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The Moderating Effects of Trust and Attitude on E-Banking Acceptance in The Kurdistan Region of Iraq: University of Sulaimani Catchment Area

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DECLARATION

I hereby declare that this thesis (The Moderating Effects of Trust and Attitude on E-Banking Acceptance in The Kurdistan Region of Iraq: University of Sulaimani Catchment Area) submitted to the Doctoral School in Management and Organizational Sciences/ Hungarian University of Agriculture and Life Sciences as in the fulfilment of the requirements for the award of the degree of Doctor of Philosophy in Business Administration/Banking and Finance/Digital Marketing is a recorded of original thesis done by me.

Yadgar Taha Mohammed Hamakhan **__/__/2021**

Signature and Name Date

DEDICATION

I dedicate this thesis to my lovely Family for their honest love of support and encouragement, and whoever helped me to find the mental strength to focus on completing my PhD.

List of publications

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Abstract

The considerable development in banking systems all around the world is a response to the change in people's current lifestyle. One of the major changes is the introduction of new technology into the system, which is called E-Banking. The banking system in the Kurdistan Region of Iraq operates in traditional ways, with no challenging features existing to meet the requirement of this century. This study investigates the effect of individual factors and system/service factors on user behaviour and the moderating role of trust and attitude in the relationship between individual factors and system/service factors on behavioural intention based on the Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model. This research proposes a model with a second-order components research framework that improves current explanations of Electronic Banking channel services acceptance, based on a systematic relevant literature review from a total of 160 articles and highlighting the role of trust and attitude on the acceptance of Electronic Banking channel services, which is the most important key concern that influences effective consumer user behaviour and decisions to accept Electronic Banking channel services. Thus, trust is the spine of the system in the Kurdistan Region of Iraq. Data were collected using an online questionnaire that received 476 valid responses from academic staff who work at the University of Sulaimani in the Kurdistan Region of Iraq. The model tested data using the Partial Least Squares Structural Equation Modelling approach. The results show that individual factors and system/service factors have a significant effect on user behaviour indirectly by mediating behavioural intention, and also shows that trust moderates the relationship

between (individual factors and behavioural intention). Besides, attitude has an insignificant moderator role of both relationships in this study.

Keywords: Hawala system; Cashless society; Decision maker; Lifestyle; PLSpredict.

List of acronyms and abbreviations

AMOS	Analysis of Moment Structures
ATM	Automated Teller Machine
CB-SEM	Covariance based-Structural Equation Modelling
DV	Dependent Variable
E-Banking	Electronic Banking
E-commerce	Electronic commerce
E-Government	Electronic Government
E-Payment	Electronic Payments
E-Transaction	Electronic Transaction
EFT	Electronic Fund Transfer
ETO	Electronic Transaction Ordinance
ICT	Information and Communication Technology
IDT	Innovation Diffusion Theory
IS	Information System
ISIS	Islamic State of Iraq and Syria
IF	Individual Factors
IT	Information Technology
IV	Independent Variable
KRG	Kurdistan Regional Government
KRI	Kurdistan Region of Iraq
PLS-SEM	Partial Least Squares-Structural Equation Modelling
SEM	Structural Equation Modelling
SmartPLS	Software tools for (PLS-SEM)
SMS	Short Message Service
SPSS	Statistical Package for the Social Science
S/SF	System/Service Factors
T	Trust
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour

TRA	Theory of Reasoned Action
TTF	Task Technology Fit
UTAUT	Unified Theory of Acceptance and Use of Technology
WTO	World Trade Organization
WWW	World Wide Web

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Chapter One

Introduction

1.1 Research background

E-Banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic and interactive communication channels. It includes systems that enable financial institutions, customers, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the internet (FFIEC, 2003).

The banking system in the Kurdistan region of Iraq operates in traditional ways, in which no challenging features exist to meet the requirement of this century. There are considerable developments in banking systems all around the world as a response to the changes in people's current lifestyle. One of the major changes is introducing the new technology into the system, which is called E-Banking.

However, the operation of the E-Banking service in the Kurdistan region of Iraq still does not use modern electronic system, and there are many factors beyond the initiation of this technology. The factors are numerous, but trust in the security of using this system safely and effectively could be the most significant factors in achieving the success for the bankers (Chong et al., 2010).

Trade and business movement in the region has been growing up in the last two decades, where the region runs independently by Kurdish authorities within the Iraqi government. This gives a great opportunity for traders to commence a wide, global and rapidly moving. In addition, AbuShanab and Pearson, (2007) investigated the key determinants of the adoption of Internet Banking in Jordan. The study also attempted to validate the appropriateness of the Unified Theory of Acceptance and Use of Technology (UTAUT) within the context of Internet Banking. The results showed that UTAUT provides a good foundation for future technology acceptance research. The results also indicated that gender moderated the relationships between the three independent variables and the dependent variable (Behavioural Intention). The most important problems that came into the face of this trend were the transition of the money, buying of products, dispatching, etc, where there was no bank to cooperate with them effectively. In the time before the toppling of Saddam's government the traders collaborated with the Iraqi Central Bank, which took responsibility for all their trade affairs. Therefore, the traders in the region seek out the cooperative banks in the neighbouring countries and abroad instead of adopting an effective E-Banking to overcome all these obstacles and create a very strong trade trend through the region. In this research, the factors which have the main influence on the adoption and operation of a very effective E-Banking system, are studied, in particular the trust and attitude, which are the spinal elements in the structure of this system, as the region is still in an unsteady situation politically and might not guarantee to preserve customers' rights. Therefore, the people's belief in the system was always in doubt and the government did not attempt to build up this confidence even towards their

banks (Baabdullah et al., 2019a, b). On the other hand, Nikghadam Hojjati and Reza Rabi, (2013) investigated the influence of online behaviour of Internet users on the adoption of Internet Banking in Iran. The results revealed that the use of the internet for work or teamwork, selling or buying, finance activities or Banking operations, and reading news, has significant relevance to Internet Banking adoption, but using the Internet with the purpose of having fun and entertainment and seeking commercial information does not have a significant effect on Internet Banking acceptance. Also, the results found that using the Internet for reading news and hedonistic goals has a negative effect on accepting Internet Banking. Other purposes of using Internet that were examined in this study had a positive effect on Internet Banking adoption in Iran.

In obtaining very reliable outcomes of this research, a very comprehensive literature review related to E-Banking in addressing these factors and their influences is ongoing. The initial conclusion from these pieces of research shows that trust and security are considered the main factors that influence Banking customers' confidence in using the service. As far as I know, there is no serious and accurate study on this service that has been done in the KRI and this research is going to be the first academic study in this area.

Poon, (2008) investigated the determinants of users' adoption momentum of E-Banking in Malaysia. Results indicated that all elements of ten identified factors were significant with respect to the users' adoption of E-Banking services. Privacy and security were the major sources of dissatisfaction, which had momentously impacted users' satisfaction. Meanwhile, accessibility, convenience, design and content were sources

of satisfaction. Besides, the speed, product features, availability, and reasonable service fees and charges, as well as the bank's operations management factor were critical to the success of the E-Banks. WAP, GPRS and 3G features from mobile devices were of no significance or influence in the adoption of E-Banking services. The results also revealed that privacy, security, and convenience factors played an important role in determining the users' acceptance of E-Banking services with respect to different segmentation of age group, education level and income level.

This study focuses on the review conclusion in addressing numerous of emerging trends in operating a successful E-Banking system such as (Characteristics of Electronic Banking, Innovation attributes and attitude, Trust in mobile banking, Customer attitude, Individual Factors, System/Service Factors etc.,) (Hama Khan, 2019; Khan, Y. H, 2018; Hamakhan, 2020; M. Hamakhan, 2020).

1.2 Research problem

A number of studies examined the effect and the impact of accepting new technology on users' decision directly or indirectly worldwide, specifically Electronic Banking channel services (Siyal et al., 2019; Chawla and Joshi, 2018; George, 2018; Kumar et al., 2018; Saji et al., 2018; Chawla and Joshi, 2017; Kumar et al., 2017). However, there is no study in the KRI related to accepting E-Banking services, which is an issue that needs to be investigated empirically.

Despite the huge number of studies in this area, most of the studies in the current literature did not employ UTAUT with new moderator variable,

for example trust and attitude. However, none of the studies used its variables as a second-order components in term of empirical investigation. This is a gap in the existing literature, therefore in this study, the researcher extends UTAUT, however, with less hypothesis by employing a second-order components technique, which is shown in the framework, namely individual factors. Figure 3.1 shows the proposed theoretical framework for this study.

In terms of security/privacy, quality, innovativeness, and task characteristics, there is also a gap in the existing literature. None of the previous studies determined their effect in one framework (all together). Accordingly, this study employs all of them by using a second-order components method, namely system/service factors, which is shown in the proposed theoretical framework. Besides, this study provides insight into the mediating effect of behavioural intention that can mediate the relationship between two of individual factors and system/service factors on user behaviour.

With regard to the moderating role, none of the previous studies had shed light on the moderating role of each of attitude and trust as a moderator, which means no framework tested trust and attitude as a moderator that has an effect and role on accepting E-Banking. Therefore, this research investigates trust and attitude in the framework as a moderator, in order to indicate their effect.

1.3 Research objectives

This research aims to investigate the moderating effects of trust and attitude on E-Banking acceptance in the Kurdistan Region of Iraq. In addition, it aims to obtain an explicit insight into the factors impeding the E-Banking services development within the E-Banking system in the KRI. It reviews the nation-wide E-Banking readiness and surveys the local E-Banking service system. In order to facilitate the formulation of more effective and appropriate future government programs on E-Banking services development in the E-Banking services system, it is essential to attain a clear awareness of the key issues inhibiting the E-Banking services acceptance based on TAM, and UTAUT, hence, this research is set to:

- To examine the significant effects of mediating of Behavioural Intention on each of relationships Individual Factors and User Behaviour and System/Service Factors and User Behaviour.
- To investigate the role of moderator factors, such as Trust and Attitude on accepting E-Banking services in the KRI.

1.4 Research questions

In order to create research hypotheses for the research framework, the following research questions should be formulated, in order to achieve the aims and objectives of this study:

1. To what extent do individual factors and system/service factors affect behavioural intention?
2. To what extent do trust and attitude moderate the relationship between individual factors and behavioural intention?
3. To what extent do trust and attitude moderate the relationship between system/service factors and behavioural intention?

1.5 Scope of the study

The banking industry is one of the most important sectors in the financial world, whether it is traditional (offline banking) or modern (electronic banking system), and specifically, for developing countries, such as the Kurdistan Region of Iraq. Thus, this study concentrates on moderating roles on accepting E-Banking system in the KRI. A theoretical framework is built based on TAM and UTAUT by using a second-order components method to reduce the number of hypotheses, and a more concreted theoretical framework in order to get a more reliable conceptual framework, thus each of individual factors and system/service factors built as a second-order components in the framework.

With regard to the literature, to the best of my knowledge, this study is the first empirical study about accepting E-Banking services in the KRI, and the first study that tests trust and attitude as a moderator in the proposed framework. This study investigates the effect of individual factors and system/service factors on user behaviour and the moderating role of trust and attitude in the relationship between individual factors and system/service factors on behavioural intention based on the Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model, besides, it is based on a systematic relevant literature review from a total of 160 articles.

In addition, this study also focuses on the practical and managerial implications that shed light on moderating roles (trust and attitude) in the framework and the effects of each of the individual factors and system/service factors on user behaviour. As a result, we can study effects

on the mangers' decision and concerns about customers' decision about accepting E-Banking services. This study is concerned with building a strong banking system with a high quality of security and privacy for customers, which could increase the number of ATMs in the KRI. On the other hand, the study is concerned with the availability of banking mobile application for different mobile operating systems, such as (iPhone, Samsung, Huawei etc.). In short, this study seeks to offer the best way to find the most effective factors that can influence the acceptance of E-Banking in the KRI, such as trust, which, is considered as a spinal factor in the region.

1.6 Contribution and significance

This current study contributes to and is significant for both theoretical and practical issues.

Theoretical issues:

1- To the best of the author's knowledge, this is the first study in English concerned about E-Banking services in the KRI.

2- It examines the moderator role in the research framework and choosing trust and attitude for instance.

3- It uses second-order components methods in the framework in order to reduce the numbers of hypotheses, and a more concrete theoretical framework in order to obtain a more reliable conceptual framework.

4- The author aims to encourage researchers to make more studies on E-Banking channel services in future studies.

Practical issues:

1- Led to increase the number of ATMs in the KRI.

2- Encourage banks to create the highest quality websites for customers in the KRI.

3- Encourage banks to provide the Mobile Banking Application for a variety of mobile operating system such as (iPhone, Samsung, Huawei etc.).

4- Increase Trust in the traditional baking system by offering a high quality of services in any branches (offline banking).

1.7 Structure of the thesis

Chapter Two

Chapter Two presents, reviews and provides a statement on the related literature that support this study, so this combination shows the purpose of this chapter. The review includes different definitions of Electronic-Banking, acceptance of Electronic-Banking, and the outline of Electronic-Banking customer acceptance studies. In addition, variables of Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), are used in this research as they have a positive influence on the investigation of the acceptance of technology, particularly about moderating trust and attitude.

Chapter Three

Chapter Three presents a research framework and methodology for this study, which also consists of some sections, which are research paradigms, research design, population, sampling, sample size, questionnaire design, data collection- survey, data analysis and Partial Least Squares-Structural Equation Modelling (PLS-SEM). The conceptual framework of the study, furthermore, in this chapter illustrated a deep explanation about choosing PLS-SEM, which is an appropriate statistical method for this study.

Chapter Four

Chapter Four presents an analysis of the obtained data, for the sample (N=476) and the structural model based on the Partial Least Squares-Structural Equation Modelling (PLS-SEM) domain, through SmartPLS V 3.3.2 (Ringle et al., 2015), which is one of the statistical analysis software tools for the PLS-SEM method. In the first section, demographic information has been obtained, then in second section descriptive statistics by SPSS V 24. In the third section and beyond, there is an analysis of the structural model in four steps.

Chapter Five

Chapter Five presents some stages. The first stage is the discussion of the results that were obtained from data analysis and the validity and reliability of the proposed model presented regarding each hypothesis that addressed in this study, and factors that affect the E-Banking services in the KRI. The second stage illustrates the theoretical implications of this study, which means how this study contributed theoretically and explains the number of potential paths in this study that are possible. The third stage illustrates the

practical implications of this study, how it was integrated with the practice of bank managerial and banks' practitioners in reality. The fourth stages illustrate limitations and future research directions. There are several limitations that can be addressed, and suggestions for the direction of future research.

Chapter Two

Review of Literature

2.1 Electronic-Banking service

2.1.1 Definition of E-Banking

Nowadays you can find different definitions for Electronic Banking as known and written by different types, which are (E-banking, E-Banking, e-Banking or e-banking). Electronic banking is also known as Electronic Funds Transfer (EFT). Basically, the use of electronic methods or means to transfer money electronically directly from one account to another account, rather than by cash or cheque. Electronic Banking is a delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices, such as a personal computer, a mobile phone with browser, desktop software, telephone or digital television (Daniel, 1999). E-Banking refers to the process or service that allows a bank customer to perform financial transactions via electronic media without necessarily requiring a visit to a brick-and-mortar banking institution, such as the use of an automated teller machine (ATM), debit card, direct deposit, direct payment, or some other form of funds transfer (Lee & Lee, 2000). The term of Electronic Banking refers to "the provision of information or services by a bank to its customers, via a computer or television" (Allen et al., 2001). Electronic Banking is a modern method of banking where information, transmission technologies are applied and paying, and the transferring mechanism are accomplished electronically (Liao & Tow Chung, 2001). E-Banking is a special type of banking service, which was first implemented in the United

States in1995, and developed quickly among other business units. E-Banking is a way to bring convenience (Chawla and Joshi, 2019) and economy for customers but brings new challenges for officials such as security, inaccessibility of e-networks due to faults, maintenance cost, updating databases, as well as planning and executing modern economic policies. Electronic Banking is a special type of banking services which provide services to its clients using an electronic environment, which are e-service, e-loyalty, e-trust, e-satisfaction, etc. (Berraies et al., 2016; Ayo et al., 2016; Gefen & Straub, 2004).

There are therefore different definitions of E-Banking that have come from deferent writers and times. In this study there is no best definition because of differences between writers, times, perspectives, thinking, necessities, understanding, availability, etc. Therefore, all of these definitions can be taken and accepted.

With regard to the Electronic Banking services, which are a new kind of reform in banking services, Electronic Banking plays an essential role in achieving electronic government and e-commerce (Sohail and Shanmugham, 2002; Huang et al., 2011).

2.1.2 Electronic Banking channels

There is a definition of each E-Banking channel, based on Hoehle et al., (2012), and presented in their study:

1- ATM banking includes computerised telecommunication devices that allow customers of financial institutions using a secure method directly to access cash as well as their bank accounts (Dabholkar, 1996; Iberahim et

al., 2016).

2- Telephone banking services are computer-based keypad response or voice recognition technologies that allow customers to perform banking activities over the telephone (Ahmad and Buttle, 2002). Telephone 'voice-to-voice' conversations between banking customers and bank staff (e.g., call centre personnel) are considered to be face-to-face (Tran and Corner, 2016), branch banking, not telephone banking (Alalwan et al., 2016a).

3- Internet banking is a banking channel that allows consumers to perform a wide range of financial and non-financial services through a bank's website (Tan and Thompson, 2000; Bhattacherjee, 2001). Pikkarainen et al., (2004) define internet banking as an "internet portal, through, which customers can use different kinds of banking services ranging from bill payments to making investments" (Hanafizadeh and Khedmatgozar, 2012).

4- Mobile banking is defined as a channel through, which customers interact with a bank through non-voice applications, such as text- or WAP-based banking services using a mobile device, such as a mobile phone or personal digital assistant (PDA) (Hoehle and Lehmann, 2008; Kim et al., 2010; Schierz et al., 2010; Malaquias and Hwang, 2019).

Moreover, Tam and Oliveira, (2017) proposed the following definition since it is more broadly inclusive. M-banking is a service or product offered by financial institutions that make use of portable technologies (Shaikh and Karjaluoto, 2015). Koksal, (2016) found that perceived self-efficacy separates customers through their willingness to adopt mobile banking (Shareef et al., 2018).

2.1.3 Importance of E-Banking

The Internet has developed since 1960 from the American Department of Defense Linkage of Computer Networks (Gillies and Cailliau, 2000). Moreover, it can define the Internet (World Wide Web) as a system of public and private networks, made up of computer hardware, and software that is connected around the world (Dreyfus and Young, 2001).

It is quite obvious that the E-Banking system is against the traditional banking system (offline banking) (Floh and Treiblmaier, 2006; Kingshott et al., 2018) for many reasons, such are cost (Luarn and Lin, 2005; Abrahão et al., 2016), time (Hanafizadeh and Khedmatgozar, 2012), knowledge of IT (Mallat et al., 2009; Luo et al., 2010) geographic reach, pollution, traffic jams, parking problems, saving trees (paperless transaction), for better management (Claro and Rosa, 2016), its ability to attract more customers (Mann and Sahni, 2012) (through different communication channels such as social media, mass media (Tran and Corner, 2016), e-service (Al-Qeisi and Hegazy, 2015)), and financial performance of community banks (Acharya et al., 2008) etc.

E-marketing is defined as achieving customer satisfaction (Baabdullah et al., 2019a, b) through the electronic channels in terms of the ease of use, performance, and quality of service (Smith and Chaffey, 2001). Internet Marketing can be defined as the "Application of the Internet and related digital technologies to achieving marketing objectives" (Chaffey et al., 2006). Also, Digital marketing is another term, which has a similar meaning to "electronic marketing" and now is increasingly used by Specialist Marketing Agencies (Chaffey et al., 2006).

The necessity of E-Banking services, particularly with the new generation's lifestyle, is reached at different levels of technology innovations (Khan, 2018; Chawla and Joshi, 2017). Technology innovations have helped Electronic Banking continuously to expand since the 1990s, and financial transactions are made by ATM. The internet has made this revolution possible because Electronic Banking works based on a systematic computerised network, which is the internet, that is using E-Banking twenty-four hours and seven days, which allows us to check our balance, pay bills as well as apply for loans, download some available information about any account to user's computer and perform other daily banking activities electronically without going to the bank, wasting time in a line or waiting on hold for telephone banking services (Turban et al., 2000). Thus, in terms of lifestyle (Shaikh and Karjaluoto, 2015; Hanafizadeh et al., 2014a, b), it can be that E-Banking service is very necessary for our life today, as E-Banking provides self-service technologies in an electronic environment (Shih & Fang, 2004; Hoehle et al., 2016). As long as customers are connected with the Internet system then they can use that E-Banking services at anytime and anywhere. On the other hand, it can be that when access to the internet is provided, particularly where it is made available in some public places and countries for free, it becomes a good opportunity to use E-Banking. Moreover, Hoehle et al., (2012) found that future researchers should consider diversifying their theoretical and methodological approaches using the opportunities uncovered in their findings.

Finally, it is included that Electronic Banking is a new kind of reform in banking services and plays an essential role in achieving electronic government. Electronic Banking includes all banking services based on the implementation of the electronic system (Arayesh, 2015). E- banking has become an important phenomenon in the banking industry, and it will continue as more progress is made in information technology. The financial industry thus is gradually experiencing a transformation from a cash-based system to a "paperless" system, that is more convenient and reliable.

2.1.4 Adoption of E-Banking (Worldwide)

The adoption of E-Banking was investigated by several authors. According to Rogers, (1995) adoption is described as ''a decision to make use of an innovation as the best course of action available''. Sathye, (1999) defined adoption, which refers to adoption as the acceptance and continued use of a product, service or idea. On the other hand (Venkatesh et al., 2004) created a differentiation among acceptance (Riffai et al., 2011), adoption (Mallat, 2007; Hanafizadeh et al., 2014a, b; Suzanne Harrison et al., 2014; De Albuquerque et al., 2016; Dahlberg et al., 2008) and usage decisions. The authors described acceptance as the people's initial decision to interact with the technology, while in their view adoption occurs after people have had some direct experience with the technology, and after the decision to accept the technology is made. Usage decisions refer to judgments about continuing to use the technology subsequent to significant direct experience with it and wherein an individual has acquired significant knowledge of the technology (Alaarj et al., 2017a, b). Mzoughi and M'Sallem, (2013), describe three profile segments (postponers, opponents

and rejectors) of non-adopters of internet banking in Tunisia and attempts to predict consumers' willingness to adopt this new technology using a range of factors.

In addition, Dahlberg et al., (2015) revealed that researchers have continued to focus on the same topics (especially consumer adoption and technology aspects) with a limited accumulation of new knowledge and similar findings. In addition to reviewing the literature (Taherdoost, 2018; Tam and Oliveira, 2017; Makki et al., 20016), they discussed the possible reasons for the lack of research diversity and proposed new recommendations to enhance future mobile payment research. As a result, a total of some studies was summarised, which provided a good base for this section in this study. The most important factors were taken from those studies and frequency analysis was shown to identify the most frequent factors that have been taken in those studies (Hama Khan, 2019; Khan, 2018). The result showed that usefulness, ease of use and trust are the most frequent factors (Hama Khan, 2019; Khan, 2018). Those factors can be divided into subgroups according to using theories in this study area. TAM is still the most widely used theory for acceptance or adoption of E-Banking besides UTAUT which is also used for the same purpose. In those taken studies there is a variety of location, which is helpful in obtaining different results and making differentiation with the same theory or even the same model that was used before.

2.1.5 Acceptance of E-Banking in Kurdistan

In the KRI, working age of the Kurdish population (15 to 64 years old) was 37.8% of the inhabitants, however, more than 21% of the Kurdish working population consists of young people, who are between (15 and 24 years old), which, men were 69.7% of the population, besides women were 12.9% of the population based on economic activities. However, 17.4% of the population is unemployed, which includes both male and female workers. Others works in different sectors, such as agriculture, tourism, industry, commerce, services, and ownership, which contributes to the GDP. GDP includes commodity sector contributions totalling only 11% of activities, distribution activities (65%) and service activities (24%). All figures are from 2008. In addition, GDP reached IQD 24,725.7 billion in 2008 and increased from 2008 by 8% annually with a total growth rate of 5.2% in 2016. However, the Kurdistan Region Government (KRG) economy has experienced a significant downturn, since 2014, because of so-called the Islamic State of Iraq and Syria (ISIS), and the presence of 1.8 million Syrian refugees and 1,003,300 Iraqi internally displaced persons in the KRI in early 2015. The problem is that the KRG economy is mainly based on the Oil sector, which is accounts for more than 60 percentage of GDP, while other non-Oil sectors cannot be a significant part of the strong economy for the KRG, which needs to growth significantly in order to support its fiscal sector. Although many developed countries' economics are based on taxes (e.g., European Countries), in the KRI only 3.5% of GDP consists of taxes. 5% is deducted from government employee's monthly salaries and 12% from private sectors' workers, combined from 5 percentage of the worker's payment and 7 percentage from the company payment. On the other hand, private sector employers pay 15 percentage

of tax on their sales. Companies are exempt from taxes and import tariffs when their project is registered in and licensed by the Board of Investment. The government also receives 9% tax from the rental of houses and 2% on the rental of land. Independent technical professions shops, such as carpeting and blacksmith pay between 3 and 10% in tax, which is called vocational tax (World Bank, 2016 & 2017; Nasr, 2011).

Despite having significant high risks of developing economics of the KRI, such as fragilities of governance, institutional capacity issues, technical capability, political factors, and security issues (e.g., ISIS), the economy remains macro-economically stable because of high oil revenues and prices. In these circumstances, it is significantly difficult to reform the financial sector (e.g., Banking system) in the KRI (World Bank, 2016 & 2017; Nasr, 2011).

Beyond, the challenges the KRG faces, such as underperformance of finance management, lack of clear strategic planning of the state budget, the general trend with respect to public expenditure structure, insufficient capacity to create job opportunities, and a decline in revenues, the KRG spent significant effort and invested different sources in order to have a sustainable banking system service and an electronic banking service in order to make strong economic progress through a strong financial system. Since 2003, particularly because the KRI remains largely a cash-economy and has suffered a fiscal crisis, this change can be seen in private Banks in the KRI provide a necessary response to the requirement of today's situation in terms of local and international economics. For example, the number of private Banks significantly increased from 16 to 24 with a

combined capital size of IQD 2,012.280 billion in 2009. Rafidain Bank and Rasheed Bank are two public local Banks that can represent commercial state-run Banks. The total deposits at these two banks reached IQD 1,507.044 billion. The public sector share comes to IQD 1,107.317 billion, which represented 73.5%. Companies, associates and individuals held IQD 396.912 billion, representing 26.3%, in addition to IQD 2.815 billion for the joint sector, representing 0.2%, outlined in 2009 (World Bank, 2016 & 2017; Nasr, 2011).

The banking system in the KRI operates in traditional ways, with no challenging features existing to meet the requirements of this century. The central bank of the KRI has two offices in the KRI, which are located in Erbil and Sulaymaniyah, however, none of them has a branch that customers can use or belongs to the central bank of Iraq, which is located in Baghdad, and is controlled by the Iraqi government. The two offices are responsible all financial procedures, for example, distributing government employees' salaries, and other banking activities in the KRI. The Local Governance Project (LGP) is funded by the United States Agency for International Development (USAID) and implemented by RTI-International made a report about Economic Development Assessment in the KRI. Accordingly, 49 Banks are operating in the region with 56 branches. All six state-owned banks are operating in the KRI. Forty-three private Banks operate in the KRI, which comprise 66% of the Banking system. Erbil has the largest concentration of Banks with 48 Banks, of which private Banks share 64%. Sulaymaniyah has 34 offices, 55%, which are private, and 17 Banks operate in Dahuk 47% of which are operated by private Banks. Only two Banks have their main offices located in the KRI:

Emerald Bank and Kurdistan International Bank. Currently, Bank Byblos, a Lebanese Bank, is the only foreign Bank branch operates in the KRI. Other Banks have foreign ownership that operates; however, their headquarters are in Baghdad. These are Tigris and Euphrates Bank, Bank Baghdad, Credit Bank of Iraq, and Dar Es Salaam Bank. The payment system in Kurdistan Region is traditional (a cash society), however, there is no official statistical source for payment, only a Centre for International Private Enterprise (CIPE) research. Private Banks cannot compete in the banking sector, since they do not have access to important liquidity sources, and do not have access to distribute salary for the KRG employees, which gives them limited access to financial activity. Moreover, Iraq has two public Banks (state-owned), which can service the KRG, which not let private Banks participate and compete in this fiscal activity. In this domain, private Banks can be seen as a disadvantage and useless in the KRI. On the other hand, private Banks can provide loans and mortgages, transferring money and exchanging currency. However, generally they are still by far quite small (World Bank, 2016; Nasr, 2011).

Nowadays, Hawala plays a major part in the financial marketplace in the KRI and affects the banking sector (Passas, 2005a, b), even in the future. It is not just a habit; it becomes a trusted and easy way for people to operate in a cash society. Hawala is a local traditional transaction system (Schramm & Taube, 2003) for money transfer between the KRI and other countries, no matter for the business or for other purposes, based on using the Jordan, Iran or United Arab Emirates banking sector. Most of the foreign exchangers' offices use Hawala instead of using the KRG banking system (Bunt, 2008; Liargovas & Repousis, 2011).

The Hawala system is cheaper, faster and more trustworthy compared to the banking system, based on previous performance of banking system in the KRI (Faith, 2011; Ismail, 2007). People have enough experience with the Hawala system and trust it more than the banking system. Unfortunately, there is no official statistics that exist regarding the level of Hawala activity, however, USAID (2008) reported Hawala transactions to account for substantially more than half the currency in circulation held outside the banking sector. Anecdotal evidence suggests that the volume of Hawala transactions easily exceeds the equivalent of US $3 billion annually just in the KRI.

The word of "hawala" in the Arabic Language means "transfer" or "wire" (Razavy, 2006). The word hawala comes from the Arabic root hwl (حول), without money movement, it means to "change" or "transform." (Sharif et al., 2016; Redín et al., 2014). As it is known, Kurdistan's economic is cash-based, and since 2004 the financial sector has been under improved. Hawala still commonly exists in the KRI. According to the USA embassy website in Iraq and their report about Hawala, there are 2,000 financial institutions that they practice Hawala and exchange their currency through the Hawala system. In general, people accept the US dollar, although Euro and British Pound also can be accepted. This situation exists because of the lack of a Banking system in the region. Moreover, the Hawala system is used for both legitimate and illegitimate reasons, with no investigations and fines of them, and no fully financial monetary system to prohibit illegitimate situations. Many of the Hawaladars are licensed by the government. Therefore, financial chaos exists in the region, it is commonly known as financial corruption (fiscal crisis) (Soudjin, 2015). Money

laundering is an important problem in the region, particularly in Iraq, which is linked to the Hawala system (Shanmugam, 2004; De Goede, 2003; Schneider, 2010; Veul et al., 2017). The Hawala system can significantly affect the economics of the KRI, for example, the Hawala system can reduce the liquid cash in circulation. On the other hand, it can be the opposite of existing inflation on the KRI's economics. The Hawala system works in a very easy way by code, other secret way or directly from A person to B person, thus a number of the money exchangers perform Hawala. Nowadays, they use email or mobile phone to transfer the amount of cash, besides handling fee and obtain money back from another part, who is trusted. Then customers can obtain the same amount of money in cash. This is seen as Informal Payments Systems in terms of economic perspective (Wilson, 2002).

The considerable development in banking systems all around the world is a response to the change in people's current lifestyle (Wang, 2011; Viles, 2008). One of the major changes is the introduction of new technology into the system, which is called E-Banking. We need to understand the value of this new technology and its influence on individuals and organisations. That will be the strategy to ensure customers' acceptance in the technology environment. According to Venkatesh and Brown, (2001), E-Banking should be accepted, trusted, adopted, and used. However, the operation of the E-Banking system in the KRI is still out of this new system, where many factors are beyond the initiation of this technology. Moreover, numerous factors affect acceptance of this system as safe and effective. trust and attitude could be the most significant factors in order to achieve acceptance of the system successfully for the bankers (Hama Khan, 2019;

Khan, 2018). The trade and business movement has grown in the last fifteen years, where the KRI has been runs independently by Kurds. This autonomy gives a great opportunity for traders to commence a wide and global trade in a rapid movement. The most important problems that came into the face of this trend were the transition of the money, buying of products, dispatching, etc, because no bank was to cooperate with them effectively. In the time before the toppling of Saddam's government the trades were collaborated by the Iraqi Central Bank, which took responsibility of all trade affairs for traders. Therefore, the trades in the region now seek out cooperative banks in the neighbouring countries and abroad instead of adopting an effective E-Banking system to overcome all these obstacles and create a very strong trade trend through the region (Lymperopoulos and Chaniotakis, 2004).

This research covers the factors which have the main influence in the acceptance and adoption of a very effective of E-Banking system, and in particular trust and attitude. Which are the spinal elements in the structure of this system as the region still goes through the unsteady situation politically and might not guarantee to preserve customers' rights? Therefore, the public has always doubted the system and the government has never attempted to build up their confidence in it. To obtain reliable outcomes for this research, a very comprehensive literature review related to E-Banking, addressing these factors and their influences, is ongoing. The initial conclusion from these pieces of research shows that trust and attitude are considered the main factors that influence banking customers' confidence in accepting and using the service. As far as it is believed that there is no serious and accurate study on this service in the KRI, this

research is going to be the first academic study in this area. In addition, a group of studies has been selected about acceptance and adoption of E-Banking globally. Table 2.1 presents a summary of the main findings of selected empirical studies.

Table 2. 1 Summary of the main findings of selected empirical studies.

