

Factors Affecting Adoption of Electronic Banking: An Analysis of the Perspectives of Banks' Customers

Dr. Mohammad O. Al-Smadi

College of Economics and Administrative Sciences
Al-Imam Muhammad Ibn Saud Islamic University
Riyadh, Saudi Arabia.

Abstract

Electronic banking services are being used with increasing frequency in most countries, including Jordan. Although previous studies have confirmed the importance for such services for both banks and customers, the level of electronic banking services' adoption in Jordan is still low. This study aims to identify and understand factors that affect bank customers' use of electronic banking services. This study integrates technology acceptance model (TAM) with the theory of planned behavior model (TPB) and incorporates five cultural dimensions and perceived risk to propose a theoretical model. The primary data were collected from 387 valid questionnaires which were distributed to random banking customers in all 26 licensed banks in Jordan. Multiple regression analysis was employed to test the hypotheses. The main findings of the study are: uncertainty avoidance has a positive and significant impact on perceived ease of use and perceived usefulness. Perceived risk has the stronger impact on customers' attitude, which in turn influences customers' intention to use electronic banking services.

Key Words: electronic banking, banking customers, culture, perceived risk, Jordan

1.0 Introduction

Banks are important in every country and have a significant effect in supporting economic development through efficient financial services. They provide a mechanical system to group saving and convert them into investment. For over a decade, banks have been affected by changes associated with globalization and financial liberalization. Reacting to these changes, banks expand the choice of services offered to the customers and increase their reliance on technology (Al-Smadi and Al-Wabel, 2011).

Banks have been significantly affected by the evaluation of technology; competition between banks has forced them to find new market to expand, and the number of financial institutions that offer electronic banking products increased. Hence, banks have begun to offer electronic banking services to improve the effectiveness of distribution channels through reducing the transaction cost and increasing the speed of services. Recently, electronic banking has become the way for the development of banking system, and the role of electronic banking is increasing in many countries. It offers opportunities to create services processes that demand few internal resources, and therefore, lower cost. As well as it provides wider availability and possibility to reach more customers. From the customers' point of view, electronic banking allows customers easier access to financial services and time saving in managing their finance (Almazari and Siam, 2008; Ayrga, 2011; Tan and Teo, 2000). Indeed, the emergence of electronic banking has prompted many banks to develop marketing and information technology strategies in order to stay competitive. Venkatesh, Morris, and Davis (2003) noted that the successful implementation of information systems is dependent on the extent to which such a system is used and eventually adapted by the potential users. Information system implementation is not likely to be considered successful if users are unmotivated to use that type of technology, and thus it will not bring full benefits to the organization. In order to motivate customers to use electronic banking, banks must make key improvements that address the customers' concerns. Therefore, it is necessary to understand the key factors that influence the adoption of electronic banking among the banking customers.

Although electronic banking introduces many benefits for banks and customers; customers still fear from the risk of electronic banking services.

Some customers feel that electronic banking services could make them lose their money. Hence, there are still a large group of customers who refuse to adopt such services (Kuisma, Laukkanen, and Hiltunen, 2007; Littler and Melanthiou, 2006; Natarajan, Balasubramanian, and Manickavasagam, 2010). Without understanding what motivates the customers to use electronic banking services, banks will not be able to take actions to increase the use of such services. Al-Smadi and Al-Wabel (2011) found that electronic banking services have affected the performance of Jordanian banks negatively. In addition, Siam (2006) found that electronic banking services have a negative impact on the profitability of Jordanian banks on the short term. This is because banks' customers still depend on traditional channels to carry out their banking operations. Thus, cost associated with the adoption of electronic banking is higher than the expected revenues resulting from using electronic banking services. However, it seems that the level of electronic banking services' adoption in Jordan is still low. Therefore, more empirical studies are required in the area of electronic services' adoption to help banks to improve their understanding of the factors that affect the adoption of electronic banking services in Jordan. While this study focuses on Jordan, the key findings presented in this study have important implications for other Arab countries with similar circumstances.

A review of electronic banking adoption studies shows that a large portion of the published research was conducted in developed and industrialized countries (Chan and Lu, 2004; Jayawardhena and Foley, 2000; Kolodinsky, Hogarth, and Hilgert, 2004; Pikkarainen, Pikkarainen, Karjaluoto, and Pahlila, 2004; Yiu, Grant, and Edgar, 2007). In contrast, little is written in developing countries (Al-Somali, Gholami, and Clegg, 2009; Jabnoun and Al-Tamimi, 2003). This gap is particularly apparent in the Arab world. One of the reasons for the limited empirical studies in the Arab world is that the introduction of electronics is relatively new in this region. In addition, most of the previous studies relatively focused on the adoption of an information system by the employees in an organizational environment, where the use, in most cases, is mandatory. The main focus of this study is the customers' point of view, where the use of technology is voluntary. On another hand, the existing studies on customers' adopting of electronic banking services focus just on a specific service at a point of time. Most of the research available in the banking context deals with internet banking only (Natarajan et al., 2010).

However, when a customer is confronted with more services delivery channels, choosing among the alternative delivery channel were studied between personal and technology enabled services. Thus, fill this gap of knowledge is one of the motivations for conducting this study in a country such as Jordan, with different culture and values. This study aims to identify significant variables that affect the adoption of electronic banking services by customers in Jordan as a developing country. It will be meaningful for researchers and banks' management to understand customers' acceptance and preferences regarding electronic banking services. Identifying such variables will improve the likelihood of increasing the adoption rate of these services, by deepening the knowledge about the variables which facilitate or hinder the adoption process. In addition, this study develops and examines a theoretical model depicting the main variables affecting the customers' adoption of electronic services in Jordan. This study integrates technology acceptance model (TAM) with theory of planned behavior (TBP), and proposes to integrate culture and perceived risk with TAM and TBP in order to provide a more comprehensive model of electronic banking adoption. This study differs from the previous literature in two significant ways. First, this study aims to show how culture dimensions affects adopting electronic banking services. Although many researchers indicate that culture dimensions are significant in the adoption process, the impact of culture has not been studied sufficiently. Second: this study did not focus on internet banking service, but electronic banking services, including internet banking. Since the adoption of electronic banking services in Jordan is still low, investigating factors that affect the adoption of electronic banking services in general have more benefits for banks and future researchers. The study is structured as follows: Section 2 review the related literature while Section 3 sets out the research model and hypotheses. Section 4 presents the methodology, and section 5 presents the results and their discussion. Finally Section 6 presents the conclusion of the study.

