An investigation of factors affecting initial trust in Internet Banking Services in Jordan

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

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Abstract

Despite the rapid growth in technology and the research effort given on investigating the adoption of Internet banking services (IBS), both banks and academic researchers in developing countries perceive the problem of low-level adoption of IBS. The vast majority of studies which have investigated the adoption, acceptance, or intention to use IBS, have agreed that customers' trust is one of the most important impediments that have frustrated the success of the adoption process. Therefore, in developed countries, customers' trust became the pivot of research studies that investigated the electronic dealings between customers and new IT/IS innovations. Recently, a few researchers have started investigating online trust in developing countries.

However, existing research studies on online trust lacks a comprehensive view that addresses the issue from multiple perspectives (technical, psychological, and cultural) and offers more knowledge and understanding of the problem. To fill this gap, this study has conducted an intensive review of the literature (on online trust and on the adoption of new technological innovation). Consequently, building and examining a comprehensive unified model of initial trust in IBS adoption has been the main aim of this study. The model constructs are developed using trust antecedents, national culture, and the diffusion of innovation theory.

The study model was then verified and examined using a rigorous research design that employed a sequential mixed approach that consist of: (i) a quantitative method that involved both a pilot study and a large-scale survey, and (ii) a qualitative method that

adopted semi-structured interviews to collect data from nine academic and industry experts. Teachers were surveyed and 540 questionnaires were identified as valid. The obtained quantitative data of the study was analysed using manifold statistical techniques including: Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA, measurement model), and the Structural Equation Modeling (SEM) using the AMOS software. Moreover, a content analysis was used to analyse the qualitative data in order to confirm the quantitative results, validate the initial trust model in IBS, and provide recommendations for future research.

The results of this study show that organizational structural assurance, banks' reputation, perceived relative advantages, and uncertainty avoidance are the most important determinants of customers' initial trust in IBS in Jordan. In addition, the results indicate that initial trust in IBS positively influences intention to use IBS. The obtained results underpin the claim that national culture has a significant role in forming customers' initial trust in IBS, particularly in developing context.

The current study provides a cornerstone for the intention to use new technological innovations in developing countries, especially IBS. Furthermore, the study provides a set of academic and practical implications, and discusses the research limitations and future directions.

List of Publications

Journal publications:

1. **Aljaafreh, A**., Al-Ani, A., Aladaileh, R. & Aljaafreh, R. 2015, 'Initial Trust in Internet Banking Service in Jordan: Modeling and Instrument Validation', *Journal of Theoretical & Applied Information Technology*, vol. 74, no. 1, pp. 68-81.

2. Alshamayleh, H., Aljaafreh, R., **Aljaafreh, A**. & Albadayneh, D. 2015, 'Measuring the Quality of e-Services and its Impact on Students Satisfaction at Jordanian Universities ', *Journal of Theoretical and Applied Information Technology*, vol. 74, no. 3, pp. 274-85.

3. **Aljaafreh, A**., Gill, A., Al-Ani, A. & Al-adaileh, R. 2014, 'A Review of Literature of Initial Trust in E-Services: The Case of Internet Banking Services in the Jordanian Context', *Journal of Electronic Banking Systems*, vol. 2014, no. 1, pp. 1-10.

Conference papers:

4. **Aljaafreh, A**., Al-Ani, A., Aljaafreh, R. & Chandran, D. 2015, 'Understanding Customer's Initial Trust in Internet Banking Services: A Field Study in Jordan', paper presented to the *24th International Conference on Information Systems Development: Transforming Healthcare through Information Systems (ISD2015 Proceedings)*, Harbin, China, August 25-27, 2015.

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and Society through Information Systems (ISD2014 Proceedings), Varaždin, Croatia: Faculty of Organization and Informatics, September 2-4, 2014.

6. **Aljaafreh, A**., Gill, A. & Al Ani, A. 2014, 'Towards the Development of an Initial Trust Model for the Adoption of Internet Banking Services in Jordan', paper presented to the *The 18th Pacific Asia Conference on Information Systems (PACIS 2014)*, Chengdu, China, June 24-28, 2014.

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8. **Aljaafreh, A**., Gill, A., Al-Ani, A. & Al-adaileh, R. 2013, 'Factors Influencing Customer's Initial Trust of Internet Banking Services in the Jordanian Context: A Review', paper presented to the *The 22nd International Business Information Management Association (IBIMA): Creating Global Competitive Economies: 2020 Vision Planning & Implementation*, Rome, Italy, November 13-14, 2013.

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Allah says “O my Lord! Grant me that I may be grateful for Thy favour which Thou has bestowed upon me, and upon both my parents, and that I may work righteousness such as Thou mayst approve” Al-Ahqaf – 15. My deep thanks to ALLAH, the one and the only one who granted me the ability to successfully complete my studies.

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List of Abbreviations

ABJ	Association Of Banks In Jordan
ADF	Asymptotically Distri ut on Free
AGFI	Adjusted-Goodness-Of-Fit
AMOS	Analysis Of Moment Structure
AVE	Average Variance Extracted
CBJ	Central Bank Of Jordan
CFA	Confirmatory Factor Analysis
CFI	Comparative-Fit-Index
CFI	Comparative Fit Index
CFIP	Concern For Information Privacy Model
CISE	Computer And Internet Self-Efficacy
CPT	Compatibility
CPX	Complexity
CR	Critical Ratio
DF	Degree Of Freedom
DOI	Diffusion Of Innovation Theory
DOS	Department Of Statistics
DT	Disposition To Trust
EFA	Exploratory Factor Analysis
EFT	Electronic Funds Transfer
EXP	Expert
FFIEC	Federal Financial Institutions Examination Council
FM	Femininity Vs. Masculinity
GFI	Goodness-Of-Fit Index
GLOBE	Global Leadership And Organizational Behaviour Effectiveness Research Program
GLS	Generalised Least Square