Authors & year	Sample	Country	Finding
Suh and Han, (2002)	845 users	Korea	trust has a significant impact on the acceptance of Internet banking.
Alsajjan and Dennis, (2009)	618 Students	UK & Saudi Arabia	The results suggest the importance of attitude, such that attitude and behavioural intentions emerge as a single factor, denoted as "attitudinal intentions" (AI). Besides, perceived usefulness and trust fully mediate the impact of subjective norms and perceived manageability on AI.
Harris et al., (2016)	960 Customers	USA	The results showed that older consumers see more value in traditional, physical-based banking, all ages are equally interested in currently emerging technologies (online), and younger users are more interested in the newest technologies.
Afshan and Sharif, (2016)	151 Students	Pakistan	The statistical results supported the significant association of task technology fit (TTF), initial trust (IT) and facilitating condition (FC) with intention to adopt M-Banking.
Baptista and Oliveira, (2015)	252 Users	Mozambique	The result showed that performance expectancy, hedonic motivation, and habit were found to be the most significant antecedents of behaviour intention. To explain the mobile banking use behaviour the habit and culture moderator effects on behaviour intention over use behaviour were the most important drivers. Collectivism, uncertainty avoidance, short term and power distance were found to be the most significant cultural moderators.
Ooi and Tan, (2016)	459 Users	Malaysia	proposing new mobile constructs that brings together mobile technology acceptance model to assess the likelihood of mobile users to adopt SCC, and offered several important managerial implications, which can be generalized to the mobile studies of other transportation, hotel, banking, and tourism industries.

Zhang et al., (2018)	62 samples	From 27 countries	people pay more attention to social influence and trust in high power distance countries; focus more on performance expectancy, effort expectancy, and perceived risk in countries with high individualism; and care more about performance expectancy and trust in high uncertainty avoidance countries.

2.2 Technology Acceptance Model (TAM)

The most powerful acceptance theory is the Technology Acceptance Model, when compared to other theories that are most used and cited on the user's acceptance of new technology. Technology Acceptance Model (TAM) was formulated by Davis, (1989) to understand and determine the best practice and user's acceptance of IT/IS (Luo et al., 2010; Salhieh et al., 2011), which means studying expectation and human behaviour, and can also be used for Information Communication Technology (ICT) (Wang et al., 2017). A user's attitude towards and acceptance of a new information system is important to the successful adoption of the information system and the reasons of why he/she accepts and rejects new technologies in organisational settings are therefore important (Davis, 1989; Davis et al., 1989). In this section, the most important studies are shown, which have examined Technology Acceptance Model (TAM). In this chapter, there is also a review of literature which is related to TAM.

Since the early 1980s, Iraq has generally been going through a tough economic situation in stages, the first stage was the war between Iran and Iraq. The second stage was the war between Kuwait and Iraq in 1990. The third stage was the siege of Iraq in 1991 following the imposition of economic sanctions on Iraq by the Security Council. The fourth stage was the stage after (Resolution 986 of 14 April 1995) which allowed Iraq to

sell oil to buy foods and medicines (also, the UN passed resolution 986 in December 1996, that allowed a 'oil-for-food' programme). The fifth stage was after the fall of Saadam Hussin's regime in 2003, and the last stage, from 2014 until now, is the time of the conflict against the Islamic State of Iraq and Syria (ISIS) terrorist group. If we look at all stages, Iraq or even Kurdistan Region could not have an economically stable situation. That is why there was no good opportunity to build a good banking system in Iraq generally. War always affected all sectors, including the banking sector. However, IT (Luo et al., 2010) and computer technology grew very fast in the last decade, although it could not help the banking system in the Kurdistan Region because of the many militaries and economically problems the region faced. There was no significant investment in the banking system to provide E-Banking in the region, although there is lack of liquidity in the Kurdistan Region's banks resulted in the KRG's inability to pay the salaries of its employees. When we cannot write a critical literature review in a positive way thus, we must be aware that lifestyles, banking systems etc. are not always comparable between different regions and countries (Chawla and Joshi, 2019) that the region faced many problems and there is no financial investment in the region to provide new models of the banking system, which it is called E-Banking to provide easy access with much lower costs at anywhere and anytime with various E-Banking system channels. If we take some points for competitive advantage (Hammoud et al., 2018) between the region and other countries that those studies examined in those countries. Trust is still a spinal factor, which makes it difficult to adopt a new banking system. People still obtain salary and pay bills by cash, as we mentioned before our society is a cash society, and people still use the Hawala system for

transferring money for various purposes. Besides the number of banks, branches, ATMs and other banking channels (Dabholkar, 1996) is low. For example, Kurdistan International Bank has only 23 ATMs in the region, CIHAN BANK also has 16 ATMs in the region, so we understand even there are not enough ATMs compared to the Kurdistan population, although there are enough ATMs in other countries. The government also still part of this problem, therefore, can be considered as e-government, the government still not provide an e-system to encourage people to use it.

TAM came from the adaptation of the Theory of Reason Action (TRA), and was proposed by (Fishbein and Ajzen, 1975). TRA is probably one of the most influential theories used to explain human behaviour (Venkatesh et al., 2003). According to the TRA model, an individual's attitude towards a behaviour is a function of his / her beliefs about the consequences of performing the behaviour and the evaluation of those consequences (Suh& Han, 2002). Through TAM, we can see two specific beliefs, which are perceived usefulness (Lin et al., 2015), and perceived ease of use (Rodrigues et al., 2016a). Both these beliefs affect acceptance behaviours of the Information System, according to Davis, (1989); Davis et al., (1989). In contrast, Yee-Loong Chong et al., (2010) found that perceived ease of use was found to be not significant.

Perceived usefulness as ''the degree to which an individual believes that using a particular system would enhance his / her job performance,'' and perceived ease of use as ''the degree to which an individual believes that using a particular system would be free of physical and mental effort.'' Many studies empirically showed that those two factors could be

determined by the person's attitude towards the use of the system, behavioural intention to use, and actual system use.

Moreover, Venkatesh and Davis, (2000) developed and tested a theoretical extension of the Technology Acceptance Model (TAM) that explained perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes. The extended model (TAM2) was strongly supported for all four organisations at all three points of measurement, accounting for 40%–60% of the variance in usefulness perceptions and 34%–52% of the variance in usage intentions. Both social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance. These findings advance theory and contribute to the foundation for future research aimed at improving our understanding of user adoption behaviour.

Furthermore, Venkatesh, (2000) presented and tested an anchoring and adjustment-based theoretical model of the determinant of system-specific perceived ease of use. The model proposed control (internal and external-conceptualised as computer self-efficacy and facilitating conditions, respectively), intrinsic motivation (conceptualised as computer playfulness), and emotion (conceptualised as computer anxiety) as anchors that determine early perceptions about the ease of use of a new system. With increasing experience, it is expected that system-specific perceived ease of use, while still anchored to the general beliefs regarding computers and computer use, will adjust to reflect objective usability, perceptions of

external control specific to the new system environment, and system-specific perceived enjoyment. The proposed model was strongly supported at all points of measurement and explained up to 60% of the variance in system-specific perceived ease of use, which is twice as much as our current understanding. Important theoretical and practical implications of these findings are discussed.

Venkatesh and Bala, (2008) combined TAM2 (Venkatesh & Davis, 2000) and the model of the determinants of perceived ease of use (Venkatesh, 2000), and developed an integrated model of technology acceptance-TAM3. TAM3 presents a complete nomological network of the determinants of individuals' IT adoption and use.

Besides, Venkatesh and Bala, (2008) drew from the vast body of research on the technology acceptance model (TAM), particularly the work on the determinants of perceived usefulness and perceived ease of use, and: (i) develop a comprehensive nomological network (integrated model) of the determinants of individual-level (IT) adoption and use; (ii) empirically test the proposed integrated model; and (iii) present a research agenda focused on potential pre- and post-implementation interventions that can enhance employees' adoption and use of IT. The finding and research agenda had important implication for managerial decision-making on IT implementation in organisations. Table 2.2 presents a summary of the main findings of selected empirical studies base on TAM.

Table 2. 2 Summary of the main findings of selected empirical studies based on TAM.

Authors & year	Sample	Country	Finding
Mallat et al., (2008)	362 Users	Finland	Suggested that compatibility of the mobile ticketing service with consumer behaviour was a major determinant of adoption.
Salhieh et al., (2011)	150 Customers	Jordan	Result supported that E-Banking has achieved a degree of strategic and operational importance among bank managers. Also, customers are positive about embracing new banking channels. However, it seems that technological aspects and IT employees' skills are paramount concerns.
Kesharwani and Bisht, (2012)	619 Students	India	Perceived risk had a negative impact on behavioural intention of internet banking adoption and trust had a negative impact on perceived risk. A well-designed web site was also found to be helpful in facilitating easier use and also minimizing perceived risk concerns regarding internet banking usage.
George and Kumar, (2013)	406 Users	India	Found that the constructs PEOU and PU have a positive effect on customer satisfaction and PR has a negative effect on customer satisfaction.
Mortimer et al., (2015)	348 Consumers	Australia & Thailand	Perceived ease of use, perceived usefulness (PU) and perceived risk (PR) were the primary determinants of mobile banking adoption. For Thai consumers, the main factors were PU, PR and social influence. National culture was found to impact key antecedents that lead to adoption of m-banking.
Bashir and Madhavaiah, (2015)	420 Students	India	Perceived usefulness, perceives ease of use, perceived enjoyment, perceived image, social influence, and trust in Internet banking have a significant positive effect on behavioural intention. Further, it is found that perceived risk exerts significant negative effect on consumers' intention to use Internet banking.
Ben Mansour, (2016)	102 Users	Tunisia	Two main trust dimensions – integrity and credibility – positively influenced perceived usefulness and exert both a direct and an indirect a positive effected on attitude towards a business' internet banking adoption and behavioural intention.
Mansour et al., (2016)	132 Customers	Sudan	The customers' attitude toward various bank technologies is not the same and is influenced by different factors. The results revealed that bank customers, who are users of ATMs are

			influenced by its convenience, ease of use and service quality, whereas credibility was not seen as a significant driver. Mobile users were found to be influenced more by the benefits and ease of use and service quality, whereas internet customers were influenced by the benefits and ease of use and credibility of the systems.
Lee et al., (2011)	250 Customers	Taiwan	Perceived usefulness, perceived ease of use and offline trust have positive effects on attitude towards switching. Additionally, offline loyalty and switching costs had a negative significant influence on attitude towards switching. Moreover, attitude towards switching had a positive effect on the behaviour intention to switch. Finally, computer self-efficacy moderates the effect of attitudes and behaviour intention towards switching to online banking.
Marakarkandy et al., (2017)	300 Users	India	The study supported the proposed model and thereby contributes to understanding the influence of subjective norm, image, banks initiative, internet banking self-efficacy, internet usage efficacy, trust, perceived risk and government support on internet banking adoption.
Roy et al., (2017)	270 Students	India	Both external risk and internal risk inhibit customer acceptance of Internet banking. More importantly, neural network analysis reveals that perceived ease of use and external risk are two important factors determining how well Internet banking is accepted by customers.
Chawla and Joshi, (2018)	367 Users	India	Gender, age, qualification, experience, occupation, income and marital status were significant moderating variables.
Saji et al., (2018)	214 Customers	India	Perceived usefulness, and perceived ease of use along with two additional constructs in the extended model, perceived credibility and perceived self-efficacy, emerged out as significant antecedents of the behavioural intention of customers, especially of educated youth, towards the use of mobile technology in banking
Siyal et al., (2019)	199 Users	China	Acceptance of and loyalty to m banking among Chinese bank customers was significantly and positively affected by resistance to change, perceived risk and low awareness of services, and perceived benefits.

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

Venkatesh et al., (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT). The four determinants of user acceptance and usage behaviour in UTAUT, were moderated by Gender, Age, Experience and Voluntariness of Use. On the other hand, Venkatesh et al., (2003) studied the effect of moderating variables, which are experience, voluntariness, age, and gender. Moreover, UTAUT is a definitive model that synthesises what is known and provides a foundation to guide future research in this area. (Venkatesh et al., 2003). In addition, from a theoretical perspective, UTAUT provides a refined view of how the determinants of intention and behaviour evolve over time. (Venkatesh et al., 2003)

Experience: was not explicitly included in the original Theory of Planned Behaviour (TPB) (Lee, 2009) or the decomposed TPB (DTPB). It has been incorporated into TPB via follow-on studies (e.g., Morris and Venkatesh, 2000). Empirical evidence has demonstrated that experience moderates the relationship between subjective norm and behavioural intention, such that subjective norm becomes less important with increasing levels of experience. This is similar to the suggestion of Karahanna et al., (1999) in the context of TRA.

Voluntariness: was not included in the original TPB or DTPB. As noted in the discussion regarding TRA, although not tested, the subjective norm was suggested to be more important when system use was perceived to be less voluntary (Hartwick and Barki, 1994).

Gender: Venkatesh et al., (2003) found that attitude was more salient for men. Both subjective norm (Schepers and Wetzels, 2007) and perceived behavioural control were more salient for women in the early stages of experience (i.e., three-way interactions).

Age: Morris and Venkatesh, (2000) found that attitude was more salient for younger workers while perceived behavioural control was more salient for older workers. The subjective norm was more salient to older women (i.e., a three-way interaction).

Venkatesh et al., (2003) found that the influence of performance expectancy on behavioural intention will be moderated by gender and age, such that the effect will be stronger for men and particularly for younger men. The influence of effort expectancy on behavioural intention will be moderated by gender, age, and experience, such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience. The influence of social influence on behavioural intention will be moderated by gender, age, voluntariness, and experience, such that the effect will be stronger for women, particularly older women, particularly in mandatory settings in the early stages of experience. The influence of facilitating conditions on usage will be moderated by age and experience, such that the effect will be stronger for older workers, particularly with increasing experience.

Moreover, Venkatesh and Zhang, (2010) examined a potential boundary condition, related to culture, of the fairly recently developed model of technology adoption and use-i.e., unified theory of acceptance and use of

technology (UTAUT). Based on the cultural differences between the US. and China, they outline the similarities and dissimilarities between the hypotheses specified in the original UTAUT, which was validated in the US., and how the relationships will play in the context of employees in China. They conducted an empirical study in a single organisation that operated both in the US. and China. The results confirmed that social influence will be more uniformly important across all employees, without contingencies related to gender, age and voluntariness that were found to be the case in the US. As they theorised, other UTAUT hypotheses held both in the US. and China. This work contributed by examining culture as a boundary condition and it identifies the bounds of generalisability of UTAUT.

UTAUT is another extension of the TAM that integrates constructs (including performance expectancy, effort expectancy, and Facilitating Conditions).

Venkatesh et al., (2003), investigated eight different technology adoption models, which are TAM, the Theory of Reasoned Action (TRA), a motivational model (MM), the Theory of Planned Behaviour (TPB), which combined TAM and TPB model (C-TAM-TPB), a model of PC utilisation (MPCU), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT). UTAUT thus appears to be the best theory to present a constructive tool to measure the likelihood of any new technology acceptance (Venkatesh et al., 2003). That is the reason when we discuss Consideration of Moderators in the Literature related to technology

acceptance. UTAUT is a good example, which incorporates moderating effects.

In a similar line, Venkatesh et al., (2011b) suggested that age will be the only significant moderator, and that gender, voluntariness and experience will not play significant moderating roles.

Venkatesh et al., (2012) extended the unified theory of acceptance and use of technology (UTAUT) to study the acceptance and use of technology in a consumer context. Researchers proposed UTAUT2 (Baabdullah et al., 2019b). UTAUT2 incorporates three constructs into UTAUT: hedonic motivation (Boonsiritomachai & Pitchayadejanant, 2017), price value, and habit. Individual differences-namely, age, gender, and experience-are hypothesised to moderate the effects of these constructs on behavioural intention and technology use. Results supported its model. Compared to UTAUT, the extensions proposed in UTAUT2 produced a substantial improvement in the variance explained in behavioural intention (56 percentage to 74 percentage) and technology use (40 percentage to 52 percentage).

Furthermore, Venkatesh et al., (2016) found that the progress related to this theory has hampered further theoretical development in research into technology acceptance and use. To chart an agenda for research that will enable significant future work, researchers analysed the theoretical contributions of UTAUT using Whetten's, (2009) notion of cross-context theorising. Researchers analysed reveals several limitations that lead us to propose a multi-level framework that can serve as the theoretical

foundation for future research. Specifically, this framework integrates the notion of the research context and cross-context theorising with the theory evaluation framework to 1) synthesise the existing UTAUT extensions across both the dimensions and the levels of the research context and 2) highlight promising research directions. Researchers concluded with recommendations for future UTAUT-related research using the proposed framework. Table 2.3 presents a summary of the main findings of selected empirical studies based on UTAUT.

Table 2. 3 Summary of the main findings of selected empirical studies based on UTAUT.

Authors & year	Sample	Country	Finding
Shin, (2009)	296 Students	Korea	Users' attitudes and intentions were influenced by perceived security and trust. In the extended model, the moderating effects of demographics on the relations among the variables were found to be significant.
Al-Qeisi et al., (2014)	216 Users	UK	The technical, general content and appearance dimensions of a website are most important for users. These dimensions are significantly related to usage behaviour directly and indirectly.
Bhatiasevi, (2016)	272 Customers	Thailand	Financial cost and facilitation conditions in the adoption of mobile banking were not supported.
Maruping et al., (2017)	321 users of new IT.	USA	Found that two determinants of behavioural expectation and theorize how these determinants influence BE in concert with four key moderators from UTAUT.
Wang et al., (2017)	181 Customers	China	Compatibility with previous E-Banking experience and personalization produces an interaction effect on both performance expectancy and effort expectancy.
Cao and Niu, (2019)	614 Customers	China	the relationship between the context and Alipay user adoption is mediated by performance expectancy and effort expectancy. While the relationship between the ubiquity and Alipay user adoption is only mediated by the performance expectancy.

Farah et al., (2018)	490 Customers	Pakistan	Perceived value, performance expectancy, habit, social influence, effort expectancy, hedonic motivation (except for facilitating condition), perceived risk and trust, are significant.
Baabdullah et al., (2019b)			Performance expectancy, price value, facilitating conditions, hedonic motivation, habit, system quality and service quality – were found to have a significant impact on actual user behaviour.

2.4 Conceptual framework for this research

E-Banking is very necessary for the KRI for customers and Banks these days. However, this research is the first research on E-Banking in the KRI so far. The acceptance of E-Banking service in the KRI can therefore be a new area for research. However, E-Banking is not itself a new to topic for research. Many studies have been already done on E-Banking using different theories, such as TAM, UTAUT etc. (Hama Khan, 2019; Khan, 2018).

After reviewing some literature about this area with multiple academic dimensions, the main point in this research regarding the acceptance of new technology is to understand the user's behaviour by knowing how people react with new technology that they are not familiar with.
According to Dahlberg et al., (2008), the framework is used to classify past research, to analyse research finding of classified studies, and to propose meaningful research questions for future research for each factor.

As it is already illustrated in the section about TAM and UTUAT (Abrahão et al., 2016; Zhou et al., 2010), the TAM is the first powerful theory in this area besides UTAUT (Afshan and Sharif, 2016; Tan and Lau, 2016)

model. It is coming out from eight empirically tested models in the same relevant area by Venkatesh et al., (2003). From previous reviews, it could be concluded that UTAUT can be used to reach the point that how a user's acceptance of new technology if the case is E-Banking. Table 2.4 shows the four main UTAUT's construct and employed in different theories.

Table 2. 4 The four main UTAUT's construct and employed in different theories.

Variables	Sources
Performance expectancy	Perceived usefulness (TAM/TAM2/ C-TAM-TPV) extrinsic motivation (MM); job-fit (MPCU), relative advantage (DOI)
Effort expectancy	Perceived easy to use (TAM/TAM2); Complexity/simplicity (MPCU/DOI)
Social influence	Subjective norm (TRA, TAM2, TPD/DTPB, C-TAM-TPD); social factors (MPCU); Image (DOI)
Facilitating Conditions	Perceived behavioural control (TPB/DTPE, C-TAM-TPB) Facilitating conditions (MPCU); Compatibility (DOI)

According to the literature review in this field, TAM and UTUAT can be used as the base. That is why researchers concentrated on UTAUT (Martins et al., 2013; Baptista and Oliveira, 2015). For my research to examine E-Banking in the KRI, I will use the model with moderating Trust and Attitude. The researcher also extended by including new independent variables (IV), which are security/privacy, quality, innovativeness and task characteristics.

Performance expectancy: is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., 2003). In contrast, Yaseen and El Qirem, 2018) found that performance expectancy and hedonic motivation are not significant predictors.

Effort expectancy: is defined as the degree of ease associated with the use of the system (Venkatesh et al., 2003).

Social influence is defined as the degree to which an individual perceives the importance of the beliefs of others that he or she should use the new system (Venkatesh et al., 2003).

Facilitating conditions is defined as the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system (Venkatesh et al., 2003). In contrast, Al-Qeisi and Hegazy, 2015) found that facilitating conditions were not strong determinants of usage behaviour.

Security and privacy: can be the second influence variable for examining users' acceptance of new technologies such as E-Banking service (Akturan and Tezcan, 2012).

According to Polatoglu and Ekin, (2001) security comprises three dimensions: reliability, safety (Kesharwani and Tripathy, 2012), and privacy. Security can be defined as "Consumers' perceptions of the uncertainty and adverse consequences of buying a product (or service)" (Littler and Melanthiou, 2006). Privacy is an important dimension that may affect users' intention to adopt e-based transaction systems (George, 2018), in order to achieve customer satisfaction or e-satisfaction (Berraies et al., 2016; Venkatesh et al., 2011a, b) and customer loyalty (Baabdullah et al., 2019a, b; Hamidi et al., 2018); Huang et al., (2011) or e-loyalty (Berraies et al., 2016). Reliability can be defined as "Consumers concerns

about the reliability of the electronic banking channel" (Dabholkar, 1996). Many authors used the influence of security (Jun and Palacios, 2016) in their studies as an independent, mediating or moderating variable. It depends on how they made the model and on which theory they based it on.

In Malaysia, Sohail and Shanmugham, (2002) found that the cost of computers and Internet access, and security concerns of E-Banking does not significantly influence the usage of E-Banking.

Another study conducted by Yoon and Steege, (2013) investigated the moderating effect between these dimensions on Internet banking use. The results showed that openness, website usability, and perceived security concerns significantly influence customers' Internet banking use.

Security and privacy can influence customer satisfaction towards E-Banking and give banks a competitive advantage (Hammoud et al., (2018). It is one of the factors. Research found that web design and content, convenience and speed are the top three factors that influence customer satisfaction toward Internet Banking (Ling et al., 2016).

Quality:

Service quality is defined as an individual's perception of how well a system performs tasks necessary for the user's job (Venkatesh and Davis, 2000). Service quality can be measured by service providers because they should understand that e-customers' satisfaction (Amin, 2016; Ayo et al., 2016) has perceived quality (Kotler et al., 2001). Service quality seeks to

measure service performance along transactional dimensions (Roberts et al., 2003). In online banking, the quality of the website is an antecedent of online loyalty (Floh and Treiblmaier, 2006). Banks use the level of customer satisfaction as a measure of the quality of their service (Ismail Hussien and Abd El Aziz, 2013; Stamenkov and Dika, 2016). One of the keys' success of any business is customer satisfaction. That is why we need to study service quality more because customers can create comparisons between the previous service and the current service based on their real service experience. It is a judgment about what they obtain from performance of that product or service. Service quality is a customer's belief or attitude concerning the rate of service superiority in the bank environment. On the other hand, electronic quality can be described as customers' evaluation of the process and result of interaction with an online seller (Al-Hawari et al., 2009). According to Ribinik, (2004) electronic quality includes five dimensions comprising ease of usage, designing a website, ordering, responding, and trust. Furthermore, information quality and service quality are important factors in building users' initial trust within this system (Zhou, 2012; Al-Hawari et al., 2009). Besides, Sharma and Sharma, (2019) found that satisfaction and intention to use stand as two important precedents of actual usage, and the satisfaction also mediates the relationship between service quality (Al-Hawari et al., 2009), information quality and trust with an intention to use m-banking and negates with that of system quality. Many studies found that quality is a significant factor that it can affect trust, many authors used the influence of quality in their studies as an independent, mediating or moderating variable, it depends on how they made the model and based on which theory.

Innovativeness: is another important variable (Aldás-Manzano et al., 2009; Chai et al., 2016) that can be used for examining user acceptance of new technology. It also has a major positive role with attitude and trust, both of which have been used as a moderator in this study. Rogers, (1995) defined innovativeness as "The degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system". According to Yi et al., (2006) innovativeness is "the willingness of an individual to try out any new IT, which plays an important role in determining the outcomes of user acceptance of technology". Mohammadi, (2015), investigated barriers, the moderating effects of personal innovativeness and subjective norms on consumers' attitudes towards the use of mobile banking in Iran. The results revealed that both subjective norms and personal innovativeness moderated the relationships between usefulness and attitude. Similarly, Alalwan et al., (2018a), found that innovativeness is statistically shown to have a significant impact on the Saudi customer intention to adopt mobile internet.

Task characteristics: is defined as ''some key aspect of user task requirements including ubiquitous account management, money transfer and remittance, and real-time account information inquiry" (Zhou et al., 2010). There are six examples of studies as researchers review them before about Task Technology Fit (TTF) and Task characteristics as a variable, Zhou et al., 2010; Oliveira et al., 2014; Afshan and Sharif, 2016; Tam and Oliveira, 2016a, b) investigated the determinants of mobile banking (M-banking) for individual performance, and, whether there are any age or gender differences (Mahmoud, 2019). The results showed that Task

Technology Fit (TTF) and usage are important precedents of individual performance. The authors found statistically significant differences in path usage to performance impact for the age subsample and no statistically significant differences for the gender subsample.

Attitude:

According to Fishbein and Ajzen, (1975) attitude is defined as the individual's feelings about performing a behaviour. The authors considered that behavioural intentions are a function of an individual's attitude toward the behaviour and the subjective norms surrounding the performance of the behaviour. It means an individual's (accept, agree & like) or (reject, refuse & dislike) feelings about a new Information and Communication Technology (ICT) (Wang et al., 2017). (Fishbein and Ajzen, 1975) defined subjective norm as "the perception that most people, who matter to the individual, thinks that he either should or should not perform the behaviour in question". The customer is always free to accept what they want, whether they are in the KRI or somewhere else based on their attitude (Cheng et al., 2006; Munoz-Leiva et al., 2017). Also, customers have the right to decide what does or does not benefit them. In recent decades, attitude has become the main variable to examine the acceptance of new technology in many studies because it is the one of the influence factors that can change users' behaviour to accept new technology, as proved in many empirical studies. Fen Lin, (2011), found that the relationship between perceived competence and attitude is greater for potential customers than for repeat customers. Attitude is also used continuously for the adoption of technology, which is the next step after acceptance. According to the (TAM), attitude is a function of perceived

ease of use and perceived usefulness (Davis, 1989; Davis et al., 1989). In other words, attitude can be an outcome of positive or negative feeling towards using a new system or technology, such as E-banking (Karjaluoto et al., 2002; Davis, 1989). Davis, (1989), found out that attitude plays a critical role in the intention to use new technology. Also, Davis, (1989), described attitude as a degree of evaluative effect that an individual associates with using the target system. Attitude toward using technology is defined as an individual's overall affective reaction to using a system. (Venkatesh et al., 2003).

In three main theories about consumer behaviour, attitude is used, such as in:

1-Theory of Reasoned Action (TRA) by (Fishbein and Ajzen, 1975), used the attitude as an Independent variable and determined through the evaluation of one's belief on the consequences of performing a particular behaviour and the desirability of the outcome.

2-Theory of Planned Behaviour (TPB) by Ajzen, (1991), also used attitude as an independent variable.

With regard to the theory of planned behaviour, Giovanis et al., (2019) indicated that the best model is an extension of the DTPB with perceived risk (PR). Customers' attitude, determined by three rationally evaluated MB attributes (usefulness, easiness, and compatibility), was the main driver of consumers' intentions to adopt MB services. Additionally, consumers' perceptions of the availability of knowledge, resources and opportunities necessary for using the service, and the pressure of interpersonal and external social contexts toward the use of MB were the

other two, less important, adoption drivers. Finally, PR negatively affects attitude formation and inhibits willingness to use MB services.
3-Technology Acceptance Model (TAM) by (Davis, 1989; Davis et al., 1989). According to the (TAM), attitude is a function of perceived ease of use and perceived usefulness, the TAM also used attitude, however as a mediator variable (Davis, 1989; Davis et al., 1989).

From theory and the literature review, the researcher understood that the attitude was not used as a moderator. The researcher has therefore decided to use attitude as a moderator in this research (Khan, 2018; Hama Khan, 2019). Moreover, Mohsin Butt and Aftab, (2013) found that the attitude towards Halal banking positively influences perceived e-service quality and overall e-satisfaction with the online services of Islamic banks. In developing countries, attitude is a significant factor that influences the intention to continue using E-banking. To highlight the need to understand what contributes to users' intention towards E-banking service in developing countries where there are different ethnicities and cultures (Kassim and Ramayah, (2015); Ting et al., (2016); Sreejesh et al., (2016); Glavee-Geo et al., 2017). Baptista and Oliveira, (2016) found from 57 articles in the literature, that the best predictors of the intention to use the mobile banking services are attitude, initial trust, perceived risk, and performance expectancy.

Trust:
Trust is "a generalised expectancy held by an individual that the word of another ... can be relied on" (Rotter, 1967; Moorman et al., 1993). "Trust is defined as a willingness to rely on an exchange partner in, whom one has confidence''. Morgan and Hunt, (1994) defined trust as "existing when

one party has confidence in an exchange partner's reliability and integrity." Johnson, (2007) defines trust in technology as consumers' expectations of technically competent, reliable and dependable performance.

Essentially, trust in banks can be divided into two types: trust in the offline (Floh and Treiblmaier, (2006); Wang and Emurian, (2004) or physical bank and trust in the online or E-banking services. Usually, offline trust is the base for online trust because customers accept what they see in the Banks after that they decide whether to practice E-Banking. It means customers' experience with a bank can let the customer accept the E-Banking services of the bank (Chaouali et al., 2016). Moreover, Chaouali et al., (2016), found that the intention to adopt Internet banking is mainly influenced by trust in the Internet banking services, followed by customers' counter-conformity motivation and performance expectancy. Social influence and trust in the physical bank, however, have direct impacts on customers' intention to adopt Internet banking. Effort expectancy did not affect it.

Trust is one of the important and influence variables in this field and thus it is one of the moderators in this study (Barkhordari et al., 2017; Baptista and Oliveira, 2016). Moreover, other studies found out the role of various moderators and factors, such as e-loyalty (Kim et al., 2009; Van Esterik-Plasmeijer and Raaij, 2017), Word of mouth (Mehrad and Mohammadi, 2017; Faroughian et al., 2011; Sampaio et al., 2017), religious beliefs (Warsame and Ireri, 2018), self-efficacy (Al-Somali et al., 2009), perceived risk (Tan and Lau, 2016; Alalwan et al., 2016b) compatibility

(Veríssimo, 2016; Oliveira et al., 2016), image barrier, Gender (Haider et al., 2018), Age (Laukkanen, 2016; Yaseen and El Qirem, 2018). Trust is a barrier key to acceptance and adoption, many studies tested and proved trust using different theories and in different countries based on the literature review in this study. On the other hand, trust is an important factor that can create the greatest e-competitive advantage (Zhou et al., 2010; Kaabachi et al., 2017; Hammoud et al., 2018) for E-Banking because it is affected by today's electronic lifestyle, which it is called Information Technology IT or Information and Communications Technology ICT (Wang et al., 2017). Electronic lifestyle is considered an external environment in the electronic business environment. It includes the extent to which people take advantage of other banking products as well as trust in commercial banks (Szopiński, 2016). Mistakes by a customer lead to lack of initial trust (Oliveira et al., 2014; Shankar et al., 2019) in electronic payment. Customers are afraid to make mistakes while they are making payments even when they use ATM or other E-Banking services. Also concerns about security/privacy can have the same effect as mistakes. Trust is a service for non-banks organisations, however for banks it is more than that and harder than just a service, particularly in E-Banking services. Furthermore, Arcand et al., (2017) found that trust significantly and positively impacts commitment/satisfaction. In contrast, Sikdar et al., (2015) found that Trust and Ease of Use are relatively weaker and insignificant contributors toward overall customer satisfaction (Thakur, 2014; Alaaraj et al., 2016, 2018).

The common and strong model of trust is based on (trusting intention and trusting beliefs) proposed by (McKnight et al., 2002) to understand and

determine some of the influence of initial trust on consumers' behavioural intentions and beliefs. Many scholars and studies cited it. The authors contributed by proposing and validating measures for a multidisciplinary, multidimensional model of trust in e-commerce. The model includes four high-level constructs-disposition to trust, institution-based on trust, trusting beliefs, and trusting intentions, which are further delineated into 16 measurable, literature-grounded sub-constructs. The psychometric properties of the measures are demonstrated through the use of a hypothetical, legal advice website. The results showed that trust is indeed a multidimensional concept. Proposed relationships among the trust constructs are tested (for internal nomological validity), as are relationships between the trust constructs and three other e-commerce constructs (for external nomological validity), web experience, personal innovativeness, and website quality.

According to Mayer et al., 1995; McKnight et al., 1998, 2002), trust can include three beliefs (Competence, Benevolence and Integrity) (Yousafzai et la., 2003). Competence includes (the ability of the trustee to do what the truster needs, capability and good judgment), Competence is the belief in the trustee's ability to do what the trustor expects, the authors measured as perceptions of how well the vendor did its job or how knowledgeable the vendor was (expertness/competence). Benevolence includes (the trustee caring and being motivated to act in the truster's interests, favourable motives and not acting opportunistically or manipulatively), Benevolence is the belief that the trustee will act in the trustor's interests. The authors focused on the vendor acting in the customer's best interest, trying to help, and being genuinely concerned. Integrity includes (trustee honesty and

promise-keeping). The authors captured perceptions of vendor honesty, truthfulness, sincerity, and keeping commitments (reliability/dependability). Integrity is the belief that the trustee will be honest and keep its promise.

On the other hand, McKnight et al., (2011) investigated the proposition that trust was related to the extent to which technology has the capability to complete a required task, provide necessary advice to complete a task, and work consistently and predictably in the case of technology context. In addition, Kumar et al., (2017) suggested that perceived usefulness and perceived ease of use, social influence and trust propensity are the underlying factors in respect of the behavioural intention to use mobile banking services.

According to the summary of interviews with banking and financial institutions by (USAID, 2008) (Economic Development Assessment Kurdistan Region, 2008) for banking sector issues, lack of trust in the banking system by both customers and bankers got 88 cumulative scores (out of 100) in the Kurdistan Region. It can be considered as an offline trust. This result was obtained from interviews with bankers and clients. Table 2.5 presents a summary of the main findings of selected empirical studies.

Table 2. 5 Summary of the main findings of selected empirical studies based on Trust.

