4–10 times
- 11–20 times
- more than 20 times

22%

25%
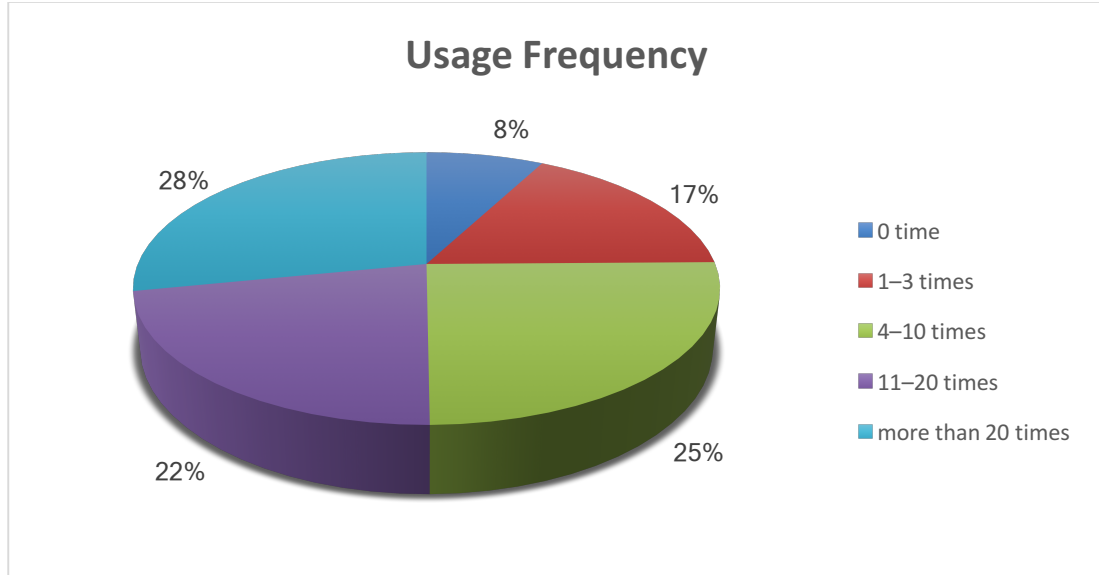
Figure 13: Respondents distribution according to credit card usage frequency.

4.1.7 Respondents Distribution According to Awareness about NFC-based Mobile Payment

All respondents hold a smartphone except two of them. The cost of paying for a smartphone for most people in Qatar is affordable. More than half of the respondents are aware of payment using NFC technology integrated on smartphones.
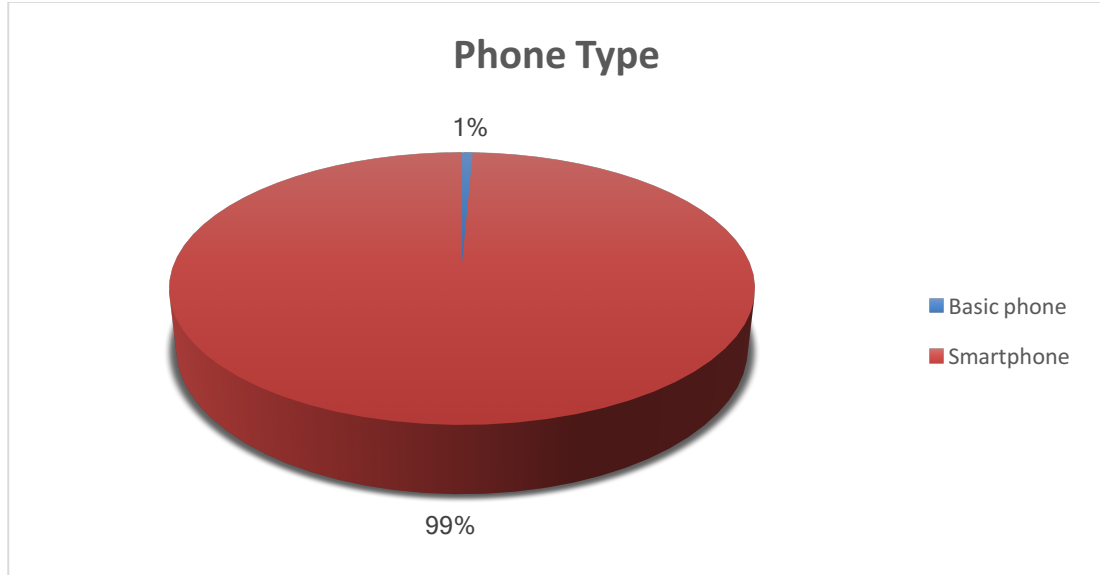
Figure 14: Respondents distribution according to phone type.
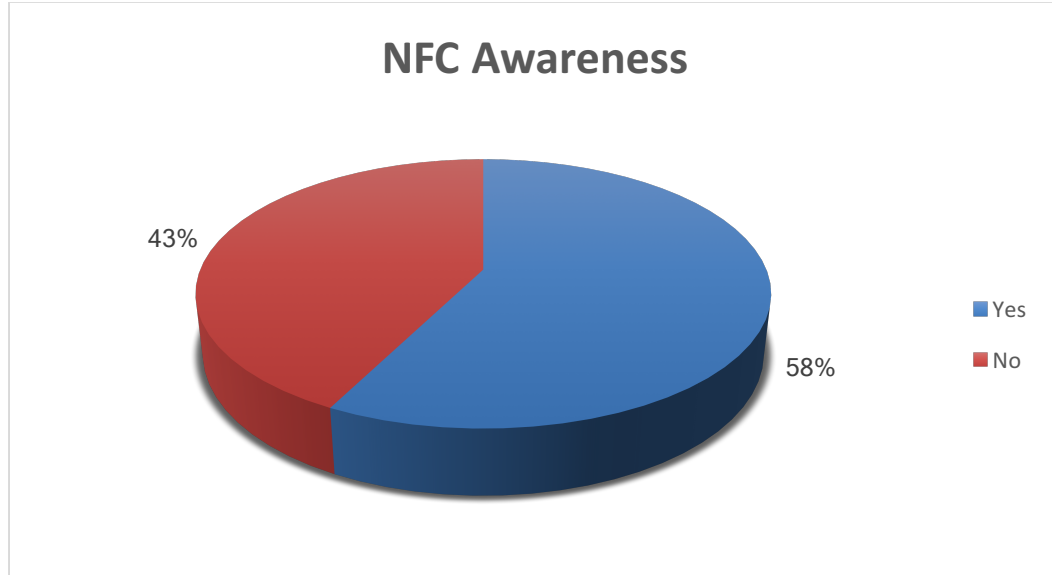
Figure 15: Respondents distribution according NFC awareness.