HREC	Human Research Ethics Committee
IBM	International Business Machines
IBS	Internet Banking Services
IC	Individualism Vs. Collectivism
ICT	Information And Communications Technology
IDT	Innovation Diffusion Theory
IFI	Incremental-Fit-Index
IFI	Incremental Fit Index
INT	Initial Trust
INU	Intention To Use
IS	Information Systems
IT	Information Technology
KMO	Kaiser-Meyer-Olkin
LC	Latent Change Model
LISREL	Linear Structural Relations
LSO	Long Term Orientation Vs. Short Term Orientation
MIS	Management Information Systems
ML	Maximum Likelihood
MOE	Ministry Of Education
MOHE	Ministry Of Higher Education And Scientific Research
MOICT	Ministry Of Information And Communication Technology
MOICT	Ministry Of Information And Communication Technology
NFI	Normed-Fit-Index
NFI	Normed Fit Index
OLS	Ordinary Least Square
OSA	Organisational Structural Assurance
PCFI	Parsimony Comparative Fit Index
PD	Power Distance
PGFI	Parsimony Goodness-Of-Fit Index
PL	Path Analytic Model
PLS	Partial Least Square

PNFI	Parsimony Normed Fit Index
RA	Relative Advantages
REP	Reputation
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error Of Approximation
SEM	Structural Equation Modeling
SMC	Squared Multiple Correlation
SPSS	Statistical Package For The Social Sciences
SR	Structural Regression Model
TAM	Technology Acceptance Model
TLI	Tucker-Lewis-Index
TPB	Theory Of Planned Behaviour
TRA	Theory Of Reasoned Action
TRC	Telecommunication And Regulation Committee
TSA	Technical Structural Assurance
UA	Uncertainty Avoidance
ULS	Unweighted Least Square
UNESCO	United Nations Education, Scientific, And Cultural Organization
USA	United States Of America
UTAUT	Unified Theory Of Acceptance And Use Of Technology
UTS	University Of Technology Sydney
WLS	Weighted Least Square
WWW	World Wide Web
X^2	Chi-Square

Chapter 1
Introduction

1.1. Introduction

This chapter aims to introduce and discuss the topics covered in this research. The following section sheds light on the research background. Section 1.3 aims to explain the theoretical and geographical scope of the study. Section 1.4 discusses the problem statement of the study. Section 1.5 presents the motivations and the significance of the study. Research questions and objectives are presented in sections 1.6 and 1.7 respectively. Section 1.8 illustrates the methodology followed in this study. Section 1.9 shows the research implications. Finally, this chapter outlines the organization of the rest of this thesis.

1.2. Background of the Study

Due to the current revolution in Information Technology (IT), the world is going through a developing stage which makes life more influenced by digital and electronic advancements. Many organizations have utilized these IT advancements in order to deliver their services electronically. For example, the educational sector uses e-Learning, governments apply e-government, and Banks offer e-banking. Further, to gain the greatest benefit of these e-services, both users and organizations should co-operate

to achieve the maximum level of participation and interaction. Therefore, the current research is carried out to discuss the issue of adopting Internet Banking Services (IBS) in developing countries.

E-Banking is defined as "delivering banks' products and services directly and automatically to their customers (individuals, businesses, or financial institutions) via electronic and communication channels" (Federal Financial Institutions Examination Council [FFIEC] 2003). The terms IBS, e-banking, virtual banking, online banking, home banking and personal computer banking, are referring to the same concept. Some research studies, which were conducted in Jordan, considered IBS and E-Banking to have the same meaning (AbuShanab & Pearson 2007; Abbad 2011; Alsamydai et al. 2012).

Internet Banking Services is the customer's ability to access their bank accounts and complete all their banking transactions through bank websites without the need for a physical presence in physical places of banks. IBS has started to become increasingly important and therefore almost all banks in this technological era offer Internet banking services to their customers through their websites. IBS includes many services such as: balance inquiries, bills payment, account transfers, bank statements and checkbooks.

The technological advances in the developing countries (e.g. Jordan) qualify them to get benefits of using IT related services (Al-Hujran et al. 2011); however, the level of services in these countries are far less than those offered in developed countries. Increasing the level of adopting, accepting, and using technology is the only way to achieve advantages and get benefits of this technology. Thus, the majority of IT/IS research has focused on exploring and investigating reasons behind accepting or rejecting new IT/IS services (Al-Adawi et al. 2005).

Different barriers were investigated in the literature to new IT/IS innovations. The literature focused on some of those barriers, for instance: IT experiences and skills, security and privacy issues, cultural and social issues, legislations, and trust (Wang & Newlin 2002; Al Sukkar & Hasan 2005; AbuShanab & Pearson 2007; Bélanger & Carter 2008). Trust is always reported as one of the main impediments in online dealing (Gefen 2000; McKnight et al. 2002b; Kim et al. 2009; Lin et al. 2011; Zhou 2011; Susanto et al. 2013).

Accordingly, researchers should focus on how to improve stakeholders' trust of the online environment in order to achieve the aimed benefits. For example, one of the most important benefits of enhancing customer's trust is increasing the level of online dealing acceptance (Suh & Han 2003), and supporting the dealing with new unknown e-vendors (Jarvenpaa et al. 2000; McKnight et al. 2002b; Kim et al. 2004; Kim & Tadisina 2007). In conclusion, banks should understand their customer's trust, aim to enhance it and thus increase their willingness to use IBS.

1.3. Scope of the study

Many studies that have been conducted in Jordan investigated the acceptance of new IT services. For instance, the adoption of online banking was thoroughly investigated (Al Sukkar & Hasan 2005; AbuShanab & Pearson 2007; Abbad 2011; AL-Majali & Mat 2011; Abbad et al. 2012; Al-Muala et al. 2012), and the same case was with e-government adoption (Alhujran 2009; Al-Hujran et al. 2011; Alomari et al. 2012). All of the mentioned studies agreed that trust is a crucial factor for customers to accept or reject new IT services; however, none of them have thoroughly studied the trust problem and investigated factors that affect customer's trust of in these services.