2.0 Literature review

2.1 Definition of electronic banking

Banks have used electronic channels to do banking operations with both domestic and international customers. Currently, banks are mostly using electronic channels to receive instructions and deliver their products and services to their customers. Although the range of services provided by banks over the electronic channel vary widely in content, this form of banking is generally referred to as electronic banking (Azouzi, 2009).

The definition of electronic banking varies among researchers, because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel, 1999). The definition of electronic banking used in this study is adopted from the Basel committee report which defined it the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services which are delivered electronically. Such products and services can include deposit taking, lending, account management, the provision of financial device, electronic bill payment, and the provision for other products and services such as electronic money (Basel committee on banking supervision, 2003). Electronic banking services have benefits for both banks and customers. For banks, electronic banking is conceded a strategy weapon; help them to achieve competitive advantage and increase their market share. Furthermore, using electronic services can save the cost of resources, which are needed for traditional banking services (Jayawardhena and Foley, 2000). From the customers' point of view, Aladwani, (2001) found that electronic banking provide faster, easier and more reliable services to customers. However, customers are still hesitant to use electronic banking services, because they are concerned with security issues, and they may do not have sufficient ability to deal with the applications of electronic banking (Ayriga, 2011).

2.2 Technology acceptance model (TAM)

To understand, predict and explain why people accept or reject information systems; researchers have developed and used various models to understand the acceptance of users of the information systems. The technology acceptance model (TAM) that was introduced by Davis, Bagozzi, and Warshaw (1989) is one of the most cited models that researchers used to study underlying factors that motivate users to accept and adopt a new information system (Al Shibly, 2011). The primary goal of TAM is to provide an explanation of factors affecting computer applications' acceptance in general. In addition, this model helps researchers and practitioners to identify why a particular system is unacceptable (Davis, 1989). Davis suggested that using an information system is directly determined by the behavioral intention to use it, which is in turn influenced by the users' attitudes toward using the system and the perceived usefulness of the system. Attitude and perceived usefulness are also affected by the perceived ease of use. According to TAM, greater perceived usefulness and the perceived ease of use of an information system will positively influence the attitude toward this system. The attitude, in turn leads to a greater intention to use the system, which positively affects one's actual use of the system. TAM supposes that, other thing being equal, perceived usefulness is influenced by the perceived ease of use because the easier a technology to use, the more useful it can be.

Perceived usefulness (PU) is defined as the degree to which a person believes that using a particular system would enhance his or her job performance. Perceived ease of use (PEU) refers to the degree to which a person believes that using the system will be free of effort. Attitude (ATT) explains a person's favorable or unfavorable assessment regarding the behavior in question. Intention (INT) is a measure of the strength of a person's willingness to use effort while performing a certain behavior. The external variables in the model refer to a set of variables that can influence information system adoption indirectly through perceived ease of use and perceived usefulness (Davis et al., 1989). According to Taylor and Todd (1995), constructs of TAM are almost measured in the same way in every context. Furthermore, TAM is a reliable instrument and empirically sound. Several meta-analysis studies have provided sufficient data about TAM to be highly credible and rationally explain up to 40 percent of the behavioral intention to use (King and He, 2006; Yousafzai, Foxall, and Pallister, 2007). In addition, several studies have applied TAM to evaluate users' adoption in different settings such as electronic commerce (Gefen, Karahanna, and Straub, 2003); electronic learning (Arbaugh, 2000); internet banking (Al Sukkar and Hasan, 2005) and e-government (Alhujran, 2009).

2.3 Theory of planned behavior (TPB)

The theory of planned behavior (TPB) suggested that human behavior is determined by intention to perform the behavior, which is affected jointly by attitude toward behavior, subjective norm and perceived behavioral control (Ajzen, 1991, 2002). Attitude (ATT) is the general feeling of people about the desirability or undesirability of a specific behavior. Subjective norm (SN) expresses the perceived organizational or social pressure of a person who intends to perform a particular behavior. Perceived behavioral control (PBC) reflects a person's perception of the ease or difficulty of implementing a particular behavior.

The ability of TBP in providing a useful theoretical framework for understanding and predicting the acceptance of new information systems is demonstrated (Ajzen, 2002). Armitage and Conner (2001) analyzed previous studies using the TBP in a meta-analysis study. The major conclusion was support for the efficacy of the TPB and the suggestion that more work on new variables is needed to increase the predictability of the model.

2.4 Culture

Previous studies stressed the importance of culture (CUL) toward a better understanding of information system adoption (Al-Gahtani, Hubona, and Wang, 2007; Veiga, Floyd, and Dechant, 2001). Shore and Venkatachalam, (1996) emphasis the role of culture when transferring information technology applications across culture, before any technology transfer, it is necessary to study user requirements and needs. Those needs and requirement are heavily influenced by culture. Hence, there is a need to explore the role of national culture as one of the factors that is likely to influence the acceptance or resistance of electronic banking services.

There is no generally accepted definition for culture. Hofstede (1997) defines culture as the collective programming of the mind which distinguishes the member of one human group from another. Culture can also refer to the variation between values, beliefs and motivation of a diverse group (Goodman and Green, 1992). Shore and Venkatachalam (1996) stated that culture reflects individual core values and beliefs. These values and beliefs are formed through childhood and reinforced all through their life. Leidner and Kayworth (2006) reviewed national culture studies found that over 60 percent utilized one or more of Hofstede's culture dimensions. These dimensions are:

- Power distance (PD): the extent to which the less powerful member of the institution or organization within a country expects and accepts that power is distributed unequally. McCoy, Galletta, and King (2007) found that the employees of the countries with high-power distance believe that the power is distributed unequally. Hence, they tend to accept and complete duties assigned by them by the superior, even if they are unconfident of the superior's work ethics.
- Uncertainty avoidance (UA): the extent to which the member of a culture feel threatened by uncertain or unknown situation. People with low uncertainty avoidance are willing to take risks and to take individual decisions (McCoy et al., 2007).
- Individualism vs. collectivism (IDV). Individualism stands for a society in which the ties between individuals are loose. Everyone is expected to look after himself or herself and his or her immediate family only. While collectivism stands for a society in which people from birth onwards, are integrated into strong, interrelated in a group which during people's lifetime, continue to protect them in exchange for unquestioning loyalty. In low individualism cultures, people place higher importance on belonging to a group and respect opinion of the other members of the society (McCoy et al., 2007).
- Masculinity vs. femininity (MAS). Masculinity stands for a society in which social gender roles are clearly different. While femininity stands for a society in which social gender roles overlap; both men and women are supposed to be modest, tender and concerned with quality of life. In a culture with high masculinity, men, not women, are socially pressured to excel, whereas in feminine cultures, both men and women may be socialized to be ambitious (McCoy et al., 2007).
- Long term vs. short term orientation (LSO). Long term orientation stands for the encouragement of virtues oriented toward future reward, in particular, perseverance and saving. While short term orientation stands for the encouragement of virtues oriented related to the past and present, specifically, respect for tradition and full filing social obligation. According to Veiga et al. (2001), in culture with a high score of long term orientation, people are considered as future oriented and more forward looking.