4.2 Factor Analysis

We performed principal components analysis (PCA) for the 29 items by using SPSS 22. The Kaiser-meyer-Oklin value was 0.92, which exceeds the recommended value of 0.6 (Kaiser, 1970; 1974), and the Barlett's Test of Sphericity (Bartlett, 1954) was shown to be statistically significant (p=0.000). The items PTR1, PTR2, and PR1 have been excluded from the study as their loading is less than 0.5 (Hair et al. 2006). The PCA revealed the presence of five components and the cumulative variance explained was 60.37%.

Table 9: KMO and Barlett's tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.920
Bartlett's Test of Sphericity	Approx. Chi-Square	3601.220
	df	325
	Sig.	.000

Five items (IU1, IU2, IU3, IU4, and IU5) loaded on factor one, which describes the intention of use. Eight items (PU1, PU2, PU3, PU4, PEOU1, PEOU2, PEOU3, and PEOU4) loaded on factor two, which measures perceived usefulness and perceived ease of use. Perceived usefulness and perceived ease of use can measure the use. These factors seem to represent use. Three items (SI1, SI2, SI3) loaded on factor three, which measures social influence. two items (PR3 and PR4) loaded on factor four, which describes perceived risk. Two items loaded on factor five (PIIT3 and PTR3) which describe personal innovativeness in IT and perceived trust. Six items (SI4, PIIT1, PIIT2, PIIT4, PTR4, and PR2) did not load on any of the factors and so they were dropped from the study.

Table 10: Factors Analysis

	Component				
	1	2	3	4	5
PU1		.590			
PU2					
PU3		.633			
PU4	.593	.545			
PEOU1		.676			
PEOU2		.711			
PEOU3		.573			
PEOU4		.640			
SI1			.765		
SI2			.785		
SI3			.564		
SI4	.613				
PIIT1		.601			
PIIT2		.577			
PIIT3					.706
PIIT4					
PTR3					.615
PTR4	.556				
PR2	.645				
PR3				.804	
PR4				.775	
IU1	.629				
IU2	.707				
IU3	.703				
IU4	.718				
IU5	.731				

4.3 Reliability Analysis and Cronbach's Alpha

Cronbach's alpha coefficient is used to measure internal consistency and reliability of scale (Pallant, 2002:90). Nunnally (1978) recommends that Cronbach's alpha should have a minimum level of 0.700.

Table 11: Reliability Analysis and Cronbach's Alpha

Factor	Number of items	Items	Cronbach's Alpha	Mean	SD
IU	5	IU1, IU2, IU3, IU4, IU5	0.89	3.9449	0.67867
PU	3	PU1, PU3, PU4	0.75	4.0767	0.648
PEOU	4	PEOU1, PEOU2, PEOU3, PEOU4	0.80	4.1376	0.59224
SI	4	SI1, SI2, SI3, SI4	0.68	3.2953	0.7309
PIIT	1	PIIT3	NA	3.4251	0.97905
PTR	1	PTR3	NA	3.4042	1.13297
PR	2	PR3, PR4	0.65	2.4111	0.78331

With rounding some Cronbach's Alpha, all factors have a value greater than 0.65. So, we can conduct our statistical analysis.

4.4 Correlation

Correlations between continuous variables were examined with the Pearson's product-moment correlation coefficient.

Correlations relevant to five of the six of the hypotheses tested in this study were significant at the 0.01 level (2-tailed) and PR was significant at 0.05 (2-tailed). The first

finding is in line with our model. The construct PU is highly positively correlated with IU

(0.735, H1). PEOU is moderately positively correlated with IU (0.668, H2). SI is low

positively correlated with IU (0.373, H3). PIIT is low positively correlated with IU

(0.341, H4). PTR is low positively correlated with IU (0.316, H5). For PR, the

correlation with UI (-0.127, H6) is very weak it if we assume that a relationship exists.

Table 12: Correlation Matrix

		IU	PU	PEOU	SI	PIIT	PTR	PR
IU	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	287						
PU	Pearson Correlation	.735**	1					
	Sig. (2-tailed)	.000						
	N	287	287					
PEOU	Pearson Correlation	.668**	.776**	1				
	Sig. (2-tailed)	.000	.000					
	N	287	287	287				
SI	Pearson Correlation	.373**	.329**	.274**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	287	287	287	287			
PIIT	Pearson Correlation	.341**	.314**	.282**	.089	1		
	Sig. (2-tailed)	.000	.000	.000	.132			
	N	287	287	287	287	287		
PTR	Pearson Correlation	.316**	.223**	.213**	.133*	.254**	1	
	Sig. (2-tailed)	.000	.000	.000	.024	.000		
	N	287	287	287	287	287	287	
PR	Pearson Correlation	-.127*	-.170**	-.121*	.138*	-.045	.030	1
	Sig. (2-tailed)	.032	.004	.041	.019	.449	.609	
	N	287	287	287	287	287	287	287

4.5 Linear Regression

ANOVA table for the regression model with full model shows that the model has statistically significant predictive capability with a p-value less than 0.001. Which means that there is at least one independent variable that has an impact on IU.

As the independent variable PR has a p-value equals to 0.226 and this value is greater than the common alpha level of 0.05, which indicates that it is not statistically significant. This p-value suggests that changes in the predictor PR are not associated with changes in the IU.

Table 13: Model Summary of Regression for Full Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781[a]	.610	.602	.42825

a. Predictors: (Constant), PR, PTR, SI, PIIT, PEOU, PU

Table 14: ANOVA for Full Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.379	6	13.396	73.046	.000
	Residual	51.352	280	.183		
	Total	131.730	286			

Table 15: Coefficients for Full Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.188	.238		.792	.429		
	PU	.476	.065	.454	7.336	.000	.363	2.753
	PEOU	.251	.068	.219	3.691	.000	.395	2.530
	SI	.134	.038	.145	3.571	.000	.850	1.177
	PIIT	.062	.028	.089	2.216	.027	.862	1.159
	PTR	.076	.024	.127	3.240	.001	.903	1.107
	PR	-.037	.034	-.043	-1.116	.266	.926	1.080

We will run the regression model without the independent variable PR.