Trust is divided into two types according to their dependency on firsthand knowledge about the trustee and/or previous experience in dealing with the trustee. McKnight et al. (1998), McKnight et al. (2002a, 2002b), and Gefen et al. (2003) mentioned that ongoing trust relies on previous experiences about the trustee. However, initial trust is related to those who do not have any previous experience about the trustee, and is defined as the early stage of trust which is shaped based on a cognitive process without any previous experiences or firsthand knowledge about IBS (McKnight et al. 1998). Since the adoption rate of IBS in Jordan is only 1.8% (Department of statistics [DOS] 2012), the majority of the study population do not have previous experience on using IBS. Therefore, the theoretical scope of this study is focused on the initial trust of individuals (bank customers).

1.4. Problem Statement

The main aim of this research is to study the adoption of IBS in developing countries, particularly Jordan, which is a country in the Middle East where the researcher comes from. Since the emergence of IBS, a few studies have examined the impact of different types of factors, such as cultural, technical, psychological, and social, on the adoption of IBS. Most of the previous studies examined models that were designed for developed countries. For example, Al Sukkar & Hasan (2005) and Abbad (2011) adopted the Technology Acceptance Model (TAM), AL-Majali & Mat (2011) used Innovation Diffusion Theory (IDT), and AbuShanab & Pearson (2007) applied Unified theory of acceptance and use of technology (UTAUT). Although all of these studies and many others have examined many factors and revealed significant results, the rate of IBS adoption in Jordan and other developing countries has not been high.

Based on government reports, the Jordanian IT Infrastructure became ready for the banks to deliver some IBS services in 2003 (Awamleh 2003); however the adoption rate of IBS is still low (DOS 2012). So, it is important to study the factors that reduce, or deny users from using such services.

Investigating the factors that affects customers' trust building in the Internet based environment has previously been considered (McKnight et al. 2002b; Gefen et al. 2003; Gefen & Straub 2003; Wang & Emurian 2005). Gerrard et al. (2006) in their exploratory study found that the most important factors which deny customers from using IBS are lack of security, lack of privacy, and lack of guarantees that the transactions been done correctly. Therefore, customers' trust is a crucial factor that can increase the level of use of IBS in Jordan and the rest of developing countries.

1.5. Research Motivation and significance

According to annual governmental reports in Jordan, the number of Internet users had been doubled around 3 times between the period from 2009 to the third quarter of 2015 (Ministry of Information and Communication Technology [MoICT] 2011; Telecommunication and Regulation Committee [TRC] 2015) (see figure 1.1). The reports showed that 75% of Jordanians are considered as Internet users. Due to the diffusion of the Internet in Jordan, the adoption and usage of e-services should grow considerably. Nevertheless, despite the usage of the e-services in general, IBS in particular is still too low; only 1.8% of Jordanians used IBS (DOS 2012). This low rate motivates the researcher to find the major obstacles that prevent customers from using IBS.

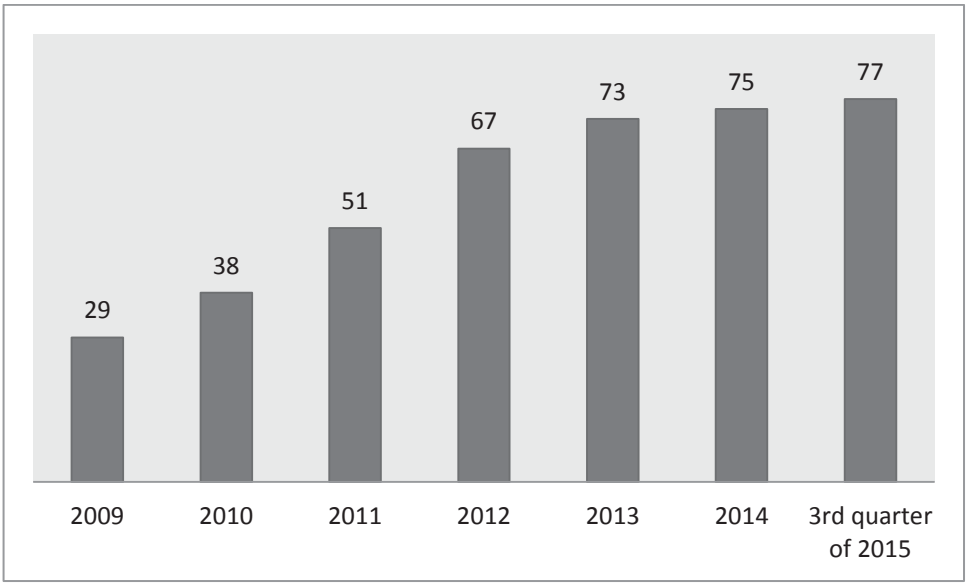


Figure 1.1 Internet penetration rate among Jordanians (TRC 2015).

Previous empirical studies that have investigated the success and failure of new technology adoption have confirmed that there are many impediments for the users' to adopt new technologies. Among the many factors studied, most of the previous studies consistently identified trust as a critical factor that affect the adoption of new technologies (Jarvenpaa et al. 2000; McKnight et al. 2002b; Gefen et al. 2003; Koufaris & Hampton-Sosa 2004; Cheung & Lee 2006; Gerrard et al. 2006; Chen & Barnes 2007; Li et al. 2008; Kim et al. 2009; Lin et al. 2011; Gao & Yao 2012; Kim 2012; Luo et al. 2014). In Jordan, studies pointed out trust as an important factor that affects either directly or indirectly the user behaviour to adopt, accept, or have the intention to use new IT/IS technologies. Thus, this research presents an investigation that aims at identifying and empirically investigating factors that affect trust of IBS in the Jordanian context.