Authors & year	Sample	Country	Finding
Kassim and Abdulla, (2006)	276 Customers	Qatar	Trust and attraction have a significant positive impact on relationship commitment with attraction having a strong positive effect, with communication representing the most important determinant of attraction and having a significant positive relationship with both trust and attraction.
Sanchez-Franco, (2009)	456 Customers	Spain	The influence of online satisfaction on commitment was significantly stronger for highly involved users; conversely, the effect of satisfaction on trust was weaker. However, customer trust had a stronger effect on commitment for customers with high purchase involvement, and a weaker effect for highly ego involved customers.
Lifen Zhao et al., (2010)	432 Consumers	China	Trust in the bank is fundamental not only to reducing risk perceptions of IBS in general, however, also to building trust in the banks' competence in terms of IBS activity.
Yap et al., (2010)	202 University Staff	Australia	Traditional service quality builds customer trust in the E-Banking service. The size and reputation of the bank were found to provide structural assurance to the customer but not in the absence of traditional service quality. Web site features that give customers confidence are significant situation normality cues.
Yee-Loong Chong et al., (2010)	103 Customers	Vietnam	perceived usefulness, trust and government support all positively associated with the intention to use online banking.
Susanto et al., (2013)	251 Customers	Indonesia	perceived security, perceived privacy, relative benefits, company reputation, website usability, and government-supported all factors that influence consumers' initial trust in Internet banking.
Tahir Jan and Abdullah, (2014)	349 Banks employees	Malaysia	trust partially mediates the relationship between technology CSFs and customer satisfaction. A significant positive impact of technology CSFs on trust, and trust on customer satisfaction have also been obtained.
Yu and Asgarkhani (2015)	510 and 122, Consumers respectively	Taiwan and New Zealand	First, the authors did not consider all trusts' precursors to have a significant influence on generating consumers' trust and, second, that

			influential weights of these precursors on building consumer trust vary across consumers and cultures. Meanwhile, all factors on the E-Banking side hold greatly significant influence on consumers' trust in both NZ and Taiwan cases.
Sikdar et al., (2015)	350 Customers	India	Trust and Ease of Use are relatively weaker and insignificant contributors toward overall customer satisfaction.
Malaquias and Hwang, (2016a)	1077 Students	Brazil	The relationship between trust and risk perception is negative also the relationship between trust and age is negative, the rest of the relationships are positive.
Liébana-Cabanillas et al., (2016)	946 Users	Spain	Ease of access, ease of use, trust and usefulness had a positive effect on satisfaction with electronic banking.
Boateng et al., (2016)	600 Customers	Ghana	Trust, compatibility with lifestyle and online customer services have a significant effect on customers' intentions to adopt Internet banking.
Malaquias and Hwang, (2016b)	307 Students	Brazil	The relationship between trust and perceived risk is less significant for students, who have already consulted the website of their banks, in comparison with students, who have not consulted the website.
Chaouali et al., (2016)	245 Students	Tunisia	Social influence and trust in the physical bank, however, have indirect impacts on customers' intention to adopt Internet banking.
Sinha and Mukherjee, (2016)	422 Customers	India	Trust in technology, trust in the bank, perceived ease of use, perceived usefulness and complexity are the factors that influence customer significantly to use off branch E-Banking.
López-Miguens and Vázquez, (2017)	404 Customers	Spain	E-satisfaction, e-trust and switching barriers had a direct effect on e-loyalty.
Sánchez-Torres et al., (2018)	600 Consumers	Colombia	Trust, performance expectancy and effort expectancy had a positive impact on the use of financial websites in Colombia, while government support did not have a significant impact.

Salem et al., (2019)	369 Customers	Palestine	The use of online banking services was influenced, respectively, by the technological leadership, e-trust, e-loyalty, customers' value for online personalization, customers' concern for privacy and propensity of technology adoption.

Behavioural intention: is the mediator variable in this research framework (Rodrigues et al., 2016b), because this framework extended based on TAM and UTAUT theories. This variable has been used as a mediating variable in order to test the degree of users' acceptance of new technology and the actual usage of new technology in many studies as the most important factor (Martins et al., 2013), especially in TRA, TPB, TAM or UTAUT. (Venkatesh et al., 2008) defined behavioural intention (BI) is as the ''degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour''. According to Davis et al., (1989), can be defined as customers' tendency and willingness to adopt the new technology. Furthermore, Alalwan et al., (2017) found that behavioural intention is significantly and positively influenced by performance expectancy, effort expectancy, hedonic motivation, price value and trust. On the other hand, we can say that behavioural intention is a tool to measure customer's attitude towards the new Information System (IS) (Al-Ajam and Md Nor, 2015; Ajzen, 1991; Venkatesh et al., 2012). According to Fishbein and Ajzen, (1975), attitude is defined as the individual's feelings about performing a behaviour and the authors considered that behavioural intentions are a function of an individual's attitude toward the behaviour and subjective norms surrounding the performance of the behaviour. It means an individual's (accept, agree, like) or (reject, refuse, dislike) feelings about a new Information and Communication Technology (ICT) (Wang et al., 2017). Fishbein and

Ajzen, (1975) defined subjective norm as the perception that most people who matter to the individual think that he either should or should not perform the behaviour in question". Besides, based on the literature review, many studies proved that there is a relationship between trust and behavioural intention (Thakur and Srivastava, 2014). As long as the trust is a set of beliefs based on the trust's definition. Trust can influence customer's behavioural intention to use (Yiga and Cha, 2016) or accept new Information and Communication Technology (ICT) (Wang et al., 2017). In addition, Rahi et al., (2019) developed an amalgamated model based on technology and social psychological literature. With regard to the behavioural intention, Alalwan et al., (2018b) proposed and examined a conceptual model that best explains the key factors influencing Jordanian customers' intentions and adoption of Internet banking. The conceptual model proposed was based on the extended Unified Theory of Acceptance and Use of Technology (UTAUT2).

Chapter Three

Research Framework and Methodology

3.1 Questionnaire design

Surveys have many various types, though scholars usually use two fundamental forms, which are questionnaires and interviews, to collect data in their research. An interview survey is a form on which the researcher records answers supplied by the participant in the study. Also, a questionnaire is a form used in survey design that participants in a study complete and return to the researcher, which is used in this research on online based on Google (Creswell, 2012).

According to Creswell, (2012), a mailed questionnaire is a form of data collection in survey research in which the investigator mails a questionnaire to members of the sample. Another common questionnaire type is Web-based questionnaires. The web-based questionnaire is a survey instrument for collecting data that is available on the computer, which is not allowed to have missing data. Due to the access to the university's email database, the online questionnaire was distributed to the academic staff in the Kurdish Language. English is not an official Language for the KRI and most of the participants are not fluent in English. The questionnaire was an online questionnaire, with close-ended questions, and self-reported. The Kurdish version was checked by colleagues and family members who are fluent in both English and Kurdish Languages. The source of the questionnaire comes from the previous literature, which have been adopted for use in this study, without

employing new questions, for example, (Venkatesh et al., 2003; Al-Somali et al., 2009; Hanafizadeh et al., 2014a; Cheng et al., 2006). The online questionnaire started with the cover letter in order that the participants were sure their data, and particularly their identity, would be protected, and could decide to participate in this study (see Appendix 1).

The questionnaire was self-administered, and designed in two parts, without open-ended questions. The first part was a demographic information survey in which participants were asked about their gender, age and education. They were also asked for some personal information, specifically: Do you have an online bank account? Have you ever accessed to your Electronic Bank account? How many times do you usually use your bank account in months? How long have you been using Electronic Banking? The second part was designed to obtain information about (The Moderating Effects of Trust and Attitude on E-Banking Acceptance) with close-ended questions, with a five-point Likert scale, ranging from strong-disagree to strongly-agree, except question 68 (What is your actual frequency of use of Electronic Banking services?), which had 11 multiple answers. The second part of this questionnaire was related to the framework of this study that included all constructed variables for the research model, (see Appendix 2). Figure 3.1 shows the proposed theoretical framework for this study. The questionnaire proposed all hypotheses for this study which are shown in chapter 4. The results are reported in chapter four.

3.2 Data collection-survey

The data have been collected through an online questionnaire based on Google Forms, then distributed through an email database belonging to the University of Sulaimani. It was distributed electronically to the academic staff of the University of Sulaimani by email, in order to test the research model and validate it empirically. This kind of study test needs new data which mean not using any published sources. Therefore, the researcher is the author of this data, thus in this study a questionnaire is chosen for the reason of data type. The questionnaires have been translated into a local language, which is Kurdish/Sorani (mother tongue of the local communities). That is one of the official languages besides Arabic in Iraq, mainly it is used in Kurdistan Region. To obtain appropriate data from the participant, 476 participants have participated in the survey (N=476). It is a source of my data collection, without any missing data. University of Sulaimani has 19 colleges and 71 departments with 1898 academic staff in total. A few studies employed academic staff as part of the data sample. (see Table 2.5). As long as the academic staff have a bank account, they are considered Bank users. However, they are chosen for other reasons, for example, first, Academic staff think more statistically because of their excellent experience, which is more valid, accurate and reliable than that of other participants such as random Bank users in the KRI. Second, Academics were chosen in order to obtain sufficient number of respondents in time.

Since PLS-SEM is employed in this study, which is appropriate for complex model, the study followed ten times rules of thumb for sample size (Hair et al., 2017a). Three local banks were contacted, but none of

them gave consent to participate or for the questionnaire to be distributed through their electronic system. It is a limitation for the study that only academic staff are included. After that, the data was downloaded on the Microsoft Excel file and coded as it is shown in Appendix 2. Moreover, there are some negative items, such as (FC23R, TC44R, T47R & A57R), thus those items reverse-scored by (SPSS V.24).

3.3 Data analysis

After collecting them from questionnaires and coding, the data need to be analysed by taking steps and using some statistical tools by employing statistical software. Statistical analyses were conducted to investigate the effect of unobservable variables in the data obtained and the validity and reliability of the proposed model presented in this research.

In social science, data mostly are nonnormal distribution, besides, in this study, the data are also nonnormal distributed, thus the model tested data using the partial least squares structural equation modelling (PLS-SEM) approach.

PLS-SEM is an excellent methodological alternative for theory testing. PLS-SEM is not recommended as a universal alternative to CB-SEM. Both methods differ from a statistical point of view. (Hair et al., 2017a). One of the statistical methods is SEM, SEM is a powerful statistical method (second-generation statistical methods) that can identify relationships in social science research that likely would not otherwise be found (Hair et al., 2017a, b). In this study, PLS-SEM has been used. Therefore, it can help for the exploratory phase of my research and the empirical

development of the theory. PLS-SEM can also maximise the endogenous latent variables' explained variance by estimating partial model relationships in an iterative sequence of ordinary least squares (OLS) regressions. On the other hand, there is an alternative method for a testing theory, which is PLS-SEM. When conceptualising the theoretical constructs and their hypothesised structural relationships for PLS-SEM, it is important to make sure the model has no circular relationships.

3.4 Partial Least Square-Structural Equation Model (PLS-SEM)

In this study, following the researchers in the field of social sciences in their determination to use statistical solutions as a research mechanism for the exploration and development of their research capabilities in their research (Hair et al., 2017a), statistical analyses were conducted to investigate the effect of unobservable variables in the data obtained and the validity and reliability of the proposed model presented in this research.

Business researchers have used different tools to analyse their data for developing and confirmation of their models and theory for many years. There is a wise saying about structural models without theory, they are a puzzle that lacks a piece. Therefore, a theory is the mainstay of structural models in research that can be considered as a vital part of the development of structural models in all research. The theory itself supports the structure and how to shape the development of a set of hypotheses according to the scientific approach, which takes most of the scientific explanations to explain the results and predictions. To make the development of path

models, there is a need for two theories such as measurement theory and structural theory. Structural theory separates how the components are related to each other in the structural model. However, the viability of the structure each component is revealed and measured in the structure by the measurement theory. Measurement theory concerns the unobservable variables through reflective measurement and formative measurement (Hair et al., 2017a).

Structural equation modelling (SEM) is one of the more popular and desirable statistical methods used by researchers for the analysis of obtained data to reach valuable and noticeable conclusions. SEM is considered as the most powerful statistical method of the second generation and is the only way through which relationships can be found in social science research. (Hair et al., 2017a). This method is designed through two algorithms, which are covariance-based SEM (CB-SEM) and partial least squares SEM (PLS-SEM).

The method CB-SEM is unable to give accurate and decisive results of the so-called nonparametric or scattered data, and that is what other researchers have tried according to their theoretical and field expectations. They found that dealing with such data in this way does not lead to statistical results, convincing cases and facts recorded in the comparative data. However, PLS-SEM is capable of estimating very complex models. For example, if theoretical or conceptual assumptions support large models and sufficient data are available (i.e., meeting minimum sample size requirements), PLS-SEM can handle models of almost any size, including those with dozens of constructs and hundreds of indicator

variables. PLS-SEM, as noted by Jöreskog and Wold, (1982), is virtual without competition when path models with latent variables are complex in their structural relationships. (Hair et al., 2017a)

According to Hair et al., (2017a), **Use CB-SEM when**

1. The goal is theory testing, theory confirmation, or the comparison of alternative theories.
2. Error terms require an additional specification, such as the covariation.
3. The structural model has circular relationships.
4. The research requires a global goodness-of-fit criterion.

PLS-SEM is an OLS regression-based estimation technique that determines its statistical properties. PLS-SEM is concerned more with prediction than explanation, which makes PLS-SEM particularly useful for studies on the sources of competitive advantage and success driver studies. That is why PLS-SEM have been used in this study (Sarstedt & Cheah, 2019).

Moreover, partial least squares structural equation modelling (PLS-SEM) has become a popular method for estimating (complex) path models with latent variables and their relationships, building on an introduction of the fundamentals of measurement and structural theory. (Sarstedt et al., 2017). The main reason for PLS-SEM' s attractiveness is that the method allows researchers to estimate very complex models with many constructs and indicator variables, especially when the prediction is the goal of the analysis. Another reason is the accessibility of easy-to-use software with a graphical user interface such as ADANCO, PLS-Graph, SmartPLS,

WarpPLS, and XLSTAT. The simulation study provides support for PLS-SEM's superior predictive capabilities.

According to Hair et al., (2017a), **Use PLS-SEM when**

1. The goal is predicting key target constructs or identifying key "driver" constructs.
2. Formatively measured constructs are part of the structural model. Note that formative measures can also be used with CB-SEM, however doing so requires the user to construct specification modifications (e.g., the construct must include both formative and reflective indicators to meet identification requirements).
3. The structural model is complex (many constructs and many indicators).
4. The sample size is small and/or the data are nonnormally distributed.
5. The plan is to use latent variable scores in subsequent analyses.

Moreover, table 3.1 shows the reasons for using PLS-SEM.

Table 3. 1 Reasons for using PLS-SEM.

1. The goal is to predict and explain a key target construct and/or to identify its relevant antecedent constructs.
2. The path model is relatively complex as evidenced in many constructs per model (six or more) and indicators per construct (more than four indicators)
3. The path model includes formatively measured constructs; note that factor-based SEM can also include formative measures, however doing so requires conducting certain model adjustments to meet identification requirements; alternatively, formative constructs may be included as simple composites.
4. The sample size is limited (e.g., in business-to-business research)
5. The research is based on secondary or archival data, which lack a comprehensive substantiation on the grounds of measurement theory.
6. The objective is to use latent variable scores in subsequent analyses.
7. The goal is to mimic factor-based SEM results of common factor models by using PLS (e.g., when the model and/or data do not meet the requirements of factor-based SEM)

Furthermore, the software SmartPLS also allows the user to determine specific positive and negative starting values for every single indicator. Simulation studies also show that CB-SEM results can become extremely inaccurate while PLS-SEM produces accurate estimates. Measurement model requirements are quite flexible. PLS-SEM can handle reflective and formative measurement models as well as single-item measures without additional requirements or constraints. Model complexity is generally not an issue for PLS-SEM. As long as appropriate data meet minimum sample size requirements, the complexity of the structural model is virtually unrestricted.

Initially, SmartPLS provides three key results in the modelling window. These are (1) the outer loadings and/or outer weights for the measurement models, (2) the path coefficients for the structural model relationships, and (3) the R^2 values of the endogenous constructs Behavioural Intention and User Behaviour. (Hair et al., 2017a). The variance-based PLS-SEM algorithm was originally developed by Wold (1975, 1982) and later extended by (Lohmöller, 1989; Bentler and Huang, 2014; Dijkstra, 2014; Dijkstra and Henseler, 2015a, 2015b).

Besides, PLS-SEM is better at identifying population relationships and more suitable for exploratory research purposes, a feature that is further supported by the less restrictive requirements of PLS-SEM in terms of model setups, model complexity, and data characteristics.

Nevertheless, PLS-SEM assessment of the structural model involves the model's ability to predict the variance in the dependent variables. Hence,

after reliability and validity are established, the primary evaluation criteria for PLS-SEM results are the coefficients of determination (R^2 values) as well as the size and significance of the path coefficients. The F^2 effect sizes, predictive relevance Q^2, and the Q^2 effect sizes give additional insights about the quality of the PLS path model estimations. (Hair et al., 2017a).

Due to the reasons given in explaining the data of this research, it is preferred to use PLS-SEM (Sarstedt & Cheah, 2019) to analyse the data, with the aim of finding what is required of the statistical results, to explain the facts that are included in the trial of variables in the proposed model and to find the strengths and weaknesses and how to use its results.
Other important statistical outcomes in the research were obtained using the SPSS, which cannot be obtained by PLS-SEM, such as Demographic Information, Descriptive Statistics, Assessing Normality, etc.

Finally, PLS-SEM is capable of estimating very complex models. For example, if theoretical or conceptual assumptions support large models and sufficient data are available (i.e., meeting minimum sample size requirements). Furthermore, PLS-SEM can handle models of almost any size, including those with dozens of constructs and hundreds of indicator variables. As noted by Wold, (1985), PLS-SEM is virtual without competition when path models with latent variables are complex in their structural relationships. (Hair et al., 2017a).

3.5 Conceptual framework of the study

Generally, the theoretical framework can guide the researcher's project. The proposed theoretical framework for this study contains 8 sub independent variables, then from each 4 variables that obtain two second-order variables mediated by mediator variables and moderating this relationship by two moderator variables, besides one dependent variable. The use of a second-order components model can also reduce bias due to collinearity issues and eliminate potential discriminant validity problems. (Hair et al., 2017a).

Effort expectancy, Performance Expectancy, Social Influence and Facilitating Conditions contained Individual Factors as a second-order variable. Security/Privacy, Quality, Innovativeness and Task Characteristics contained System/Service Factors as a second-order variable. Behavioural Intention is a mediator variable between each two the second-order components variables and User Behaviour. Trust and Attitude are two moderators in the structural model. Further, the theoretical framework can assist to hypothesise and analysis relationships. Therefore, to elaborate some of the study that researchers work on it, the theoretical framework is considered the foundation on which the entire research project is based. Figure 3.1 shows the proposed theoretical framework for this study.

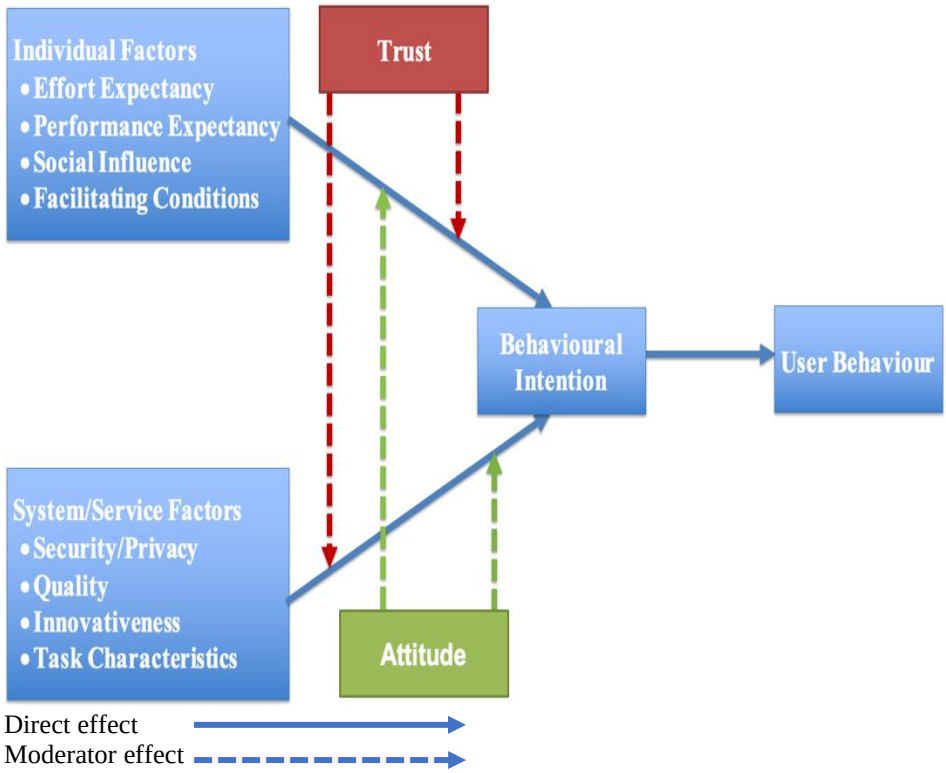

Figure 3. 1 The proposed theoretical framework.

CHAPTER FOUR

Data analysis and results

4.1 Demographic information

Demographic Information is collected about Age, Gender and Education. Other questions asked include “Do you have an online bank account (OBA)?” “Have you ever accessed to your Electronic Bank account (EBA)?” “How many times do you usually use your bank account in months (BAM)?” and “How long have you been using Electronic Banking (UEB)?” through an online questionnaire (N=476). Table 4-1 shows the division of the demographic information in this study.

Age. According to the results, (n=366, 76.89%) of the participants of the sample, were aged 18 to 40 years old, which is the majority of individuals of the sample. Also (n=104, 21.8%) of the participants of the sample, were aged 41 to 60 years old, which is the second category of the sample, and (n=6, 1.3%) of the participants of the sample, were aged 61 to 80 years old, which is the last group in the sample. Chart 4. 1 shows age groups by percentage.

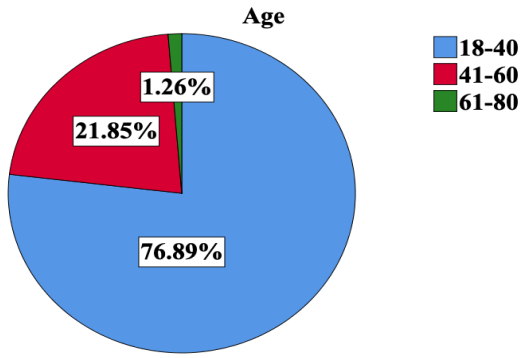

Chart 4. 1 Shows age groups by percentage.

Gender. The result of this study shows that (n=186, 39.1%) of the participants were male and (n=290, 60.9%) of the participants were female. The data show a higher frequency for female participants compared to males in this study. Chart 4. 2 shows gender groups by percentage.

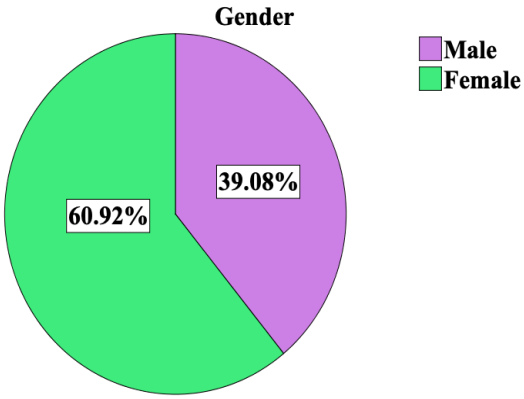

Chart 4. 2 Shows gender groups by percentage.

Education. Results show that (n=0, 0%) of the participants have a diploma as their highest qualification, (n=0, 0%) of the participants are undergraduates and (n=476, 100%) of the participants have postgraduates, therefore, the data population is university's academic staff. Chart 4. 3 shows education by percentage.

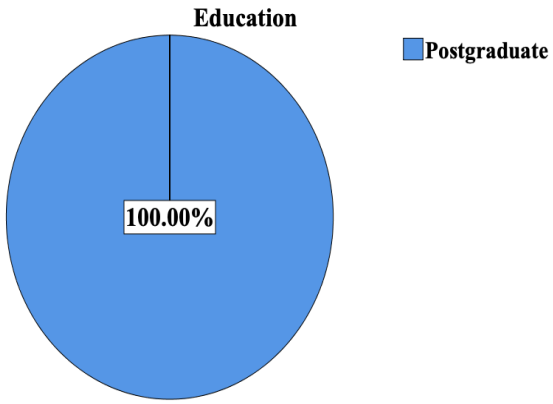

Chart 4. 3 Shows education by percentage.

Do you have an online bank account? (OBA). Results confirmed that (n=428, 89.9%) of respondents have an online Bank account and (n=48, 10.1%) of respondents do not have an online Bank account. Chart 4. 4 shows OBA by percentage.

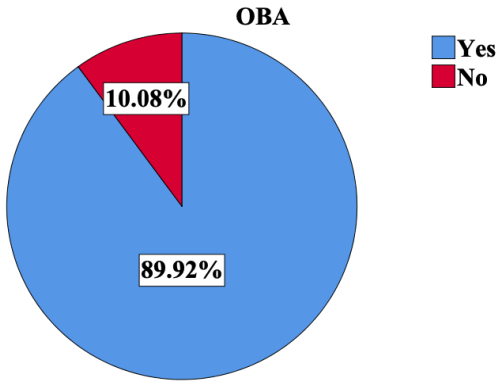

Chart 4. 4 Shows OBA by percentage.

Have you ever accessed to your Electronic Bank account? (EBA). Results informed that (n=446, 93.7%) of the participants have accessed their Electronic Bank account and (n=30, 6.3%) of the participants have not accessed their Electronic Bank account. Chart 4. 5 Shows EBA by percentage.

How many times do you usually use your Bank account in months? (BAM) Results show that (n=208, 43.7%) of the participants used their Bank account (1-15) times per months, (n=94, 19.7%) of the participants used their Bank account (16-30) times per months and (n=174, 36.6%) of the participants were used their Bank account (31-50) times per months. Chart 4. 6 shows BAM by percentage.

How long have you been using Electronic Banking? (UEB). Results illustrated that (n=336, 70.6%) of the participants have been using Electronic Banking for 1 to 10 years and (n=140, 29.4%) of the participants have been using Electronic Banking >10 years. Chart 4. 7 shows UEB by percentage.

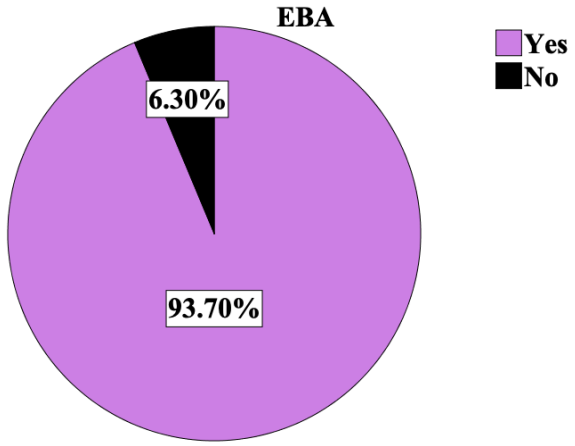

Chart 4. 5 Shows EBA by percentage.

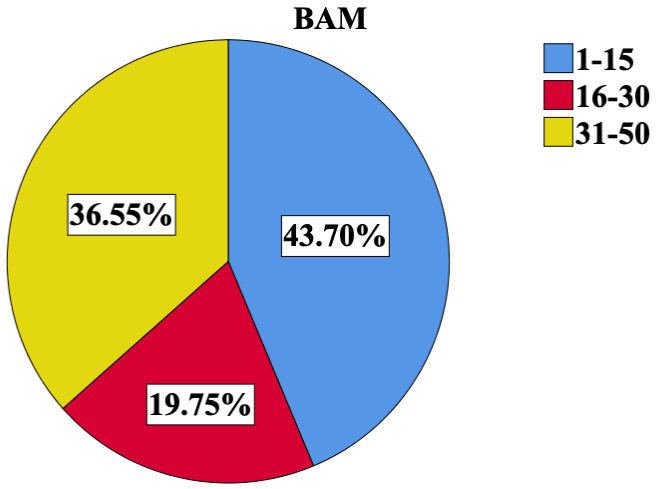

Chart 4. 6 Shows BAM by percentage.

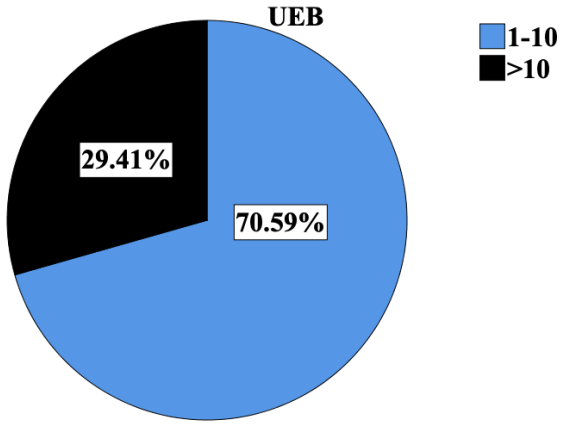

Chart 4. 7 Shows UEB by percentage.

Table 4. 1 Demographic information.

Demographic Variables	Group	Category	Frequency	Percentage (%)
Age	1	18-40	366	76.9
	2	41-60	104	21.8
	3	61-80	6	1.3
Gender	1	Male	186	39.1
	2	Female	290	60.9
Education	1	Diploma	0	0
	2	Undergraduate	0	0
	3	Postgraduate	476	100
OBA	1	Yes	428	89.9
	2	No	48	10.1
EBA	1	Yes	446	93.7
	2	No	30	6.3
BAM	1	1-15	208	43.7
	2	16-30	94	19.7
	3	31-50	174	36.6
UBE	1	1-10	336	70.6
	2	>10	140	29.4

* Note: OBA: Do you have an online bank account? EBA: Have you ever access to your Electronic Bank account? BAM: How many times do you usually use your bank account in months? UEB: How long have you been using Electronic Banking?

4.2 Descriptive statistics

The descriptive statistics that were calculated for the sample (N=476) included the staff of the University of Sulaimani for this study for each indicator, descriptive statistics provided the frequency and percentage of

each labelled value for each indicator that participants have chosen for this study. Appendix 3 shows descriptive statistics for all indicators.

4.3 Descriptive statistics (Assessing normality)

Descriptive Statistics were tested by SmartPLS, the missing value, mean, median, minimum value, maximum value, standard deviation, Excess Kurtosis, Skewness of each indicator were examined (Sarstedt & Cheah, 2019). Kurtosis and Skewness were tested in using the final 476 sample cases, which is shown in Appendix 4 the descriptive statistics for all indicators, the normality skewness and kurtosis results of the 75 items. In addition, PLS-SEM is a nonparametric statistical method. Different from maximum likelihood (ML) based on CB-SEM, it does not require the data to be normally distributed. (Hair et al., 2017a).

Accordingly, to nonmoral data, the cutoff for Skewness is ±1 and kurtosis ±7, beside the cutoff: Mardia Multivariate for skewness ±1 and kurtosis±20, when Multivariate is not normal, hence just show the reason why bootstrapping is done for the data set. Because to address the assumption of normality of the data can be by skewness and kurtosis for the best multimodal distributions.

4.4 Descriptive statistics (Assessing normality)

In this research, the second part of testing normality has tested also to obtain the Kolmogorov-Smirnov test and Shapiro-Wilks test, which is shown in Appendix 5. Two of them are designed to test normality by comparing the data to a normal distribution with the same mean and standard deviation as in the sample (Hair et al., 2017a). The symmetrical

distribution of a variable can be by testing Skewness. Data can be Skewed when it is not normally distributed, as can be seen in the histogram that expands nonnormally to the right or left tail of the distribution. Kurtosis is defined as a measure of whether the distribution is too peaked (a very narrow distribution with most of the responses in the centre). The distribution of scores for all indicators and variables was significant. According to the Shapiro-Wilks test, if the results are significant, it means not normally distributed. If two of the skewness and kurtosis are close to zero (a situation that researchers are very unlikely ever to encounter), the pattern of responses is considered a normal distribution. The rule of thumb for the skewness is that if the number is greater than +1 or lower than –1, this is an indication of a skewed distribution. For kurtosis, the general guideline is that if the number is greater than +1, the distribution is too peaked. However, a kurtosis of less than –1 indicates a distribution that is too flat. Distributions exhibiting skewness and/or kurtosis that exceed these guidelines are considered nonnormal. (Hair et al., 2017a). From both tests data has been seen in research that have been collected through online questionnaires are nonnormal distributed.

4.5 Evaluation of measurement models

According to Hair et al., (2017b), PLS-SEM should come up with two steps, which are called the measurement model and the structural model. For the first step (Measurement model), this is done by running the functions (PLS Algorithm), which are outer loading (i.e., Factor Loadings), Cronbach's Alpha, average variance extracted (AVE), composite reliability (CR), Rho_A, discriminant validity measurement, (Fornell and Larcker Criterion) and the heterotrait-monotrait ratio

(HTMT), in order to determine the inner validity and reliability based on the PLS-SEM method. (Henseler et al., 2009 ; Sarstedt & Cheah, 2019 ; Ali et al., 2016 ; Ahrholdt et al., 2017).

Besides, Sarstedt et al., (2019b) illustrated how to specify, estimate, and validate higher-order constructs in PLS-SEM in order for scholars to determine when the algorithm setting should select with more attention in term of Mode A (i.e., correlation weights) or Mode B (i.e., regression weights) for the measurement of the model. Furthermore, Sarstedt et al., (2019b) recommend choosing the approach that best aligns with the research objective. The repeated indicators and two-stage approach typically produce highly similar results when sample sizes are sufficiently large. Thus, in this study, the repeated indicators and two-stage approaches have been used.

In addition, many simulation studies can be recommended for scholars in order to follow the practical application of PLS-SEM domain that has been published lately for the quantitative methods, in order to avoid misapplication of the method. On the other hand, scholars can find useful guidelines for PLS-SEM analysis on how to report the results and how to obtain the rule of thumb for each criterion based on the application of PLS-SEM. (Hair et al., 2017b; Hegner et al., 2018; Rosenbusch et al., 2018; Sarstedt et al., 2019). Figure 4.1 shows the evaluation of the measurement model.