2.5 Perceived risk

Consumer behavior studies define perceived risk (PR) in terms of the customer's perception of the uncertainty and potential adverse consequences of buying a product or services. The degrees of risk that customers perceive and their own tolerance of risk tacking are factors that influence their purchase decision (Nasri, 2011). On another hand, introducing a new technology may involve both benefits and risks to the user, and before deciding to adopt the technology, the individual may want to weigh risks and benefits. Electronic banking services will not be an exception to this general rule. A larger perception of risk will reduce the perceived benefit of the technology (Horst, Kuttschreuter, and Gutteling, 2007).

Previous studies mentioned that perceived risk was a major factor that influences the adoption of electronic banking services (Polatoglu and Ekin, 2001; Tan and Teo, 2000). Featherman MS and Pavlou PA (2003) defined perceived risk as the potentiality of loss in the pursuit of a desired outcome of using electronic services. It increases with the higher level of uncertainty or with an increased chance of negative consequences (Lu, Hsu, and Hsu, 2005). Most of the researchers noted that customers' perceived risk was a kind of multi dimensional construct, and such dimensions may vary according to the product or service type. Five dimensions of perceived risk have been identified in the previous studies (Featherman MS and Pavlou PA, 2003; Kuisma et al., 2007; Lu et al., 2005; Natarajan et al., 2010). These dimensions are: performance risk, social risk, financial risk, privacy risk and time risk. Performance risk refers to losses incurred deficiencies of electronic services. Customers are often worried that a break down in the system servers will occur while conducting electronic services, because these situations may result in unexpected losses (Kuisma et al., 2007). Littler and Melanthiou (2006) noted that a break down in the system could reduce customers' willingness to use online banking.

Social risk refers to the potential loss of status in one's social group as a result of adopting a product or service (Featherman MS and Pavlou PA, 2003). It is possible that one's social standing may be enhanced or diminished depending on how electronic banking services are viewed. Yang, Park, and Park (2007) found that social risk has a negative impact on attitude for consumers. Financial risk is defined as the potential for monetary loss due to transaction error or bank account misuse. Many customers resist using online banking because they fear from such losses (Kuisma et al., 2007). Privacy risk refers to the potential loss of control over personal information which is used without knowledge or permeation (Featherman MS and Pavlou PA, 2003). Horst et al. (2007) stated that the greatest challenge of the electronic banking sector will be winning the trust of customers over the issue of privacy and security. Finally, time risk refers to the loss of time in implementing, learning how to use and troubleshooting a new electronic service (Natarajan et al., 2010). consumers are less likely to adopt an electronic service that they consider having high setup and maintenance costs (Featherman MS and Pavlou PA, 2003).

3.0 Research model and hypothesis development

3.1 Research model

Davis et al. (1989) suggested that adding external variables to TAM can influence technology adoption indirectly through perceived ease of use and perceived usefulness. While Fu, Farn, and Chao, (2006) noted that the original TAM was criticized for ignoring the social influence on technology adoption. Therefore, this study integrates culture as an external variable to TAM in order to provide a clearer picture of consumers toward electronic banking services. Furthermore, Armitage and Conner (2001) suggested that new variables need to increase the predictability of TPB. According to Horst et al. (2007), the perception of a risk depends on the actual risk, on previous experiences with the technology, and on the individual's perception to be able to control the consequences of the risk, when the level of experience increases, people may want to accept more risk. From this perspective, the perception of risk of electronic banking services is also related to the concept of perceived behavioral control from TPB. Hence, this study included perceived risk in the proposed research model. Despite that TAM and TPB have been widely to examine information system applications, neither one of them has been found to provide consistently superior explanation or behavior prediction (Taylor and Todd, 1995). Chen, Fan, and Farn (2007) suggested that an integrated model may provide more explanatory power than the individual use of TAM and TPB.

However, since the focus of this study is the adoption of electronic banking services, which is an example of the acceptance of innovating information system application intertwined with social influence, this study integrates TAM with TPB and incorporates culture and perceived risk with TAM and TBP to develop the research model which examines factors that affect customers' intentions toward and the acceptance of electronic banking services. Thus, there are 8 construct in the proposed research model which includes culture, perceived ease of use, perceived usefulness, attitude, subjective norm, perceived behavioral control, perceived risk and intention to use. The proposed research model is presented in Figure 1.

3.2 Hypotheses development

Based on the proposed research model, the following research hypotheses in the context of adopting electronic banking services are formulated.

3.2.1 Hypotheses related to TAM

Based on the discussion on TAM in Section 2.2, the following hypotheses are proposed:

- H1: Perceived usefulness has a positive effect on consumers' intention towards the use of electronic banking services.
- H2: Perceived usefulness has a positive effect on consumers' attitude towards the use of electronic banking services.
- H3: Perceived ease of use has a positive effect on consumers' attitude towards the use of electronic banking services.
- H4: Perceived ease of use has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
- H5: Attitude has a positive effect on consumers' intention towards the use of electronic banking services.

3.2.2 Hypotheses related to TPB

Based on the discussion on TPB in Section 2.3, the following hypotheses are proposed:

- H6: Subjective norm has a positive effect on consumers' intention towards the use of electronic banking services.
- H7: Perceived behavioral control has a positive effect on consumers' intention towards the use of electronic banking services.