The significance of trust in new technology adoption has directed many researchers to study it in intensively the online context (Gao & Waechter 2015). Furthermore, the roots of trust have been deeply studied and separated into two main stages, namely

ongoing trust and initial trust, based on the dependency of each type on the level of previous experience which the user has (McKnight et al. 1998). Initial trust is formed temporarily without the need for previous experience. Contrarily, ongoing trust is the latest stage of trust which depends on previous formed experience.

Although the literature showed that many studies investigated online initial trust in developed countries, there is a lack of empirical research in this significant area in developing countries, including Jordan. Therefore, one of the motivations for this research is filling this gap in the literature through conducting a research study in one of the developing countries, such as Jordan.

According to the above, the context of this study differs from that of other studies that focused on developed countries. National culture is considered as one of the most important components of the Jordanian context. Empirical studies such as Al Sukkar & Hasan (2005) Al-Hujran et al. (2011) identified these cultural differences as they found that *national culture* among Jordanians has significant impact on their acceptance to such e-services (ex: IBS, e-government). The most popular definition of *National culture was* introduced by Hofstede (1997, p. 21), as "the collective programming of the mind which distinguishes the members in one human group from another".

Furthermore, according to (Fukuyama 1995), the society that is characterized as a collective one, such as the Jordanian society, does not have the attitude to *trust* unfamiliar innovations. Accordingly, new technological innovations are considered unfamiliar (AL-Majali & Mat 2011) to the Jordanian society. Subsequently, collectivism plays a significant role in affecting people attitude towards trust in new technologies.

In summary, the significance and contributions of this study are as follows:

- With the Internet banking context, there are still many trust-related issues which remain unexplored, especially from the customers' point of view. This study will attempt to investigate these issues.
- Filling the gap of knowledge between online trust in developed countries and developing countries. This is still a new and fertile field of research.
- Filling the gap of knowledge in culture through examining the effect of the Jordanian national culture on Jordanian's initial trust of IBS which had not been examined before.
- Despite online trust in Jordan having been investigated on e-commerce (Al-Dwairi 2013) or on e-government (Abu-Shanab & Al-Azzam 2012), both of them examine only Jordanians who had previous experience from the technical and psychological point of view. However, this study will examine initial trust for those who had never used IBS before from: technical, psychological, and social point of view. Those people compose the majority of the Jordanian population (DOS 2012).

1.6. Research Questions

The aim of this study is to address the following questions:

1.1 In the Jordanian context, does customer's initial trust of IBS affect his/her intention to use Internet banking services?

1.2 What are the factors that affect customer's initial trust of Internet banking services in the Jordanian context, and subsequently, his/her intention to use IBS?

1.3 How can the findings of this research help banks in Jordan and other Middle Eastern countries in similar circumstances to motivate customer's initial trust of IBS, and subsequently, their intention to use IBS?

1.7. Research Objectives

Based on the research questions that clearly focus on the factors influencing customer's initial of IBS, the aim of this study is to provide an evidence for the crucial role of customer's initial trust in his/her intention to use IBS in Jordan. Moreover, the questions focus on the factors that affecting customer's initial trust of IBS in the Jordanian context. Thus, the following are the detailed objectives of this study:

1. To identify the factors that affect customer's initial trust of Internet banking services in the Jordanian context.
2. To develop and empirically examine a comprehensive model representing the main factors influencing customer's initial trust of Internet banking services in the Jordanian context.
3. To identify the importance level of each of the initial trust factors that are related to the adoption of Internet banking services in the Jordanian context.
4. To provide accurate and critical recommendations to banks on how to increase customer's willingness to trust and use Internet banking in Jordan.

1.8. Research methodology

Research methodology is defined as the steps which the researcher follows to answer the research questions. Therefore, research methodology is considered as the main part of the research body (Leedy & Ormrod 2005). Clearly, in the field of IT/IS research, the combined methodology of quantitative and qualitative analysis has become common and has received more attention compared to the utilization of one of the two methodologies (Myers 1997). This study employed a sequential research design (Tashakkori & Teddlie 1998) that combines qualitative (semi-structured interviews) and quantitative (survey) research approaches in a complementary manner (Zikmund 2000).

In the current study, a quantitative approach was used to test the relationship between the research model variables. Thus, a survey was employed to understand initial trust predictors and individuals' behavioural intention to use Internet banking services (Kim & Prabhakar 2004; Kim et al. 2009; Kim 2012; Susanto et al. 2013). Qualitative research involved semi-structured interviews with academic experts from the field of management information systems, and industrial experts from banks. The main purpose of the qualitative study was to evaluate and confirm the final findings of the quantitative study.

This study was carried out in four main stages: firstly, the researcher conducted an extensive literature review, which resulted in determining the problem and developing an initial research model. In the second stage, questionnaire development and a pilot study that examined the initial model were carried out. This stage resulted in the final version of the questionnaire and minor modifications on the research model. The third stage involved testing the research model, and the fourth stage was the qualitative study

that was carried out to get experts' evaluation and confirmation for the obtained results and the quantitative study.

1.9. Research implications

This study attempts to explore the factors that affect customer's initial trust in Internet banking services, and understand the relationship between initial trust and the behavioural intention to use those services. It has added a valuable contribution to the existing body of knowledge in the literature in this context by developing, and empirically examining a unified model that integrates different well known theories (diffusion of innovation theory, national cultural theory, and trustworthiness theory) from different perspectives (IT/IS, social, psychology).

Adding to the theoretical contribution, this study has provided practical contributions for the practitioner with a number of factors that motivate customer's initial trust and willingness to use IBS. Therefore, the decision makers and managers in banks could draw up strategic plans to increase customer's initial trust and, in turn, increase their intention to use IBS.

1.10. Organization of the thesis

This section provides an overall view of each chapter in this thesis.