4.5.1 Indicator reliability

The first test is indicator reliability, which should be done by researchers to assess the evaluation of measurement models in PLS-SEM. It is done by running the PLS Algorithm, and for the purpose of testing the inner validity and reliability of the model in this study, which is shown in the Table 4.2 Evaluation of Measurement Model.

After the PLS Algorithm has been run, the average variance extracted (AVE) must be checked. Average variance extracted is a measure of convergent validity. It is the degree to which a latent construct explains the variance of its indicators; see Communality (construct). A general rule of thumb for AVE is (≥ +.5). (Hair et al., 2017a).

In reflective models, outer loading must be checked. Outer loadings represent the absolute contribution of the indicator to the definition of its latent variable (Garson, 2016). The rule of thumb for outer loadings above 0.708 is acceptable and recommended (Hair et al., 2017a), hence, some indicators below 0.708, such as (SI14, SI15, SI16, FC21, FC23R, SP25, SP26, SP28, TC43, TC44R, T46, T47R, T48, UB68_Group, Q35, A53 & A57R) have been removed, as they lack reliability based on the rule of thumb (i.e., indicator loadings >0.708). According to Hulland, (1999) in social science studies, it is possible to have outer loadings (<0.708) particularly since newly developed scales have been used.

According to Hair et al., (2017a), cronbach's alpha is a traditional method of criterion inner reliability based on the PLS-SEM method, which can provide an evaluation of the reliability based on the intercorrelations of the

observed indicator variables. A general rule of thumb for Cronbach's alpha is (>0.7) (Hair et al., 2017a).

Composite reliability is also another measurement of the inner reliability based on the PLS-SEM method. The rule of thumb for composite reliability is (>0.7) (Hair et al., 2017a).

According to Hair et al., (2017a), rho_A is considered to be a better indicator than Cronbach's alpha. On the other hand, according to Hair et al., (2017b), rho_A is also the most important inner reliability measurement based on the PLS-SEM method. The rule of thumb for rho_A is (>0.7). Figure 4.1 shows the evaluation of the measurement model.

Table 4. 2 Evaluation of measurement model.

Indicators	Code	FL	Cronbach's Alpha	AVE	CR	rho_A
PE	PE1	0.844	0.906	0.676	0.926	0.926
	PE2	0.861				
	PE3	0.778				
	PE4	0.898				
	PE5	0.715				
	PE6	0.825				
EE	EE7	0.887	0.954	0.812	0.963	0.954
	EE8	0.916				
	EE9	0.935				
	EE10	0.884				
	EE11	0.883				
	EE12	0.899				
SI	SI13	0.833	0.824	0.740	0.895	0.826
	SI17	0.909				
	SI18	0.838				
FC	FC19	0.916	0.847	0.765	0.907	0.880

	FC20	0.912				
	FC22	0.790				
SP	SP24	0.866	0.754	0.660	0.853	0.828
	SP27	0.831				
	SP29	0.735				
Q	Q30	0.909	0.951	0.835	0.962	0.952
	Q31	0.929				
	Q32	0.910				
	Q33	0.906				
	Q34	0.916				
I	I36	0.912	0.909	0.736	0.933	0.921
	I37	0.924				
	I38	0.759				
	I39	0.804				
	I40	0.879				
TC	TC41	0.921	0.903	0.838	0.939	0.905
	TC42	0.933				
	TC45	0.892				
T	T49	0.975	0.979	0.960	0.986	0.993
	T50	0.985				
	T51	0.980				
A	A52	0.939	0.959	0.890	0.970	0.960
	A54	0.949				
	A55	0.937				
	A56	0.948				
BI	BI58	0.780	0.952	0.808	0.962	0.953
	BI59	0.908				
	BI60	0.921				
	BI61	0.935				
	BI62	0.938				
	BI63	0.901				
UB	UB64	0.928	0.952	0.874	0.965	0.953
	UB65	0.954				
	UB66	0.938				

UB67 0.920

FL: Factor Loadings, PE: Performance Expectancy, EE: Effort Expectancy, SI: Social Influence, FC: Facilitating Conditions, SP: Security/Privacy, Q: Quality, I: Innovativeness, TC: Task Characteristics, T: Trust, A: Attitude, BI: Behavioural Intention & UB: User Behaviour.

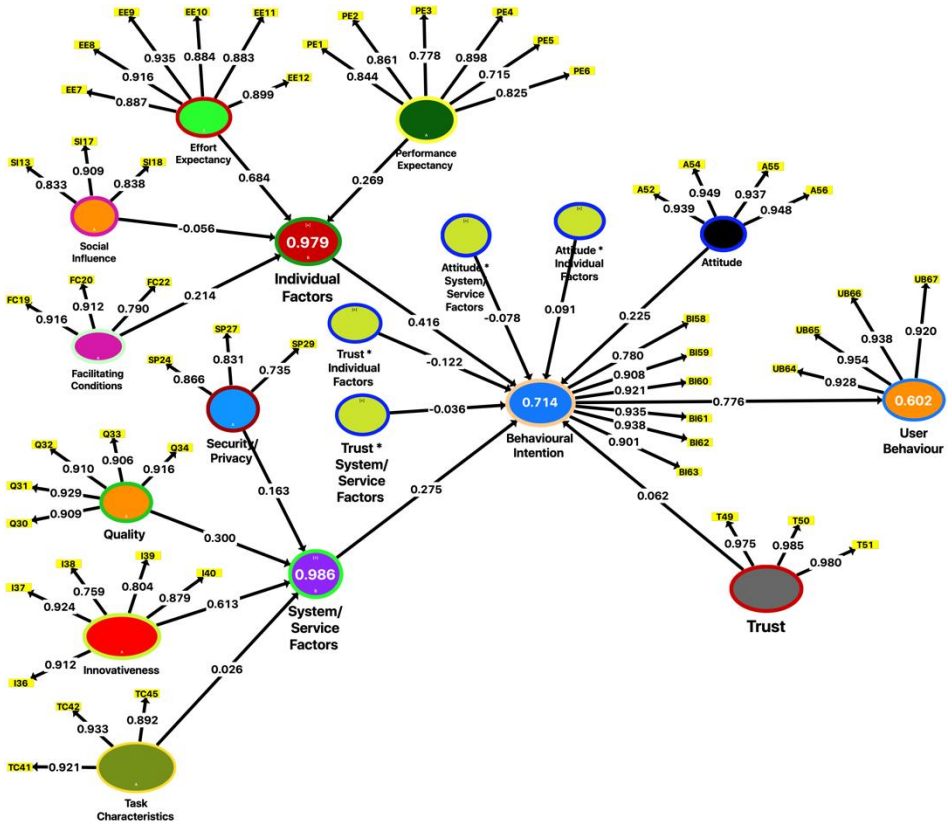

Figure 4. 1 The evaluation of the measurement model.

4.5.2 Discriminant validity measurement

According to Hair et al., (2017a, b), discriminant validity is defined as the extent to which a construct is truly distinct from other constructs by empirical standards. In this study discriminant validity is calculated through running the function (PLS Algorithm) to obtain the cross loading, (Fornell and Larcker Criterion) and the heterotrait-monotrait ratio (HTMT).

One of the important methods by which discriminant validity can be achieved is by cross loading. This approach gives opportunities to researchers to test each indicator that has strong loadings on the same factor and with multiple factors based on PLS-SEM. (Henseler et al., 2014). According to Hair et al., (2017a), "an indicator's outer loading on the associated construct should be greater than any of its cross-loadings (i.e., its correlation) on other constructs". This study has calculated the discriminant validity by the first approach, which is cross loading. All constructs meet the criteria for discriminant validity (i.e., all the indicator loadings are above 0.7). The study then tested the second approach which is HTMT, based on the rule of thumb than an HTMT value above 0.90 is considered a lack of discriminant validity (i.e., HTMT <0.90) (Hair et al., 2019a, b). The results are shown in Table 4.3, with all indicators above 0.7 in this study.

Table 4. 3 Indicator cross loading.

Items	A	BI	EE	FC	I	PE	Q	SI	SP	T	TC	UB
A52	**0.939**	0.666	0.537	0.311	0.622	0.408	0.611	0.196	0.357	-0.169	0.545	0.627
A54	**0.949**	0.627	0.565	0.322	0.616	0.366	0.597	0.202	0.392	-0.195	0.501	0.615
A55	**0.937**	0.632	0.601	0.368	0.644	0.429	0.625	0.270	0.446	-0.177	0.548	0.578
A56	**0.948**	0.684	0.634	0.343	0.688	0.446	0.662	0.252	0.416	-0.190	0.564	0.615
BI58	0.673	**0.780**	0.534	0.330	0.639	0.462	0.552	0.306	0.419	-0.106	0.501	0.632
BI59	0.558	**0.908**	0.608	0.529	0.660	0.523	0.633	0.372	0.550	-0.099	0.495	0.690
BI60	0.552	**0.921**	0.637	0.497	0.671	0.526	0.595	0.303	0.513	-0.131	0.487	0.690
BI61	0.584	**0.935**	0.631	0.498	0.664	0.533	0.617	0.297	0.492	-0.116	0.487	0.720
BI62	0.662	**0.938**	0.674	0.493	0.664	0.545	0.630	0.348	0.458	-0.082	0.523	0.705
BI63	0.703	**0.901**	0.673	0.429	0.669	0.559	0.653	0.306	0.423	-0.098	0.540	0.739
EE7	0.510	0.618	**0.887**	0.444	0.573	0.615	0.645	0.357	0.528	-0.124	0.493	0.528
EE8	0.579	0.623	**0.916**	0.508	0.608	0.541	0.654	0.388	0.521	-0.148	0.502	0.553
EE9	0.562	0.616	**0.935**	0.509	0.641	0.628	0.691	0.332	0.507	-0.142	0.510	0.599
EE10	0.584	0.642	**0.884**	0.470	0.660	0.543	0.649	0.359	0.510	-0.196	0.500	0.604
EE11	0.550	0.661	**0.883**	0.466	0.656	0.523	0.669	0.363	0.542	-0.173	0.494	0.659
EE12	0.565	0.618	**0.899**	0.464	0.644	0.533	0.675	0.349	0.506	-0.163	0.511	0.607
FC19	0.381	0.483	0.525	**0.916**	0.451	0.444	0.519	0.500	0.554	0.071	0.350	0.453
FC20	0.331	0.533	0.504	**0.912**	0.477	0.557	0.526	0.460	0.523	0.092	0.351	0.493
FC22	0.194	0.301	0.332	**0.790**	0.293	0.514	0.335	0.654	0.391	0.325	0.203	0.259

I36	0.614	0.697	0.646	0.464	**0.912**	0.418	0.726	0.286	0.537	-0.145	0.630	0.638
I37	0.628	0.710	0.663	0.460	**0.924**	0.471	0.759	0.273	0.538	-0.115	0.633	0.677
I38	0.401	0.508	0.446	0.333	**0.759**	0.283	0.516	0.166	0.468	-0.128	0.547	0.433
I39	0.550	0.534	0.514	0.284	**0.804**	0.360	0.544	0.175	0.328	-0.038	0.574	0.483
I40	0.701	0.676	0.697	0.471	**0.879**	0.484	0.780	0.373	0.527	-0.177	0.653	0.659
PE1	0.460	0.610	0.655	0.434	0.490	**0.844**	0.596	0.333	0.406	-0.216	0.484	0.580
PE2	0.481	0.600	0.643	0.440	0.510	**0.861**	0.628	0.281	0.409	-0.229	0.506	0.575
PE3	0.172	0.269	0.298	0.449	0.190	**0.778**	0.243	0.561	0.293	0.210	0.079	0.226
PE4	0.377	0.465	0.518	0.513	0.422	**0.898**	0.518	0.430	0.392	0.001	0.321	0.428
PE5	0.168	0.287	0.306	0.520	0.197	**0.715**	0.273	0.618	0.332	0.157	0.083	0.245
PE6	0.359	0.507	0.512	0.518	0.393	**0.825**	0.424	0.539	0.412	0.034	0.321	0.444
Q30	0.643	0.661	0.721	0.509	0.722	0.621	**0.909**	0.268	0.530	-0.137	0.603	0.616
Q31	0.682	0.665	0.737	0.528	0.738	0.542	**0.929**	0.301	0.535	-0.180	0.648	0.656
Q32	0.562	0.557	0.634	0.452	0.685	0.515	**0.910**	0.245	0.435	-0.159	0.615	0.571
Q33	0.547	0.587	0.614	0.459	0.711	0.466	**0.906**	0.236	0.508	-0.175	0.584	0.608
Q34	0.584	0.646	0.653	0.502	0.728	0.487	**0.916**	0.277	0.563	-0.167	0.609	0.667
SI13	0.163	0.278	0.331	0.493	0.193	0.499	0.161	**0.833**	0.374	0.285	0.050	0.202
SI17	0.147	0.276	0.290	0.561	0.210	0.446	0.246	**0.909**	0.456	0.237	0.126	0.196
SI18	0.303	0.360	0.392	0.483	0.363	0.411	0.332	**0.838**	0.552	0.125	0.270	0.290
SP24	0.472	0.595	0.574	0.482	0.590	0.390	0.605	0.354	**0.866**	-0.120	0.539	0.536
SP27	0.257	0.272	0.412	0.360	0.379	0.284	0.368	0.408	**0.831**	-0.186	0.261	0.269
SP29	0.238	0.326	0.363	0.547	0.334	0.459	0.320	0.637	**0.735**	0.125	0.159	0.244
T49	-0.182	-0.103	-0.147	0.189	-0.141	-0.047	-0.167	0.243	-0.097	**0.975**	-0.053	-0.164
T50	-0.211	-0.128	-0.185	0.146	-0.144	-0.045	-0.188	0.221	-0.080	**0.985**	-0.052	-0.174
T51	-0.173	-0.109	-0.179	0.151	-0.136	-0.059	-0.168	0.264	-0.084	**0.980**	-0.058	-0.138
TC41	0.531	0.538	0.557	0.384	0.672	0.422	0.657	0.228	0.476	-0.054	**0.921**	0.542
TC42	0.518	0.510	0.501	0.320	0.624	0.334	0.588	0.155	0.377	-0.009	**0.933**	0.498
TC45	0.522	0.495	0.466	0.263	0.650	0.352	0.591	0.103	0.348	-0.089	**0.892**	0.490
UB64	0.587	0.740	0.616	0.492	0.654	0.532	0.675	0.283	0.474	-0.142	0.537	**0.928**
UB65	0.647	0.744	0.608	0.454	0.665	0.505	0.657	0.286	0.457	-0.159	0.530	**0.954**
UB66	0.569	0.726	0.626	0.436	0.634	0.527	0.637	0.220	0.417	-0.154	0.523	**0.938**
UB67	0.611	0.690	0.607	0.386	0.599	0.447	0.583	0.220	0.400	-0.156	0.497	**0.920**

4.5.3 (Fornell and Larcker Criterion)

The second technique is the Fornell and Larcer Criterion. Table 4.4 presents the second method of getting discriminant validity for this study through running the function (PLS Algorithm), which is the Fornell-Larcker criterion. This measurement can compare the correlations of the latent variable with the square root of the AVE value of 0.50. The square root of the AVE of each construct should be higher than its highest correlation with any other construct. In other words, the outer of the

indicator loadings should be higher than all its cross loadings with other constructs. (Hair et al., 2017a). All constructs meet the criteria for discriminant validity (i.e., Fornell and Larcker Criterion >AVE).

Table 4. 4 Discriminant validity (Fornell and Larcker Criterion).

Items	A	BI	EE	FC	I	PE	Q	SP	SI	TC	T	UB
A	**0.943**											
BI	0.693	**0.899**										
EE	0.620	0.699	**0.901**									
FC	0.356	0.516	0.529	**0.875**								
I	0.682	0.736	0.700	0.476	**0.858**							
PE	0.438	0.585	0.626	0.573	0.476	**0.822**						
Q	0.662	0.684	0.737	0.537	0.785	0.577	**0.914**					
SP	0.426	0.529	0.576	0.567	0.564	0.462	0.564	**0.812**				
SI	0.244	0.358	0.397	0.595	0.304	0.525	0.291	0.541	**0.861**			
TC	0.572	0.563	0.557	0.354	0.709	0.405	0.670	0.440	0.179	**0.915**		
T	-0.194	-0.117	-0.175	0.164	-0.143	-0.051	-0.179	-0.088	0.246	-0.055	**0.980**	
UB	0.646	0.776	0.657	0.474	0.683	0.538	0.684	0.468	0.271	0.558	-0.163	**0.935**

4.5.4 The heterotrait-monotrait ratio (HTMT)

The third technical method is the heterotrait-monotrait ratio (HTMT). This tests discriminant validity in this study through running the function (PLS Algorithm). According to Garson, (2016), the HTMT ratio should be below 1.0, which means the heterotrait correlations should be smaller than monotrait correlations. On the other hand, Henseler et al., (2015) proposed 0.90 as an acceptable value for the HTMT. Hair et al., (2017a) proposed that there is a true correlation between two constructs if they were well measured and disattenuated correlation can be referred to as that true correlation. A disattenuated correlation between two constructs higher than 0.90 shows a lack of discriminant validity. HTMT does not apply to relationships between Lower-order components LOCs, and the Higher-order component HOC. The repeated measures approach assumes they are highly correlated. Correlation values of relationships between LOCs, and the HOC are used to measure the contribution of the individual LOCs in

calculating the HOC construct score (Sarstedt et al. 2019). The results are shown in Table 4.5, in which all items meet the criteria (i.e., HTMT <0.90).

Table 4. 5 Discriminant validity (HTMT).

Items	A	BI	EE	FC	I	PE	Q	SP	SI	TC	T	UB
A												
BI	0.725											
EE	0.648	0.733										
FC	0.383	0.558	0.576									
I	0.723	0.786	0.744	0.522								
PE	0.436	0.596	0.637	0.672	0.485							
Q	0.691	0.717	0.772	0.584	0.835	0.583						
SP	0.463	0.575	0.648	0.703	0.636	0.557	0.620					
SI	0.267	0.401	0.443	0.737	0.335	0.648	0.323	0.717				
TC	0.614	0.607	0.598	0.392	0.782	0.399	0.721	0.471	0.201			
T	0.199	0.121	0.180	0.206	0.149	0.185	0.185	0.205	0.280	0.059		
UB	0.675	0.815	0.690	0.510	0.725	0.543	0.716	0.503	0.300	0.601	0.168	

4.6 Evaluation of the structural model in PLS-SEM

Based on the PLS-SEM method, from the time when the researcher confirmed that the construct measures are reliable and valid, which was the first step (Measurement Model), then the second step is an evaluation of the structure of the model. The most important evaluation metrics for the structural model are Collinearity Statistics (Inner VIF), R^2 value (explained variance), F^2 value, Q^2 (predictive relevance), F^2 and Q^2 Effect Size and the size and statistical significance of the structural path coefficients. (Hair et al., 2017b). Figure 4.6 shows the evaluation of the structural model.

4.6.1 Collinearity statistics (Inner VIF)

Testing collinearity is the first test that should be done by the researcher for the evaluation of the structural model in the PLS-SEM domain. Hair et

al., (2017a) defined Collinearity as a potential issue in the structural model. The rule of thumb for the variance inflation factor (VIF), is the value of 5 or above. It is often a problem. The term VIF is derived from its square root (VIF) being the degree to which the standard error has been increased due to the presence of collinearity. Table 4.6 shows the results of the structural model, including the inner VIF for this study. In this study, the results for all variables are below 5, which is acceptable.

4.6.2 R square (R^2) value

In order to obtain F^2 Effect Size, scholars need to obtain the R^2 value first based on the application of PLS-SEM. It can obtain by running the PLS Algorithm function. The R^2 value is the most important approach to evaluate the structural model that can measure the coefficient of determination R Square value. According to Hair et al., (2017a), the coefficient of determination R Square is a measure of the model's predictive power and is calculated as the squared correlation between a specific endogenous construct's actual and predicted values. The rule of thumb for the R^2 value is between 0 to 1. On the other hand, Falk and Miller, (1992) propose an R-squared value of 0.10 as a minimum acceptable level. Chin, (1998), suggested that the values of R^2 that above 0.67 should be considered high, while values ranging from 0.33 to 0.67 are moderate, values between 0.19 to 0.33 are weak and any R^2 values less than 0.19 are unacceptable. Nevertheless, (Henseler et al., 2009; Hair et al., 2019a, b) suggested the rule of thumb for the R^2 value of 0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak. Table 4.6 shows the results of the structural model.

4.6.3 F^2 value

F Square value is another most important measurement to evaluate the structural model that should be found by scholars based on the application of PLS-SEM. It can be gotten by running PLS Algorithm function. According to Chin, (1998, p.317), F^2 value of 0,02, 0,15 and 0,35 determine if latent exogenous variables have a small, medium or large effect size. F^2 value indicates an exogenous construct's small, medium, or large effect, respectively, on an endogenous construct. (Hair et al., 2017a). Table 4.6 shows the results of Structural model.

4.6.4 Predictive relevance Q^2

Following by previous other tests, another step is for the researcher to find Predictive Relevance Q^2, which is the most important evaluation metric based on the application of PLS-SEM to evaluate the structural model. In this study Q^2 value is obtained by using the blindfolding function with omission distance 8 (D=8) since my data sample is (N=476). Normally (D) values between 5 and 10, D should not be an integer when the number of observations used in the model estimation is divided by the omission distance. The blindfolding procedure is usually applied to endogenous constructs that have a reflective measurement model specification as well as to endogenous single item constructs. (Hair et al., 2017a). Chin, (1998) suggested the cutoff for Q^2 value larger than 0 suggest that the model has predictive relevance for a certain endogenous construct. On the other hand, a Q^2 value of 0 and below is suggested as lacking predictive relevance. In fact, Hair et al., (2019a, b) suggested that Q^2 Values larger than zero are meaningful, Nevertheless, Q^2 Values higher than 0, 0.25, and 0.50 depict small, medium, and large predictive relevance of the PLS-path model.

Table 4.6 shows the results of the structural model, all endogenous variables are larger than 0, which are acceptable and as having predictive relevance based on the rule of thumb.

Table 4. 6 Structural model results.

Construct	VIF	R^2	R^2 Adjusted	F^2	Q^2
A	2.232	-	-	0.079	-
BI	1.000	0.714 (High)	0.709 (High)	1.512	0.561
EE	1.771	-	-	12.607	-
FC	1.928	-	-	1.132	-
IF	3.605	0.979 (High)	0.979 (High)	0.168	0.472
I	3.251	-	-	8.556	-
PE	2.028	-	-	1.706	-
Q	2.948	-	-	2.263	-
S/P	1.555	-	-	1.262	-
SI	1.678	-	-	0.091	-
S/SF	3.891	0.986 (High)	0.986 (High)	0.068	0.562
TC	2.157	-	-	0.023	-
T	1.261	-	-	0.011	-
UB	-	0.602 (Moderate)	0.601 (Moderate)	-	0.522

4.6.5 Assessment of prediction employing PLSpredict

Before the final step, scholars need to assess the PLSpredict approach instead of reporting the model fit proposed by Shmueli et al., (2016), which is a set of procedures for prediction with PLS path models and the evaluation of their predictive performance. Recently the PLS-SEM domain is rapidly extended and updated, therefore researchers need to be aware of any progress on the application of the PLS-SEM domain. (Hair et al., 2019a, b; Sharma et al., 2019; Evermann et al., 2016). However, the data are not out-of-sample in this study. In contrast, Shmueli et al., (2016) proposed a PLSpredict for the out-of-sample by estimating the model with

predictive analytic, which are the mean absolute error (MAE), the mean absolute percentage error (MAPE), and the root mean squared error (RMSE), therefore, they aggregate case-wise prediction errors from a set of out-of-sample data. Accordingly, Shmueli et al., (2019) described the MAE as a measure of the average magnitude of the errors in a set of predictions without considering their direction (over or under), which are the average absolute differences between the predictions and the actual observations, with all the individual differences having equal weight. As such, the MAE's values depend on the manifest variables' scaling. Also, the MAPE offers a more intuitive interpretation by expressing the prediction error in terms of a percentage metric and is, therefore, independent of variables from the manifest variables' scaling. Simultaneously, the RMSE is the square root of the average of the squared differences between the predictions and the actual observations. Like the MAE, the RMSE's values depend on the manifest variables' scaling. The MAE, MAPE, and RMSE are scaled such that smaller values indicate higher predictive power. Shmueli et al., (2016) suggested using the simple indicator-level average as a naïve benchmark from the training sample. This benchmark uses a linear regression model (LM) to generate predictions for the manifest variables by running a linear regression of each of the dependent construct's indicators on the indicators of the exogenous latent variables in the PLS path model.

Accordingly, the guidelines for the comparison can be accepted as the following by (Shmueli et al., 2019):

1. PLS-SEM < LM for none of the indicators. If the PLS-SEM analysis (compared to the LM) yields lower prediction errors in terms of the MAE

(or the RMSE) for none of the indicators, this indicates that the model lacks predictive power.

2. PLS-SEM < LM for a minority of the indicators. If the minority of the dependent construct's indicators produces lower PLS-SEM prediction errors compared to the naïve LM benchmark, this indicates that the model has a low predictive power.

3. PLS-SEM < LM for a majority of the indicators. If the majority (or the same number) of indicators in the PLS-SEM analysis yields smaller prediction errors compared to the LM, this indicates a medium predictive power.

4. PLS-SEM < LM for all indicators. If all indicators in the PLS-SEM analysis have lower MAE (or RMSE) values compared to the naïve LM benchmark, the model has high predictive power.

If the PLSpredict identifies one or more indicators with a low predictive power, researchers should carefully explore potential explanations. These include (1) data issues, and (2) measurement model issues.

In this study, PLSpredict has been assessed by running PLSpredict with K=10. Shmueli et al., (2019) has recommended that setting (k=10). The PLSpredict procedure generates k-fold cross-validation. A fold is a subgroup of the total sample, and k is the number of subgroups. Since the data for this study is nonnormal (non-symmetrically distributed), the mean absolute error (MAE) prediction metric has been taken according to Shmueli et al., (2019).

The results show that there is the model that lacks predictive power, based on Shmueli et al., (2019) rule of thumb when "PLS-SEM < LM for none of the indicators. If the PLS-SEM analysis (compared to the LM) yields

lower prediction errors in terms of the MAE (or the RMSE) for none of the indicators, this indicates that the model lacks predictive power. Table 4.7 illustrates the results for this study that have been achieved based on Shmueli et al., (2019) suggested recommendation setting on the application of PLSpredict approach.

Table 4. 7 PLSpredict assessment of manifest variables (original model).

	PLS-SEM		LM	PLS-SEM – LM*
Item	**MAE**	**Q^2_predict**	**MAE**	**MAE***
BI58	0,460	0,465	0,399	0,061*
BI59	0,535	0,520	0,510	0,024*
BI60	0,535	0,518	0,491	0,044*
BI61	0,523	0,525	0,484	0,040*
BI62	0,447	0,580	0,438	0,009*
BI63	0,446	0,588	0,413	0,033*
EE10	0,331	0,702	0,000	0,331*
EE11	0,342	0,691	0,000	0,342*
EE12	0,319	0,714	0,000	0,319*
EE7	0,308	0,731	0,000	0,308*
EE8	0,298	0,750	0,000	0,298*
EE9	0,271	0,821	0,000	0,271*
FC19	0,584	0,422	0,000	0,584*
FC20	0,563	0,447	0,000	0,563*
FC22	0,743	0,245	0,000	0,743*
I36	0,284	0,785	0,000	0,284*
I37	0,290	0,816	0,000	0,290*
I38	0,687	0,509	0,000	0,687*
I39	0,421	0,527	0,000	0,421*
I40	0,298	0,775	0,000	0,298*
PE1	0,395	0,565	0,000	0,395*
PE2	0,405	0,568	0,000	0,405*
PE3	0,727	0,225	0,000	0,727*
PE4	0,487	0,470	0,000	0,487*
PE5	0,741	0,227	0,000	0,741*
PE6	0,480	0,428	0,000	0,480*

Q30	0,379	0,675	0,000	0,379*
Q31	0,366	0,705	0,000	0,366*
Q32	0,384	0,612	0,000	0,384*
Q33	0,388	0,655	0,000	0,388*
Q34	0,367	0,694	0,000	0,367*
SI13	0,694	0,171	0,000	0,694*
SI17	0,766	0,145	0,000	0,766*
SI18	0,537	0,181	0,000	0,537*
SP24	0,465	0,488	0,000	0,465*
SP27	0,631	0,231	0,000	0,631*
SP29	0,743	0,176	0,000	0,743*
TC41	0,512	0,509	0,000	0,512*
TC42	0,577	0,421	0,000	0,577*
TC45	0,578	0,435	0,000	0,578*
UB64	0,593	0,511	0,506	0,088*
UB65	0,509	0,515	0,456	0,053*
UB66	0,558	0,479	0,486	0,073*
UB67	0,511	0,450	0,454	0,057*

*PLS-SEM < LM for none of the indicators. If the PLS-SEM analysis (compared to the LM) yields lower prediction errors in terms of the MAE (or the RMSE) for none of the indicators, this indicates that **the model lacks predictive power.**

**PLS-SEM < LM for a minority of the indicators. If the minority of the dependent construct's indicators produces lower PLSSEM prediction errors compared to the naïve LM benchmark, this indicates that the model has a low predictive power.

***PLS-SEM < LM for a majority of the indicators. If the majority (or the same number) of indicators in the PLS-SEM analysis yields smaller prediction errors compared to the LM, this indicates a medium predictive power.

****PLS-SEM < LM for all indicators. If all indicators in the PLS-SEM analysis have lower MAE (or RMSE) values compared to the na.ve LM benchmark, the model has high predictive power.

4.6.6 Assessment of path coefficient using Bootstrapping

The final step illustrates the path coefficient and the path diagram for the structural model. Hypothesis testing has been obtained for the structural model for this study by a Bootstrapping procedure using the one-tailed test rather than the two-tailed, with 5000 samples, Mode B (i.e., regression weights), and Bias-Corrected and Accelerated (BCa) (Sarstedt et al. 2019). This is shown in Table 4.8 and Table 4.9. Testing the hypothesis using the one-tailed test is more appropriate when the hypothesis direction is clear

so as to minimise the type II error (M. Hamakhan, 2020). Bootstrapping is a resampling approach that draws random samples (with replacement) from the data and uses these samples to estimate the path model multiple times under slightly changed data constellations. (Hair et al., 2017a). In fact, Chin, (1998) suggested that since PLS-SEM is a nonparametric approach, scholars need to assess bootstrapping procedures to achieve statistical significance.

In short, *P*-value and *t*-value can be achieved among other results, which are very important to determine whether the path coefficient is significant or not, by running a Bootstrapping function. A *P*-value is equal to the probability of obtaining a *t*-value at least as extreme as the one that is observed, conditional on the null hypothesis being supported. In other words, the *P*-value is the probability of erroneously rejecting a true null hypothesis (i.e., assuming a significant path coefficient when in fact it is not significant). (Hair et al., 2017a), the rule of thumb for *P*-value is (***P<0.001, **P<0.01, *P<0.05) and for empirical *t*-value is above 1.96. From the Bootstrapping result of the structural model, the following analysis of the second-order components (Lower-Order Components) variables can be derived:

L1 Performance Expectancy has a significant effect on Individual Factors.
L2 Effort Expectancy has a significant effect on Individual Factors.
L3 Social Influence has an insignificant effect on Individual Factors.
L4 Facilitating Conditions has a significant effect on Individual Factors.
L5 Security/Privacy has a significant effect on System/Service Factors.
L6 Quality has a significant effect on System/Service Factors.
L7 Innovativeness has a significant effect on System/Service Factors.

L8 Task Characteristics has an insignificant effect on System/Service Factors.

From the Bootstrapping result of the structural model, the following hypothesis can be derived:

H1 Individual factors has a significant effect on behavioural intention.

H1a Trust moderates the relationship between individual factors and behavioural intention.

H1b Attitude has an insignificant moderator role on the relationship between individual factors and behavioural intention.

H2 System/service factors has a significant effect on behavioural intention.

H2a Trust has an insignificant moderator role on the relationship between system/service factors and behavioural intention.

H2b Attitude has an insignificant moderator role on the relationship between system/service factors and behavioural intention.

H3 Behavioural intention has a significant effect on user behaviour.

Table 4.8 shows the analysis of second-order components variables. Table 4.9 shows the direct relationship for hypothesis testing included (Std Beta, Std Error, *t*-value, *P*-value, 5% lower bounds and 95% upper bounds).

Hence, the simple slope analysis (Chart 4.8) was employed to evaluate the moderating effect for (attitude × individual factors and behavioural intention). The simple slope analysis (Chart 4.9) was employed to evaluate the moderating effect for (attitude × system/service factors and behavioural intention). The simple slope analysis (Chart 4.10) was employed to evaluate the moderating effect for (trust × individual factors and behavioural intention). The simple slope analysis (Chart 4.11) was employed to evaluate the moderating effect for (trust × system/service

factors and behavioural intention). Figure 4.2 shows the evaluation of the structural model.

Table 4. 8 Analysis of second-order components variables.

HOC	LOCs	SB	SE	*t*-value	*P*-value	Supported	5% BCa	95% BCa
IF	PE	0.269	0.061	4.438	0.000***	Yes	0.170	0.372
IF	EE	0.684	0.048	14.169	0.000***	Yes	0.608	0.768
IF	SI	-0.056	0.057	0.998	0.159*	No	-0.147	0.037
IF	FC	0.214	0.062	3.456	0.000***	Yes	0.117	0.321
S/SF	SP	0.163	0.058	2.803	0.003**	Yes	0.066	0.256
S/SF	Q	0.300	0.080	3.744	0.000***	Yes	0.169	0.435
S/SF	I	0.613	0.073	8.423	0.000***	Yes	0.487	0.727
S/SF	TC	0.026	0.065	0.395	0.347*	No	-0.078	0.138

HOC: Higher-order component; LOCs: Lower-order components; SB: Standard Beta; SE: Standard Error; BCa: Bias-corrected and accelerated.
***P < 0.001, **P < 0.01, *P < 0.05

Table 4. 9 Direct relationship for hypothesis testing with Trust and Attitude as a moderator.