3.2.3 Hypotheses related to extension variables

Based on the discussion in Section 2.4 and 2.5 the following hypotheses are proposed:

- H8: Culture has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
 - H8a: Power distance has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
 - H8b: Uncertainty avoidance has a positive effect on consumers' perceived usefulness towards the use of electronic banking services
 - H8c: Individualism vs. collectivism has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
 - H8d: Masculinity vs. femininity has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
 - H8e: Long term vs. short term orientation has a positive effect on consumers' perceived usefulness towards the use of electronic banking services.
- H9: Culture has a positive effect on consumers' perceived ease of use towards the use of electronic banking services.
 - H9a: Power distance has a positive effect on consumers' perceived ease of use towards the use of electronic banking services.
 - H9b: Uncertainty avoidance has a positive effect on consumers' perceived ease of use towards the use of electronic banking services
 - H9c: Individualism vs. collectivism has a positive effect on consumers' perceived ease of use towards the use of electronic banking services.
 - H9d: Masculinity vs. femininity has a positive effect on consumers' perceived ease of use towards the use of electronic banking services.
 - H9e: Long term vs. short term orientation has a positive effect on consumers' perceived ease of use towards the use of electronic banking services.
- H10: Perceived risk has a negative effect on consumers' attitudes towards the use of electronic banking services.

4.0 Research methodology

4.1 Population and sample

The population of interest in this study is the customers who deal with banks in Jordan. Although the study used counter bank customers, the instrument asked the respondents if they had used or were current users of electronic banking services.

The sampling process was done through using area sampling as an aspect of the cluster sampling design. The research instrument is carried out in Greater Amman Area as a representative geographical area of the population of Jordan. Greater Amman Area which is the capital of Jordan has a variety in its population and the people of Amman have come from all parts of the country. In addition, all working banks have at least one branch in Amman area. Random branches were selected from Amman, and the process was managed by the banks in coordination with the researcher. The necessary sample size was estimated based on the number of some independent variables. Based on the recommendations of Hair, Black, Babin, and Anderson (2010), the sample size should be 15-20 observations per variable for generalization purposes. In addition, Hair et al. suggested that large sample makes the significance of the test sensitive and yields significant relationships with low values of R^2 . 760 questionnaires were distributed to the bank's customers through the banks themselves; of which 557 questionnaires were returned. After deleting incomplete responses the final that is sample valid for analysis was 387 questionnaires. The final return rate was 51%.

4.2 Measurement development

This study used the survey method to test its hypotheses. A paper questionnaire was designed to include three parts. The first part includes demographic information about the respondents, including gender, age, education and, occupation. The second part asked the respondents about their experience in using electronic banking services. The third part asked the respondents about the variables of interest in this study, which are culture, perceived usefulness, perceived ease of use, attitude, subjective norm, perceived behavioral control, perceived risk and intention to use. All the items were measured using a five-point Likert scale, ranging from strongly agree to strongly disagree. The items in the questionnaire were adapted from the prior related studies to ensure content validity. Items for culture were adapted from the measurements defined by Alhujran (2009), containing fifteen items for five dimensions. Items for the perceived usefulness and perceived ease of use were adapted from the measurements defined by Cheng, Lam, and Yeung (2006), containing three items for each variable. Attitude and subjective norm were adapted from the measurements defined by Nor and Pearson (2007), containing three items for each variable. Three items for perceived behavioral control were adapted from study of Shih and Fang (2004). The items to measure perceived risk were adapted from the previous study of Featherman MS and Pavlou PA (2003), containing three items. Finally, intention to use were adapted from the measurements defined by Cheng et al. (2006), containing three items. Table 1 shows the items of the questionnaire. The questionnaires were presented to a number of academics in the banking and e-banking field. They were asked to critically evaluate the items of the questionnaire with regards to its objective, content, clarity and ease of completion, and they assisted in translating and validating the Arabic version of the questionnaire which was distributed to the banks' customers.

The reliability of the research questionnaire was assessed by using Cronbach's alpha coefficient. As shown in Table 2, the reliability coefficients of all research variables were above the cutoff point, which is 0.6 in this study. The reliability coefficient for all variables is ranged from 0.660 to 0.840. Thus, the questionnaire of the study is considered reliable in the light of the study objectives.

4.3 Statistical method

To analyze the data and to test hypotheses, multiple linear regression technique was used in this study. The assumptions of using multiple regression analysis were met. Linearity and homoscedasticity were examined through the analysis of residuals, and partial regression scatter plot, the scatter plot does not exhibit any non linear pattern and shows that the points are randomly distributed through the scatter plot. This is an indication that the assumption of linearity and homoscedasticity for all variables has been met (Hair et al., 2010). Multicollinearity assumption was tested through variance inflation factor and tolerance. Variance inflation factors are less than 10, and all the tolerance values are greater than 0.1. Hence, multicollinearity assumption has been met. The independent error assumption is tested by Durbin-Watson statistic. The value of Durbin-Watson test in all regression models in this study is more than 1 and less than 3. Hence, the independent error assumption has been met (Joseph F. Hair et al., 2010).

5.0 Results and discussion

5.1 Descriptive statistics

The results of the descriptive analysis in Table 4 show that the respondents consist of 220 men (56.8%), and 167 women (43.2%). Further, the average age of the sample is divided into five categories. At the top category is the one comprising respondents aged 20-30, which took the highest proportion with 201 respondents, which was 51.9% of the total respondents. This result can be explained by the fact that the majority of Jordanian citizens are less than 30 years old. In addition, the results indicate that 232 (60%) of the respondents had bachelor degrees, while 80 (20.7%) of them had diploma degrees. Moreover, the majority of the respondents (190) were working in the private sector, which made up 49.1%, followed by the public sector, which were 164 and made up 38%. This result showed that the private sector employees were more likely to adopt e-banking services than both public employee and students. Although the results show that 270 (69.8%) of the respondents were using electronic banking services, the results in Table 3 indicate that most of the respondents have knowledge about primary electronic banking services, but they do not use these services yet. ATM service achieved the highest usage by responders rather than other e-banking services. However, ATM service is a primitive form of the electronic banking technology and it has limited functions such as deposit, withdrawal and balance inquiry. In addition, the results show that credit cards are used more than other services (95 or 35.2%), such as internet banking (38 or 14%) and phone banking (28 or 10.4%). These results agree with the problem of the study.

5.2 Hypothesis testing

As shown in Table 5, the regression analysis shows that the entire model has a significant effect on perceived usefulness (PU). The regression analysis also shows that 43% of the variance of perceived usefulness is explained by perceived ease of use (PEU) and five cultural dimensions ($P < 0.001$). Thus, hypothesis H8 is supported. The regression results indicate that there is a positive and significant relationship between perceived ease of use (PEU) and perceived usefulness (PU) ($\beta = 0.461$, $P < 0.001$), thus hypothesis H4 is supported. This suggests that the easier electronic banking services are to use, the more useful customers would perceive it. Beta value of uncertainty avoidance (UA) is positive and significant ($\beta = 0.266$, $P < 0.001$). Thus hypothesis H8b is supported. However, most of the responders in this study were well-educated. Hence, it can be argued that people in Jordan perceive technology as a part of their daily life and consider it useful and easy to use. The higher level of uncertainty avoidance would strengthen the positive impact of customers' trust on intention to adopt electronic banking services. Beta value of Individualism (IDV), Masculinity (MAS) and Long term orientation (LTO) is positive but not significant. Thus, the results do not support hypotheses H8a, H8c, H8d and H8e.