ANOVA table for the regression model with reduced model shows that the model has statistically significant predictive capability with a p-value less than 0.001. Which means that there is at least one independent variable that has an impact on IU.

In the output of the regression model, we can see that the independent variables PU, PEOU, SI, PIIT, and PTR are significant because all of their p-values are less than the common alpha level of 0.05.

In multiple regression, the variance inflation factor (VIF) is used as an indicator of multicollinearity. As per Hair et al. (1995), the tolerated value for VIF can be up to 10 while Ringle et al. (2015) argued that the maximum level of VIF is 5. In our case, with values ranging between 1.104 and 2.680, multicollinearity should not be a concern, and thus can proceed with regression analysis.

R-square was equal to 0.608, which means that 60.8% of the variance in the dependent variable IU is explained by the reduced model.

The assumptions of linear regression (i.e., linear relationship between the correlated variables, independency, homoscedasticity, and normality) were checked with the use of scatterplots.

Table 16: Model Summary of Regression for Reduced Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780[a]	.608	.601	.42844

a. Predictors: (Constant), PTR, SI, PIIT, PEOU, PU

Table 17: ANOVA for Reduced Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.150	5	16.030	87.330	.000
	Residual	51.580	281	.184		
	Total	131.730	286			

Table 18: Coefficients for Reduced Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.041	.198		.208	.835		
PU	.488	.064	.465	7.618	.000	.373	2.680
PEOU	.250	.068	.219	3.681	.000	.395	2.530
SI	.126	.037	.135	3.414	.001	.887	1.128
PIIT	.062	.028	.089	2.215	.028	.862	1.159
PTR	.075	.023	.125	3.180	.002	.906	1.104
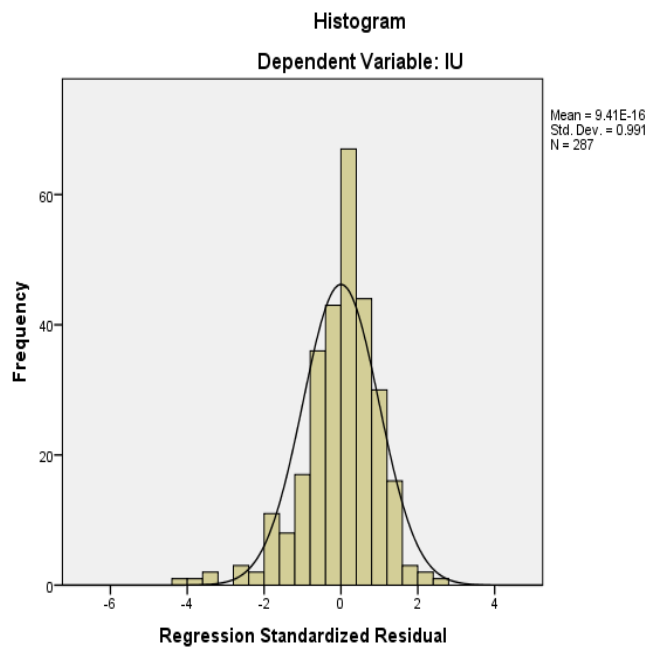
Figure 16: Histogram.
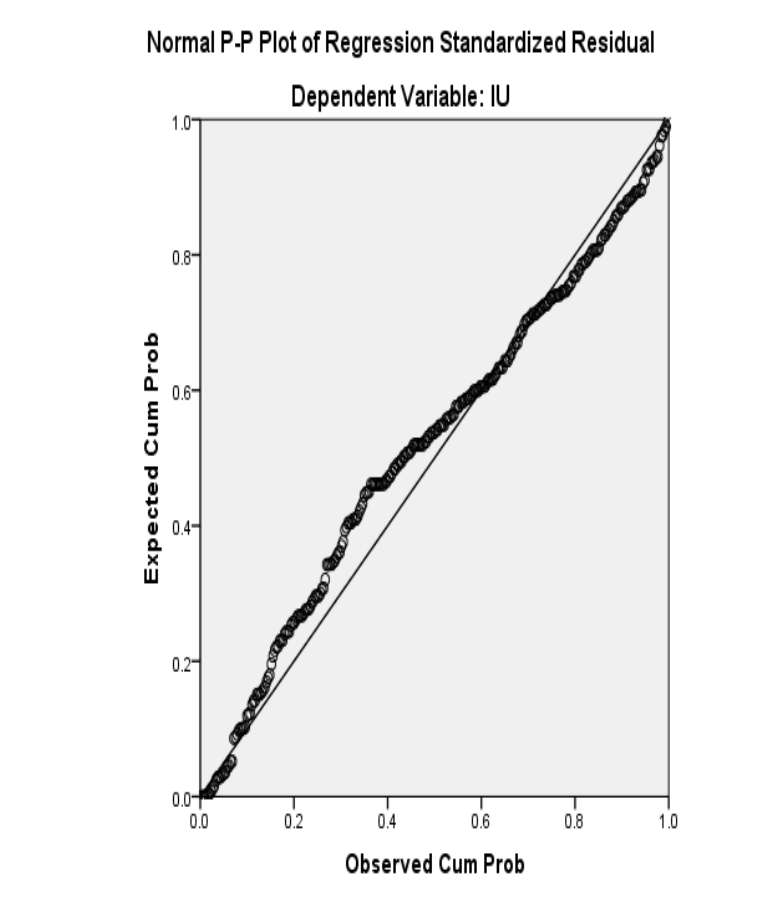
Figure 17: Normal P-P Plot of Regression Standardized Residual.

From the analysis, it became evident that fives factors among six contributed to the model. Those factors are PU (β=0.465, p=0.000), PEOU (β=0.219, p=000), SI (β=0.135, p=0.001), PTR (β=0.125, p=0.002) and PIIT (β=0.089, p=.028)

PR is the only factor that did not contribute to the model (p>0.05).

The overall multiple regression equation can be presented as:

IU = 0.41 + 0.488 PU + 0.250 PEOU + .126 SI + .062 PIIT +0.075 PTR

CHAPTER 5: DISCUSSION AND ANALYSIS

5.1 Summary of Findings

There is a significant positive impact of PU on the intention to use SCC.

There is a significant positive impact of PEOU on the intention to use SCC.

There is a significant positive impact of SI on the intention to use SCC.