Hs	Re	SB	SE	*t*-value	*P*-value	Supported	5% BCa	95% BCa
H1	IF→BI	0.416	0.051	8.205	0.000***	Yes	0.332	0.498
H1a	T×IF→BI	-0.122	0.050	2.433	0.007**	Yes	-0.212	-0.050
H1b	A×IF→BI	0.091	0.058	1.558	0.060*	No	-0.025	0.163
H2	S/SF→BI	0.275	0.059	4.634	0.000***	Yes	0.158	0.358
H2a	T×S/SF→BI	-0.036	0.050	0.716	0.237*	No	-0.118	0.046
H2b	A×S/SF→BI	-0.078	0.063	1.231	0.109*	No	-0.163	0.045
H3	BI→UB	0.776	0.028	27.784	0.000***	Yes	0.726	0.817

Hs: Hypothesis; Re: Relationship; SB: Standard Beta; SE: Standard Error; BCa: Bias-corrected and accelerated.
***P < 0.001, **P < 0.01, *P < 0.05

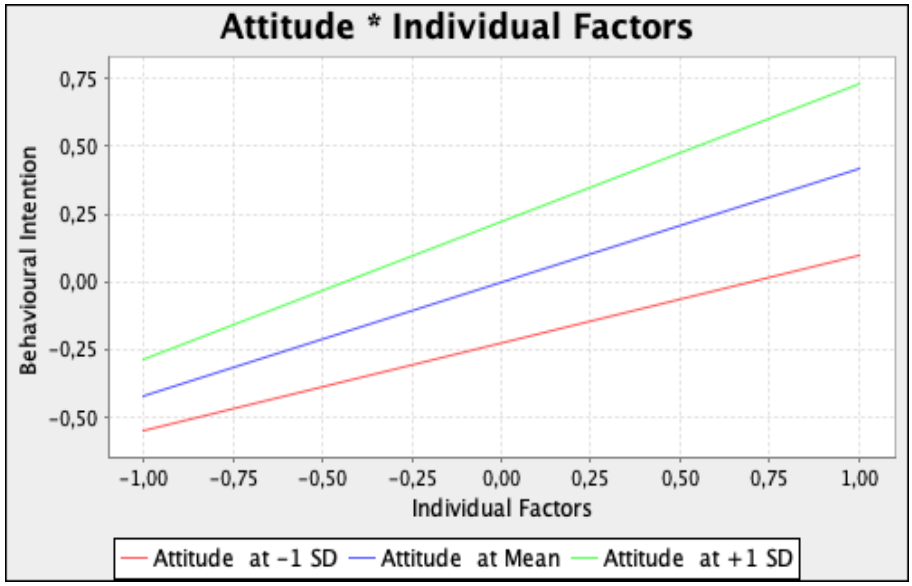

Chart 4. 8 Simple slope analysis (Attitude × Individual Factors and Behavioural Intention).

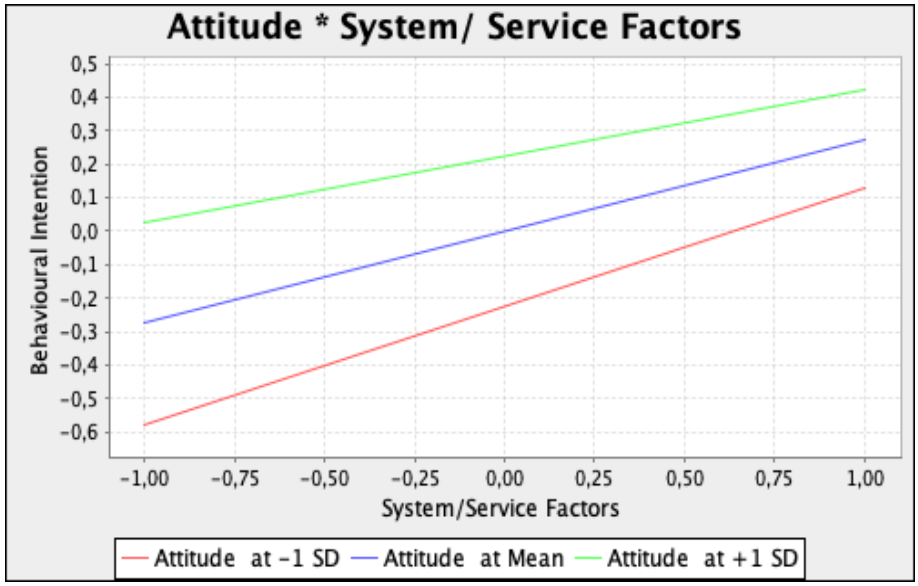

Chart 4. 9 Simple slope analysis (Attitude × System/Service Factors and Behavioural Intention).

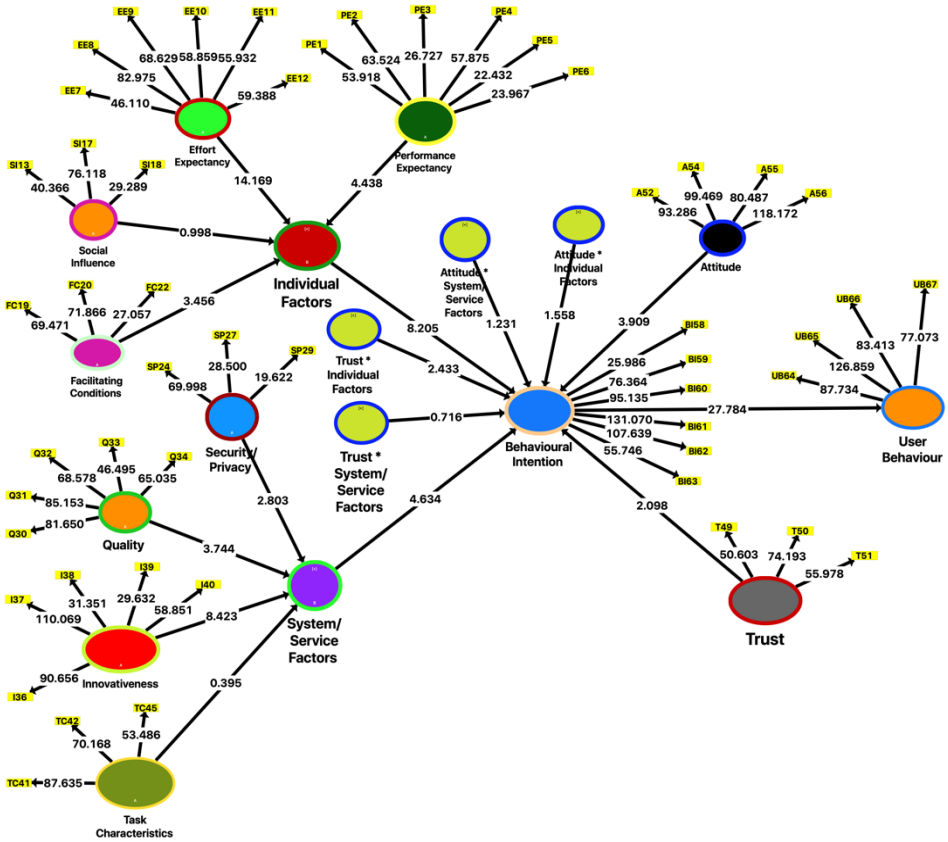

Figure 4. 2 The evaluation of the structural model.

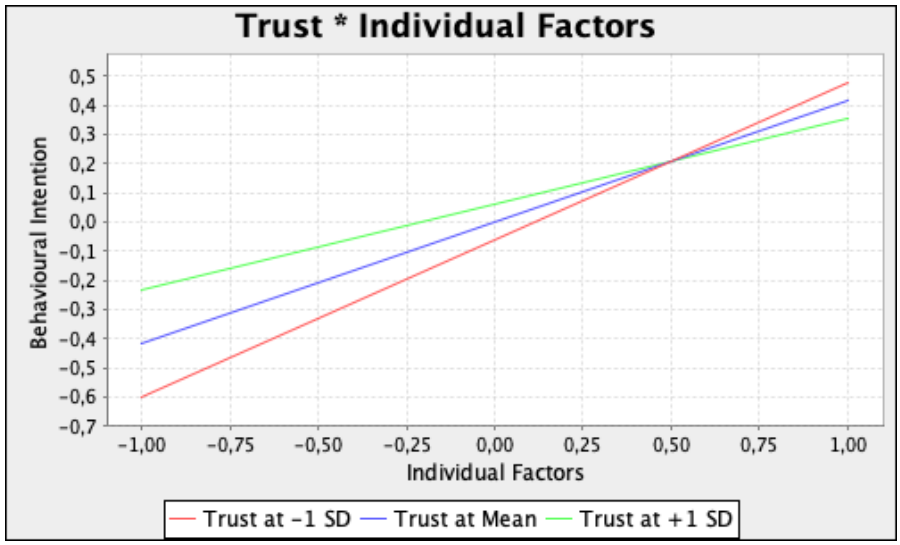

Chart 4. 10 Simple slope analysis (Trust × Individual Factors and Behavioural Intention).

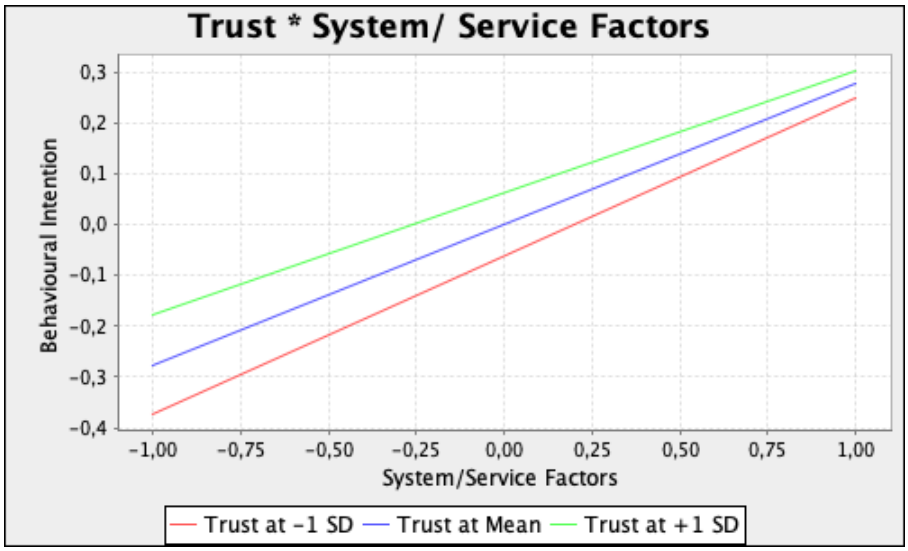

Chart 4. 11 Simple slope analysis (Trust × System/Service Factors and Behavioural Intention).

4.7 Mediation analysis

In a complex model, it is possible that there is a mediator variable, which is one of the acceptable ways that scholars can explain the model through the third variable and its effect on the model. (Carrión et al., 2017; Henseler et al., 2013; Iacobucci et al., 2007). Nevertheless, Shmueli et al., (2019) proposed that mediation can affect the durability of prediction effectively. Additionally, Hair et al., (2017a) described the mediating effect as the third variable between two other related latent variables.

Moreover, Sobel, (1982) proposed a mediating analysis test, particularly when the data is normal distribution, the parametric Sobel is not the right analysis tool for testing mediation in PLS-SEM domain, it is obvious that the PLS-SEM method is non-parametric. (Preacher and Hayes, 2004, 2008; Nitzl et al., 2016). In contrast, scholars should obtain the mediation test by running a Bootstrapping test based on the application of PLS-SEM,

which is a non-parametric inferential technique that randomly draws several subsamples (e.g., 5,000) with replacement from the original dataset. Furthermore, the Bootstrapping also can be applied with a small sample size (Hair et al., 2017a, b; Zhao et al., 2010; Nitzl et al., 2016).

In addition, researchers should determine the type of mediation. (Nitzl et al., 2016). Zhao et al., (2010) proposed a decision tree for the type of mediation effect, which is called state-of-art mediation analysis.

From the above discussion, in this study, the following two steps have been derived:

First, the Bootstrapping procedure has been applied as it is recommended with 5000 samples, Mode B (i.e., regression weights), and Bias-Corrected and Accelerated (BCa), besides using the one-tailed test rather than the two-tailed. In fact, testing the hypothesis using the one-tailed test is more appropriate when the hypothesis direction is clear so as to minimise the type II error. (M. Hamakhan, 2020).

Second, in this study, the type of mediation effect based on the state-of-art procedures is Complementary Partial Mediation. Complementary partial mediation is often called a ‘positive confounding’ or a ‘consistent’ model (Zhao et al., 2010).

From the Bootstrapping test, particularly from the (Specific Indirect Effects) results of the structural model, the following hypothesis can be derived:

H4 Behavioural Intention mediates the relationship between Individual Factors and User Behaviour.

H4a Behavioural Intention mediates the relationship between Individual Factors and User Behaviour when Trust is a moderator variable.

H4b Behavioural Intention (BI) has an insignificant mediating role on the relationship between Individual Factors (IF) and User Behaviour (UB), while Attitude is a moderator variable.

H5 Behavioural Intention mediates the relationship between System/Service Factors and User Behaviour.

H5a Behavioural Intention has an insignificant mediating role on the relationship between System/Service Factors and User Behaviour when Trust is a moderator variable.

H5b Behavioural Intention has an insignificant mediating role on the relationship between System/Service Factors and User Behaviour (UB), while Attitude is a moderator variable.

Table 4.10 shows indirect relationship for hypothesis testing (specific indirect effects by bootstrapping).

4.8 The moderating effects analysis

The last test in this study is moderation since the Moderator analysis is similar to multigroup analysis (Malaquias and Hwang, 2019). Scholars need to decide if they need to test a model as a moderator model or not. In addition, the moderator analysis is something completely different, which requires different analysis and interpretation of results. (Henseler and Chin, 2010; Henseler et al., 2012; Hair et al., 2017a, b; Becker et al., 2018). Hair et al., (2017a) described moderation as “a situation in, which the relationship between two constructs is not constant, but which depends on

the value of a third variable, referred to as a moderator variable". Further, moderator variables can affect the relationship between the independent variables and dependent variables directly. Essentially, there are two types of Moderator variables, which are continuous moderator variables and categorical moderator variables.

According to Hair et al., (2017a, b) these two kinds of moderator variables can make two different relationships in the structural model. For example, the continuous moderator variables can make an effect when metrically measured the model. In contrast, the categorical moderator variables can make a categorical moderating effect in the model, such as age, income or gender. Many scholars have used continuous moderator variables since many theories suggest that continuous moderator variables influence the strength or even the direction of the relationship between constructs in the structural model. (Chin et al., 2003; Henseler and Chin., 2010; Rigdon et al., 2010; Henseler et al., 2012; Becker et al., 2018). Table 4.9 shows the direct relationship for hypothesis testing with trust and attitude as a moderator.

Table 4. 10 Indirect relationship for hypothesis testing (specific indirect effects by bootstrapping).

Hs	Re	SB	SE	*t*-value	*P*-value	Supported	5% BCa	95% BCa
H4	IF→BI →UB	0.323	0.041	7.925	0.000***	Yes	0.257	0.392
H4a	T×IF→BI→UB	-0.095	0.039	2.433	0.007**	Yes	-0.166	-0.040
H4b	A×IF→BI→UB	0.071	0.045	1.552	0.060*	No	-0.019	0.128
H5	S/SF→BI→UB	0.214	0.046	4.624	0.000***	Yes	0.123	0.277
H5a	T×S/SF→BI→UB	-0.028	0.039	0.716	0.237*	No	-0.091	0.036
H5b	A×S/SF→BI→UB	-0.061	0.049	1.229	0.110*	No	-0.127	0.034

Hs: Hypothesis; Re: Relationship; SB: Standard Beta; SE: Standard Error; BCa: Bias-corrected and accelerated.
***P < 0.001, **P < 0.01, *P < 0.05

Chapter Five

DISCUSSIONS OF RESULTS AND CONCLUSIONS

5.1 Study finding

In order to analyse the model, the Partial Least Squares-Structural Equation Modelling PLS-SEM approach has been used. Accordingly, the research framework explains R^2 71% of the variation in behavioural intention and R^2 60% of the variation in user behaviour. In order to answer the following research questions and from the research framework the following hypotheses can be derived:

1. To what extent does individual factors effect on behavioural intention?

   H1: Individual factors (IF) has a significant effect on behavioural intention (BI).

   Individual factors are a second-order components (higher-order constructs), which are comprised of four lower-order components (subdimensions), which are performance expectancy, effort expectancy, social influence and facilitating conditions derived from UTAUT. Individual factors are more concreated when higher-order constructs are used, which conceptually is more reliable by contrast with, second-order components, which reduce the number of paths in the model so there is only one path from the independent variable to the mediator variable (Sarstedt et al., 2019). The first suggested hypothesis (H1) in this research shows that individual factors (IF) have a significant effect on behavioural intention (BI). The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is significant (std Beta = 0.416, *t*-value = 8.205 and *P*-value = 0.000). Based on the results, there were

similar studies conducted by (Venkatesh et al., 2003; Venkatesh et al., 2012; Schirmer et al., 2018; Ahrholdt et al., 2019), that they found each of the lower-order components a significant effect in its study. In addition, AbuShanab and Pearson, (2007) found that (performance expectancy, effort expectancy, and social influence) were significant and explained a significant amount of the variance in predicting a customer's intention to adopt Internet Banking. Another study conducted by Bhatiasevi, (2016), found that based on the structural equation modelling that performance expectancy, effort expectancy, social influence, perceived credibility, perceived convenience, and behavioural intention to use mobile banking posited a positive relationship. In Bangladesh, Hussain et al., (2018) found that performance expectancy, effort expectancy, facilitating conditions and social influence significantly influenced the bottom of pyramid segment's behavioural intention (BI).

2. To what extent do system/service factors affect behavioural intention?

   H2: System/service factors have a significant effect on behavioural intention.

   System/service factors are second-order components (higher-order constructs), which are compiled from four lower-order components (subdimensions), which are security/privacy, quality, innovativeness and task characteristics. The second suggested hypothesis (H2) in this research shows that system/service factors have a significant effect on behavioural intention. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is significant (std Beta = 0.275, *t*-value = 4.634 and *p*-value = 0.000). In Iran, Barkhordari et al., (2017) found that both perceived security and trust have a significant impact on the use of e-payment systems. The results insisted on technical and

transaction procedures, and access to security guidelines, being the most influential factors on the perceived trust of customers. In India, Kumar et al., (2018) found that the effect of perceived security on user satisfaction was significant, and that grievance redress mediates the effect of perceived security on the intention to continually use M-wallets. Similarly, in Saudi Arabia, Baabdullah et al., (2019a) found that based on structural equation modelling analyses supported the impact of perceived privacy, perceived security, perceived usefulness and TTF on the customers' continued intention to use mobile banking. Many studies found that quality is a significant factor. Furthermore, Amin, (2016) found that the relationship between Internet Banking service quality, e-customer satisfaction and e-customer loyalty is significant. Nevertheless, Ayo et al., (2016) revealed that perceived e-service quality has a strong influence on customer satisfaction and use of E-Banking, which means that greater quality of e-service has the potential to increase satisfaction and consequently result into more use of E-Banking. With regard to Mobile Banking, Berraies et al., (2016) revealed that quality, price and emotionally perceived values of MB applications are predictors of customers' e-trust. There are other researchers reviewed studies, which are: (Mansour et al., 2016; Jun and Palacios 2016; Ling et al., 2016). In Malaysia, Chai et al., (2016) the findings of the study supported the view that Malaysian banks are highly affected by technology and innovation, but also seek sustain their competitive advantage and improve business performance. Similarly, Alalwan et al., (2018a) found that innovativeness is statistically supported and has a significant impact on the Saudi customer intention to adopt mobile internet. According to Tam and Oliveira, (2016a) showed that task technology fit (TTF) and usage are important precedents of individual

performance. The authors found statistically significant differences in path usage to performance impact for the age subsample and no statistically significant differences for the gender subsample.

Some other studies have been cited in this study (Yu and Asgarkhani, 2015; Al-Ajam and Md Nor, 2015; Oliveira et al., 2016; Rasoolimanesh et al., 2017; Avkiran et al., 2018).

3. To what extent does trust moderate the relationship between individual factors and behavioural intention?

H3a: Trust moderates the relationship between individual factors and behavioural intention.

The third (A) suggested hypothesis (H3a) in this research shows that trust significantly moderates on the relationship between individual factors and behavioural intention. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is significant (std Beta = -0.122, *t*-value = 2.433 and *P*-value = 0.007). Since this study is an empirical study and it was conducted to test the research framework, thus the results of data analysis provided strong evidence to prove a significant effect of moderating trust on (H3a and H3b) in this study. Besides, it is excellent literature that can support the future study. Empirical research, such as Bashir and Madhavaiah, (2014) revealed that perceived usefulness (PU), ease of use, trust, self-efficacy, and social influence have a significant influence on young consumers' intention to use Internet Banking, whereas perceived risk also exerted a significant effect. Among all these factors, perceived risk has a major significant effect on intention, followed by PU, perceived ease of use and trust. Hence, Bank practitioners should focus on increasing the usefulness of Internet Banking system and

devise trust-building strategies that would reduce consumers' perceived risk and attract them to use Internet Banking. In the area of Internet Banking, Yuan et al., (2019) confirmed that contribute and mediating effects of trust and commitment on continuous IB service usage intention. The study contributed to the literature by highlighting the role of trust and commitment in predicting IB service, continuous usage, and the finding provided useful implications for Bank management in retaining online customers.

4. To what extent does trust moderate the relationship between system/service factors and behavioural intention?

H3b: Trust has an insignificant moderator role in the relationship between system/service factors and behavioural intention.

The third (B) suggested hypothesis (H3b) in this research shows that Trust is an insignificant moderating factor on the relationship between system/service factors and behavioural intention. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is insignificant (std Beta = -0.036, *t*-value = 0.716 and *p*-value = 0.237).

In Sri Lanka, Aboobucker and Bao, (2018) assimilated constructs such as security and privacy, perceived trust, perceived risk, and website usability. The findings showed perceived trust and website usability are the possible obstructing factors that highly concerned Internet Banking customers. Security and privacy, and perceived risk were not significant, these did not play a significant role in customers. Internet Banking acceptance. Age and gender revealed the moderating effect in each exogenous latent constructs' relationship. Another study conducted in Thailand by Namahoot et al., (2018) showed that service quality, perceived risk and trust influence

behavioural intentions to use Internet Banking. This study primarily aimed to find out whether perceived risk and trust worked as a mediator variable between service quality and behavioural intentions to use internet banking.

Furthermore, in Ghana, Mahmoud, (2019) founded that trust significantly influences customer retention in both males and females. However, considering trust as an E-Banking dimension, no significant differences exist with respect to its influence on female and male customer retention. On the other hand, Chaouali and El Hedhli, (2019) indicated that trust in Mobile Banking along with coercive, normative, and mimetic pressures were key antecedents to Mobile Banking adoption intentions. The results also supported the impact of trust in ATMs and online banking on trust in Mobile Banking. Moreover, predicted differences in the relative effects of trust were supported. In the same vein, the effect of trust in Online Banking on Mobile Banking was significantly stronger than the effect of trust in ATMs.

5. To what extent does attitude moderate the relationship between individual factors and behavioural intention?

H4a: Attitude has an insignificant moderator role in the relationship between individual factors and behavioural intention.

The fourth (A) suggested hypothesis (H4a) in this research shows that Attitude insignificantly moderates on the relationship between individual factors and behavioural intention. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is insignificant (std Beta = 0.091, *t*-value = 1.558 and *P*-value = 0.060).

In contrast, the result of this hypothesis was different from the research of Sreejesh et al., (2016) which showed that users' favourable evaluation of M-Banking information content and form creates transaction intention through favourable attitude toward M-Banking. However, this relationship is found to be moderated by their perceived privacy concern, as users with high privacy concerns do not process information content and form favourably, (i.e., their attitude and transaction intention are found to be less), as compared to users with low perceived privacy concerns. Kishore and Sequeira, (2016) investigated mobile banking service adoption in rural Karnataka, India. Sub objectives assess the relationship of independent variables, performance expectancy (PE), effort expectancy (EE), social influence (SI), attitude, and perceived risk (PR), with the dependent variable, behavioural intention (BI). The study also attempts to measure moderation of age and gender on PE, EE, SI, and attitude's path toward BI. The results showed from multiple regression–interaction analysis revealed the age and gender moderated attitude's path toward BI.

On the other hand, Chaouali and El Hedhli, (2019) found that attitudes toward automated teller machines (ATMs) and Online Banking significantly predict attitude toward Mobile Banking. Moreover, the predicted differences in the relative effects of attitude were supported. Particularly, attitude toward online banking had a stronger impact on attitude toward mobile banking compared to the impact of attitude toward ATMs.

6. To what extent does attitude moderate the relationship between system/service factors and behavioural intention?

H4b: Attitude has an insignificant moderator role in the relationship between system/service factors and behavioural intention.

The fourth (B) suggested hypothesis (H4b) in this research shows that Attitude insignificantly moderates on the relationship between system/service factors and behavioural intention. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is insignificant (std Beta = -0.078, *t*-value = 1.231 and *P*-value = 0.109).

In contrast, the result of this hypothesis was different from the research of Chauhan et al., (2019) which showed the significant positive influence of perceived usefulness, ease of use, attitude, II and DSI on consumer's intention to adopt internet banking. The PR was found to have a significant negative influence on consumers' intention to adopt internet banking, and DSI was found to negatively influence PR. In a similar line to what has been shown thus, there are some simultaneous studies for both (H4 a & b), which are: (Sohail and Shanmugham, 2002; Suh& Han, 2002; Cheng et al., 2006; Al-Somali et al., 2009; Alsajjan and Dennis, 2009; Lee, 2009; Lee et al., 2010; Fen Lin, 2011; Akturan and Tezcan, 2012; Mohammadi, 2014; Al-Ajam and Md Nor, 2015; Mansour et al., 2016; Mehrad and Mohammadi, 2017; Ayo et al., 2016).

7. To what extent does behavioural intention affect user behaviour?

   H5: Behavioural intention has a significant effect on user behaviour.

   The fifth suggested hypothesis (H5) in this research shows that behavioural intention a significant effect on user behaviour. The result of the PLS bootstrapping of the research model declared that the suggested hypothesis is significant (std Beta = 0.776, *t*-value = 27.784 and *P*-value = 0.000).

On the other hand, Yiga and Cha, (2016) found, that based on structural equation modelling, indications that the relative importance of perceived trustworthiness of banks was statistically significant as it accounted for 47 percentage of the variance in predicting customers' attitude towards Internet Banking. In addition, Rahi et al., (2019) provided valuable insight to marketers and managers to understand customer behaviour towards the adoption of technology, especially in the emerging e-payment domain.

With regard to the behavioural intention, Alalwan et al., (2018b) showed that this is significantly influenced by performance expectancy, effort expectancy, hedonic motivation, price value and perceived risk; however, social influence does not have a significant impact on behavioural intention. The study offered Jordanian Banks some guidelines for designing and marketing such a channel in order to enhance their acceptance by their customers.

According to the result of this study, trust has a positive effect. E-Banking consumers are still worried about using E-Banking services, which mean they do not trust the system and they think that they will lose their personal information. However, trust is important in traditional and Electronic Banking services. The lack of trust leads consumers' to not use E-Banking services, which means there is no interaction of this system in the KRI. However, the system is much easier than the traditional Banking system, which you need to visit the bank and physically use it. On the other hand, the result of this study revealed that the effect of attitude is insignificant. E-Banking consumers' attitude is not relevant to their willingness to accept new technology such as E-Banking services.

5.2 Findings implications

5.2.1 Theoretical implications

Regarding the theoretical implications for this research, beyond the most widely cited of UTAUT as a fundamental and theoretical guidance for the scope of this study. Specifically, the research framework is based on UTAUT and extended with other factors that can play a major effect on the acceptance of new technology such as E-Banking services in the KRI, which are shown in the research model framework. Because previous studies have shown that UTAUT was not enough to show the degree of this effect, this study extends UTAUT in order to investigate the degree of moderating effect of trust and attitude based on the second-order components framework. The second-order components can lead to more concrete theoretical achievements, on the other hand, to reduce the number of hypotheses in the paths. Individual factors and system/service factors build second-order components, besides, and in this study highlights the effect of trust and attitude as moderators in the research framework to investigate the acceptance factors of E-Banking services as a new technology service in the KRI.

This study is a first empirical study that investigates the acceptance factors of E-Banking services in the KRI and provides a foundation for other studies in the future. Besides, it contributes to the literature on the subject, which is important because of the absence of the existing literature of E-Banking. Furthermore, researchers should test more factors in its research, in order to elaborate more effect in this study scope. Moreover, the findings show the importance of trust and attitude and this study sheds further light on using moderators and recommends even more factors with

UTAUT in the future research based on the systematic literature review, in order to fill the gap in the literature. To the best of researcher's knowledge, this research is the first empirical evidence. (Hama Khan, 2019).

5.2.2 Practical implications

Several significant practical and managerial implications can be addressed from the results of this research, which are useful for banks' managers, bankers, and strategic decision-makers willing to employ E-Banking services. This study shed light on the moderation effect of (trust and attitude) on the indirect effects of individual factors and system/services factors through mediating behavioural intention on user behaviour. The results show that trust has a significant moderator role on the relationship between individual factors and behavioural intention and attitude has an insignificant moderator role on both relationship in the framework, the study results reveal that attitude is not an issue affecting customer's decisions in order to accept E-Banking. Several important managerial and practical implications can be derived from the results of the current study. It is assured that the results are supported by great empirical evidence, and it is very important for Banks' managers, bankers and strategic decision-makers that are willing to employ E-Banking services. Therefore, this study recommends that Banks' managers should concentrate on increasing the level of trust, for example by training or publishing some videos on the Bank's website or sending personal email to its customers, in order to increase its knowledge about how to learn about and use E-Banking channels services safely. Specifically, it is crucial to approach different generations and to avoid their losing cost and time by travelling to banks'

branches. The previous study proved that trust should be earned from the highest traditional quality of banking system services at the physical banks' branches (offline banking), which would help build reputations and respectable images, showing that the Banking services are trustworthy, consequently, to attract existing and potential customers into the system. Examples include ATM, Internet Banking, Mobile Banking and Application Banking. Trust is therefore one of the key aspects that can get more customers, and thus a greater competitive advantage. As a result of this study, it is recommended that Banks offer greater E-Banking services.

In addition, the results suggest that Banks should have more marketing strategy guidelines, such as free cost, increased numbers and accessibility of ATMs, simplicity, using social media for sharing and increase its experience rather than only for advertising (YouTube channel services, Facebook, Twitter, Instagram, etc.), 24/7 Customer Services (Call Centres) via free Skype services or cost-free phone numbers, Kurdish Language and lower interest rates on Loans or Mortgages can increase trust and change its customers' attitude about accepting this system. Trust is a key concern affecting the customer's decision to accept E-Banking.

On the other hand, this study recommends the banks always understand their customers complaints and evaluate customers' trust and attitude through Research and Development (R&D) and (Strength, Weakness, Opportunities and Threats) SWOT analysis. From the above discussion, this study recommends to Banks' mangers that there is a need to have a strong trust in order to persuade customers to accept E-Banking services. E-Banking is a key concern affecting economic growth. It leads to

sustainable economic growth and a sustainable environmental future in the KRI.

5.3 Limitations and future research directions

Beyond the findings of this research, it should be interpreted as shedding light on several limitations that can be addressed, and suggests some of the ways for future research, including the following:

1. This research only tested trust and attitude as a moderator, there are many other factors are beyond the domain of this study that can be as a moderator, such as (culture, word of mouth, speed, subject norms, religion, etc.,) (Hama Khan, 2019).
2. UTAUT and TAM are the only two theories that the research framework is based on them. Other theories can be used in order to build the research frameworks as a base, such as (TRA, TPB, DTPB, IDT, UTAUT 2, etc.,) (Hama Khan, 2019).
3. There are conceptual limitations, which make it impossible to test every single potential hypothesis that can be drawn in the research framework. Moreover, further study must conceptualize and consternate on specific channels of E-Banking services, such as Internet Banking or ATMs, since there are a limited number of ATMs in the KRI and there are no official numbers about it, except for a report from the International Monetary Fund in 2018 which stated that there were 611 ATMs in Iraq, which are not a big number compared to other developing countries.
4. Differentiation of cultures can lead many effects on E-Banking, specifically with the English languages. Many customers do not speak English very well, and so have problems and difficulties with Internet Banking. Further study should work on it hardly.

5. Sustainability of economics is another problem, particularly in the KRI, because it cannot be compared to the world economy easily. The KRI is a part of Iraq and Iraq does still not have sustainable economy, thus further study should make more effort on this point.

6. Frequent problems with the number and quality of computer and Internet spots (Wi-Fi) can have a big effect on E-Banking services, notably in rural areas or villages.

7. There is still a need to pay attention to using UTAUT's moderation variables namely age, sex, experience and voluntaries. Thus, it is recommended that further study to use it, due to its effect on E-Banking services.

8. The data are nonnormally distributed, which is not suitable with Covariance Based Structural Equation Modelling approach (CB-SEM) and the sample size is not large size of data. The reliability between independent latent variables and dependent latent variables depends on the sample size, thus this probably leads to an increase in the reliability between all latent variables.

9. The data were collected from the academic university staff only at the University of Sulaimani through an online questionnaire. This is considered a self-reporting bias, which cause difficulty in the methodology's research for scholars. As a result, the data cannot be generalised to E-Banking in the KRI. Therefore, further research should collect data from each city in the KRI.

Chapter Six

The New Scientific Results

6.1 List of new scientific results of the study

1. This research has examined E-Banking services in the KRI. This study is vital in particular, thus it emphasises the importance of taking into consideration of having reforms in Banking industry, which is the significant of this study accordingly. In terms of the way that model was assembled by using UTAUT and other variables in two second orders components, besides having moderators' effect (i.e., trust and attitude as a moderator), simultaneously, with respect to other models in the relevant literature (i.e., in the field of Marketing, Digital Marketing, Information system, and e-commerce).
2. The significance of this study can be seen in two stages, the first stage illustrated a systematic review of the relevant literature that combined more than 160 empirical studies from various journals about E-Banking and its channels, which built a strong theoretical research framework for this study and will help future research using different methodologies and theories in order to build a stronger research framework.
3. The second stage illustrated an empirical examination of the research framework model, in order to answer research questions by using PLS-SEM methods based on data collection from the questionnaire design that distributed by email in university of Sulaimani in order to validate the research model framework empirically. This is the first quantitative research by far in this field in the KRI.