The regression analysis in Table 6 shows that the entire model has a significant effect of the perceived ease of use (PEU). The regression results also show that 21.7% of the variation in the perceived ease of use is explained by the cultural dimensions ($P < 0.001$). Thus, hypothesis H9 is supported. Against expectation, the results show that only uncertainty avoidance (UA) has a positive and significant relationship with perceived ease of use (PEU) ($\beta = 0.260$, $P < 0.05$). Thus, hypothesis H9b is supported. The potential explanation of this result is that most of the respondents in this study have considerable experience in using computers and the internet. Thus, the usefulness of adopting e-banking services would be obvious to them. Beta value of Individualism (IDV), Masculinity (MAS) and Long term orientation (LTO) is positive but not significant. Thus, the results do not support hypotheses H9a, H9c, H9d and H9e.

Regression analysis in Table 7 shows that the entire model has a significant effect of the attitude. The regression analysis also shows that 54.4% of the variance of attitude is explained by perceived usefulness, perceived ease of use and perceived risk. As expected, the regression results indicate that there is a positive and significant relationship between perceived (PU) and attitude (ATT) ($\beta = 0.400$, $P < 0.001$). Thus, the results do not support hypothesis H2. This suggests that customers find electronic banking services to enhance and support their banking operations through faster services and lower costs. Therefore, customers have high level of perceived usefulness, which resulted in a positive attitude toward electronic banking services in Jordan. In addition, the regression results indicate that there a significant and positive relationship between perceived ease of use (PEU) and attitude (ATT) ($\beta = 0.251$, $P < 0.05$). Thus hypotheses H3 is supported. This implies that banking customers use electronic banking services easily. It can be noted that perceived usefulness (PU) is more influential than perceived ease of use (PEU).

The potential explanation is that the difficulty in using electronic banking services is becoming less of a concern, because electronic banking services are more common and standardized currently, hence, customers have become increasingly competent in using them. Previous results are consistent with previous TAM studies that test and validate the consistent relationship between perceived usefulness, perceived ease of use and attitude. This suggests that perceived usefulness and perceived ease of use are shown to be significant determinants of customers' attitude toward using electronic banking services in Jordan. As expected, regression results show that there is a negative and significant relationship between perceived risk (PR) and attitude (ATT) toward electronic banking services ($\beta = -0.604$, $P < 0.001$). Thus hypothesis H10 is supported. It can be noted that perceived risk ($\beta = -0.604$) has a stronger impact on attitude than perceived usefulness ($\beta = 0.400$) and perceived ease of use ($\beta = 0.251$). This indicates that perceived risk has a significant impact on customers' attitudes, which in turn influences customers' intention to use electronic banking services. This result shows that banks' customers are not confident in electronic banking services. Customers are safety seekers, and they want to keep away from risks. This is because electronic banking services are in an inherently risky environment due to the absence of personal contact, physical product evaluation, warranties, or contracts and the customers usually have difficulties in asking for compensation when transaction error occurs. In addition, this indicates that customers might be concerned about the length of time involved in waiting for transaction or learning how to operate it. Thus, this may explain why many customers refuse to use e-banking services.

Regression analysis in Table 8 shows that the entire model has a significant effect on intention to use. The regression analysis also shows that 36.3% of the variance of intention to use is explained by perceived usefulness, attitude, subjective norm and perceived behavioral control. Beta value of perceived usefulness (PU) is positive but not significant. Thus, the results do not support hypothesis H1. As expected, the regression results indicate that there is a significant and positive relationship between attitude (ATT) and intention to use (INT) ($\beta = 0.465$, $P < 0.001$). Thus hypothesis H5 is supported. The potential explanation of this result is the voluntary nature of using the electronic banking services. However, voluntary users form their intention to use the system as a result of their attitudes toward using the system. In contrast, mandatory users mainly from their intention to use the system as a result of their normative beliefs (Yousafzai et al., 2007). Regression results also show a positive and significant relationship between subjective norm (SN) and intention to use (INT) ($\beta = 0.162$, $P < 0.05$).

Thus hypothesis H6 is supported. These results indicate that social influences play an important role in decision making in Jordan. Banks in Jordan can benefit from social influences that could result in potential customers transferring to electronic banking services. Hence, banks may need to work on improving normative and coercive forces and need to build an electronic banking users' base to create normative expectations through a different way such as mass media channels, which remind them all the time of the benefit of electronic banking services. As expected, regression results show a positive and significant relationship between perceived behavioral control (PBC) and intention to use (INT) ($\beta = 0.172$, $P < 0.001$). Thus, hypothesis H7 is supported. This suggests that perceived behavioral control is an important antecedent of electronic banking services, because it is a major requirement for bank customers in the context of behaviors that require skills and technology for such services. This is due to the belief of the bank customers that having the skills, resources and knowledge is an important requirement to operate electronic banking services. In addition, the results show that customers' intention to use electronic banking services is most influenced by their attitude (ATT) toward using these services ($\beta = 0.465$), and less by perceived behavioral control (PBC) ($\beta = 0.172$), and subjective norm (SN) ($\beta = 0.162$). This implies that customers' intention to use electronic banking services is mainly determined by their attitude toward using these services.

6.0 Conclusions

Electronic banking enhances the development of the banking system, and it is considered as a strategic weapon for banks. Although it provides various benefits for both banks and customers, a low level of customers' adoption of electronic banking services is noted in Jordan. However, electronic banking services cannot achieve expected benefits if it is not used by banking customers. Therefore, the main objective of this study is to identify the factors that affect the adoption of electronic banking services among the banking customers. This would deepen the knowledge of the factors which facilitate or limit the customers' attempt to transfer to the electronic banking services in Jordan. In order to fill this important gap, a research model was developed through integrating TAM with TBP and incorporating five cultural dimensions and perceived risk to provide a comprehensive investigation.

To test the hypotheses, a paper questionnaire was developed and distributed to a random sample of banking customers in the capital of Jordan, Amman.