There is a significant positive impact of PIIT on the intention to use SCC.

There is a significant positive impact of TR on the intention to use SCC.

There is no significant negative impact of PR on the intention to use SCC.

5.2 Discussion of Findings

This study found that PU is a significant variable in predicting intention to accept mobile credit card. This finding is consistent with the previous studies on mobile credit card performed in Malaysia (Tan, Garry Wei-Han et al., 2014; Leong, Lai-Ying et al., 2013) as well as in Taiwan (Thanh-Thao T. Pham, Jonathan C. Ho, 2015). It is also in line with studies conducted on traditional mobile payment such mobile payment (Amin, 2007). This explains that cardholders will adopt this innovation if they feel the usefulness of payment purpose. This technology is quicker and more convenient compared to traditional means of payment such as cash or credit card during payment transactions. Those advantages could be used by banks to promote this product.

Likewise, PEOU is a significant construct in predicting SCC adoption. This result is in-line with research conducted in Malaysia (Tan, Garry Wei-Han et al., 2014; Leong, Lai-Ying et al., 2013a). This explains that cardholders perceive that they require less

effort to perform transactions using the mobile credit card. This is in view of the benefit offered by SCC over transactional means of payment in terms of ease of use. Indeed, the mobile credit card doesn't require any PIN entry. It needs a simple wave of the mobile near the physical point of sale when performing transactions.

The level of PEOU and PU found in this study is higher enough (correlation). Otherwise, cardholders will feel that this technology is complicated to use and has limited features.

The conducted study found that PU has a mediating effect on PEOU-IU relationship.

These findings related to PU and PEOU are consistent with TAM model.

SI is found to be another influential variable in determining mobile credit card adoption in Qatar. This finding is supported by psychological theories such as TRA and TPB. SI influence on mobile credit card adoption was expected in Qatar market as most of Qatar population are coming from the Eastern cultural background where relatives, friends, and colleagues have a huge influence on person's behavior. It helps people to enhance their social status among their families and friends. This finding is in line with Hofstede, G. (1983).

The finding related to the influence of PIIT of mobile credit card adoption is congruent with previous studies (Tan, Garry Wei-Han et al., 2014; Leong, Lai-Ying et al., 2013; Thanh-Thao T. Pham, Jonathan C. Ho, 2015). As the majority of the respondents (85%) hold at least a university degree, the respondents are likely to have more confidence to try new innovations.

PTR is also a factor that influences IU prediction. As the responsibility is shared between different parties involved in mobile credit card transactions, trust is a key success for mobile credit card adoption as users need to be assured that mobile credit card payment is trustworthy.

This study found that PR has a little or no-impact on the IU. This finding corroborates a study conducted by Tan, Garry Wei-Han et al. (2014) on the mobile credit card. This result contradicts the finding of a previous study conducted by Lu et al.'s (2011) on China. One possible explanation for this finding is that most of the respondents are relatively young (less than 40 years old) and highly educated. Their willingness to adopt such technology might dominate their fears of the threats related to this innovation. Second possible explanation is that the amount allowed by banks for this type of transactions is small enough, to ignore the risk of losses in case of fraud. The third possible explanation is that the majority of users are credit card users and they have enough knowledge about payment. This knowledge overcomes the risks associated with the type of transactions. The fourth possible explanation is that this service is in the infancy stage where users will evaluate the risks associated with it only when they use the service. Another possible explanation is that the respondents do not view using SCC introduces significant enough threats than the threats already associated with using the mobile phone.

CHAPTER 6: IMPLICATIONS

The finding derived from this study will have implications for decision-makers in the field of payment. Below are some recommendations to decision makers in payment:

➢ Marketing department in banks should emphasize the usefulness and ease of use of the mobile credit card. This could be done by promoting and advertising the advantages of SCC such as convenience, time-saving, reduction in cash handling.

➢ Banks should seek strategic partners with merchants and supply them with NFC terminal with attractive prices. Banks should emphasize transaction time compared to cash or credit card.

➢ Customer service support should be available to assist cardholder in case if any incident faced. Online and onsite support needs to be available for customers. Cardholders are already familiar with credit card customer support and they may expect higher or at least similar service than credit card.

➢ In light of the findings on social influence, banks can adopt celebrity endorsements, use influential people whose opinions are valued and opinion leaders. Marketers need also to target early adopter users. Those users will communicate the advantages of the SCC among their relatives, friends, and colleagues.

➢ Given the significance of PIIT on behavioral intention, it is crucial that banks segment the market and tailor the needs of the innovative consumer's segment. Banks can offer for the early adopters a special reward program or cash back.

➢ Perceived risk found to have no impact on customer behavior, this creates

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opportunities for banks to concentrate more on other factors such as PU and PEOU. This finding should not be understood by marketers that the security dimension has no importance for customers. It has only less importance compared to other variables.

➢ In view of the importance of perceived trust, marketers need to extrapolate positive past experiences with banks related to existing products such credit cards.

CHAPTER 7: LIMITATIONS AND FUTURE DIRECTIONS

Although the results of this study may be useful for banks who want to enhance the services provided to their customers by introducing mobile credit card, this study has several limitations, which are highlighted below.

First, this study includes only factors derived from TAM model, UTAUT, psychological models and DOI model and it was only able to explain up to 61% on the variance on IU. Therefore, further research may introduce additional factors such as perceived reward, perceived financial cost, and government support to increase the prediction power of the model.

Second, this study did not explore the differences in the adoption of mobile credit card based on subcultures. The inclusion of cultural dimension in this study may be used by further studies.

Third, since the respondents are actually smartphone's holders, by not reaching non-smartphone's holder may pose potential bias. Sarel and Marmorstein (2003) found the differences in behavior may be significant between users and non-users. This research suggests that future studies include non-smartphone's holders.

Fourth, the study was limited only to customers' perspective. Mobile credit card acceptance depends also on merchants' perception. Hence, future studies may include this perceptive in their researches.

Fifth, this study did not test the moderating effect of gender, age, experience, and income. Further research may include those moderators in their models to improve its explanatory power.

Finally, due to time limitation and some difficulties in reaching out larger number of candidates, it may be helpful to repeat this study with bigger sample size.

CHAPTER 8: CONCLUSION

Smartphone has become a vital gadget for people. They take it with them where they move. It becomes as important as a purse or a wallet. Likely in the near future, the purse will be no more used to perform financial transactions.