4. The empirical results showed that individual factors have a significant indirect impact on user behaviour, system/service factors have a significant indirect impact on user behaviour, and that trust has a significant effect on the relationship between individual factors and behavioural intention as a moderator. However, attitude has an insignificant effect on both relations between individual factors and system/services factors and behavioural intention as a moderator.
5. The findings of this study provide support for researchers, bank managerial and bank practitioners seeking to provide a better quality of both offline and online Banking services, and to increase trust on the banking industry in the KRI. This research provides a theoretical framework to investigate E-Banking services in the KRI. The research highlighted the effect of trust and attitude to investigate the acceptance of E-Banking services as a new technology service as a first empirical study.
6. From a practical viewpoint, this study provides important guidance to government and Bank owners. In particular, the findings of this study can help government to understand that trust is the spine of the system, while this empirical evidence can guide Bank managers, bankers and strategic decision-makers that are willing to employ E-Banking services to have a sustainable economic and environmental future in the KRI in terms of digital ecosystem.

Curriculum Vitae

His name is Yadgar Taha Mohammed Hamakhan, and he was born in Al Sulaymaniyah on 22 Aug 1982 in the Kurdistan Region of Iraq (KRI). His native language is Kurdish language, and he speaks English and Arabic.

In 2004, he started his BSc (Business Administration) and graduated in 2008 at the University of Sulaimani in the KRI. Afterwards, he completed his MBA at Universiti Tenaga Nasional (UNITEN) in Malaysia in 2009-2012.

In 2014, he started his PhD at Kaposvar University/ Doctoral School in Management and Organizational Science and completed his studies with Stipendium Hungaricum Scholarship. Now, he is a PhD candidate of Hungarian University of Agriculture and Life Sciences.

He was assistant administrator in College of Administration and Economics, University of Sulaimani, Sulaymaniyah, Kurdistan Region, Iraq in 2005-2008.

He was an assistant researcher in College of Administration and Economics, University of Sulaimani, Sulaymaniyah, Kurdistan Region, Iraq in 2008-2012.

Since 2012, he has been an assistant lecturer at the Economics Department, College of Administration and Economics, University of Sulaimani, Sulaymaniyah, Kurdistan Region, Iraq. He also taught at College of Commerce/the University of Sulaimani, Technical Institute of Dukan/KRI 2012-2013, and Cihan University/KRI 2013-2014. He taught International Business, Principle of Management, Academic Debate, Principle of Management, Banking Reading and Management. He also has supervision experience as Project Supervisor to Final Year Students of Business Management 2012-2014 at the University of Sulaimani.

He published 4 articles from his thesis. One of the articles titled ***"The effect of individual factors on user behaviour and the moderating role of trust: an empirical investigation of consumers' acceptance of electronic banking in the Kurdistan Region of Iraq''*** was published in Financial Innovation, which ranked **14th** out of 108 journals in Business, Finance category. It has Impact Factor for 2019 is **2.964** (**Q1**).

Khan, Y. H. (2018). A Short Review of the Electronic Banking System. Regional and Business Studies, 10(1), 13-37. https://doi.org/10.33568/rbs.2333.

Hama Khan, Y. M. (2019). An Essential Review of Internet Banking Services in Developing Countries, e-Finanse, 15(2), 73-86. https://doi.org/10.2478/fiqf-2019-0013.

Hamakhan, Y. M. (2020). An Empirical Investigation of E-Banking in The Kurdistan Region of Iraq: The Moderating Effect of Attitude,

Financial Internet Quarterly 2020, vol. 16 / no. 1, p. 45-66. https://doi.org/10.2478/fiqf-2020-0006.

He participated in a Kaposvar University Conference (2017 & 2018), AMS's first webinar Networking Tips for Doctoral Students (2020), the International Forum on The Current Advances in Partial least Squares Structural Equation Modeling & Methodological Matters (2020), and the PLS-SEM Orientation Session by Prof. Dr. Marko Sarstedt and held by Arkan Administrative Training Center.

He also has technology skills in (MS Office, SmartPLS 3, ADANCO, SPSS for Statistics and AMOS (In process))

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References:

Aboobucker, I., Y. Bao. (2018) 'What obstruct customer acceptance of internet banking? Security and privacy, risk, trust and website usability and the role of moderators', Journal of High Technology Management Research (2018),https://doi.org/10.1016/j.hitech.2018.04.010.

Abrahão, Moriguchib and Andrade. (2016), Intention of adoption of mobile payment: An analysis in the light of the Unified Theory of Acceptance and Use of Technology (UTAUT), Revista de Administração e Inovação RAI-21; No. of Pages 10.https://doi.org/10.1016/j.rai.2016.06.003.

AbuShanab, E. and Pearson, J.M. (2007), "Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective", Journal of Systems and Information Technology, *Vol. 9 No. 1, pp. 78-97,https://doi.org/10.1108/13287260710817700.*

Acharya, R.N., Kagan, A. and Rao Lingam, S. (2008), "Online banking applications and community bank performance", International Journal of Bank Marketing, Vol. 26 No. 6, pp. 418-439.https://doi.org/10.1108/02652320810902442.

Afshan S, Sharif A (2016) Acceptance of mobile banking framework in Pakistan. Telematics and Informatics, 33(2):370–387,https://doi.org/10.1016/j.tele.2015.09.005.

Ahmad, R and Buttle, F, (2002) "Retaining telephone banking customers at Frontier Bank", International Journal of Bank Marketing, Vol. 20 Issue: 1, pp.5-16,https://doi.org/10.1108/02652320210415944.

Ahrholdt, D./ Gudergan, S.P./ Ringle, C.M.: Enhancing Service Loyalty: The Roles of Delight, Satisfaction, and Service Quality, Journal of Travel Research, Volume 56 (2017, Issue 4, pp. 436-50.

Ahrholdt, D.C./ Gudergan, S./ Ringle, C.M.: Enhancing Loyalty: When Improving Consumer Satisfaction and Delight Matters, Journal of Business Research, Volume 94 (2019), Issue 1, pp. 18-27.

Ajzen, I. (1991). The theory of planned behaviour, Org. Behav. Hum. Decis. Process. 50(2) 179–211.https://doi.org/10.1016/0749-5978(91)90020-T.

Akturan, U. and Tezcan, N. (2012), "Mobile banking adoption of the youth market: Perceptions and intentions", Marketing Intelligence & Planning, *Vol. 30 No. 4, pp. 444-459.https://doi.org/10.1108/02634501211231928.*

Al-Ajam, A.S. and Md Nor, K. (2015), "Challenges of adoption of internet banking service in Yemen", International Journal of Bank Marketing, *Vol. 33 No. 2, pp. 178-194.https://doi.org/10.1108/IJBM-01-2013-0001.*

Al-Qeisi, K., & Hegazy, A. (2015). Consumer online behaviour: A perspective on Internet banking usage in three non-western countries. Procedia Economics and Finance, 23, 386-390,https://doi.org/10.1016/S2212-5671(15)00347-0.

Al-Qeisi, K., Dennis, C., Alamanos, E., & Jayawardhena, C. (2014). Website design quality and usage behavior: Unified Theory of Acceptance and Use of Technology. Journal of Business Research, 67(11), 2282-2290.http://dx.doi.org/10.1016/j.jbusres.2014.06.016.

Al-Somali, S. A., Gholami, R., & Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. Technovation, 29(2), 130-

141.https://doi.org/10.1016/j.technovation.2008.07.004.

Al-Hawari, M., Ward, T. and Newby, L. (2009), "The relationship between service quality and retention within the automated and traditional contexts of retail banking", Journal of Service Management, Vol. 20 No. 4, pp. 455-472.https://doi.org/10.1108/09564230910978539.

Alaaraj, S., Mohamed, Z.A. and Ahmad Bustamam, U.S. (2018), "External growth strategies and organizational performance in emerging markets: The mediating role of inter-organizational trust", Review of International Business and Strategy, Vol. 28 No. 2, pp. 206-222.https://doi.org/10.1108/RIBS-09-2017-0079.

Alaarj, S., Abidin-Mohamed, Z., & Bustamam, U. S. B. A. (2016). Mediating role of trust on the effects of knowledge management capabilities on organizational performance. Procedia-Social and Behavioral Sciences, 235, 729-738,https://doi.org/10.1016/j.sbspro.2016.11.074.

Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017a). Do Knowledge Management Capabilities Reduce the Negative effect of Environment Uncertainties on Organizational Performance? A Study of Public Listed Companies in Malaysia. International Journal of Economic Research, 14(15), 443–456.

Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017b). The Effect of Knowledge Management Capabilities on Performance of Companies : A Study of Service Sector. International Journal of Economic Research, 14(15), 457–470.

Alalwan A.A, Abdullah M. Baabdullah, Nripendra P. Rana, Kuttimani Tamilmani, Yogesh K. Dwivedi, Examining adoption of mobile internet in Saudi Arabia: Extending TAM with perceived enjoyment, innovativeness and trust, Technology in Society, Volume 55, (2018a), Pages 100-110, ISSN 0160-791X,https://doi.org/10.1016/j.techsoc.2018.06.007.

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. International Journal of Information Management, 37(3), 99-110.https://doi.org/10.1016/j.ijinfomgt.2017.01.002.

Alalwan, A.A., Dwivedi, Y.K., Rana, N.P. and Simintiras, A.C. (2016a), "Jordanian consumers' adoption of telebanking: Influence of perceived usefulness, trust and self-efficacy", International Journal of Bank Marketing, Vol. 34 No. 5, pp. 690-709.https://doi.org/10.1108/IJBM-06-2015-0093.

Alalwan, A.A., Dwivedi, Y.K., Rana, N.P.P. and Williams, M.D. (2016b), "Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk and self-efficacy", Journal of Enterprise Information Management*, Vol. 29 No. 1, pp. 118-139.https://doi.org/10.1108/JEIM-04-2015-0035.*

Alalwan. A.A, Yogesh K. Dwivedi, Nripendra P. Rana, Raed Algharabat, Examining factors influencing Jordanian customers' intentions and adoption of internet banking: Extending UTAUT2 with risk, Journal of Retailing and Consumer Services 40 (2018b) 125–138.http://dx.doi.org/10.1016/j.jretconser.2017.08.026.

Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C. and Sanz-Blas, S. (2009), "The role of consumer innovativeness and perceived risk in online banking usage", International Journal of Bank Marketing, Vol. 27 No. 1, pp. 53-75.https://doi.org/10.1108/02652320910928245.

Ali, M./ Seny Kan, K.A./ Sarstedt, M.: Direct and Configurational Paths of Absorptive Capacity and Organizational Innovation to Successful Organizational

Performance, in: Journal of Business Research, Volume 69 (2016), Issue 10, pp. 5317–5323.https://ideas.repec.org/a/eee/jbrese/v69y2016i11p5317-5323.html.

Allen, F., McAndrews, J., & Strahan, P. (2001). E-finance: An Introduction, Working Paper No. 01-36. Financial Institutions Center, Wharton University, Philadelphia, PA, 7 October.https://ideas.repec.org/p/wop/pennin/01-36.html.

Alsajjan. B and Dennis. C. (2009), Internet banking acceptance model: Cross-market examination, Journal of Business Research 63 (2010) 957–963.https://doi.org/10.1016/j.jbusres.2008.12.014.

Amin, M. (2016), "Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty", International Journal of Bank Marketing, *Vol. 34 No. 3, pp. 280-306.https://doi.org/10.1108/IJBM-10-2014-0139.*

Arayesh. M. B. (2015), Investigating the Relationship between Technical and Legal Factors with Tendency of Villagers to Use E-Banking Services (Case Study: Agricultural Bank Branches in Ilam), Procedia - Social and Behavioral Sciences 205 (2015) 529 – 535.https://doi.org/10.1016/j.sbspro.2015.09.068.

Arcand, M., PromTep, S., Brun, I. and Rajaobelina, L. (2017), "Mobile banking service quality and customer relationships", International Journal of Bank Marketing, *Vol. 35 No. 7, pp. 1068-1089.https://doi.org/10.1108/IJBM-10-2015-0150.*

Avkiran, N.K./ Ringle, C.M./ Low, R.K.Y.: Monitoring Transmission of Systemic Risk: Application of Partial Least Squares Structural Equation Modeling in Financial Stress Testing, Journal of Risk, Volume 20 (2018), Issue 5, pp. 83-115.

Ayo, C.k., Oni, A.A., Adewoye, O.J. and Eweoya, I.O. (2016), "E-banking users' behaviour: e-service quality, attitude, and customer satisfaction", International Journal of Bank Marketing, *Vol. 34 No. 3, pp. 347-367.https://doi.org/10.1108/IJBM-12-2014-0175.*

Baabdullah A.M, Ali Abdallah Alalwan, Nripendra P. Rana, Hatice Kizgin and Pushp Patil (2019b) 'Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model International' Journal of Information Management 44 (2019b) 38–52.https://doi.org/10.1016/j.ijinfomgt.2018.09.002.

Baabdullah, A.M., Alalwan, A.A., Rana, N.P., Patil, P. and Dwivedi, Y.K. (2019a), "An integrated model for m-banking adoption in Saudi Arabia", International Journal of Bank Marketing, Vol. 37 No. 2, pp. 452-478.https://doi.org/10.1108/IJBM-07-2018-0183.

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior, 50, 418-430.https://doi.org/10.1016/j.chb.2015.04.024.

Baptista, G., & Oliveira, T. (2016). A weight and a meta-analysis on mobile banking acceptance research. Computers in Human Behavior, 63, 480-489.https://doi.org/10.1016/j.chb.2016.05.074.

Barkhordari, M., Nourollah, Z., Mashayekhi, H, Mashayekhi. Y, Ahangar. M. S. (2017) Factors influencing adoption of e-payment systems: an empirical study on Iranian customers Information Systems and e-Business Management (2017) 15: 89.https://doi.org/10.1007/s10257-016-0311-1.

Bashir, I., & Madhavaiah, C. (2014). Determinants of Young Consumers' Intention to Use Internet Banking Services in India. Vision, 18(3), 153–163.https://doi.org/10.1177/0972262914538369.

Bashir, I., & Madhavaiah, C. (2015). Trust, Social Influence, Self-Efficacy, Perceived Risk and Internet Banking Acceptance: An Extension of Technology Acceptance Model in Indian Context. Metamorphosis, 14(1), 25–38.https://doi.org/10.1177/0972622520150105.

*Becker, Jan-Michael and Ringle, Christian M. and Sarstedt, Marko, Estimating Moderating Effects in PLS-SEM and PLSc-SEM: Interaction Term Generation*Data Treatment (June 15, 2018). Journal of Applied Structural Equation Modeling, 2(2), 1-21, June 2018. Available at SSRN:https://ssrn.com/abstract=3223421.*

Ben Mansour, K. (2016), "An analysis of business' acceptance of internet banking: an integration of e-trust to the TAM", Journal of Business & Industrial Marketing, Vol. 31 No. 8, pp. 982-994.https://doi.org/10.1108/JBIM-10-2016-271.

Bentler, P. M., & Huang, W. (2014). On components, latent variables, PLS and simple methods: Reactions to Rigdon's rethinking of PLS. Long Range Planning, 47, 136–145.

Berraies, S., Ben Yahia, K. and Hannachi, M. (2017), "Identifying the effects of perceived values of mobile banking applications on customers: Comparative study between baby boomers, generation X and generation Y", International Journal of Bank Marketing, *Vol. 35 No. 6, pp. 1018-1038.https://doi.org/10.1108/IJBM-09-2016-0137.*

Bhatiasevi, V. (2016). An extended UTAUT model to explain the adoption of mobile banking. Information Development, 32(4), 799–814.https://doi.org/10.1177/0266666915570764.

Bhattacherjee, A. (2001). Understanding information systems continuance: an expectation-confirmation model. MIS quarterly, 351-370.

Boateng, H., Adam, D. R., Okoe, A. F., & Anning-Dorson, T. (2016). Assessing the determinants of internet banking adoption intentions: A social cognitive theory perspective. Computers in Human Behavior, 65, 468-478,https://doi.org/10.1016/j.chb.2016.09.017.

Boonsiritomachai,W., & Pitchayadejanant, K., Determinants affecting mobile banking adoption by generation Y based on the Unified Theory of Acceptance and Use of Technology Model modified by the Technology Acceptance Model concept, Kasetsart Journal of Social Sciences (2017),https://doi.org/10.1016/j.kjss.2017.10.005.

Bunt, H. van de. (2008). A Case Study on the Misuse of Hawala Banking. International Journal of Social Economics, 35(9), 691–702.https://doi.org/10.1108/03068290810896316.

Cao, Q., & Niu, X. (2019). Integrating context-awareness and UTAUT to explain Alipay user adoption. International Journal of Industrial Ergonomics, 69, 9-13.https://doi.org/10.1016/j.ergon.2018.09.004.

Carrión G.C., Nitzl C., Roldán J.L. (2017) Mediation Analyses in Partial Least Squares Structural Equation Modeling: Guidelines and Empirical Examples. In: Latan H., Noonan R. (eds) Partial Least Squares Path Modeling. Springer, Cham.https://doi.org/10.1007/978-3-319-64069-3_8.

Chaffey, D; Mayer, R; Johnson, K and Ellis Chadwick, F (2006). Internet Marketing: Strategy, Implementation and Practice, (3rd Edition) Financial Times/Prentice Hall, Harlow, Essex, U.K, 8 – 10.

Chai, B. B. H., Tan, P. S., & Goh, T. S. (2016). Banking services that influence the bank

performance. Procedia-Social and Behavioral Sciences, 224, 401-407.

Chaouali, W. and El Hedhli, K. (2019), "Toward a contagion-based model of mobile banking adoption", International Journal of Bank Marketing, *Vol. 37 No. 1, pp. 69-96.https://doi.org/10.1108/IJBM-05-2017-0096.*

Chaouali, W., Yahia, I. B., & Souiden, N. (2016). The interplay of counter-conformity motivation, social influence, and trust in customers' intention to adopt Internet banking services: The case of an emerging country. Journal of Retailing and Consumer Services, 28, 209-218,https://doi.org/10.1016/j.jretconser.2015.10.007.

Chauhan, V., Yadav, R. and Choudhary, V. (2019), "Analyzing the impact of consumer innovativeness and perceived risk in internet banking adoption: A study of Indian consumers", International Journal of Bank Marketing, Vol. 37 No. 1, pp. 323-339.https://doi.org/10.1108/IJBM-02-2018-0028.

Chawla, D. and Joshi, H. (2019) 'Scale Development and Validation for Measuring the Adoption of Mobile Banking Services', Global Business Review, 20(2), pp. 434–457.https://doi.org/10.1177%2F0972150918825205.

Chawla, D., & Joshi, H. (2017). High Versus Low Consumer Attitude and Intention Towards Adoption of Mobile Banking in India: An Empirical Study. Vision, 21(4), 410–424.https://doi.org/10.1177/0972262917733188.

Chawla, D., & Joshi, H. (2018). The Moderating Effect of Demographic Variables on Mobile Banking Adoption: An Empirical Investigation. Global Business Review, 19(3_suppl), S90–S113.https://doi.org/10.1177/0972150918757883.

Cheng, T. E., Lam, D. Y., & Yeung, A. C. (2006). Adoption of internet banking: an empirical study in Hong Kong. Decision support systems, 42(3), 1558-1572,https://doi.org/10.1016/j.dss.2006.01.002.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), Modern methods for business research (pp. 295–358). Mahwah, NJ: Lawrence Erlbaum.

Chin, W. W., Marcolin, B. L., and Newsted, P. R. 2003. A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study. Information Systems Research, *14(2): 189-217.https://doi.org/10.1287/isre.14.2.189.16018.*

Claro, D.P. and Rosa, R.B. (2016), "Drivers leading firm adoption of internet banking services", Marketing Intelligence & Planning, *Vol. 34 No. 3.https://doi.org/10.1108/MIP-11-2015-0226.*

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Mahwah, NJ: Lawrence Erlbaum.

Creswell, John W, Educational research: planning, conducting, and evaluating quantitative and qualitative research— 4th ed (2012) Pearson Education.

Dabholkar, P.A, Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality, International Journal of Research in Marketing 13 (1) (1996) 29–51.https://doi.org/10.1016/0167-8116(95)00027-5.

Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research. Electronic Commerce Research and Applications, 14(5), 265-284,https://doi.org/10.1016/j.elerap.2015.07.006.

Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, present and future of mobile payments research: A literature review. Electronic commerce research and

applications, 7(2), 165-181,https://doi.org/10.1016/j.elerap.2007.02.001.

Daniel, E. (1999), "Provision of electronic banking in the UK and the Republic of Ireland", International Journal of Bank Marketing, *Vol. 17 No. 2, pp. 72-83.https://doi.org/10.1108/02652329910258934.*

Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," Management Science, 35, 1989, pp. 982-1003.https://doi.org/10.1287/mnsc.35.8.982.

Davis, Fred D. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology." MIS Quarterly13, no. 3 (1989): 319-40.https://doi.org/10.2307/249008.

De Albuquerque, J. P., Diniz, E. H., & Cernev, A. K. (2016). Mobile payments: a scoping study of the literature and issues for future research. Information Development, 32(3), 527–553.https://doi.org/10.1177/0266666914557338.

De Goede, M. (2003). Hawala discourses and the war on terrorist finance. Environment and Planning D: Society and Space, 21(5), 513–532.https://doi.org/10.1068/d310t.

Dijkstra, T. K. (2014). PLS' Janus face—response to Professor Rigdon's "Rethinking partial least squares modeling: In praise of simple methods." Long Range Planning, 47, 146–153.https://doi.org/10.1016/j.lrp.2014.02.004

Dijkstra, T. K., & Henseler, J. (2015a). Consistent and asymptotically normal PLS estimators for linear structural equations. Computational Statistics & Data Analysis, 81, 10–23.https://doi.org/10.1016/j.csda.2014.07.008.

Dijkstra, T. K., & Henseler, J. (2015b). Consistent partial least squares path modeling. MIS Quarterly, 39, 297–316.

Dreyfus, M. & Young, R. (2001). A Simple Guide to the Internet, London: Pearson Education.

Evermann, J. & Tate, M. 2016. Assessing the Predictive Performance of Structural Equation Model Estimators, Journal of Business Research, 69(10): 4565-4582.http://dx.doi.org/10.1016/j.jbusres.2016.03.050.

Faith, D. C. (2011). The Hawala System. Global Security Studies, 2(1), 11. Retrieved from.http://www.imf.org/external/pubs/ft/fandd/2002/12/elqorchi.htm

Falk, R. F., & Miller, N. B. (1992). A primer for soft modeling. Akron, OH: University of Akron Press.

Farah, M.F., Hasni, M.J.S. and Abbas, A.K. (2018), "Mobile-banking adoption: empirical evidence from the banking sector in Pakistan", International Journal of Bank Marketing, *Vol. 36 No. 7, pp. 1386-1413.https://doi.org/10.1108/IJBM-10-2017-0215.*

Faroughian, F. F., Kalafatis, S. P., Ledden, L., Samouel, P., & Tsogas, M. H. (2012). Value and risk in business-to-business e-banking. Industrial Marketing Management, 41(1), 68-81.https://doi.org/10.1016/j.indmarman.2011.11.012.

Fen Lin. H. (2011), An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. International Journal of Information Management 31 (2011) 252–260. doi:10.1016/j.ijinfomgt.2010.07.006.

Fishbein, M., and Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research', 1975. DOI: 10.2307/3033786.

Floh, Arne and Treiblmaier, Horst, What Keeps the E-Banking Customer Loyal? A Multigroup Analysis of the Moderating Role of Consumer Characteristics on E-Loyalty in the Financial Service Industry. (March 26,

2006).http://dx.doi.org/10.2139/ssrn.2585491.

Garson, G. D. (2016) Partial Least Squares : Regression & Structural Equation Models (2016 Editi). Statistical Associates Publishing. Retrieved from www.statisticalassociates.com

Gefen, D, Straub D.W. (2004), Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services, Omega 32 (2004) 407 – 424. doi:10.1016/j.omega.2004.01.006.

George, A., & Kumar, G. S. G. (2013). Antecedents of Customer Satisfaction In Internet Banking: Technology Acceptance Model (TAM) Redefined. Global Business Review, 14(4), 627–638.https://doi.org/10.1177/0972150913501602.

George. A,. (2018) Perceptions of Internet banking users — a structural equation modelling (SEM) approach, IIMB Management Review, Volume 30, Issue 4, 2018, Pages 357-368, ISSN 0970-3896,https://doi.org/10.1016/j.iimb.2018.05.007.

Gillies, J. & Cailliau, R. (2000). How the Web was born: the story of the World Wide Web, Oxford: Oxford University Press.

Giovanis, A., Athanasopoulou, P., Assimakopoulos, C. and Sarmaniotis, C. (2019), "Adoption of mobile banking services: A comparative analysis of four competing theoretical models", International Journal of Bank Marketing, *Vol. 37 No. 5, pp. 1165-1189.https://doi.org/10.1108/IJBM-08-2018-0200*.

Glavee-Geo, R., Shaikh, A.A. and Karjaluoto, H. (2017), "Mobile banking services adoption in Pakistan: are there gender differences?", International Journal of Bank Marketing, *Vol. 35 No. 7, pp. 1090-1114.https://doi.org/10.1108/IJBM-09-2015-0142*.

Haider. M. J, Changchun. G, Akram. T, Hussain. S. T, Exploring Gender Effects in Intention to Islamic Mobile Banking Adoption: an empirical study, Arab Economic and Business Journal, Volume 13, Issue 1, 2018, Pages 25-38.https://doi.org/10.1016/j.aebj.2018.01.002.

Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017a). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 2nd Ed., Sage: Thousand Oaks.

Hair, J., Hollingsworth, C.L., Randolph, A.B. and Chong, A.Y.L. (2017b), "An updated and expanded assessment of PLS-SEM in information systems research", Industrial Management & Data Systems, *Vol. 117 No. 3, pp. 442-458.https://doi.org/10.1108/IMDS-04-2016-0130*.

Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019a), "When to use and how to report the results of PLS-SEM", European Business Review, Vol. 31 No. 1, pp. 2-24.https://doi.org/10.1108/EBR-11-2018-0203.

Hair, J.F., Sarstedt, M. and Ringle, C.M. (2019b), "Rethinking some of the rethinking of partial least squares", European Journal of Marketing, *Vol. 53 No. 4, pp. 566-584.https://doi.org/10.1108/EJM-10-2018-0665*.

Hama Khan, Y. M. (2019). An Essential Review of Internet Banking Services in Developing Countries, e-Finanse, 15(2), 73-86.https://doi.org/10.2478/fiqf-2019-0013.

Hamakhan, Y. M. (2020). An Empirical Investigation of E-Banking in The Kurdistan Region of Iraq: The Moderating Effect of Attitude, Financial Internet Quarterly 2020, vol. 16 / no. 1, p. 45-66.https://doi.org/10.2478/fiqf-2020-0006.

Hamidi, H., Safareyeh, M., (2018). A model to analyze the effect of mobile banking adoption on customer interaction and satisfaction: a case study of m-banking in

iran, Telematics and Informatics.https://doi.org/10.1016/j.tele.2018.09.008.

Hammoud, J., Bizri, R. M., & El Baba, I. (2018). The Impact of E-Banking Service Quality on Customer Satisfaction: Evidence From the Lebanese Banking Sector. SAGE Open.https://doi.org/10.1177/2158244018790633.

Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. S. (2014a). Mobile-banking adoption by Iranian bank clients. Telematics and Informatics, 31(1), 62-78.http://dx.doi.org/10.1016/j.tele.2012.11.001.

Hanafizadeh, P., Keating, B. W., & Khedmatgozar, H. R. (2014b). A systematic review of Internet banking adoption. Telematics and informatics, 31(3), 492-510,https://doi.org/10.1016/j.tele.2013.04.003.

Hanafizadeh. P and Khedmatgozar. H. R, (2012), 'The mediating role of the dimensions of the perceived risk in the effect of customers' awareness on the adoption of Internet banking in Iran', Electronic Commerce Research, (2012), Volume 12, Issue 2, pp 151–175.https://doi.org/10.1007/s10660-012-9090-z.

Harris, M., Cox, K.C., Musgrove, C.F. and Ernstberger, K.W. (2016), "Consumer preferences for banking technologies by age groups", International Journal of Bank Marketing, Vol. 34 No. 4, pp. 587-602.https://doi.org/10.1108/IJBM-04-2015-0056.

Hartwick, J., & Barki, H. (1994). Explaining the role of user participation in information system use. Management science, 40(4), 440-465.https://doi.org/10.1287/mnsc.40.4.440.

Hegner-Kakar, A.-K./ Richter, N.F./ Ringle, C.M. (2018): The Customer Loyalty Cascade and Its Impact on Profitability in Financial Services. In N.K. Avkiran & C.M. Ringle (Eds.), Partial Least Squares Structural Equation Modeling: Recent Advances in Banking and Finance. Berlin: Springer, pp. 53-75.

Henseler, J., & Dijkstra, T. K. (2015). ADANCO 1.1 [Computer software]. Retrieved from http://www.compositemodeling.com.

Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. Computational Statistics, 28, 565–580.

Henseler, J., and Chin, W. W. 2010. A Comparison of Approaches for the Analysis of Interaction Effects Between Latent Variables Using Partial Least Squares Path Modeling. Structural Equation Modeling: A Multidisciplinary Journal, 17(1): 82-109.

Henseler, J., C.M. Ringle, and M. Sarstedt. 2016. Testing measurement invariance of composites using partial least squares. International Marketing Review 33 (3): 405–431.

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., et al. (2014). Common beliefs and reality about partial least squares: Comments on Rönkkö & Evermann (2013). Organizational Research Methods, 17, 182–209.

Henseler, J., Fassott, G., Dijkstra, T., and Wilson, B. 2012. Analysing Quadratic Effects of Formative Constructs by Means of Variance-Based Structural Equation Modelling. European Journal of Information Systems, *21(1): 99-112.*

Henseler, J., Ringle, C. M., and Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing, in Advances in International Marketing, R. R. Sinkovics and P. N. Ghauri (eds.), Emerald: Bingley, pp. 277-320.https://doi.org/10.1007/s10551-016-3318-0.

Hoehle, H, Eusebio Scornavacca, Sid Huff, Three decades of research on consumer

adoption and utilization of electronic banking channels: A literature analysis, Decision Support Systems, Volume 54, Issue 1, 2012, Pages 122-132, ISSN 0167-9236,https://doi.org/10.1016/j.dss.2012.04.010.

Hoehle, H, Lehmann, H. Exploring the state-of-the art of mobile banking literature, 7th Global Mobility Roundtable Conference, Proceedings published by University of Auckland, Auckland, New Zealand, 2008.

Hoehle, Kude, Huff and Popp. (2016), Service-Channel Fit Conceptualization and Instrument Development A Mixed Methods Study in the Context of Electronic Banking, Bus Inf Syst Eng. DOI 10.1007/s12599-015-0415-z.

Huang, S. M., Shen, W. C., Yen, D. C., & Chou, L. Y. (2011). IT governance: Objectives and assurances in internet banking. Advances in Accounting, 27(2), 406-414.https://doi.org/10.1016/j.adiac.2011.08.001.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic Management Journal, 20, 195–204.

Hussain. M, Mollik. A. T, Johns. R, Rahman. M. S, (2018) "M-payment adoption for bottom of pyramid segment: an empirical investigation", International Journal of Bank Marketing,https://doi.org/10.1108/IJBM-01-2018-0013.

Iacobucci, D., Saldanha, N. and Deng, X. (2007), "A Mediation on Mediation: Evidence That Structural Equation Models Perform Better Than Regression", Journal of Consumer Psychology, Vol. 17 No. 2, pp. 140-154.

Iberahim H,Mohd Taufik, N.K, Mohd Adzmir, A.S, and Saharuddin, H. (2016), Customer Satisfaction on Reliability and Responsiveness of Self-Service Technology for Retail Banking Services, Procedia Economics and Finance 37 (2016) 13 – 20.https://doi.org/10.1016/S2212-5671(16)30086-7.

International Monetary Fund, Geographical Outreach: Number of Automated Teller Machines (ATMs), Country Wide for Iraq [IRQFCACNUM], retrieved from FRED, Federal Reserve Bank of St. Louis;https://fred.stlouisfed.org/series/IRQFCACNUM, December 16, 2019.

Ismail Hussien, M. and Abd El Aziz, R. (2013), "Investigating e-banking service quality in one of Egypt's banks: a stakeholder analysis", The TQM Journal, Vol. 25 No. 5, pp. 557-576.https://doi.org/10.1108/TQM-11-2012-0086.

Ismail, A. a. (2007). Lawlessness and economic governance: The case of hawala system in Somalia. International Journal of Development Issues, 6(2), 168–185.https://doi.org/10.1108/14468950710843415.

Johnson, D. (2007). Achieving customer value from electronic channels through identity commitment, calculative commitment, and trust in technology. Journal of Interactive Marketing, 21 (4), 2–22.http://dx.doi.org/10.1002/dir.20091.

Jöreskog, K. G., & Wold, H. (1982). The ML and PLS techniques for modeling with latent variables: Historical and comparative aspects. In K. G. Jöreskog & H. Wold (Eds.), Systems under indirect observation: Causality, structure, prediction (Vol. 1, pp. 263–270). Amsterdam: North Holland.

*Jun, M. and Palacios, S. (2016), "Examining the key dimensions of mobile banking service quality: an exploratory study", International Journal of Bank Marketing, Vol. 34 No. 3, pp. 307-326. https://doi.org/10.1108/IJBM-01-2015-0015,*https://doi.org/10.1108/IJBM-01-2015-0015.

Kaabachi, S., Ben Mrad, S. and Petrescu, M. (2017), "Consumer initial trust toward internet-only banks in France", International Journal of Bank Marketing, *Vol. 35 No. 6, pp. 903-924.https://doi.org/10.1108/IJBM-09-2016-0140.*

Karahanna, E., Straub, D. W., & Chervany, N. L. (1999). Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs. MIS quarterly, 183-213.https://www.jstor.org/stable/249751.

Karjaluoto, H., Mattila, M. and Pento, T. (2002), "Electronic banking in Finland: consumer beliefs and reactions to a new delivery channel", Journal of Financial Services Marketing, Vol. 6 No. 4, pp. 346-361.https://doi.org/10.1057/palgrave.fsm.4770064.