Based on the statistical analysis and the results of the study, a number of conclusions can be drawn. First: the results of the study revealed that perceived usefulness and perceived ease of use has a positive and significant impact on customers' attitude toward electronic banking services. Banks should make electronic banking services more useful and usable. They could achieve this by increasing the customers' awareness of the usefulness of using electronic banking services through advertising and long term customer services. Moreover, banks should emphasize the full functionality of their systems to response efficiently to the different banking needs of users. In addition, banks should improve help and facilities in their services to enable customers to accomplish their operations effectively. Furthermore, customers' feedback about electronic services should be elicited and analyzed. Second: the result showed that one cultural dimension (uncertainty avoidance) has a positive and significant impact on perceived usefulness and perceived ease of use. This suggests that banks need to pay attention to the dominant culture. For example, by providing the necessary help to reduce a concern could lead to better acceptance of electronic banking services. In addition, one possible future direction for researchers is to refine the culture variable and improve its measurement to see if any change can occur. Third: the results revealed a positive and significant impact of perceived risk on the customers' attitudes to use electronic banking services.

Banks in Jordan need to develop risk reducing strategies that could reduce the customers' concerns about such services. These strategies include the development of the security of electronic banking services, protecting personal information, giving unconditional loss guarantees, reducing the possibility of delays of payment and waiting time and providing accessible customer services and educating customers, which might assist in inspiring high confidence in potential customers. Fourth: the results of the study showed that subjective norm and perceived behavioral control have a positive and significant impact on customers' intention toward using electronic banking services. Banks in Jordan can benefit from social influences that could result in potential customers transferring to electronic banking services. Hence, banks may need to work on improving normative and coercive forces and need to build an electronic banking users base to create normative expectations through a different way such as mass media channels, which remind them all the time of the benefit of electronic banking services. Fifth: the results showed that attitude as a positive and significant influence of attitude on customers' intention to use electronic banking services. Banks in Jordan should announce the features of electronic banking services to create a positive attitude among its customers toward electronic banking services.

Although this study has achieved its objective, limitation and future research are outlined. First: this study used a cross-sectional design. One possible direction for future studies is to conduct a longitudinal study to see whether or not the variables and their relationships are consistent with time. Second: this study used Hofstede's national cultural framework. One possible direction for future studies is to re fine the cultural construct and revalidates Hofstede's cultural dimensions indexes for the Arab world. Third: the results of the study are limited to Jordan. Conducting a similar study on different countries that perhaps share similar characteristics with Jordan would be valuable to match the findings of the study.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ajzen, I. (2002). Perceived Behavioral Control, Self Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of applied social psychology*, 32(4), 665-683.
- Al-Gahtani, S. S., Hubona, G. S., and Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information and Management*, 44(8), 681-691.
- Al-Smadi, M. O., and Al-Wabel, S. A. (2011). The Impact of E-Banking on The Performance of Jordanian Banks. *Journal of Internet Banking and Commerce*, 16(2).
- Al-Somali, S. A., Gholami, R., and Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. *Technovation*, 29(2), 130-141.

- Al Shibly, H. H. (2011). An Extended Tam Model to Evaluate User's Acceptance of Electronic Cheque Clearing Systems at Jordanian Commercial Banks. *Australian Journal of Basic and Applied Sciences*, 5(5), 147-156.
- Al Sukkar, A., and Hasan, H. (2005). Toward a model for the acceptance of internet banking in developing countries. *Information Technology for Development*, 11(4), 381-398.
- Aladwani, A. M. (2001). Online banking: a field study of drivers, development challenges, and expectations. *International Journal of Information Management*, 21(3), 213-225.
- Alhujran, O. (2009). *Determinants of e-government services adoption in developing countries: a field survey and a case study*. Unpublished Ph.D Thesis, University of Wollongong, Australia.
- Almazari, A. A. K., and Siam, A. Z. (2008). E-Banking: An Empirical Study on the Jordanian Commercial Banks. *Journal of King Abdul-Aziz University* 22(2), 3-26.
- Arbaugh, J. B. (2000). Virtual classroom characteristics and student satisfaction with internet-based MBA courses. *Journal of management education*, 24(1), 32-54.
- Armitage, C. J., and Conner, M. (2001). Efficacy of the theory of planned behavior: A meta analytic review. *British journal of social psychology*, 40(4), 471-499.
- Ayrga, A. (2011). Is Mauritius Ready to E-Bank? From A Customer and Banking Perspective. *Journal of Internet Banking and Commerce*, 16(1).
- Azouzi ,D. (2009). The adoption of electronic banking in Tunisia: an exploratory study. *Journal of Internet Banking and Commerce*, 14(3), 1-11.
- Basel Committee on Banking Supervision (2003). *Risk management principles for electronic banking*, Switzerland: Bank of International Settlements. Retrieved from <http://www.bis.org/publ/bcbs98.pdf>.
- Chan, S., and Lu, M. (2004). Understanding internet banking adoption and use behavior: a Hong Kong perspective. *Journal of Global Information Management (JGIM)*, 12(3), 21-43.
- Chen, C. D., Fan, Y. W., and Farn, C. K. (2007). Predicting electronic toll collection service adoption: An integration of the technology acceptance model and the theory of planned behavior. *Transportation Research Part C: Emerging Technologies*, 15(5), 300-311.
- Cheng, T. C., Lam, D. Y. C., and Yeung, A. C. L. (2006). Adoption of internet banking: an empirical study in Hong Kong. *Decision Support Systems*, 42(3), 1558-1572.
- Daniel, E. (1999). Provision of electronic banking in the UK and the Republic of Ireland. *International Journal of Bank Marketing*, 17(2), 72-83.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3), 319-340.
- Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- Featherman MS, and Pavlou PA. (2003). Predicting e-services adoption a perceived risk faces perspective. *International Journal of Human-Computer Studies*, 59(4), 51-74.
- Fu, J. R., Farn, C. K., and Chao, W. P. (2006). Acceptance of electronic tax filing: A study of taxpayer intentions. *Information and Management*, 43(1), 109-126.
- Gefen, D., Karahanna, E., and Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS quarterly*, 51-90.
- Goodman, S. E., and Green, J. D. (1992). Computing in the Middle East. *Communications of the ACM*, 35(8), 21-24.
- Hofstede, G. (1997). *Cultures and Organizations: Software of the Mind*. New York: McGraw-Hill.
- Horst, M., Kuttschreuter, M., and Gutteling, J. M. (2007). Perceived usefulness, personal experiences, risk perception and trust as determinants of adoption of e-government services in The Netherlands. *Computers in Human Behavior*, 23(4), 1838-1852.
- Jabnoun, N., and Al-Tamimi, H. A. H. (2003). Measuring perceived service quality at UAE commercial banks. *International Journal of Quality and Reliability Management*, 20(4), 458-472.
- Jayawardhena, C., and Foley, P. (2000). Changes in the banking sector: the case of Internet banking in the UK. *Internet Research*, 10(1), 19-31.
- Joseph F. Hair, J., Black, W. C., Babin, B. J., and Anderson, P. E. (2010). *Multivariate Data Analysis* (Seventh ed.). New Jersey: Pearson Prentice Hall.