This paper focused on the adoption of mobile credit card in Qatar. it has examined the drivers of mobile credit card acceptance by using constructs from several models such TAM, TRA, TPB, and DOI. The perceived usefulness and perceived ease of use were found to have the most impact in predicting intention of SCC use. The study revealed that there is a significant and positive relationship between social influence, perceived trust, perceived innovativeness in information technology and intention of use. Perceived risk is the only factor from our model that was found to be not relevant to predict the intention of use.

The finding of this study is significant as it provides decision makers in the banking sector with valuable information when formulating their strategies. It may help also marketers in banks to use the correct tools to run their campaigns.

REFERENCES

Leong, Lai-Ying, Teck-Soon Hew, Garry Wei-Han Tan and Keng-Boon Ooi., (2013), "Predicting the determinants of the NFC-enabled mobile credit card acceptance: A neural networks approach." Expert Syst. Appl., Vol. 40, Iss.14, pp.5604-5620.

Tan, Garry Wei-Han, Keng-Boon Ooi, Siong-Choy Chong and Teck-Soon Hew, (2014), "NFC mobile credit card: The next frontier of mobile payment?" Telematics and Informatics, Vol. 31, Iss.2, pp.292-307.

Mallat, Niina, (2007), "Exploring consumer adoption of mobile payments - A qualitative study." J. Strategic Inf. Sys. Vol. 16, pp.413-432.

Amin, Hanudin, (2007), "An analysis of mobile credit card usage intentions." Inf. Manag. Comput. Security, Vol. 15, pp.260-269.

Hanudin Amin, (2008),"Factors affecting the intentions of customers in Malaysia to use mobile phone credit cards", Management Research News, Vol. 31, Iss.7, pp. 493 - 503.

Amoroso, Donald L. and Rémy Magnier-Watanabe, (2012), "Building a Research Model for Mobile Wallet Consumer Adoption: The Case of Mobile Suica in Japan." JTAER, Vol. 7, pp.94-110.

Mallat, Niina, Matti Rossi, Virpi Kristiina Tuunainen and Anssi Öörni, (2006), "An empirical investigation of mobile ticketing service adoption in public transportation." Personal and Ubiquitous Computing, Vol. 12, pp.57-65.

Alain Yee-Loong Chong, Keng-Boon Ooi, Binshan Lin, Boon-In Tan, (2010) "Online banking adoption: an empirical analysis", International Journal of Bank Marketing, Vol. 28, Iss.4, pp.267-287

Schierz, Paul Gerhardt, Oliver Schilke and Bernd W. Wirtz, (2010), "Understanding consumer acceptance of mobile payment services: An empirical analysis", Electronic Commerce Research and Applications, Vol. 9, pp.209-216.

Kim, Changsu, Mirsobit Mirusmonov and In Lee, (2010), "An empirical examination of factors influencing the intention to use mobile payment." Computers in Human Behavior, Vol. 26, pp.310-322.

Slade, L. E., Michael, D. W., and Yogesh, K. D. (2013). Mo"bile payment adoption: Classification and review of the extant literature". The Marketing Review, Vol. 13, Iss.2, pp.167–190.

Hernan E. Riquelme, Rosa E. Rios, (2010) "The moderating effect of gender in the adoption of mobile banking", International Journal of Bank Marketing, Vol. 28, Iss.5, pp.328 - 341

Thakur Rakhi, Srivastava Mala, (2014) "Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India", Internet Research, Vol. 24, Iss.3, pp. 369 - 392

Norman Shaw (2014). "The mediating influence of trust in the adoption of the mobile wallet", Journal of Retailing and Consumer Services, Vol. 21, Iss.4, pp. 449–459

Slade, Emma; Williams, Michael D; Dwivedi, Yogesh; Piercy, Niall, (2015), "Exploring consumer adoption of proximity mobile payments", Journal of Strategic Marketing, Vol. 23, No. 3, p. 209-223

Niklas Arvidsson, (2014), "Consumer attitudes on mobile payment services – results from a proof of concept test", International Journal of Bank Marketing, Vol. 32 Iss.2, pp.150 - 170

Slade, E. L., Dwivedi, Y. K., Piercy, N. C., and Williams, M. D. (2015), "Modeling Consumers' Adoption Intentions of Remote Mobile Payments in the United Kingdom: Extending UTAUT with Innovativeness, Risk, and Trust". Psychology and Marketing, Vol. 32, No. 8, pp.860-873

Liébana-Cabanillas, Francisco J., Juan Sánchez-Fernández and Francisco Muñoz-Leiva, (2014), "Antecedents of the adoption of the new mobile payment systems: The moderating effect of age." Computers in Human Behavior, Vol. 35, pp.464-478.

Ooi, Keng-Boon and Garry Wei-Han Tan. "Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card." Expert Syst. Appl. 59 (2016): 33-46.

Yang, Shuiqing, Yaobin Lu, Sumeet Gupta, Yuzhi Cao and Rui Zhang, (2012), "Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits." Computers in Human Behavior, Vol. 28, pp.129-142.

Zhang, Liyi, Jing Zhu and Qihua Liu, (2012), "A meta-analysis of mobile commerce adoption and the moderating effect of culture", Computers in Human Behavior Vol. 28, pp.1902-1911.

Liébana-Cabanillas, Francisco J., Juan Sánchez-Fernández and Francisco Muñoz-Leiva,
(2014), "The moderating effect of experience in the adoption of mobile payment
tools in Virtual Social Networks: The m-Payment Acceptance Model in Virtual
Social Networks (MPAM-VSN) ", International Journal Information
Management, Vol. 34, pp.151-166.

Thanh-Thao T. Pham, Jonathan C. Ho, (2015), "The effects of product-related, personal-
related factors and attractiveness of alternatives on consumer adoption of NFC-
based mobile payments", Technology in Society, Vol. 43, pp.159–172.

Tommi Laukkanen, (2016), "Consumer adoption versus rejection decisions in seemingly
similar service innovations: The case of the Internet and mobile banking", Journal
of Business Research, Vol. 43, pp.159–172

Gwarlann de Kerviler, Nathalie T.M. Demoulin, Pietro Zidda, (2016), " Adoption of in-
store mobile payment: Are perceived risk and convenience the only drivers?",
Journal of Retailing and Consumer Services, Vol. 31, pp.334–344.