CH.2: the chapter sheds light on the context being investigated (i.e. Jordan) and discusses its geographical location, economic situation, the status of information communication technology, and the state of IBS in Jordan. Moreover, the chapter briefly presents information about the history of the banking sector, as well as, the Internet banking services in Jordan.

CH.3: this chapter provides a brief background about IBS, benefits and risks of IBS, and IBS types. Also, it provides an extensive literature review of the study problem. It generates a comprehensive theoretical framework which reveals the roots of the study problem. Moreover, it provides a critical review of the existing literature of online trust, trust in IBS, literature of online trust in developing countries, diffusion of innovation theory, and national culture. Adding to that, it identifies the gap of knowledge in the research area.

CH.4: this chapter presents the development of the research model and a description of its constructs. Also, it discusses the relationship between the model constructs. In addition, it manifests the research hypotheses which explain relationships between the model constructs.

CH.5: describes the research design of the study. It discusses in detail the adopted research methodology (quantitative and qualitative). Moreover, the chapter explains the steps of designing, validating, and pre-testing the study instrument. Also, it identifies the sample of the study. The chapter also discusses the semi-structured interview approach, provides some information about the participants (experts), and the interview process.

CH.6: the chapter prepares the collected data for descriptive analysis and hypotheses examination. It starts with a description of the demographic variables of the sample. Then, it explains the process of preparing the data for analysis which includes: missing data analysis, normality of the data and outliers screening. After that, the chapter reports the findings of the descriptive analysis, followed by the ensuring of the reliability of the scale. This is followed by a description of the exploratory factor analysis (EFA) process and the results.

CH.7: In this chapter, a subsequent analysis is carried out based on the results of the previous chapter. The chapter begins with a brief background about structural equation modeling (SEM) techniques and criteria. Then, a measurement model is assessed based on the defined criteria. Finally, the study hypotheses are tested by assessing the structural model of the study and finding the statistical significance of the relationships in order to accept or reject the hypotheses.

CH.8: this chapter analyses and discusses the results of the semi-structured interviews. The aim of this chapter is to confirm the results obtained from the quantitative study. The content of the interviews is analysed and shown in a series of themes in which each theme is represented by one of the factors that are identified in the conceptual model. Moreover, it shows the analysis and matching process between the qualitative findings and the qualitative content. In addition, the participants' recommendations for future studies are presented and discussed.

CH.9: the chapter answers the research questions of this study in order to explain the research outcomes. In addition, the chapter presents a summary of the research results (both quantitative and qualitative) and compares them with the literature findings to draw, ultimately, the final result of this research. Moreover, the chapter concludes this thesis by explaining the academic contributions of this research, introducing practical implications for the decision makers, highlighting the limitations escorted this research, and providing guidelines and directions for future works.

Chapter 2
Profile of Jordan

2.1. Introduction

This chapter aims to provide an overview of the research geographical scope. It provides some relevant information about Jordan, such as: population, geographical location, economic status, information and communications technology (ICT) readiness, banking sector and Internet banking history in Jordan.

2.2. Overview of Jordan

2.2.1. Background

Geographically, the scope of this study is Jordan (A.K.A Hashemite Kingdom of Jordan) which is located in the Middle East, west of Asia. The population of Jordan based on the last published report is 6,521,833 (DOS 2013). The formal language is Arabic and the dominant religion is Islam. The most important cities are Amman (the capital), Zarqa in the middle, Irbid in the north, and Karak and Aqaba in the south. Although Arabic is the native language for Jordanians, the English language is usually

used in universities, education, medicine, and commerce. Moreover, the English language is taught in both the primary and secondary schools.

2.2.2. Economic overview

In terms of its economic status, Jordan is classified as an upper middle-income country (The World Bank, 2015). In a survey conducted in 2013, Jordanians identified energy, employment, and poverty as the main problems that face Jordan (The World Bank, 2013). Jordan economy suffers from many aspects: shortage of natural resources and water, and an unstable political situation in the surrounded countries (i.e. Egypt, Iraq, and Syria), which has pushed hundreds of thousands of refugees from these countries into Jordan.

2.2.3. ICT in Jordan

The King of Jordan, his Majesty King Abdullah II considered the ICT sector as responsible for the future success of the country. His Majesty lunched an initiative in 2001 for establishing centres of Information technology (known later as knowledge station) to create an appropriate environment for the local community. The knowledge stations provide free training courses on the Internet and PC. Adding to that, in 2002, the government established the Ministry of Information and Communication technology (MoICT) which is responsible for developing strategies and policies of the ICT sector and Post in Jordan.

The rank of Jordan in the Networked Readiness Index is 44 out of 148 participant countries and in the sixth out of 15 Arabian countries (The World Economic Forum [WEFORUM] 2015). Also, Jordan, as shown in table 2.1, has achieved a leap in the Internet penetration from 2009 to the third quarter of 2015. In addition, ICT in Jordan

received considerable attention in terms of education. The Ministry of Education (MoE) in Jordan added the computer as new subject to the preliminary schools syllabus and, as well, it opened the Information Technology (IT) branch for the students in the secondary schools (MoE, 2015). Moreover, Jordan has 10 public universities and 19 private universities which include more than 268000 students (Ministry of Higher Education and Scientific Research [MoHE], 2013). Also, most of the universities in Jordan have at least one subject (computer skills subject) as an obligatory subject in their syllabus (MoHE, 2015).

Table 2.1 Internet penetration in Jordan (TRC 2015)

Indication/year		2009	2010	2011	2012	2013	2014	3rd quarter of 2015
Number (Thousand)	subscribers	245	346	617	933	1503	1780	2038
	users	1742	2324	3137	4260	5300	5650	6300
Penetration rate per 100 inhabitants	subscribers	4.1%	6%	10%	17%	21%	24%	25%
	users	29%	38%	50.5%	67%	73%	75%	77%

2.3. Banking sector in Jordan

Finance and banking activities in Jordan were started in 1925 (Central Bank of Jordan, 2008 cited in Al-majali, 2011). At the end of the 1950s, the government in Jordan established the Central Bank of Jordan (www.CBJ.gov.jo) to supervise and organize the financial and banking activities. In 1959, the government endorsed the law of CBJ and applied it on the 1st of October 1964. Recently, Jordan has 26 commercial banks distributed in 16 Jordanian (local) banks and 10 non-Jordanian (foreign) banks (ABJ, 2015).