Kassim, N. M., & Abdulla, A. K. M. A. (2006). The influence of attraction on internet banking: an extension to the trust-relationship commitment model. International Journal of Bank Marketing.https://doi.org/10.1108/02652320610701744.

Kassim, N. M., & Ramayah, T. (2015). Perceived Risk Factors Influence on Intention to Continue Using Internet Banking among Malaysians. Global Business Review, 16(3), 393–414.https://doi.org/10.1177/0972150915569928.

Kesharwani, A. and Singh Bisht, S. (2012), "The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model", International Journal of Bank Marketing, *Vol. 30 No. 4, pp. 303-322.https://doi.org/10.1108/02652321211236923.*

Kesharwani, A., & Tripathy, T. (2012). Dimensionality of perceived risk and its impact on Internet banking adoption: An empirical investigation. Services Marketing Quarterly, 33(2), 177-193,DOI: 10.1080/15332969.2012.662461.

Khan, Y. H. (2018). A Short Review of the Electronic Banking System. Regional and Business Studies, 10(1), 13-37. https://doi.org/10.33568/rbs.2333.

Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. Computers in Human Behavior, 26(3), 310-322.https://doi.org/10.1016/j.chb.2009.10.013.

Kim, J., Jin, B., & Swinney, J. L. (2009). The role of etail quality, e-satisfaction and e-trust in online loyalty development process. Journal of retailing and Consumer services, 16(4), 239-247.https://doi.org/10.1016/j.jretconser.2008.11.019.

Kingshott. R. P. J, Sharma. P, Chung. H. F.L, 'The impact of relational versus technological resources on e-loyalty: A comparative study between local, national and foreign branded banks', Industrial Marketing Management, Volume 72, 2018, Pages 48-58,https://doi.org/10.1016/j.indmarman.2018.02.011.

Kishore, S. V. K., & Sequeira, A. H. (2016). An Empirical Investigation on Mobile Banking Service Adoption in Rural Karnataka. SAGE Open.https://doi.org/10.1177/2158244016633731.

Koksal, M.H. (2016), "The intentions of Lebanese consumers to adopt mobile banking", International Journal of Bank Marketing, *Vol. 34 No. 3, pp. 327-346.https://doi.org/10.1108/IJBM-03-2015-0025.*

Kotler, P., Armstrong, G., Saunders, J., &Wong, V. (2001). Principles of marketing. Harlow: Pearson Education.

Kumar, V. V. R., Lall, A., & Mane, T. (2017). Extending the TAM Model: Intention of Management Students to Use Mobile Banking: Evidence from India. Global Business Review, 18(1), 238–249.https://doi.org/10.1177/0972150916666991.

Kumar. A, Adlakaha. A, Mukherjee. K, (2018) "The effect of perceived security and grievance redressal on continuance intention to use M-wallets in a developing country", International Journal of Bank Marketing.https://doi.org/10.1108/IJBM-04-2017-0077.

Laukkanen, T. (2016). Consumer adoption versus rejection decisions in seemingly similar

service innovations: The case of the Internet and mobile banking. Journal of Business Research, 69(7), 2432-2439.http://dx.doi.org/10.1016/j.jbusres.2016.01.013.

Lee, E., & Lee, J. (2000). Haven't adopted electronic financial services yet? The acceptance and diffusion of electronic banking technologies. Financial Counseling and Planning, 11(1), 49–61.

Lee, K. W., Tsai, M. T., & Lanting, M. C. L. (2011). From marketplace to marketspace: Investigating the consumer switch to online banking. Electronic Commerce Research and Applications, 10(1), 115-125.https://doi.org/10.1016/j.elerap.2010.08.005.

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic commerce research and applications, 8(3), 130-141.https://doi.org/10.1016/j.elerap.2008.11.006.

Liao, Z. & Tow Chung, M. (2001). Internet-based e-banking and consumer attitudes: An empirical study. Information and Management Journal, 39, 283-295. PII: S 0378-7206(00)00072-0.

Liargovas, P., & Repousis, S. (2011). Underground banking or hawala and Greece-Albania remittance corridor. Journal of Money Laundering Control, 14(4), 313–323.https://doi.org/10.1108/13685201111173794.

Liébana-Cabanillas, F., Muñoz-Leiva, F., Sánchez-Fernández, J. et al. The moderating effect of user experience on satisfaction with electronic banking: empirical evidence from the Spanish case. Inf Syst E-Bus Manage 14, 141–165 (2016).https://doi.org/10.1007/s10257-015-0277-4.

Lifen Zhao, A., Koenig-Lewis, N., Hanmer-Lloyd, S. and Ward, P. (2010), "Adoption of internet banking services in China: is it all about trust?", International Journal of Bank Marketing, *Vol. 28 No. 1, pp. 7-26.https://doi.org/10.1108/02652321011013562.*

Lin. F. T, Wu. H. Y and Tran. T. N. N, (2015),' Internet banking adoption in a developing country:an empirical study in Vietnam', Information Systems and e-Business Management, Volume 13, Issue 2, pp 267–287. https://doi.org/10.1007/s1025.

Ling, G. M., Fern, Y. S., Boon, L. K., & Huat, T. S. (2016). Understanding customer satisfaction of internet banking: A case study in Malacca. Procedia Economics and Finance, 37(16), 80-85. doi: 10.1016/S2212-5671(16)30096-X.

Littler, D., & Melanthiou, D. (2006). Consumer perceptions of risk and uncertainty and the implications for behaviour towards innovative retail services: the case of internet banking. Journal of retailing and consumer services, 13(6), 431-443.https://doi.org/10.1016/j.jretconser.2006.02.006

Lohmöller, J.-B. (1989). Latent variable path modeling with partial least squares. Heidelberg, Germany: Physica.

López-Miguens, M. J., & Vázquez, E. G. (2017). An integral model of e-loyalty from the consumer's perspective. Computers in Human Behavior, 72, 397-411.http://dx.doi.org/10.1016/j.chb.2017.02.003.

Luarn, P. dan Lin, H. 2005. Toward an understanding of the behavioral intention to use mobile banking. Computer Human Behavior, 21, 873, 891.https://doi.org/10.1016/j.chb.2004.03.003.

Luo, Li, Zhang and Shim. (2010), Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile

banking services, Decision Support Systems 49 (2010) 222–234. doi:10.1016/j.dss.2010.02.008.

Lymperopoulos, C. and Chaniotakis, I.E. (2004), "Branch employees' perceptions towards implications of e-banking in Greece", International Journal of Retail & Distribution Management, *Vol. 32 No. 6, pp. 302-311.https://doi.org/10.1108/09590550410538006.*

*M. Hamakhan, Y.T. The effect of individual factors on user behaviour and the moderating role of trust: an empirical investigation of consumers' acceptance of electronic banking in the Kurdistan Region of Iraq. Financ Innov 6, 43 (2020),*https://doi.org/10.1186/s40854-020-00206-0*.*

Mahmoud Abdulai Mahmoud (2019): Gender, E-Banking, and Customer Retention, Journal of Global Marketing, DOI: 10.1080/08911762.2018.1513108.

Makki, A. M., Ozturk, A. B., & Singh, D. (2016). Role of risk, self-efficacy, and innovativeness on behavioral intentions for mobile payment systems in the restaurant industry. Journal of Foodservice Business Research, 19(5), 454-473.https://doi.org/10.1080/15378020.2016.1188646.

Malaquias, F. F., & Hwang, Y. (2016b). 'Trust in mobile banking under conditions of information asymmetry: Empirical evidence from Brazil'. Information Development, 32(5), 1600–1612.https://doi.org/10.1177/0266666915616164.

Malaquias, R. F., & Hwang, Y. (2016a). An empirical study on trust in mobile banking: A developing country perspective. Computers in human behavior, 54, 453-461.http://dx.doi.org/10.1016/j.chb.2015.08.039.

Malaquias. R.F. and Y. Hwang (2019) 'Mobile banking use: A comparative study with Brazilian and U.S. Participants' International Journal of Information Management 44 (2019) 132–140,https://doi.org/10.1016/j.ijinfomgt.2018.10.004.

Mallat, N. Exploring consumer adoption of mobile payments – A qualitative study, The Journal of Strategic Information Systems, Volume 16, Issue 4, 2007, Pages 413-432, ISSN 0963-8687,https://doi.org/10.1016/j.jsis.2007.08.001.

Mallat, N., Rossi, M., Tuunainen, V. K., & Öörni, A. (2009). The impact of use context on mobile services acceptance: The case of mobile ticketing. Information & management, 46(3), 190-195,https://doi.org/10.1016/j.im.2008.11.008.

Mallat, N., Rossi, M., Tuunainen, V.K. An empirical investigation of mobile ticketing service adoption in public transportation Pers Ubiquit Comput (2008), Volume 12, Issue 1, pp 57–65,https://doi.org/10.1007/s00779-006-0126-z.

Mann, B. J. S., & Sahni, S. K. (2012). Profiling Adopter Categories of Internet Banking in India: An Empirical Study. Vision, 16(4), 283–295.https://doi.org/10.1177/0972262912460187.

Mansour, I.H.F., Eljelly, A.M.A. and Abdullah, A.M.A. (2016), "Consumers' attitude towards e-banking services in Islamic banks: the case of Sudan", Review of International Business and Strategy, *Vol. 26 No. 2, pp. 244-260.https://doi.org/10.1108/RIBS-02-2014-0024.*

Marakarkandy, B., Yajnik, N. and Dasgupta, C. (2017), "Enabling internet banking adoption: An empirical examination with an augmented technology acceptance model (TAM)", Journal of Enterprise Information Management, *Vol. 30 No. 2, pp. 263-294.https://doi.org/10.1108/JEIM-10-2015-0094.*

Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. International Journal of Information Management, 34(1), 1-

13.https://doi.org/10.1016/j.ijinfomgt.2013.06.002.

Maruping, L. M., Bala, H. , Venkatesh, V. and Brown, S. A. (2017), Going beyond intention: Integrating behavioral expectation into the unified theory of acceptance and use of technology. Journal of the Association for Information Science and Technology, 68: 623-637. doi:10.1002/asi.23699.

Mayer RC, Davis JH, Schoorman FD (1995) An integration model of organizational trust. Acad. Management Rev 20(3):709–734. DOI: 10.2307/258792

McKnight DH, Carter M, Thatcher JB, Clay PF (2011). Trust in a specific technology: An investigation of its components and measures. ACM Trans. Management Inform. Systems 2(2):Article 12.https://doi.org/10.1145/1985347.1985353.

McKnight DH, Cummings LL, Chervany NL. (1998). Initial trust formation in new organizational relationships. Acad. Management Rev. 23(3):473–490.https://psycnet.apa.org/doi/10.2307/259290.

McKnight, D.Harrison, Vivek Choudhury, and Charles Kacmar. (2002). "Developing and Validating Trust Measures for E-Commerce: An Integrative Typology." Information Systems Research 13(3):334–59. Retrieved December 3, 2016.http://pubsonline.informs.org/doi/abs/10.1287/isre.13.3.334.81.

Mehrad, D., & Mohammadi, S. (2017). Word of Mouth impact on the adoption of mobile banking in Iran. Telematics and Informatics, 34(7), 1351-1363.http://dx.doi.org/10.1016/j.tele.2016.08.009.

Mohammadi, H. (2015), A study of mobile banking loyalty in Iran, Computers in Human Behavior 44 (2015) 35–47.http://dx.doi.org/10.1016/j.chb.2014.11.015.

Mohsin Butt, M. and Aftab, M. (2013), "Incorporating attitude towards Halal banking in an integrated service quality, satisfaction, trust and loyalty model in online Islamic banking context", International Journal of Bank Marketing, Vol. 31 No. 1, pp. 6-23.https://doi.org/10.1108/02652321311292029.

Moorman, Christine, Rohit Deshpande, and Gerald Zaltman (1993), "Factors Affecting Trust in Market Research Relation-ships," Journal of Marketing, 57 (January), 81-101. DOI: 10.2307/1252059.

Morgan, R. M., and S. D. Hunt. 1994. The commitment-trust theory of relationship marketing. Journal of Marketing 58 (3):20–38. doi:10.2307/1252308.

Morris, M. G., & Venkatesh, V. (2000). Age differences in technology adoption decisions: Implications for a changing work force. Personnel psychology, 53(2), 375-403.https://doi.org/10.1111/j.1744-6570.2000.tb00206.x

Mortimer, G., Neale, L., Hasan, S.F.E. and Dunphy, B. (2015), "Investigating the factors influencing the adoption of m-banking: a cross cultural study", International Journal of Bank Marketing, *Vol. 33 No. 4, pp. 545-570.https://doi.org/10.1108/IJBM-07-2014-0100.*

Munoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. Spanish Journal of Marketing-ESIC, 21(1), 25-38.https://doi.org/10.1016/j.sjme.2016.12.001.

Mzoughi, N. and M'Sallem, W. (2013), "Predictors of internet banking adoption: Profiling Tunisian postponers, opponents and rejectors", International Journal of Bank Marketing, *Vol. 31 No. 5, pp. 388-408.https://doi.org/10.1108/IJBM-10-2012-0105*

Namahoot, K.S. and Laohavichien, T. (2018), "Assessing the intentions to use internet banking: The role of perceived risk and trust as mediating factors", International

Journal of Bank Marketing, *Vol. 36 No. 2, pp. 256-276.https://doi.org/10.1108/IJBM-11-2016-0159*.

Nasr, Sahar. 2011. Republic of Iraq : Financial Sector Review. World Bank, Washington, DC. © World Bank.https://openknowledge.worldbank.org/handle/10986/23965 License: CC BY 3.0 IGO.

Nikghadam Hojjati, S. and Reza Rabi, A. (2013), "Effects of Iranian online behavior on the acceptance of internet banking", Journal of Asia Business Studies, Vol. 7 No. 2, pp. 123-139.https://doi.org/10.1108/15587891311319422.

Nitzl, C., Roldán, J. L., and Cepeda Carrión, G. (2016). Mediation Analysis in Partial Least Squares Path Modeling: Helping Researchers Discuss More Sophisticated Models, Industrial Management & Data Systems, 119 (9), 1849-1864.http://dx.doi.org/10.1108/IMDS-07-2015-0302.

Nui Polatoglu, V. and Ekin, S. (2001), "An empirical investigation of the Turkish consumers' acceptance of Internet banking services", International Journal of Bank Marketing, *Vol. 19 No. 4, pp. 156-165.https://doi.org/10.1108/02652320110392527*.

Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. International journal of information management, 34(5), 689-703.http://dx.doi.org/10.1016/j.ijinfomgt.2014.06.004.

Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. Computers in Human Behavior, 61, 404-414.http://dx.doi.org/10.1016/j.chb.2016.03.030.

Ooi, K. B., & Tan, G. W. H. (2016). Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card. Expert Systems with Applications, 59, 33-46.https://doi.org/10.1016/j.eswa.2016.04.015.

Passas, N. (2005a). Indicators of Hawala Operations and Criminal Abuse. Journal of Money Laundering Control, 8(22), 168–172. Retrieved from.http://dx.doi.org/10.1108/13685200510621145

Passas, N. (2005b). Law Enforcement Challenges in Hawala-related Investigations. Journal of Financial Crime, 12(2), 112–119. Retrieved from.http://dx.doi.org/10.1108/13590790510624963.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., and Pahnila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. Internet Research, 14, (3). DOI 10.1108/10662240410542652.

Poon, W. (2008), "Users' adoption of e-banking services: the Malaysian perspective", Journal of Business & Industrial Marketing, *Vol. 23 No. 1, pp. 59-69.https://doi.org/10.1108/08858620810841498*.

Preacher, K. J. and Hayes, A. F. (2004), "SPSS and SAS Procedures for Estimating Indirect Effects in Simple Mediation Models", Behavior Research Methods Instruments, and Computers, Vol. 36 No. 4, pp. 717-731.

Preacher, K. J. and Hayes, A. F. (2008), "Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models", Behavior Research Methods, Vol. 40 No. 3, pp. 879-891.

Rahi S, Abd.Ghani M, Hafaz Ngah A, Integration of unified theory of acceptance and use of technology in internet banking adoption setting: Evidence from Pakistan, Technology in Society (2019).https://doi.org/10.1016/j.techsoc.2019.03.003.

Rasoolimanesh, S.M./ Ringle, C.M./ Jaafar, M./ Ramayah, T.: Urban vs. Rural Destinations: Residents' Perceptions, Community Participation and Support for Tourism Development, in: Tourism Management, Volume 60 (2017), pp. 147-158.

Razavy, M. (2006). Hawala: An underground haven for terrorists or social phenomenon? Crime, Law and Social Change, 44(3), 277–299.https://doi.org/10.1007/s10611-006-9019-3.

Redín, D. M., Calderon, R., & Ferrero, I. (2014). Exploring the Ethical Dimension of Hawala. Journal of Business Ethics, 124(2), 327–337.https://doi.org/10.1007/s10551-013-1874-0.

Ribbink, D., van Riel, A.C.R., Liljander, V. and Streukens, S. (2004), "Comfort your online customer: quality, trust and loyalty on the internet", Managing Service Quality: An International Journal, Vol. 14 No. 6, pp. 446-456.https://doi.org/10.1108/09604520410569784.

Riffai, Grant and Edgar. (2011), Big TAM in Oman: Exploring the promise of on-line banking, its adoption by customers and the challenges of banking in Oman, International Journal of Information Management 32 (2012) 239– 250. doi:10.1016/j.ijinfomgt.2011.11.007.

Rigdon, E. E., Ringle, C. M., and Sarstedt, M. 2010. Structural Modeling of Heterogeneous Data with Partial Least Squares, in Review of Marketing Research, N. K. Malhotra (ed.), Sharpe: Armonk, 255-296. doi:10.1108/S1548-6435(2010)0000007011.

Ringle, C. M., Wende, S., and Becker, J.-M. 2015. "SmartPLS 3." Boenningstedt: SmartPLS GmbH, http://www.smartpls.com.

Roberts, K., Varki, S. and Brodie, R. (2003), "Measuring the quality of relationships in consumer services: an empirical study", European Journal of Marketing, *Vol. 37 No. 1/2, pp. 169-196.https://doi.org/10.1108/03090560310454037.*

Rodrigues, L. F., Oliveira, A., & Costa, C. J. (2016a). Does ease-of-use contributes to the perception of enjoyment? A case of gamification in e-banking. Computers in Human Behavior, 61, 114-126.http://dx.doi.org/10.1016/j.chb.2016.03.015.

Rodrigues. L. F, Oliveira. A, Costa. C. J, (2016b) 'Playing seriously – How gamification and social cues influence bank customers to use gamified e-business applications', Computers in Human Behavior, Volume 63, 2016, Pages 392-407.https://doi.org/10.1016/j.chb.2016.05.063.

Rogers, E.M. (1995), Diffusion of Innovations. New York, NY: The Free Press.

Rosenbusch, J./ Ismail, I.R./ Ringle, C.M.: The Agony of Choice for Medical Tourists: A Patient Satisfaction Index Model, Journal of Hospitality and Tourism Technology, Volume 9 (2018), Issue 3, pp. 267-279.

Rotter, JulianB . (1967), "A New Scale for the Measurement of Interpersonal Trust," Journal of Personality, 35 (4), 651-65.https://doi.org/10.1111/j.1467-6494.1967.tb01454.x.

Roy, S. K., Balaji, M. S., Kesharwani, A., & Sekhon, H. (2017). Predicting Internet banking adoption in India: A perceived risk perspective. Journal of Strategic Marketing, 25(5-6), 418-438.https://doi.org/10.1080/0965254X.2016.1148771.

Saji, T. G., & Paul, D. (2018). Behavioural Intention to the Use of Mobile Banking in Kerala: An Application of Extended Classical Technology Acceptance Model. Metamorphosis, 17(2), 111–119.https://doi.org/10.1177/0972622518792802.

Salem, M.Z., Baidoun, S. and Walsh, G. (2019), "Factors affecting Palestinian customers' use of online banking services", International Journal of Bank

Marketing, *Vol. 37 No. 2, pp. 426-451.https://doi.org/10.1108/IJBM-08-2018-0210*.

Salhieh, L., Abu-Doleh, J. and Hijazi, N. (2011), "The assessment of e-banking readiness in Jordan", International Journal of Islamic and Middle Eastern Finance and Management, *Vol. 4 No. 4, pp. 325-342.https://doi.org/10.1108/17538391111186564*.

Sampaio, C.H., Ladeira, W.J. and Santini, F.D.O. (2017), "Apps for mobile banking and customer satisfaction: a cross-cultural study", International Journal of Bank Marketing, *Vol. 35 No. 7, pp. 1133-1153.https://doi.org/10.1108/IJBM-09-2015-0146*.

Sanchez-Franco, M. J. (2009). The moderating effects of involvement on the relationships between satisfaction, trust and commitment in e-banking. Journal of Interactive Marketing, 23(3), 247-258.https://doi.org/10.1016/j.intmar.2009.04.007.

Sánchez-Torres, J.A., Canada, F.-J.A., Sandoval, A.V. and Alzate, J.-A.S. (2018), "E-banking in Colombia: factors favouring its acceptance, online trust and government support", International Journal of Bank Marketing, Vol. 36 No. 1, pp. 170-183.https://doi.org/10.1108/IJBM-10-2016-0145.

*Sarstedt M., Ringle C.M., Hair J.F. (2017) Partial Least Squares Structural Equation Modeling. In: Homburg C., Klarmann M., Vomberg A. (eds) Handbook of Market Research. Springer, Cham.*https://doi.org/10.1007/978-3-319-05542-8_15-1.

Sarstedt, M. & Cheah, JH.(2019a). Partial least squares structural equation modeling using SmartPLS:a software review. Journal of Marketing Analytics.https://doi.org/10.1057/s41270-019-00058-3.

Sarstedt, M., Hair Jr, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019b). How to specify, estimate, and validate higher-order constructs in PLS-SEM. Australasian Marketing Journal (AMJ), 27(3), 197-211.https://doi.org/10.1016/j.ausmj.2019.05.003.

Sathye, M. (1999) "Adoption of Internet banking by Australian consumers: an empirical investigation", International Journal of Bank Marketing, Vol. 17 Issue: 7, pp.324-334.https://doi.org/10.1108/02652329910305689

Schepers, J., and Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects, Information & Management, Volume 44, Issue 1, 2007, Pages 90-103, ISSN 0378-7206.https://doi.org/10.1016/j.im.2006.10.007.

Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. Electronic commerce research and applications, 9(3), 209-216.https://doi.org/10.1016/j.elerap.2009.07.005.

Schirmer, N./ Ringle, C.M., Gudergan, SP./ Feistel, M.S.G.: The Link Between Customer Satisfaction and Loyalty: The Moderating Role of Customer Characteristics, Journal of Strategic Marketing, Volume 26 (2018), Issue 4, pp. 298-317.

Schneider, F. (2010). Turnover of organized crime and money laundering: Some preliminary empirical findings. Public Choice, 144(3), 473–486.https://doi.org/10.1007/s11127-010-9676-8.

Schramm, M., & Taube, M. (2003). Evolution and institutional foundation of the hawala financial system. International Review of Financial Analysis, 12(4), 405–420.https://doi.org/10.1016/S1057-5219(03)00032-2.

Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. Telematics and informatics, 32(1), 129-

142.https://doi.org/10.1016/j.tele.2014.05.003.
Shankar, A. and Jebarajakirthy, C. (2019), "The influence of e-banking service quality on customer loyalty: A moderated mediation approach", International Journal of Bank Marketing, Vol. 37 No. 5, pp. 1119-1142.https://doi.org/10.1108/IJBM-03-2018-0063.
Shanmugam, B. (2004), "Hawala and money laundering: a Malaysian perspective", Journal of Money Laundering Control, Vol. 8 No. 1, pp. 37-47.https://doi.org/10.1108/13685200510621181.
Shareef, M. A., Baabdullah, A., Dutta, S., Kumar, V., & Dwivedi, Y. K. (2018). Consumer adoption of mobile banking services: An empirical examination of factors according to adoption stages. Journal of Retailing and Consumer Services, 43, 54-67.https://doi.org/10.1016/j.jretconser.2018.03.003.
Sharif, K., Mahama, H., & Farooqi, N. (2016). Management, Control and Governance of Hawala Networks in the Gulf Cooperation Council Region. Asian Academy of Management Journal of Accounting and Finance, 12(2), 65–93.https://doi.org/10.21315/aamjaf2016.12.2.4.
Sharma, P. N., Shmueli, G., Sarstedt, M., Danks, N., and Ray, S. (2019). Prediction-oriented Model Selection in Partial Least Squares Path Modeling, Decision Sciences, in press.
Sharma. S.K., Sharma. M. (2019) 'Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation' International Journal of Information Management 44 (2019) 65–75.https://doi.org/10.1016/j.ijinfomgt.2018.09.013.
Shih, Y. Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. Internet Research, 14(3), 213-223. DOI 10.1108/10662240410542643.
Shin, D. H. (2009). Towards an understanding of the consumer acceptance of mobile wallet. Computers in Human Behavior, 25(6), 1343-1354.https://doi.org/10.1016/j.chb.2009.06.001.
Shmueli, G., Ray, S., Velasquez Estrada, J. M., and Chatla, S. B. 2016. The Elephant in the Room: Evaluating the Predictive Performance of PLS Models, Journal of Business Research, 69(10): 4552-4564.http://dx.doi.org/10.1016/j.jbusres.2016.03.049.
Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.-H., Ting, H., Vaithilingam, S. and Ringle, C.M. (2019), "Predictive model assessment in PLS-SEM: guidelines for using PLSpredict", European Journal of Marketing, Vol. 53 No. 11, pp. 2322-2347.https://doi.org/10.1108/EJM-02-2019-0189.
Sikdar, P. and Makkad, M. (2015), "Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers", International Journal of Bank Marketing, Vol. 33 No. 6, pp. 760-785.https://doi.org/10.1108/IJBM-11-2014-0161.
Sinha, I., & Mukherjee, S. (2016). Acceptance of technology, related factors in use of off branch e-banking: an Indian case study. The Journal of High Technology Management Research, 27(1), 88-100.https://doi.org/10.1016/j.hitech.2016.04.008.
Siyal, A. W., Donghong, D., Umrani, W. A., Siyal, S., & Bhand, S. (2019). Predicting Mobile Banking Acceptance and Loyalty in Chinese Bank Customers. SAGE Open.https://doi.org/10.1177/2158244019844084.

Smith, P. R and Chaffey, D. (2001). E– marketing excellence: at the heart of e business. Butterworth Heinemann, Oxford U. K.

Sobel, M. E. (1982), "Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models", Sociological Methodology, Vol. 13, pp. 290-312.

Sohail, M.S and Shanmugham, B. (2002), E-banking and customer preferences in Malaysia: An empirical investigation, Information Sciences 150 (2003) 207–217.https://doi.org/10.1016/S0020-0255(02)00378-X.

Soudjin, M. (2015). Hawala and Money Laundering: Potential Use of Red Flags for Persons Offering Hawala Services. European Journal on Criminal Policy and Research, 21(2), 257–274.https://doi.org/10.1007/s10610-014-9238-6.

Sreejesh S. Pillai Anusree MR Amarnath Mitra , (2016),"Effect of information content and form on customers' attitude and transaction intention in mobile banking: moderating role of perceived privacy concern", International Journal of Bank Marketing, Vol. 34 Iss 7 pp.http://dx.doi.org/10.1108/IJBM-07-2015-0107.

Stamenkov, G., & Dika, Z. (2016). Bank employees' internal and external perspectives on e-service quality, satisfaction and loyalty. Electronic Markets, 26(3), 291-309.https://doi.org/10.1007/s12525-016-0221-6.

Suh, B & Han, I. (2002), Effect of trust on customer acceptance of Internet banking, Electronic Commerce Research and Applications 1 (2002) 247–263.https://doi.org/10.1016/S1567-4223(02)00017-0.

Susanto, A., Lee, H., Zo, H., & Ciganek, A. P. (2013). User acceptance of Internet banking in Indonesia: initial trust formation. Information Development, 29(4), 309–322.https://doi.org/10.1177/0266666912467449.

Suzanne Harrison, T., Peter Onyia, O. and K. Tagg, S. (2014), "Towards a universal model of internet banking adoption: initial conceptualization", International Journal of Bank Marketing, *Vol. 32 No. 7, pp. 647-687.https://doi.org/10.1108/IJBM-06-2013-0056.*

Szopiński, T. S. (2016). Factors affecting the adoption of online banking in Poland. Journal of Business Research, 69(11), 4763-4768.http://dx.doi.org/10.1016/j.jbusres.2016.04.027.

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. Procedia manufacturing, 22, 960-967.https://doi.org/10.1016/j.promfg.2018.03.137.

Tahir Jan. M and Abdullah. K, (2014) "The impact of technology CSFs on customer satisfaction and the role of trust: An empirical study of the banks in Malaysia", International Journal of Bank Marketing, Vol. 32 Issue: 5, pp.429-447.https://doi.org/10.1108/IJBM-11-2013-0139.

Tam, C. and Oliveira, T. (2016a), "Performance impact of mobile banking: using the task-technology fit (TTF) approach", International Journal of Bank Marketing, *Vol. 34 No. 4, pp. 434-457.https://doi.org/10.1108/IJBM-11-2014-0169.*

Tam, C. and Oliveira, T. (2017), "Literature review of mobile banking and individual performance", International Journal of Bank Marketing, *Vol. 35 No. 7, pp. 1044-1067.https://doi.org/10.1108/IJBM-09-2015-0143.*

Tam, C., & Oliveira, T. (2016b). Understanding the impact of m-banking on individual performance: DeLone & McLean and TTF perspective. Computers in Human Behavior, 61, 233-244.http://dx.doi.org/10.1016/j.chb.2016.03.016.

Tan, E. and Leby Lau, J. (2016), "Behavioural intention to adopt mobile banking among the millennial generation", Young Consumers, *Vol. 17 No. 1, pp. 18-*

31.https://doi.org/10.1108/YC-07-2015-00537.

Tan, M., & Teo, T. S. (2000). Factors influencing the adoption of Internet banking. Journal of the Association for information Systems, 1(1), 5.

Thakur, R. (2014), "What keeps mobile banking customers loyal?", International Journal of Bank Marketing, *Vol. 32 No. 7, pp. 628-646.https://doi.org/10.1108/IJBM-07-2013-0062.*

Thakur, R. and Srivastava, M. (2014), "Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India", Internet Research, *Vol. 24 No. 3, pp. 369-392.https://doi.org/10.1108/IntR-12-2012-0244.*

Ting, H., Yacob, Y., Liew, L., & Lau, W. M. (2016). Intention to use mobile payment system: A case of developing market by ethnicity. Procedia-Social and Behavioral Sciences, 224(6), 368-375. doi: 10.1016/j.sbspro.2016.05.390.

Tran, H.T.T and Corner, J. (2016) "The impact of communication channels on mobile banking adoption", International Journal of Bank Marketing, Vol. 34 Issue: 1, pp.78-109,https://doi.org/10.1108/IJBM-06-2014-0073.

Turban, E., Lee, J., King, D., & Chung, H.M. (2000). Electronic Commerce: A Managerial Perspective. Prentice-Hall, Upper Saddle River, NJ.

United States of America (2003), E-banking Handbook, Federal Financial Examination Council, available at: www.ffiec.gov/ffiecinfobase/booklets/e_banking/e_banking.pdf.

USAID, 2008. Kurdistan Region, Economic Development Assessment Final Report, RTI-International December 2008. This publication was produced for review by the United States Agency for International Development.

Van Esterik-Plasmeijer, P.W.J. and van Raaij, W.F. (2017), "Banking system trust, bank trust, and bank loyalty", International Journal of Bank Marketing, *Vol. 35 No. 1, pp. 97-111.https://doi.org/10.1108/IJBM-12-2015-0195.*

Venkatesh, V & Zhang, X., (2010). Unified Theory of Acceptance and Use of Technology: U.S. Vs. China, Journal of Global Information Technology Management, 13:1, 5-27, DOI: 10.1080/1097198X.2010.10856507.

Venkatesh, V. , Thong, J. Y., Chan, F. K., Hu, P. J. and Brown, S. A. (2011a), Extending the two stage information systems continuance model: incorporating UTAUT predictors and the role of context. Information Systems Journal, 21: 527-555. doi:10.1111/j.1365-2575.2011.00373.x.

Venkatesh, V. (2000) Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. Information Systems Research 11(4):342-365.http://dx.doi.org/10.1287/isre.11.4.342.11872.

Venkatesh, V. & Brown, A. (2001), A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges, MIS Quarterly, 25(1), pp. 71-102.

Venkatesh, V. and Bala, H. (2008), Technology Acceptance Model 3 and a Research Agenda on Interventions. Decision Sciences, 39: 273-315. doi:10.1111/j.1540-5915.2008.00192.x.

Venkatesh, V. and Davis, F.D. (2000), "A theoretical extension of the technology acceptance model: four longitudinal field studies", Management Science, Vol. 46 No. 2, pp. 186-204.https://doi.org/10.1287/mnsc.46.2.186.11926.

Venkatesh, V. Sykes, T. A. and Zhang, X. (2011b), "'Just What the Doctor Ordered': A

Revised UTAUT for EMR System Adoption and Use by Doctors," 2011 44th Hawaii International Conference on System Sciences, Kauai, HI, 2011, pp. 1-10. doi: 10.1109/HICSS.2011.1.

Venkatesh, V., Brown, S. A., Maruping, L. M., & Bala, H. (2008). Predicting different conceptualizations of system use: The competing roles of behavioral intention, facilitating conditions, and behavioral expectation. MIS Quarterly, 32(3), 483–502.

Venkatesh, V., Morris, M.G., Davis, G.B. & Davis F.D (2003), User Acceptance of Information Technology: Toward a Unified View, MIS Quarterly, Vol. 27, No. 3 (Sep., 2003), pp. 425-478.

Venkatesh, V., Morris, M.G., Sykes, T.A. and Ackerman, P.L. (2004), "Individual Reactions to New Technologies in the Workplace: The Role of Gender as a Psychological Construct", Journal of Applied Social Psychology, 34: 445-467.

Venkatesh, Viswanath and Thong, James Y.L. and Xu, Xin. (2016), Unified Theory of Acceptance and Use of Technology: A Synthesis and the Road Ahead (May 2016). Journal of the Association for Information Systems, Vol. 17, No. 5 (2016), pp. 328–376.. Available at SSRN:https://ssrn.com/abstract=2800121.