- King, W. R., and He, J. (2006). A meta-analysis of the technology acceptance model. *Information and Management*, 43(6), 740-755.
- Kolodinsky, J. M., Hogarth, J. M., and Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. *International Journal of Bank Marketing*, 22(4), 238-259.
- Kuisma, T., Laukkanen, T., and Hiltunen, M. (2007). Mapping the reasons for resistance to Internet banking: A means-end approach. *International Journal of Information Management*, 27(2), 75-85.
- Leidner, D. E., and Kayworth, T. (2006). Review: A review of culture in information systems research: Toward a theory of information technology culture conflict. *MIS quarterly*, 30(2), 357-399.
- Littler, D., and Melanthiou, D. (2006). Consumer perceptions of risk and uncertainty and the implications for behavior towards innovative retail services: The case of Internet Banking. *Journal of Retailing and Consumer Services*, 13(6), 431-443.
- Lu, H. P., Hsu, C. L., and Hsu, H. Y. (2005). An empirical study of the effect of perceived risk upon intention to use online applications. *Information Management and Computer Security*, 13(2), 106-120.
- McCoy, S., Galletta, D. F., and King, W. R. (2007). Applying TAM across cultures: the need for caution. *European Journal of Information Systems*, 16(1), 81-90.
- Nasri, W. (2011). Factors Influencing the Adoption of Internet Banking in Tunisia. *International Journal of Business and Management*, 6(8), 143-160.
- Natarajan, T., Balasubramanian, S., and Manickavasagam, S. (2010). Customers choice amongst self service technology (SST). Channels in retail banking: a study using analytical hierarchy process (AHP). *Journal of Internet Banking and Commerce*, 15(2).
- Nor, M., and Pearson, J. (2007). The influence of trust on Internet banking acceptance. *Journal of Internet Banking and Commerce*, 12(2), 1-10.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., and Pahlila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research*, 14(3), 224-235.
- Polatoglu, V. N., and Ekin, S. (2001). An empirical investigation of the Turkish consumers acceptance of Internet banking services. *International Journal of Bank Marketing*, 19(4), 156-165.
- Shih, Y. Y., and Fang, K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research*, 14(3), 213-223.
- Shore, B., and Venkatachalam, A. R. (1996). Role of national culture in the transfer of information technology. *The Journal of Strategic Information Systems*, 5(1), 19-35.
- Siam, A. Z. (2006). Role of Electronic Banking Services on the Profit of Jordanian Banks. *American Journal of Applied Sciences*, 3(9), 1999-2004.
- Tan, M., and Teo, T. S. H. (2000). Factors influencing the adoption of Internet banking. *Journal of the AIS*, 1(1).
- Taylor, S., and Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information systems research*, 6(2), 144-176.
- Veiga, J. F., Floyd, S., and Dechant, K. (2001). Towards modeling the effects of national culture on IT implementation and acceptance. *Journal of Information Technology*, 16(3), 145-158.
- Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Yang, S. J., Park, J. K., and Park, J. (2007). Consumers channel choice for university-licensed products: Exploring factors of consumer acceptance with social identification. *Journal of Retailing and Consumer Services*, 14(3), 165-174.
- Yiu, C. S., Grant, K., and Edgar, D. (2007). Factors affecting the adoption of Internet Banking in Hong Kong-- implications for the banking sector. *International Journal of Information Management*, 27(5), 336-351.
- Yousafzai, S. Y., Foxall, G. R., and Pallister, J. G. (2007). Technology acceptance: a meta-analysis of the TAM: Part 2. *Journal of Modeling in Management*, 2(3), 281-304.

Table 1: The questionnaire items

Variable	Item	Source
Culture power distance	Manager should be careful not to ask the opinion of the subordinates too frequently, otherwise the manager might appear to be weak.	(Alhujran, 2009)
	Employee should not question their manager's decisions.	
	Decision making power should stay with top management in the organization and not be delegated to the lower level employee.	
Culture uncertainty avoidance	It is important to have job requirements and instructions spelled out in details so that people always know what they are expected to.	(Alhujran, 2009)
	Order and structure are very important in a work environment.	
	Rules and regulation are important because they inform workers what the organization expects of them.	
Culture Individualism /collectivism	Individual rewards are not as important as group welfare.	(Alhujran, 2009)
	Group success is more important than individual success.	
	Working within team is better than working alone.	
Culture masculinity/ femininity	It is preferable to have a man in high level position rather than a woman.	(Alhujran, 2009)
	Men usually solve problems with logical analysis; women usually solve problems with intuition.	
	Solving organizational problems usually requires an active forcible approach which is typical of men.	
Culture long term/ short term orientation	Respect of tradition will not hamper performance.	(Alhujran, 2009)
	The exchange of favors and gifts is not necessary to excel.	
	Upholding one's personal image contributes in goal achievement.	
Perceived usefulness	I think that using the electronic banking services would enable me to accomplish my tasks more quickly.	(Cheng et al., 2006)
	I think that using the electronic banking services would make it easier for me to carry out my tasks.	
	I think the electronic banking services is useful	
Perceived ease of use	I think that learning to use electronic banking services would be easy.	Cheng et al., 2006)
	I think that interaction with electronic banking services does not require a lot of mental effort.	
	I think it is easy to use electronic banking services to accomplish my banking tasks.	
Attitude	Using electronic banking services is a good idea.	(Nor and Pearson, 2007)
	I like the idea of using electronic banking services.	
	Using electronic banking services is an exciting idea.	
Subjective norm	People who are important to make think that I should use electronic banking services.	(Nor and Pearson, 2007)
	People whose opinion I value think I should use electronic banking services.	
	People who influence my decisions think that I should use electronic banking services	
Perceived behavior control	I have the resources to use electronic banking services	(Shih and Fang, 2004)
	I have the knowledge to use electronic banking services	
	I have the ability to use electronic banking services	
Perceived risk	Electronic banking services may not perform well and process payment incorrectly.	(Featherman MS and Pavlou PA, 2003)
	When transaction error occurs, I worry that I cannot get compensating from bank.	
	When y bank account incurs fraud or the hacker invades, I would have potential loss of status in one's social group.	
	It would take me lots of time to learn how to use electronic banking services.	
	I am worried to use electronic banking services because other people may be able to access my account.	
Intention to use	I would use electronic banking services for my banking needs.	(Cheng et al., 2006)
	Using the electronic banking services for handling my banking transactions is soothing I would to do.	
	I would see myself using the electronic banking services for handling my banking transactions.	