2.4. Internet Banking Services in Jordan

The beginning of IBS in Jordan was in early 2000 when the Arab bank and Jordan Kuwait bank started adopting it (Awamleh et al. 2003). However, their adoption was only for presenting general information about the bank, its branches, contacts, and other detailed information related to the bank history and management (Awamleh et al., 2003). Around this time, another five banks adopted IBS, however; due to the shortage of the ICT infrastructure at that time, banks could not fully utilize IBS (Al Sukker and Hassan, 2005). Nowadays, Jordan has 22 banks adopting IBS out of 25 banks (Association of banks in Jordan [ABJ], 2012). Table 2.2 below shows the banks, established year, and the availability of IBS.

Although the requirements of customer's adoption of IBS are highly achievable (excellent ICT infrastructure, education and ICT literacy, and readiness of the banks), the Department of Statistics (DOS) in Jordan conducted a survey in 2012 and revealed that the usage of IBS in Jordan was only 1.8% (DOS, 2012).

Table 2.2 Banks in Jordan with IBS availability

Number	Bank name	Established in	IBS availability
1	Arab Bank	1930	Available
2	Jordan Ahli Bank	1956	Available
3	Cairo Amman Bank	1960	Available
4	Bank of Jordan	1960	Available
5	The Housing Bank for Trade & Finance	1974	Available
6	Jordan Kuwait Bank	1977	Available
7	Arab Jordan Investment Bank	1978	Available
8	Jordan Commercial Bank	1978	Available
9	Jordan Islamic Bank	1978	Available
10	Investbank	1989	Available
11	Arab Banking (Corporation) Jordan	1989	Available
12	Bank Al-Etihad	1991	Available
13	Societe General Jordan	1993	Available
14	Capital Bank	1996	Available
15	International Islamic Arab Bank	1997	Available
16	Jordan Dubai Islamic Bank	2009	Available
17	*Egyptian Arab Land Bank*	*1951*	*Not available*
18	*Rafidain Bank*	*1957*	*Not available*
19	Citi Bank	1974	Available
20	Standard Chartered	2002	Available
21	Bank Audi	2004	Available
22	*National Bank of Kuwait*	*2004*	*Not available*
23	BLOM Bank	2004	Available
24	National Bank of Abu Dhabi	2009	Available
25	Al Rajhi Bank	2011	Available

2.5. Chapter summary

This chapter has provided an overview of IBS and the country where the research was conducted, Jordan. The chapter has provided background information about Jordanian population, geographical location, and natural resources. In addition, the chapter explained the development of ICT sector in Jordan and the efforts to create an appropriate technology environment in order to enhance the technological abilities of the Jordanian community. Adding to that, this chapter has given brief history about the banking sector in Jordan and the number of working banks. Finally, the chapter explained the situation of IBS in Jordan by providing information about IBS initiators, the number of the banks that offered IBS, and the usage rate of IBS in Jordan.

Chapter 3
Literature Review

3.1. Introduction

This chapter presents an overview of Internet Banking Services (IBS) including definitions, history, benefits and risks, and types. It also reviews online trust and provides a critical review of the existing literature about adoption of new Information Technology (IT) and Information Systems (IS) innovations in developing countries. This helps to create a clear vision and understanding about the trend of IBS adoption in developing countries, and how this adoption is influenced by online trust.

3.2. Overview of Internet banking services

3.2.1. Internet Banking Services Definition

As mentioned in the introduction chapter, the term e-banking has several synonyms which have the same meaning. In this chapter we focus on the web-based (or Internet-based) services of Banks (i.e. IBS). IBS is defined as providing sufficient banks services such as money transfer, balance enquiries, bank statements, paying bills, paying mortgages, and purchasing financial certificates through using the Internet (Singhal & Padhmanabhan 2008). Another definition was given in (Prakash & Malik 2008, p. 84), where they stated the following:

> "*The use of technology to communicate instructions and receive information from a financial institution where an account is held. This service includes the system that enables financial institution customers, individuals or business to access accounts transact business, or obtain information on financial products and services through a public or private network*" (Prakash & Malik 2008, p. 84).

For the purpose of this thesis, IBS is defined as *a set of services that enhance the customers' ability to access their bank accounts and complete all their banking transactions through the Internet without the need for their physical presence at a bank branch*.

3.2.2. Brief history of Internet Banking Services

In the early 1980s, a number of banks attempted to provide their customers with remote banking services, which presented the seed for online banking services (Bidgoli 2004). Dandapani & Curran (2004) argued that the need for IBS became necessary after the diffusion of the World Wide Web (WWW). The first bank that adopted IBS in the USA was Atlanta Internet Bank in 1996, followed by WingSpan bank in 1997 (Gefen and Straub 2003). Awamleh (2003) stated that the Arab Bank and the Jordan Kuwait Bank in Jordan started providing some services on their websites in 2000. Since then, the number of Jordanian banks that adopted IBS has increased considerably. The history of IBS in Jordan will be discussed later.

3.2.3. Benefits of IBS

The use of IT in general helps organizations and users in performing their tasks quickly and more conveniently, and in reducing costs. Banks also used IT products (e.g. IBS) to achieve these benefits and many others.