Emmeline Taylor, (2016) "Mobile payment technologies in retail: a review of potential
benefits and risks", International Journal of Retail and Distribution Management,
Vol. 44, Iss.2, pp.159-177.

Oliveira, Tiago, Manoj A. Thomas, Gonçalo Baptista and Filipe Campos, (2016),
"Mobile payment: Understanding the determinants of customer adoption and
intention to recommend the technology", Computers in Human Behavior, Vol.61,
pp.404-414.

Khushbu Madan, Rajan Yadav, (2016) "Behavioural intention to adopt mobile wallet: a developing country perspective", Journal of Indian Business Research, Vol. 8 Iss: 3, pp.227 - 244.

Shaikh, Aijaz A. and Heikki Karjaluot, (2015), "Mobile banking adoption: A literature review", Telematics and Informatics, Vol. 32, pp.129-142.

Oliveira, Tiago, Miguel Faria, Manoj A. Thomas and Ales Popovic, (2014), "Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM", International Journal of Information Management, Vol. 34, pp.689-703.

Dahlberg, Tomi et al., (2015), "A critical review of mobile payment research", Electronic Commerce Research and Applications, Vol. 14, pp.265-284.

Malaquias, Rodrigo F. and Yujong Hwang, (2016), "An empirical study on trust in mobile banking: A developing country perspective", Computers in Human Behavior, Vol. 54, pp.453-461.

Cocosila, Mihail and Houda Trabelsi, (2016), "An integrated value-risk investigation of contactless mobile payments adoption", Electronic Commerce Research and Applications, Vol. 20, pp.159-170.

Sokolowska, Ewelina, (2015), "Innovations in the payment card market: The case of Poland", Electronic Commerce Research and Applications, Vol.14, pp.292-304.

Khalilzadeh, Jalayer, Ahmet Bulent Ozturk and Anil Bilgihan, (2017), "Security-related factors in extended UTAUT model for NFC based mobile payment in the restaurant industry", Computers in Human Behavior, Vol. 70, pp.460-474.

Shin, Dong-Hee, (2009), "Towards an understanding of the consumer acceptance of mobile wallet", Computers in Human Behavior, Vol. 25, pp.1343-1354.

Oliveira, Tiago, Manoj A. Thomas, Gonçalo Baptista and Filipe Campos, (2016), "Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology", Computers in Human Behavior, Vol. 61, pp.404-414.

Kim, Changsu, Mirsobit Mirusmonov and In Lee, (2010), "An empirical examination of factors influencing the intention to use mobile payment", Computers in Human Behavior, Vol. 26, pp.310-322.

Yen, Yung-Shen and Feng-Shang Wu., (2016), "Predicting the adoption of mobile financial services: The impacts of perceived mobility and personal habit", Computers in Human Behavior, Vol. 65, pp.31-42.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. and Black, W. C, (1995), Multivariate Data Analysis (3rd ed). New York: Macmillan.

Doswell, Willa; Braxter, Betty; Cha, EunSeok; Kim, Kevin (2011), "Testing the Theory of Reasoned Action in Explaining Sexual Behavior Among African American Young Teen Girls", Journal of Pediatric Nursing.

Azjen, Icek; Madden, Thomas (1986), "Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control", Journal of Experimental Social Psychology.

Colman, Andrew (January 2015), "Theory of Reasoned Action", A Dictionary of Psychology.

Ajzen, Icek (February 1992), "A Comparison of the Theory of Planned Behavior and the Theory of Reasoned Action", Personality and Social Psychology Bulletin.

Sheppard, Blair H.; Hartwick, Jon; Warshaw, Paul R., (1988-01-01), "The Theory of

    Reasoned Action: A Meta-Analysis of Past Research with Recommendations for

    Modifications and Future Research", Journal of Consumer Research.

Theory of planned behavior. (2017, July 13). Retrieved from Wikipedia:

    https://en.wikipedia.org/wiki/Theory_of_planned_behavior

Bandura, A., (1977), "Self-efficacy: toward a unifying theory of behavioral

    change", Psychological review, Vol.84, Iss.2, pp.191.

Bandura, A. (1994), Self-efficacy. John Wiley and Sons, Inc.

Bandura, A., Adams, N. E., Hardy, A. B., and Howells, G. N. (1980). Tests of the

    generality of self-efficacy theory. Cognitive Therapy and Research, Vol. 4, Iss.1,

    pp.39-66.

Technology acceptance model. (2017, July 13). Retrieved from Wikipedia:

    https://en.wikipedia.org/wiki/Technology_acceptance_model

Diffusion of innovations. (2017, July 13). Retrieved from Wikipedia:

    https://en.wikipedia.org/wiki/Diffusion_of_innovations

Theory of reasoned action. (2017, July 04). Retrieved from Wikipedia:

    https://en.wikipedia.org/wiki/Theory_of_reasoned_action#cite_note-:7-5

Qatar Living. (2017, November 18). Retrieved from:

    http://www.qatarliving.com/forum/politics/posts/qatar-worlds-highest-

    malefemale-ratio

Index mundi. (2017, November 18). Retrieved from:

    http://www.indexmundi.com/qatar/demographics_profile.html

Secure id news. (2017, November 25). Retrieved from:

    https://www.secureidnews.com/news-item/qnb-qtel-launch-nfc-payments-pilot-in-

    qatar/

Sarel, D. and Marmorstein, H. (2003), 'Marketing online banking services: the voice of

    the customer', Journal of Financial Services Marketing, Vol. 8, No. 2, pp.106–118

Hofstede, G. (1983), "Dimensions of National Cultures in Fifty Countries and Three

    Regions," in*Expiscations in Cross-Cultural Psychology* J.B. Deregowski, S.

    Dziurawiec, and R.C. Annis, eds. Lisse, Netherlands: Swets and Zeitlinger, pp.

    335–355

Brislin, R.W. (1986) 'The wording and translation of research instrument', in Lonner,

    W.J. and Berry, J.W. (Eds.): Field Methods in Cross-cultural Research, Sage,

    Beverly Hills, CA, pp.137–164.

APPENDICES

Appendix A: Research Ethics Review Exemption

Qatar University Institutional Review Board
QU-IRB

October 17, 2017

Mr. Adil Hmami
MBA Student
Qatar University
Tel.: 33884432
Email: ah1300787@qu.edu.qa

Dear Mr. Adil Hmami,

Sub.: Research Ethics Review Exemption / MBA Student
Ref.: Project titled, "Drivers of Mobile Credit Card Acceptance in Qatar"

We would like to inform you that your application along with the supporting documents provided for the above proposal, is reviewed and having met all the requirements, has been exempted from the full ethics review.