Venkatesh, Viswanath, James Y. L. Thong and Xin Xu. (2012), "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology." MIS Quarterly 36 (2012): 157-178. DOI:10.2307/41410412.

Veríssimo, J. M. C. (2016). Enablers and restrictors of mobile banking app use: A fuzzy set qualitative comparative analysis (fsQCA). Journal of Business Research, 69(11), 5456-5460.https://doi.org/10.1016/j.jbusres.2016.04.155.

Veul, R. M., van Charldorp, T. C., & Soudijn, M. R. J. (2017). Online Public Response to Dutch News About Money Laundering. European Journal on Criminal Policy and Research, 23(2), 227–244.https://doi.org/10.1007/s10610-016-9315-0.

Viles, T. (2008). Hawala, hysteria and hegemony. Journal of Money Laundering Control, 11(1), 25–33.https://doi.org/10.1108/13685200810844479.

Wang, J. R. (2011). Regulating Hawala: a comparison of five national approaches. Journal of Money Laundering Control, 14(3), 210–224.https://doi.org/10.1108/13685201111147522.

Wang, M., Cho, S. and Denton, T. (2017), "The impact of personalization and compatibility with past experience on e-banking usage", International Journal of Bank Marketing, *Vol. 35 No. 1, pp. 45-55.https://doi.org/10.1108/IJBM-04-2015-0046.*

Wang, Y. D., & Emurian, H. H. (2005). An overview of online trust: Concepts, elements, and implications. Computers in human behavior, 21(1), 105-125,https://doi.org/10.1016/j.chb.2003.11.008.

Warsame M.H., Ireri E.M., (2018),'Moderation effect on mobile microfinance services in Kenya: An extended UTAUT model' Journal of Behavioral and Experimental Finance (2018),https://doi.org/10.1016/j.jbef.2018.01.008.

Whetten, D. A. (2009). An examination of the interface between context and theory applied to the study of Chinese organizations. Management and Organization Review, 5(1), 29-55.

Wilson, J. F. (2002). Hawala and other Informal Payments Systems: An Economic Perspective. Seminar on Monetary and Financial Law.

Wold, H. O. A. (1975). Path models with latent variables: The NIPALS approach. In H.

M. Blalock, A. Aganbegian, F. M. Borodkin, R. Boudon, & V. Capecchi (Eds.), Quantitative sociology: International perspectives on mathematical and statistical modeling (pp. 307–357). New York: Academic Press.

Wold, H. O. A. (1982). Soft modeling: The basic design and some extensions. In K. G. Jöreskog & H. Wold (Eds.), Systems under indirect observations: Part II (pp. 1–54). Amsterdam: North-Holland.

Wold, H. O. A. (1985). Partial least squares. In S. Kotz & N. L. Johnson (Eds.), Encyclopedia of statistical sciences (pp. 581–591). New York: John Wiley.

World Bank Group. 2016. The Kurdistan Region of Iraq : Reforming the Economy for Shared Prosperity and Protecting the Vulnerable. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/24706 License: CC BY 3.0 IGO.

World Bank Group. 2017. Iraq Systematic Country Diagnostic. World Bank, Washington, DC. © World Bank.https://openknowledge.worldbank.org/handle/10986/26237 License: CC BY 3.0 IGO."

Yap, K.B., Wong, D.H., Loh, C. and Bak, R. (2010), "Offline and online banking – where to draw the line when building trust in e-banking?", International Journal of Bank Marketing, Vol. 28 No. 1, pp. 27-46.https://doi.org/10.1108/02652321011013571.

Yaseen, S.G. and El Qirem, I.A. (2018), "Intention to use e-banking services in the Jordanian commercial banks", International Journal of Bank Marketing, Vol. 36 No. 3, pp. 557-571.https://doi.org/10.1108/IJBM-05-2017-0082.

Yee-Loong Chong, A., Ooi, K., Lin, B. and Tan, B. (2010), "Online banking adoption: an empirical analysis", International Journal of Bank Marketing, Vol. 28 No. 4, pp. 267-287.https://doi.org/10.1108/02652321011054963.

Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: toward an integrative view. Information & Management, 43(3), 350e363. doi:10.1016/j.im.2005.08.006.

Yiga, C., & Cha, K. J. (2016). Toward understanding the importance of trust in influencing Internet banking adoption in Uganda. Information Development, 32(3), 622–636.https://doi.org/10.1177/0266666914563359.

Yoon, H. S., & Steege, L. M. B. (2013). Development of a quantitative model of the impact of customers' personality and perceptions on Internet banking use. Computers in Human Behavior, 29(3), 1133-1141.http://dx.doi.org/10.1016/j.chb.2012.10.005.

Yousafzai, S. Y., Pallister, J. G., & Foxall, G. R. (2003). A proposed model of e-trust for electronic banking. Technovation, 23(11), 847-860,https://doi.org/10.1016/S0166-4972(03)00130-5.

Yu, C.-S. and Asgarkhani, M. (2015), "An investigation of trust in e-banking: Evidence from Taiwan and New Zealand empirical studies", Management Research Review, *Vol. 38 No. 12, pp. 1267-1284.https://doi.org/10.1108/MRR-09-2014-0210.*

Yuan, Y., Lai, F. & Chu, Z. (2019) 'Continuous usage intention of Internet banking: a commitment-trust model', Information Systems and e-Business Management March 2019, Volume 17, Issue 1, pp 1–25,https://doi.org/10.1007/s10257-018-0372-4.

Zhang, Y., Weng, Q., & Zhu, N. (2018). The relationships between electronic banking adoption and its antecedents: A meta-analytic study of the role of national culture. International Journal of Information Management, 40, 76-87,https://doi.org/10.1016/j.ijinfomgt.2018.01.015.

Zhao, X., Lynch, J. G., and Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and

Truths About Mediation Analysis. Journal of Consumer Research, 37(2), 197–206.https://doi.org/10.1086/651257.

Zhou, T. (2012). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. Computers in Human Behavior, 28(4), 1518-1525.http://dx.doi.org/10.1016/j.chb.2012.03.021.

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. Computers in human behavior, 26(4), 760-767.https://doi.org/10.1016/j.chb.2010.01.013.

Appendix

Appendix 1 Cover letter

Online Questionnaire

I am a PhD student in Hungarian University of Agriculture and Life Sciences in Hungary. The purpose of my questionnaire is to find out the effect of trust and attitude on E-Banking acceptance in Kurdistan region of Iraq. Since you are customers of banking services in Kurdistan region of Iraq and you have the knowledge related to the terms of this study, I need your cooperation to help me answer the question of this survey. I assure you that your responses are just for academic purpose and will be used only for statistical purposes.
It is estimated that this questionnaire will take 15-20 minutes and I really appreciate your help in fulfilling this research endeavour.

Thank you very much for your time, effort, and participation!

Appendix 2 Codebook.

Description of variable	Variable	Coding instructions
Gender	Gender	Male= 1, Female=2
Age	Age	18-40= 1, 41-60= 2, 61-80= 3
Education	Education	Diploma= 1, Undergraduate= 2, Postgraduate= 3
Do you have an online bank account?	OBA	Yes= 1, No= 2
Have you ever accessed to your Electronic Bank account?	EBA	Yes= 1, No= 2
How many times do you usually use your bank account in months?	BAM	1-15= 1, 16-30= 2, 31-50= 3
How long have you been using Electronic Banking?	UEB	1-10= 1, >10= 2
1. Performance Expectancy		
Using Electronic Banking would make me perform my financial transactions more quickly.	PE1	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Using Electronic Banking would save time so I can do other activities in my day to day.	PE2	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking would bring me greater convenience.	PE3	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I think that using Electronic Banking would enable me to conduct tasks more quickly.	PE4	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

I think that using Electronic Banking would increase my productivity.	PE5	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I think that using Electronic Banking would improve my performance.	PE6	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
2. Effort Expectancy		
I believe that it is easy to use the Electronic Banking.	EE7	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Learning to use the Electronic Banking system would be easy for me.	EE8	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
My interaction with Electronic Banking would be clear and understandable.	EE9	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
It would be easy for me to become skilful at using Electronic Banking.	EE10	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I would find Electronic Banking easy to use.	EE11	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I think that learning to operate Electronic Banking would be easy for me.	EE12	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
3. Social Influence		
In the future, organizations that offer Electronic Banking services will guarantee its proper functioning.	SI13	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
People, who influence my behaviour think that I should use Electronic Banking.	SI14	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
People, who are important to me think that I should use Electronic Banking.	SI15	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
People in my environment, who use Electronic Banking services have more prestige than those, who do not.	SI16	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
People in my environment, who use Electronic Banking services have a high profile.	SI17	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
When trying new technology, I trust my own instinct more than advice from others.	SI18	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
4. Facilitating Conditions		

I have all the necessary resources to use Electronic Banking.	FC19	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
If I have any doubts about how to use the Electronic Banking service, I do have a support line to help me.	FC20	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
If I have any doubts about how to use the Electronic Banking service, I do have an account manager that helps me.	FC21	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I have the knowledge necessary to use Electronic Banking.	FC22	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking is not compatible with other systems I use.	FC23R	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
5. Security/Privacy		
I think that username and password are fundamental for Electronic Banking.	SP24	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I think that Electronic Banking safe and cheaper for transaction.	SP25	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
My signing up and using of Electronic Banking would lead me to a loss of privacy because my personal information would be used without my knowledge.	SP26	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Internet hackers (criminals) might take control of my checking account if I use Electronic Banking services.	SP27	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I would feel secure sending sensitive information across Electronic Banking.	SP28	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
The chance of using the Electronic Banking and losing control over the privacy of my payment information is high.	SP29	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
6. Quality		

My access to the Electronic Banking is easy.	Q30	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking enables to handle my online financial transactions accurately.	Q31	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking enables customers to access the bank's website 7/24.	Q32	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking is easy to navigate.	Q33	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking allows me to easily find the information I am looking for.	Q34	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking offers appropriate functionality.	Q35	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
7. Innovativeness		
If I heard about a new information technology, I would look for ways to experiment with it.	I36	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Among my peers, I am usually the first to try out new information technologies.	I37	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
In general, I am hesitant to try out new information technologies.	I38	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I like to experiment with new information technologies.	I39	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I think using Electronic Banking fits into my work style.	I40	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
8. Task Characteristics		
I need to manage my accounts anytime anywhere.	TC41	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I need to do transfers anytime anywhere.	TC42	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I need to have a real time control in my accounts.	TC43	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
The financial instructions I give cannot wait.	TC44R	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

I need to acquire account information in real time.	TC45	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
9. Trust		
I trust Electronic Banking.	T46	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I do not use new Technologies.	T47R	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I trust in the benefits of the decisions of the Electronic Banking site.	T48	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
The Internet has enough safeguards to make me feel comfortable using Electronic Banking.	T49	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I feel assured that legal and technological structures adequately protect me from problems on the Internet.	T50	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
In general, the Internet is a robust and safe environment in, which Electronic Banking can be used.	T51	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
10. Attitude		
Using the Electronic Banking is a good idea.	A52	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I would feel that using the Electronic Banking is pleasant.	A53	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
In my opinion, it would be desirable to use the Electronic Banking.	A54	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
Electronic Banking development will support customers.	A55	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I will encourage the use of Electronic Banking among my colleagues.	A56	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I am not satisfied with using traditional banking services when carrying out financial activities.	A57R	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
11. Behavioural Intention		
I want to know more about Electronic Banking.	BI58	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I predict I would use Electronic Banking in the next months.	BI59	Strongly Disagree=1, Disagree=2, Neutral=3,

I plan to use the system in the next months.	BI60	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I intend to consult the balance of my account on the platform of Electronic Banking.	BI61	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I will use Electronic Banking on regular basis in the future.	BI62	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I will strongly recommend others to use Electronic Banking.	BI63	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
12-1. User Behaviour		
I consider myself a regular user of Electronic Banking services.	UB64	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I prefer to use Electronic Banking services when available.	UB65	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
I do most banking task online	UB66	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
My tendency is towards using Electronic Banking services whenever possible.	UB67	Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5
12-2. User Behaviour		
What is your actual frequency of use of Electronic Banking services?	UB68	Have not use= 1, Once a year= 2, Once in six months= 3, Once in three months= 4, Once a month=5, Once a week=6, Once in 4–5 days= 7, Once in 2–3 days= 8, Almost every day= 9, Every day=10, Several times a day=11

Appendix 3 Descriptive statistics.

Variables	Group	Category	Frequency	Percentage (%)
PE1	1	Strongly Disagree	10	2.1
	2	Disagree	16	3.4
	3	Neutral	30	6.3
	4	Agree	134	28.2
	5	Strongly Agree.	286	60.1
PE2	1	Strongly Disagree	12	2.5
	2	Disagree	6	1.3
	3	Neutral	44	9.2

	4	Agree	134	28.2
	5	Strongly Agree.	280	58.8
PE3	1	Strongly Disagree	12	2.5
	2	Disagree	14	2.9
	3	Neutral	168	35.3
	4	Agree	152	31.9
	5	Strongly Agree.	130	27.3
PE4	1	Strongly Disagree	10	2.1
	2	Disagree	16	3.4
	3	Neutral	46	9.7
	4	Agree	268	56.3
	5	Strongly Agree.	136	28.6
PE5	1	Strongly Disagree	10	2.1
	2	Disagree	32	6.7
	3	Neutral	178	37.4
	4	Agree	144	30.3
	5	Strongly Agree.	112	23.5
PE6	1	Strongly Disagree	6	1.3
	2	Disagree	18	3.8
	3	Neutral	64	13.4
	4	Agree	260	54.6
	5	Strongly Agree.	128	26.9
EE7	1	Strongly Disagree	6	1.3
	2	Disagree	16	3.4
	3	Neutral	50	10.5
	4	Agree	120	25.2
	5	Strongly Agree.	284	59.7
EE8	1	Strongly Disagree	4	0.8
	2	Disagree	10	2.1
	3	Neutral	44	9.2
	4	Agree	126	26.5
	5	Strongly Agree.	292	61.3
EE9	1	Strongly Disagree	10	2.1
	2	Disagree	8	1.7
	3	Neutral	46	9.7
	4	Agree	140	29.4
	5	Strongly Agree.	272	57.1
EE10	1	Strongly Disagree	6	1.3
	2	Disagree	10	2.1
	3	Neutral	66	13.9
	4	Agree	128	26.9
	5	Strongly Agree.	266	55.9
EE11	1	Strongly Disagree	4	0.8
	2	Disagree	14	2.9
	3	Neutral	68	14.3
	4	Agree	124	26.1
	5	Strongly Agree.	266	55.9
EE12	1	Strongly Disagree	2	0.4

	2	Disagree	14	2.9
	3	Neutral	46	9.7
	4	Agree	140	29.4
	5	Strongly Agree.	274	57.6
SI13	1	Strongly Disagree	8	1.7
	2	Disagree	16	3.4
	3	Neutral	166	34.9
	4	Agree	172	36.1
	5	Strongly Agree.	114	23.9
SI14	1	Strongly Disagree	20	4.2
	2	Disagree	24	5.0
	3	Neutral	172	36.1
	4	Agree	152	31.9
	5	Strongly Agree.	108	22.7
SI15	1	Strongly Disagree	30	6.3
	2	Disagree	38	8.0
	3	Neutral	170	35.7
	4	Agree	138	29.0
	5	Strongly Agree.	100	21.0
SI16	1	Strongly Disagree	34	7.1
	2	Disagree	140	29.4
	3	Neutral	68	14.3
	4	Agree	144	30.3
	5	Strongly Agree.	90	18.9
SI17	1	Strongly Disagree	16	3.4
	2	Disagree	24	5.0
	3	Neutral	168	35.3
	4	Agree	162	34.0
	5	Strongly Agree.	106	22.3
SI18	1	Strongly Disagree	8	1.7
	2	Disagree	10	2.1
	3	Neutral	58	12.2
	4	Agree	272	57.1
	5	Strongly Agree.	128	26.9
FC19	1	Strongly Disagree	24	5.0
	2	Disagree	28	5.9
	3	Neutral	64	13.4
	4	Agree	256	53.8
	5	Strongly Agree.	104	21.8
FC20	1	Strongly Disagree	32	6.7
	2	Disagree	36	7.6
	3	Neutral	44	9.2
	4	Agree	270	56.7
	5	Strongly Agree.	94	19.7
FC21	1	Strongly Disagree	280	58.8
	2	Disagree	26	5.5
	3	Neutral	46	9.7
	4	Agree	72	15.1

	5	Strongly Agree.	52	10.9
FC22	1	Strongly Disagree	18	3.8
	2	Disagree	20	4.2
	3	Neutral	144	30.3
	4	Agree	170	35.7
	5	Strongly Agree.	124	26.1
FC23R	1	Strongly Disagree	104	21.8
	2	Disagree	130	27.3
	3	Neutral	162	34.0
	4	Agree	52	10.9
	5	Strongly Agree.	28	5.9
SP24	1	Strongly Disagree	12	2.5
	2	Disagree	20	4.2
	3	Neutral	52	10.9
	4	Agree	152	31.9
	5	Strongly Agree.	240	50.4
SP25	1	Strongly Disagree	14	2.9
	2	Disagree	20	4.2
	3	Neutral	160	33.6
	4	Agree	166	34.9
	5	Strongly Agree.	116	24.4
SP26	1	Strongly Disagree	26	5.5
	2	Disagree	50	10.5
	3	Neutral	170	35.7
	4	Agree	138	29.0
	5	Strongly Agree.	92	19.3
SP27	1	Strongly Disagree	14	2.9
	2	Disagree	48	10.1
	3	Neutral	62	13.0
	4	Agree	260	54.6
	5	Strongly Agree.	92	19.3
SP28	1	Strongly Disagree	28	5.9
	2	Disagree	32	6.7
	3	Neutral	174	36.6
	4	Agree	154	32.4
	5	Strongly Agree.	88	18.5
SP29	1	Strongly Disagree	16	3.4
	2	Disagree	30	6.3
	3	Neutral	202	42.4
	4	Agree	148	31.1
	5	Strongly Agree.	80	16.8
Q30	1	Strongly Disagree	14	2.9
	2	Disagree	20	4.2
	3	Neutral	48	10.1
	4	Agree	132	27.7
	5	Strongly Agree.	262	55.0
Q31	1	Strongly Disagree	8	1.7
	2	Disagree	22	4.6

	3	Neutral	62	13.0
	4	Agree	138	29.0
	5	Strongly Agree.	246	51.7
Q32	1	Strongly Disagree	10	2.1
	2	Disagree	12	2.5
	3	Neutral	58	12.2
	4	Agree	128	26.9
	5	Strongly Agree.	268	56.3
Q33	1	Strongly Disagree	8	1.7
	2	Disagree	20	4.2
	3	Neutral	70	14.7
	4	Agree	132	27.7
	5	Strongly Agree.	246	51.7
Q34	1	Strongly Disagree	10	2.1
	2	Disagree	26	5.5
	3	Neutral	62	13.0
	4	Agree	146	30.7
	5	Strongly Agree.	232	48.7
Q35	1	Strongly Disagree	8	1.7
	2	Disagree	28	5.9
	3	Neutral	158	33.2
	4	Agree	156	32.8
	5	Strongly Agree.	126	26.5
I36	1	Strongly Disagree	14	2.9
	2	Disagree	22	4.6
	3	Neutral	56	11.8
	4	Agree	158	33.2
	5	Strongly Agree.	226	47.5
I37	1	Strongly Disagree	12	2.5
	2	Disagree	34	7.1
	3	Neutral	66	13.9
	4	Agree	146	30.7
	5	Strongly Agree.	218	45.8
I38	1	Strongly Disagree	52	10.9
	2	Disagree	52	10.9
	3	Neutral	44	9.2
	4	Agree	118	24.8
	5	Strongly Agree.	210	44.1
I39	1	Strongly Disagree	20	4.2
	2	Disagree	14	2.9
	3	Neutral	48	10.1
	4	Agree	142	29.8
	5	Strongly Agree.	252	52.9
I40	1	Strongly Disagree	12	2.5
	2	Disagree	10	2.1
	3	Neutral	50	10.5
	4	Agree	154	32.4
	5	Strongly Agree.	250	52.5

TC41	1	Strongly Disagree	24	5.0
	2	Disagree	28	5.9
	3	Neutral	48	10.1
	4	Agree	148	31.1
	5	Strongly Agree.	228	47.9
TC42	1	Strongly Disagree	24	5.0
	2	Disagree	32	6.7
	3	Neutral	56	11.8
	4	Agree	140	29.4
	5	Strongly Agree.	224	47.1
TC43	1	Strongly Disagree	72	15.1
	2	Disagree	154	32.4
	3	Neutral	70	14.7
	4	Agree	98	20.6
	5	Strongly Agree.	82	17.2
TC44R	1	Strongly Disagree	64	13.4
	2	Disagree	110	23.1
	3	Neutral	66	13.9
	4	Agree	156	32.8
	5	Strongly Agree.	80	16.8
TC45	1	Strongly Disagree	22	4.6
	2	Disagree	32	6.7
	3	Neutral	64	13.4
	4	Agree	156	32.8
	5	Strongly Agree.	202	42.4
T46	1	Strongly Disagree	82	17.2
	2	Disagree	28	5.9
	3	Neutral	146	30.7
	4	Agree	124	26.1
	5	Strongly Agree.	96	20.2
T47R	1	Strongly Disagree	64	13.4
	2	Disagree	64	13.4
	3	Neutral	40	8.4
	4	Agree	24	5.0
	5	Strongly Agree.	284	59.7
T48	1	Strongly Disagree	76	16.0
	2	Disagree	32	6.7
	3	Neutral	168	35.3
	4	Agree	120	25.2
	5	Strongly Agree.	80	16.8
T49	1	Strongly Disagree	216	45.4
	2	Disagree	46	9.7
	3	Neutral	60	12.6
	4	Agree	88	18.5
	5	Strongly Agree.	66	13.9
T50	1	Strongly Disagree	218	45.8
	2	Disagree	48	10.1
	3	Neutral	46	9.7

	4	Agree	106	22.3
	5	Strongly Agree.	58	12.2
T51	1	Strongly Disagree	220	46.2
	2	Disagree	38	8.0
	3	Neutral	68	14.3
	4	Agree	92	19.3
	5	Strongly Agree.	58	12.2
A52	1	Strongly Disagree	4	0.8
	2	Disagree	26	5.5
	3	Neutral	36	7.6
	4	Agree	154	32.4
	5	Strongly Agree.	256	53.8
A53	1	Strongly Disagree	8	1.7
	2	Disagree	14	2.9
	3	Neutral	140	29.4
	4	Agree	166	34.9
	5	Strongly Agree.	148	31.1
A54	1	Strongly Disagree	6	1.3
	2	Disagree	20	4.2
	3	Neutral	58	12.2
	4	Agree	142	29.8
	5	Strongly Agree.	250	52.5
A55	1	Strongly Disagree	8	1.7
	2	Disagree	28	5.9
	3	Neutral	38	8.0
	4	Agree	148	31.1
	5	Strongly Agree.	254	53.4
A56	1	Strongly Disagree	8	1.7
	2	Disagree	14	2.9
	3	Neutral	56	11.8
	4	Agree	164	34.5
	5	Strongly Agree.	234	49.2
A57R	1	Strongly Disagree	218	45.8
	2	Disagree	146	30.7
	3	Neutral	74	15.5
	4	Agree	26	5.5
	5	Strongly Agree.	12	2.5
BI58	1	Strongly Disagree	6	1.3
	2	Disagree	18	3.8
	3	Neutral	40	8.4
	4	Agree	112	23.5
	5	Strongly Agree.	300	63.0
BI59	1	Strongly Disagree	18	3.8
	2	Disagree	38	8.0
	3	Neutral	40	8.4
	4	Agree	114	23.9
	5	Strongly Agree.	266	55.9
BI60	1	Strongly Disagree	14	2.9

	2	Disagree	32	6.7
	3	Neutral	64	13.4
	4	Agree	114	23.9
	5	Strongly Agree.	252	52.9
BI61	1	Strongly Disagree	14	2.9
	2	Disagree	36	7.6
	3	Neutral	60	12.6
	4	Agree	118	24.8
	5	Strongly Agree.	248	52.1
BI62	1	Strongly Disagree	14	2.9
	2	Disagree	24	5.0
	3	Neutral	42	8.8
	4	Agree	122	25.6
	5	Strongly Agree.	274	57.6
BI63	1	Strongly Disagree	12	2.5
	2	Disagree	22	4.6
	3	Neutral	50	10.5
	4	Agree	122	25.6
	5	Strongly Agree.	270	56.7
UB64	1	Strongly Disagree	22	4.6
	2	Disagree	34	7.1
	3	Neutral	50	10.5
	4	Agree	116	24.4
	5	Strongly Agree.	254	53.4
UB65	1	Strongly Disagree	8	1.7
	2	Disagree	30	6.3
	3	Neutral	56	11.8
	4	Agree	118	24.8
	5	Strongly Agree.	264	55.5
UB66	1	Strongly Disagree	14	2.9
	2	Disagree	36	7.6
	3	Neutral	44	9.2
	4	Agree	130	27.3
	5	Strongly Agree.	252	52.9
UB67	1	Strongly Disagree	6	1.3
	2	Disagree	30	6.3
	3	Neutral	42	8.8
	4	Agree	122	25.6
	5	Strongly Agree.	276	58.0
UB68-Group	1	Strongly Disagree	34	7.1
	2	Disagree	20	4.2
	3	Neutral	30	6.3
	4	Agree	58	12.2
	5	Strongly Agree.	334	70.2

*Note: PE: Performance Expectancy, EE: Effort Expectancy, SI: Social Influence, FC: Facilitating Conditions, S/P: Security/Privacy, Q: Quality, I: Innovativeness, TC: Task Characteristics, T: Trust, A: Attitude, BI: Behavioural Intention, UB: User Behaviour.

Appendix 4 Assessing normality.

Indicators	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
Gender	1.609	2	1	2	0.488	-1.806	-0.449
Age	1.244	1	1	3	0.458	1.45	1.587
Education	3	3	3	3	0.000	0.223	0.112
OBA	1.101	1	1	2	0.301	5.095	2.66
EBA	1.063	1	1	2	0.243	11.062	3.608
BAM	1.929	2	1	3	0.893	-1.737	0.141
UEB	1.294	1	1	2	0.456	-1.183	0.907
PE1	4.408	5	1	5	0.906	3.41	-1.847
PE2	4.395	5	1	5	0.896	3.579	-1.812
PE3	3.786	4	1	5	0.962	-0.01	-0.442
PE4	4.059	4	1	5	0.838	2.693	-1.314
PE5	3.664	4	1	5	0.977	-0.356	-0.262
PE6	4.021	4	1	5	0.817	1.683	-1.012
EE7	4.387	5	1	5	0.895	2.074	-1.546
EE8	4.454	5	1	5	0.812	2.639	-1.62
EE9	4.378	5	1	5	0.884	3.128	-1.696
EE10	4.34	5	1	5	0.883	1.57	-1.347
EE11	4.332	5	1	5	0.886	1.033	-1.247
EE12	4.408	5	1	5	0.813	1.628	-1.391
SI13	3.773	4	1	5	0.907	-0.04	-0.35
SI14	3.639	4	1	5	1.019	0.028	-0.475
SI15	3.504	4	1	5	1.099	-0.263	-0.43
SI16	3.244	3	1	5	1.257	-1.231	-0.111
SI17	3.668	4	1	5	0.985	0.065	-0.461
SI18	4.055	4	1	5	0.789	2.716	-1.177
FC19	3.815	4	1	5	1.004	1.255	-1.173
FC20	3.752	4	1	5	1.066	0.959	-1.205
FC21	2.139	1	1	5	1.501	-0.994	0.809
FC22	3.761	4	1	5	1.007	0.241	-0.645
FC23R	2.517	3	1	5	1.122	-0.491	0.352
SP24	4.235	5	1	5	0.976	1.697	-1.41
SP25	3.735	4	1	5	0.971	0.11	-0.5
SP26	3.462	3	1	5	1.083	-0.368	-0.34
SP27	3.773	4	1	5	0.97	0.665	-0.975
SP28	3.508	4	1	5	1.052	-0.022	-0.478
SP29	3.517	3	1	5	0.956	0.06	-0.265
Q30	4.277	5	1	5	1.004	1.906	-1.528
Q31	4.244	5	1	5	0.961	1.142	-1.273
Q32	4.328	5	1	5	0.931	2.103	-1.51
Q33	4.235	5	1	5	0.963	0.984	-1.221
Q34	4.185	4	1	5	0.996	0.972	-1.223
Q35	3.765	4	1	5	0.963	-0.339	-0.363
I36	4.176	4	1	5	1.005	1.407	-1.33
I37	4.101	4	1	5	1.048	0.516	-1.102
I38	3.803	4	1	5	1.384	-0.583	-0.883

I39	4.244	5	1	5	1.033	2.144	-1.58
I40	4.303	5	1	5	0.922	2.607	-1.572
TC41	4.109	4	1	5	1.121	1.03	-1.329
TC42	4.067	4	1	5	1.143	0.652	-1.216
TC43	2.924	3	1	5	1.348	-1.25	0.19
TC44R	3.164	3	1	5	1.32	-1.207	-0.216
TC45	4.017	4	1	5	1.115	0.563	-1.128
T46	3.261	3	1	5	1.322	-0.843	-0.411
T47R	3.84	5	1	5	1.55	-1.022	-0.818
T48	3.202	3	1	5	1.261	-0.718	-0.359
T49	2.458	2	1	5	1.535	-1.401	0.432
T50	2.45	2	1	5	1.53	-1.454	0.41
T51	2.433	2	1	5	1.512	-1.392	0.425
A52	4.328	5	1	5	0.895	1.689	-1.435
A53	3.908	4	1	5	0.93	-0.006	-0.538
A54	4.282	5	1	5	0.922	1.283	-1.298
A55	4.286	5	1	5	0.958	1.682	-1.46
A56	4.265	4	1	5	0.899	1.824	-1.347
A57R	1.882	2	1	5	1.022	0.683	1.113
BI58	4.433	5	1	5	0.89	2.628	-1.717
BI59	4.202	5	1	5	1.123	0.949	-1.385
BI60	4.172	5	1	5	1.081	0.67	-1.229
BI61	4.155	5	1	5	1.091	0.576	-1.208
BI62	4.298	5	1	5	1.02	1.902	-1.575
BI63	4.294	5	1	5	0.999	1.74	-1.504
UB64	4.147	5	1	5	1.148	0.768	-1.309
UB65	4.261	5	1	5	1.004	0.97	-1.315
UB66	4.197	5	1	5	1.072	0.991	-1.343
UB67	4.328	5	1	5	0.962	1.448	-1.462
UB68_Group	4.34	5	1	5	1.208	1.956	-1.795

*Note: There is no missing value.

Appendix 5 Assessing normality.

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Gender	.397	476	.000	.619	476	.000
Age	.471	476	.000	.542	476	.000
Education	.534	476	.000	.293	476	.000
OBA	.530	476	.000	.344	476	.000
EBA	.539	476	.000	.259	476	.000
BAM	.288	476	.000	.743	476	.000
UEB	.446	476	.000	.572	476	.000
PE1	.344	476	.000	.675	476	.000
PE2	.338	476	.000	.687	476	.000
PE3	.200	476	.000	.857	476	.000
PE4	.321	476	.000	.770	476	.000
PE5	.214	476	.000	.878	476	.000
PE6	.305	476	.000	.805	476	.000

EE7	.350	476	.000	.705	476	.000
EE8	.363	476	.000	.690	476	.000
EE9	.330	476	.000	.704	476	.000
EE10	.331	476	.000	.736	476	.000
EE11	.333	476	.000	.742	476	.000
EE12	.342	476	.000	.721	476	.000
SI13	.202	476	.000	.862	476	.000
SI14	.188	476	.000	.875	476	.000
SI15	.181	476	.000	.889	476	.000
SI16	.218	476	.000	.884	476	.000
SI17	.195	476	.000	.875	476	.000
SI18	.313	476	.000	.780	476	.000
FC19	.329	476	.000	.802	476	.000
FC20	.357	476	.000	.779	476	.000
FC21	.364	476	.000	.720	476	.000
FC22	.212	476	.000	.865	476	.000
FC23R	.175	476	.000	.897	476	.000
SP24	.287	476	.000	.753	476	.000
SP25	.200	476	.000	.869	476	.000
SP26	.182	476	.000	.898	476	.000
SP27	.332	476	.000	.819	476	.000
SP28	.189	476	.000	.885	476	.000
SP29	.226	476	.000	.878	476	.000
Q30	.314	476	.000	.724	476	.000
Q31	.301	476	.000	.761	476	.000
Q32	.328	476	.000	.724	476	.000
Q33	.303	476	.000	.765	476	.000
Q34	.281	476	.000	.775	476	.000
Q35	.194	476	.000	.872	476	.000
I36	.268	476	.000	.769	476	.000
I37	.262	476	.000	.794	476	.000
I38	.248	476	.000	.790	476	.000
I39	.297	476	.000	.724	476	.000
I40	.300	476	.000	.731	476	.000
TC41	.265	476	.000	.760	476	.000
TC42	.263	476	.000	.775	476	.000
TC43	.228	476	.000	.884	476	.000
TC44R	.232	476	.000	.886	476	.000
TC45	.246	476	.000	.799	476	.000
T46	.191	476	.000	.877	476	.000
T47R	.369	476	.000	.709	476	.000
T48	.210	476	.000	.885	476	.000
T49	.282	476	.000	.799	476	.000
T50	.286	476	.000	.792	476	.000
T51	.290	476	.000	.798	476	.000
A52	.311	476	.000	.731	476	.000
A53	.199	476	.000	.851	476	.000
A54	.307	476	.000	.754	476	.000

A55	.305	476	.000	.733	476	.000
A56	.285	476	.000	.762	476	.000
A57R	.264	476	.000	.795	476	.000
BI58	.368	476	.000	.674	476	.000
BI59	.320	476	.000	.723	476	.000
BI60	.307	476	.000	.757	476	.000
BI61	.301	476	.000	.761	476	.000
BI62	.330	476	.000	.707	476	.000
BI63	.327	476	.000	.720	476	.000
UB64	.305	476	.000	.743	476	.000
UB65	.324	476	.000	.739	476	.000
UB66	.302	476	.000	.743	476	.000
UB67	.337	476	.000	.714	476	.000
UB68 Group	.409	476	.000	.598	476	.000