Table 2: Reliability coefficients for the study variables

Variable	No. of items	Cronbach's alpha
Culture: Power distance	3	0.787
Uncertainty avoidance	3	0.788
Individualism/collectivism	3	0.660
Masculinity/femininity	3	0.748
Long term vs. short term orientation	3	0.794
Perceived usefulness	3	0.828
Perceived ease of use	3	0.840
Attitude	3	0.819
Subjective norm	3	0.725
Perceived behavior control	3	0.788
Perceived risk	5	0.820
Intention to use	3	0.757

Figure 1: The proposed research model

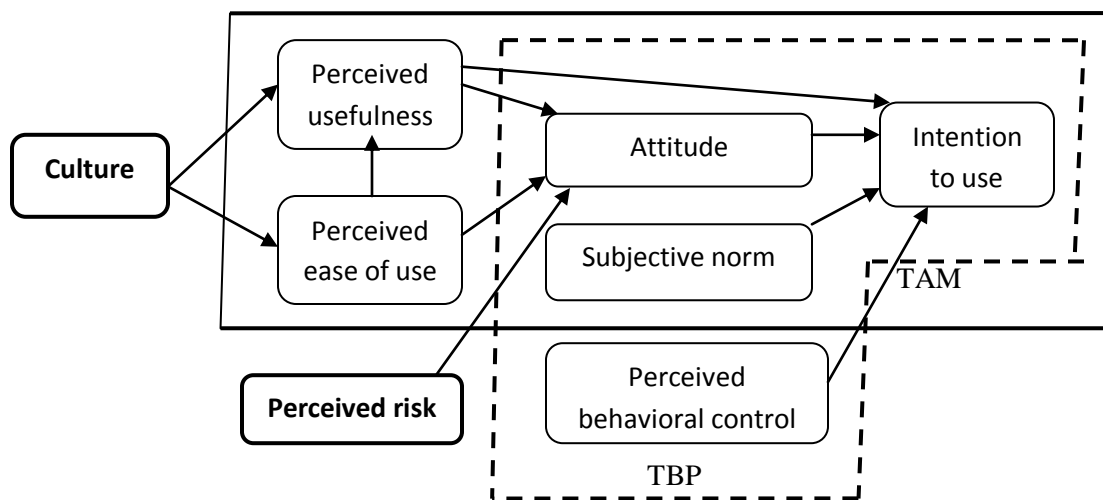


Table 3: General information of the respondents

Variable		Frequency	Percent
Gender	Male	220	56.8%
	Female	167	43.2%
Age	Less than 20	7	1.8%
	20-30	201	51.9%
	31-40	101	26.1%
	41-50	51	13.2%
	More than 50	27	7%
Education	High school or less	23	5.9%
	Diploma degree	80	20.7%
	Bachelor degree	232	60%
	Postgraduate degree	52	13.4%
Occupation	Private sector	190	49.1%
	Public sector	147	38%
	Student	39	10.1%
	Home duty	11	2.8%
Use of E-banking services	Used	270	69.8%
	Did not	117	30.2%

Table 4: Distribution of electronic banking users in term of service type

E-banking service		Frequency	Percent
ATM	Do not know this service	4	1.5%
	Know it but did not use it	61	22.7%
	Use it	205	75.8%
Internet banking	Do not know this service	32	11.9%
	Know it but did not use it	200	74.1%
	Use it	38	14 %
Phone banking	Do not know this service	35	12.9%
	Know it but did not use it	207	76.7%
	Use it	28	10.4%
Credit Cards	Do not know this service	13	4.8%
	Know it but did not use it	162	60%
	Use it	95	35.2%

Table 5: Summary of multiple regression results concerning perceived usefulness

Independent variable	Beta	t-value	Sig. t	Tolerance	VIF
PEU	0.461	9.744	0.000***	0.776	1.289
PD	0.080	0.730	0.862	0.463	2.159
UA	0.266	4.783	0.000***	0.719	1.390
IDV	0.130	1.136	0.258	0.463	2.159
MAS	0.020	0.175	0.862	0.463	1.464
LSO	0.035	0.314	0.754	0.490	2.041
R. square	0.434				
F. Value	31.185				
Sig. F	0.000***				
Durbin-Watson	1.94				

Statistical significance: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.001$

Table 6: Summary of multiple regression results concerning perceived ease of use

Independent variable	Beta	t-value	Sig. t	Tolerance	VIF
PD	0.076	0.675	0.501	0.490	2.041
UA	0.260	2.792	0.006**	0.683	1.464
IDV	0.126	1.378	0.171	0.584	1.713
MAS	0.129	1.365	0.175	0.490	2.041
LSO	0.084	0.865	0.388	0.463	2.159
R. squared	0.217				
F. Value	7.336				
Sig. F	0.000***				
Durbin-Watson	2.07				

Statistical significance: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.001$

Table 7: Summary of multiple regression results concerning attitude

Independent variable	Beta	t-value	Sig. t	Tolerance	VIF
PU	0.400	4.767	0.000***	0.683	1.464
PEU	0.251	2.765	0.006**	0.584	1.713
PR	0.604 -	12.500-	0.000***	0.769	1.300
R. squared	0.544				
F. Value	13.436				
Sig. F	0.000***				
Durbin-Watson	1.66				

Statistical significance: *p<0.10**p<0.05***p<0.001

Table 8: Summary of multiple regression results concerning intention to use

Independent variable	Beta	t-value	Sig. t	Tolerance	VIF
PU	0.084	0.869	0.388	0.463	2.159
ATT	0.465	4.691	0.000***	0.490	2.041
SN	0.162	2.797	0.005**	0.673	1.486
PBC	0.172	3.418	0.000***	0.690	1.449
R. squared	0.363				
F. Value	15.048				
Sig. F	0.000***				
Durbin-Watson	1.71				

Statistical significance: *p<0.10**p<0.05 ***p<0.001