Please note that any changes/modification or additions to the original submitted protocol should be reported to the committee to seek approval prior to continuation.

Your Research Ethics Approval No. is: **QU-IRB 830-E/17**

Kindly refer to this number in all your future correspondence pertaining to this project.

Best wishes,

Dr. Khalid Al-Ali
Chairperson, QU-IRB

Institutional Review Board
(IRB)
Office Of Academic Research

Qatar University-Institutional Review Board (QU-IRB), P.O. Box 2713 Doha, Qatar
Tel +974 4403-5307 (GMT +3hrs) email: QU-IRB@qu.edu.qa

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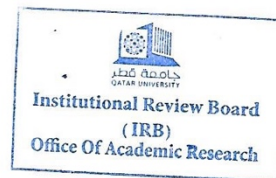
Appendix B: Questionnaire

Drivers of Mobile Credit Card Acceptance in Qatar

أسباب قبول بطاقات الائتمان المدمجة في الجوال في قطر

1. Welcome to My Survey / مرحبا بكم في الاستبيان

Dear Participant,

I invite you to participate in a research study entitled: Drivers of Mobile Credit Card Acceptance in Qatar. I am a Master of Business Administration student at Qatar University and I am in the process of writing my Master's Thesis.

Mobile Credit card is this context is a credit card integrated into the smartphone and it is used for payment by waiving the mobile over a point of sale terminal.

Your participation in this research project is completely voluntary. You may decline altogether, or withdraw at any time. Your responses will remain confidential and will be totally kept anonymous, and you will not be identified. It should take no more than fifteen minutes to complete.

If you agree to participate in this project, please press the button OK and then answer the questions on the questionnaire as best you can. If you don't agree, please press the button Exit in the top-right of this page.

Please feel free to contact me at email: ah1300787@qu.edu.qa if you have any question.

This project is approved by Qatar University under the research ethics approval no. QU-IRB.

Thank you for your assistance in this important endeavor.

Sincerely yours,
Adil Hmami

عزيزي المشارك،

أدعوكم للمشاركة في دراسة بحثية بعنوان: أسباب قبول بطاقة الائتمان المدمجة في الجوال في قطر. أحضر لشهادة الماجستير في إدارة الأعمال في جامعة قطر والآن في طور كتابة رسالة الماجستير

في هذا السياق بطاقة الائتمان المدمجة في الجوال هي عبارة بطاقة الائتمان التي يتم دمجها في الهاتف الذكي، ويتم استخدامها للدفع عن طريق تمرير الجوال قرب نقطة البيع

مشاركتك في هذا المشروع البحثي طوعية تماما. يمكنك رفض المشاركة تماما، أو الانسحاب في أي وقت. ستظل ردودك سرية وستبقى مجهولة الهوية تماما، ولن يتم التعرف عليك. لن يأخذ استكمال هذا الاستبيان منك أكثر من خمسة عشر دقيقة

إذا وافقت على المشاركة في هذا المشروع، يرجى الضغط على زر موافق ثم الإجابة على أسئلة الاستبيان على أفضل وجه ممكن. إذا كنت لا توافق، يرجى الضغط على زر الخروج في أعلى يمين هذه الصفحة

لا تتردد في الاتصال بي على البريد الإلكتروني إذا كان لديك أي سؤال
ah1300787@qu.edu.qa

QU-IRB نمت الموافقة على هذا المشروع من قبل جامعة قطر بموجب موافقة أخلاقيات البحوث رقم

أشكركم على مساعدتكم في هذا المشروع

عادل احمامي

2. Demographics / الديموغرافية

Mobile Credit card is this context is a credit card integrated into the smartphone and it is used for payment by waiving the mobile over a point of sale terminal.

بطاقة الائتمان المدمجة في الجوال هي عبارة بطاقة الائتمان التي يتم دمجها في الهاتف الذكي، ويتم استخدامها للدفع عن طريق تمرير الجوال قرب نقطة البيع

* 1. What is your gender?
ما هو جنسك؟

⚪ Male / ذكر

⚪ Female / أنثى

* 2. What is your age?
كم عمرك؟

⚪ 18-20   ⚪ 31–35

⚪ 21–25   ⚪ 36–40

⚪ 26–30   ⚪ اكثر من Above 40

* 3. What is the highest level of education you have completed?
ما هو مستواك الدراسي؟

⚪ No college degree / لا يوجد لدي شهادة جامعية

⚪ Diploma/advanced diploma / دبلوم / دبلوم متقدم

⚪ Bachelor degree/professional qualification / درجة البكالوريوس / التأهيل المهني

⚪ Postgraduate qualification / مؤهل الدراسات العليا

* 4. Which of the following categories best describes your employment status?
أي فئة من الفئات التالية تصف حالتك الوظيفية بشكل أفضل؟

⚪ Employed full time / موظف بدوام كامل   ⚪ Full-time student / طالب بدوام كامل

⚪ Employed part-time / موظف بدوام جزئي   ⚪ Retired / متقاعد

⚪ Self-employed / اعمل لحسابي الخاص   ⚪ Unemployed / عاطل عن العمل

* 5. Which of the following best describes the principal industry of your organization?

أي مما يلي يصف بشكل أفضل القطاع الرئيسي لمؤسستك

○ الخدمات المصرفية / Banking   ○ اتصالات / Telecommunication

○ المؤسسات المالية / Financial Institutional   ○ سياحة / Tourism

○ تكنولوجيا المعلومات / IT Related   ○ التعليم / Education

○ صناعة / Manufacturing   ○ قطاعات اخرى / Other

○ بيع بالتقسيط / Retail

* 6. Period of credit card use

فترة استخدام بطاقة الائتمان

○ أقل من 3 سنوات / Less than 3 years

○ من 3 إلى 6 سنوات / 3–6 years

○ أكثر من 6 سنوات / Over 6 years

* 7. Frequency of credit card use (per month)

معدل استخدام بطاقة الائتمان (شهريا)

○ ولا مرة / 0 time   ○ من 11 إلى 20 مرة / 11–20 times

○ من 1 إلى 3 مرات / 1–3 times   ○ أكثر من 20 مرة / more than 20 times

○ من 4 إلى 10 مرات / 4–10 times

* 8. Which kind of cell phone do you have?