IBS has many benefits for both banks and customers. According to Lustsik (2003), Pikkarainen et al. (2006), and Abbad (2011); banks can win the excellence of applying new IT innovation; therefore, the reputation of the bank will increase and attract new customers to their new services. In addition, banks which adopt IBS gain competitive advantage among other banks which do not adopt the new e-services. Applying IBS also will maintain and build strong relationship with the customers through their feeling that the bank is providing them with the newest technology and is looking after them. Consequently, the level of customer satisfaction will be improved. Moreover, using the Internet to perform the transactions will reduce the operational costs, number of branches, and any other costs related to providing the services physically. Adding to that, banks will improve the electronic presence and efficiency.

On the other hand, from the customers' point of view, Lustsik (2003) and Abbad (2011) stated that customers can save money and time of travelling, parking, and waiting in queues. However, the most important advantage for customers who use IBS is represented by their ability to access their accounts at any time from any place. Therefore, customers are able to conduct transactions, monitor their financial transactions and the status of their accounts, and be provided with sufficient services regardless of their physical location.

3.2.4. Risks of Internet Banking Services

There are different IBS related risk factors that may affect banks and customers. From the bank's side, Pennathur (2001) argued that risk factors will increase and have more forms after the bank's adoption of e-banking. Other researcher categorized risks for banks based on their nature into five categories, which are: strategic, legal, technological, operational, and reputational risk (Salhieh et al. 2011). Moreover, there is a financial risk involved that is related to the amount of money invested by the bank to developing and promoting IBS, where customers may not adopt IBS at the required level. From the customer's side, Awamleh (2003) stated that the cost of connections, charge of transactions or monthly charge, theft of identity, and privacy problem are the main risk factors.

3.2.5. Internet banking levels

Internet banking has three levels based on the interaction between customers and the bank's website, which are: information, communication, and transactional (Al-Sukkar 2005).

3.2.5.1. Informational level

This level presents only static information about the bank, such as its history, products and services, branch locations, contact numbers, and other information which do not require any interaction with the customer. In this level, the customers use the bank website only to view some information about the bank. It is considered as the basic level of Internet banking with minimum level of risk.

3.2.5.2. Communication level

In this level, the customer interacts with the bank's system in order to get limited services such as updating personal information, account enquiries, and lodging applications such as loan applications. Noticeably, the level of risk is higher than at the information level. For this level, the bank responds to the request made by the customer.

3.2.5.3. Transactional level

This level is considered as the most risky one. In this level the customer can access his/her account and perform all possible types of transactions, such as paying bills, transferring money to other accounts, bank statement enquiries. This level requires more attention to security and privacy issues from both customers and banks.

3.2.6. Types of Internet Banking Services

As mentioned before, the aim of IBS is to allow customers to perform their financial transactions without the need of their physical presence at a bank branch. (Alrawashdeh et al. 2011) classified the Internet banking services into four types, which are:

3.2.6.1. On-line Banking Services

In general, online banking services include all the services that the customers can perform in the bank's branch. Customers can use their online banking to view their account balance at any time during the day, and not only during working hours (24/7). In addition, the customer can view the history of the transactions in a certain period which they want.

Another important service that can be done online is transferring money between accounts. It makes life very easy and helps people to use their online account to pay each other. Moreover, as a payment service, the customers can pay their bills directly

and automatically, by scheduling future transfers or payments, from their online account.

Some banks offer special on-line banking services that are related to stock, such as: trading stocks, tracking stocks, receiving stock statements on-line, and account aggregation. Some banks charge a small fee for these services, while other banks offer them for free.

3.2.6.2. Electronic Fund Transfer

Electronic funds transfer (EFT) is an action which is conducted in a special fully computerized place (room). It is used to transfer money within and to other banks accounts, make loan payments within the same bank, and take an advance credit.

3.2.6.3. Trade securities

This type of IBS is mainly used to make trade transactions such as purchase, redeem, or exchange equity shares through the bank security agents.

3.2.6.4. Paying bills online

This service is considered as one of the most important services provided through online banking. It is performed in different ways such as: electronic payments performed commonly by credit cards, debit cards, and smart cards, electronic check payments in which the customer transfer the money directly from his account to a biller, and electronic wallet payments that are performed through using a wallet created by the banks for such a purpose.

3.3. Trust

The importance of trust has been recognized by many scholars from different disciplines. Trust has been studied in organization (Kaplan & Duchon 1988), psychology (Hair et al. 2006), social psychology (Yin 2013), marketing (Newman et al. 2003), and sociology (Luhmann 1979). In this study, a table of definitions was adopted (Kim & Tadisina 2007) and (Alsaghier 2010). Table 3.1 presents different definitions of trust from different perspectives in different disciplines.

Table 3.1 Trust definitions

Authors (year)	Definition	Discipline
Deutsch (1958)	An individual may be said to have trust in the occurrence of an event if he expects its occurrence and his expectation leads to behaviour which he perceives to have greater negative motivational consequences. If the expectation is not confirmed than positive motivational consequences if it is confirmed. (p.266)	Psychology
Deutsch (1960)	An individual's confidence in the intention and capabilities of a relationship partner and the belief that a relationship partner would behave as one hoped.	Organization
Giffin (1967)	Reliance upon the characteristic of an object, or the occurrence of an event, or the behaviour of a person in order to achieve a desired but uncertain objective in a risky situation (p. 105)	Psychology
Rotter (1967)	An expectancy held by an individual or a group that the word, promise, verbal, or written statement of another individual or group can be relied upon. (p. 651).	Psychology / interpersonal trust

Authors (year)	Definition	Discipline
Zand (1972)	Consisting of actions that increase one's vulnerability to another whose behaviour is not under one's control in a situation in which the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability (p. 230).	Organization
Schlenker et al. (1973)	Reliance upon information received from another person about uncertain environmental states and their accompanying outcomes in a risky situation (p. 419)	Social psychology
Luhmann (1979)	Confidence in one's expectations used to reduce the complexity of events and gain positive expectations	Sociology
Cook & Wall (1980)	The extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people (p. 39).	Psychology / interpersonal trust at work
(Barber 1983)	Socially learned and socially confirmed expectations that people have of each other, of the organizations and institutions in which they live, and of the natural and moral social orders that set the fundamental understandings for their lives (pp.i64-i65).	Sociology