ما نوع هاتفك الخلوي؟

○ هاتف غير ذكي / Basic phone

○ هاتف ذكي / Smartphone

* 9. Did you hear about NFC-based mobile payment?

هل سمعت عن الدفع بواسطة الجوال باستخدام تقنية ان اف سي؟

○ نعم / Yes

○ لا / No

جامعة قطر
QATAR UNIVERSITY

3. Interview Questions / أسئلة المقابلة

Mobile Credit card is this context is a credit card integrated into the smartphone and it is used for payment by waiving the mobile over a point of sale terminal.
بطاقة الائتمان المدمجة في الجوال هي عبارة بطاقة الائتمان التي يتم دمجها في الهاتف الذكي، ويتم استخدامها للدفع عن طريق تمرير الجوال قرب نقطة البيع

* 10. Using mobile credit card will enable me to accomplish my transaction more quickly
استخدام بطاقة الائتمان المدمجة في الجوال تمكنني من إنجاز المعاملة بسرعة أكبر

- ( ) Strongly Disagree / أعارض بشدة
- ( ) Disagree / أعارض
- ( ) Neutral/Neither agree nor disagree / لا أعارض ولا أوافق
- ( ) Agree / أوافق
- ( ) Strongly Agree / أوافق بشدة

* 11. Learning to use mobile credit card will be easy for me
تعلم استخدام بطاقة الائتمان المدمجة في الجوال سيكون سهلا بالنسبة لي

- ( ) Strongly Disagree / أعارض بشدة
- ( ) Disagree / أعارض
- ( ) Neutral/Neither agree nor disagree / لا أعارض ولا أوافق
- ( ) Agree / أوافق
- ( ) Strongly Agree / أوافق بشدة

* 12. Friend's suggestion and recommendation will affect my decision to use mobile credit card
اقتراح أوتوصية صديق تؤثر على قراري لاستخدام بطاقة الائتمان المدمجة في الجوال

- ( ) Strongly Disagree / أعارض بشدة
- ( ) Disagree / أعارض
- ( ) Neutral/Neither agree nor disagree / لا أعارض ولا أوافق
- ( ) Agree / أوافق
- ( ) Strongly Agree / أوافق بشدة

* 13. I like to experiment with new ways of doing things
أحب تجربة طرق جديدة للقيام بالأشياء

- ( ) Strongly Disagree / أعارض بشدة
- ( ) Disagree / أعارض
- ( ) Neutral/Neither agree nor disagree / لا أعارض ولا أوافق
- ( ) Agree / أوافق
- ( ) Strongly Agree / أوافق بشدة

* 14. I would trust my bank to offer secure mobile credit card services

أثق ببنكي لتقديم خدمة آمنة لبطاقة الائتمان المدمجة في الجوال

◯ Strongly Disagree / أعارض بشدة   ◯ Agree / أوافق

◯ Disagree / أعارض   ◯ Strongly Agree / أوافق بشدة

◯ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 15. The risk of abuse of billing information (e.g., credit card number, bank account data) is low when using mobile credit card

خطر إساءة استخدام معلومات الفوترة (على سبيل المثال، رقم بطاقة الائتمان، بيانات الحساب المصرفي) ضئيل عند استخدام بطاقة الائتمان المدمجة في الجوال

◯ Strongly Disagree / أعارض بشدة   ◯ Agree / أوافق

◯ Disagree / أعارض   ◯ Strongly Agree / أوافق بشدة

◯ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 16. I am likely to use mobile credit card in the near future

من المرجح أن أستخدم بطاقة الائتمان المدمجة في الجوال في المستقبل القريب

◯ Strongly Disagree / أعارض بشدة   ◯ Agree / أوافق

◯ Disagree / أعارض   ◯ Strongly Agree / أوافق بشدة

◯ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 17. Using mobile credit card increases my productivity/performance

استخدام بطاقة الائتمان المدمجة في الجوال يزيد من إنتاجيتي وأدائي

◯ Strongly Disagree / أعارض بشدة   ◯ Agree / أوافق

◯ Disagree / أعارض   ◯ Strongly Agree / أوافق بشدة

◯ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 18. Using mobile credit card do not require a lot of mental efforts

استخدام بطاقة الائتمان المدمجة في الجوال لا تتطلب الكثير من الجهد العقلي

◯ Strongly Disagree / أعارض بشدة   ◯ Agree / أوافق

◯ Disagree / أعارض   ◯ Strongly Agree / أوافق بشدة

◯ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 19. Family/relatives have influence on my decision to use mobile credit card

أسرتي وأقاربي لهم تأثير على قراري لاستخدام بطاقة الائتمان المدمجة في الجوال

○ Strongly Disagree / أعارض بشدة   ○ Agree / أوافق

○ Disagree / أعارض   ○ Strongly Agree / أوافق بشدة

○ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 20. I am very curious of how things work

أحب أن أطلع عن كيفية عمل الأشياء

○ Strongly Disagree / أعارض بشدة   ○ Agree / أوافق

○ Disagree / أعارض   ○ Strongly Agree / أوافق بشدة

○ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 21. I would trust my mobile phone manufacturer to provide a mobile phone which is appropriate for conducting mobile credit card services

أثق في الشركة المصنعة للجوّال لتوفير الجوّال المناسب لإجراء خدمات بطاقة الائتمان المدمجة في الجوال

○ Strongly Disagree / أعارض بشدة   ○ Agree / أوافق

○ Disagree / أعارض   ○ Strongly Agree / أوافق بشدة

○ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 22. I would find mobile credit card payment services secure in conducting my payment transactions

أجد خدمات الدفع بواسطة بطاقة الائتمان المدمجة في الجوال آمنة في إجراء معاملات الدفع

○ Strongly Disagree / أعارض بشدة   ○ Agree / أوافق

○ Disagree / أعارض   ○ Strongly Agree / أوافق بشدة

○ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق

* 23. Given the opportunity, I will use mobile credit card

إذا سنحت لي الفرصة، سأستخدم بطاقة الائتمان المدمجة في الجوال

○ Strongly Disagree / أعارض بشدة   ○ Agree / أوافق

○ Disagree / أعارض   ○ Strongly Agree / أوافق بشدة

○ Neutral/Neither agree nor disagree / لا أعارض ولا أوافق