Authors (year)	Definition	Discipline
Lewis & Weigert (1985)	The understanding of a risky course of action on the confident expectation that all persons involved in the action will act competently and dutifully (p. 971).	Sociology
Zucker (1986)	A set of expectations shared by all those involved in an exchange (p. 54).	Organisation
Good (1988)	Based on an individual's theory as to how another person will perform on some future occasion, as a function of that target person's current and previous claims, either implicit or explicit, as to how they will behave (p. 33).	Psychology
Dasgupta (1988)	Correct expectations about the actions of other people that have a bearing on one's own choice of action when that action must be chosen before one can monitor the actions of those others (p. 51).	Social sciences
Gambetta (1988)	A particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both before he can monitor such action (or independently of his capacity ever to be able to monitor it) and in a context in which it affects his own action (p. 217).	Social sciences

Authors (year)	Definition	Discipline
Moorman et al. (1993)	A willingness to rely on an exchange partner in whom one has confidence (p. 82)	Marketing
Sitkin & Roth (1993)	A belief in a person's competence to perform a specific task under specific circumstances (p. 373).	Organisation
Morgan & Hunt (1994)	Existing when one party has confidence in an exchange partner's reliability and integrity (p. 23)	Marketing
(Mayer et al. 1995)	The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party (p. 712)	Organisation
McAllister (1995)	The extent to which a person is confident in, and willing to act on the basis of the words, actions, and decisions of another (p. 25). Includes cognition-based & affection-based trust.	Organisation
Doney & Cannon (1997)	Perceived credibility and benevolence of a target of trust (p. 36).	Marketing
Rousseau et al. (1998)	A psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another (p. 395).	Organisation

Authors (year)	Definition	Discipline
(McKnight et al. 1998)	One believes in, and willing to depend on another party (p. 474).	Organisation/ initial trust
Burke & Stets (1999)	A belief that the other holds both goodwill and benign intent toward us.	Social psychology

Despite the importance of trust in many disciplines, such as sociology and psychology, trust is considered as a crucial element in business and relations success (Gulati 1995; Kumar et al. 1995; McKnight et al. 1998). Similarly in the electronic world, trust has an important role in accepting, adopting, and using online services (Gefen 2000; Reichheld & Schefter 2000). McKnight et al (2002b) argued that trust helps in overcoming customers' perception of risk and insecurity. They added that trust makes the process of sharing personal information, purchasing, and dealing with Web vendors more convenient and more comfortable. Previous literature showed a positive relationship between trust and success of many virtual environments (Cyr et al. 2005; Gefen et al, 2003). Furthermore, Ngai (2003) reported that working in e-Marketing request builds strong relationships through utilizing online activities to increase ideas, products, and services.

Obviously, trust is a multi-dimensional and complex concept which needs extensive investigation in order to reveal its antecedents and consequences. However, in the current study, the concentration is on trust in the field of business and management information systems (MIS). Thus, this study adopted a Mayer et al.'s (1995) definition

for trust which is widely accepted and well known in the e-commerce and MIS domain (Susanto et al. 2013). Therefore, for the purpose of this study, trust is defined as:

> *" The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party"* (Mayer et al. 1995, p. 172).

3.3.1. Trust bases

The bases of trust vary depending on the field in which trust is studied. For example, Dawson (2007) and Hennink (2008) considered factors related to trustee's perceived control over the environment and self-confidence as bases for trust in the field of social psychology. Rotter (1971), a sociologist, argued that religion, ethnicity, trustee's economical level, and his/her culture are bases for trust. Also, Rotter (1971) proposed another base known as disposition to trust that was associated later (Fukuyama, 1995) with the person's childhood and experience and other social factors. In economic science, scholars introduced the calculative approach to calculate the benefits of engaging in trusting behaviour (Williamson, 1993). Another perspective was from marketing scholars' (Anderson & Weitz, 1989) point of view, where they considered vendors' characteristics such as: reputation, support, and competence as the source of consumers' trust. In management information systems, the field of this study, many researchers considered familiarity and organizational structures as the main and most important bases of trust (Gefen 2000; McKnight et al. 2002b).

Although some of the researchers studied trust from their own perspectives, others attempted to consider more than one perspective to study trust and find its bases. For

instance, Lewis & Weigert (1985) proposed only two bases of trust: cognitive based trust and affective based trust. They gave the following description of cognitive based trust:

> *"we cognitively choose whom we will trust in which respects and under which circumstances, and we base the choice on what we take to be 'good reasons', constituting evidence of trustworthiness"* (Lewis and Weigert, 1985 p. 970).

On the other hand, affective-based trust was described as:

> *"Consists in an emotional bond among all those who participate in the [trust] relationship"* (Lewis and Weigert, 1985 p. 971).

They assumed the process of building a trust relationship is totally based on both cognitive and affective based trust. They also considered each base as a complement for the other one. Therefore, the trust relationship would not be considered complete if one of the two elements is missing.

Lewicki and Bunker (1996) combined the trust base of economics (calculus based trust) with the trust base of the MIS field (familiarity or knowledge based trust). They also introduced another base which is identification based trust. They adopted the following definition for calculus-based trust:

> *"A calculation of the outcomes resulting from creating and sustaining a relationship relative to the costs of maintaining it"* (Distefano & Hess 2005, p. 120).

Shapiro (1992) has also noted that calculus is the base in which trust can be formed based on rationale evaluation by the truster of the costs and benefits of the trustee to cheat or cooperate in the relationship.

The second proposed base is knowledge-based trust (Distefano & Hess 2005), also known as familiarity or experience trust base, which is directly related to the previous experience or first-hand knowledge that the truster had about the trustee. If that, the truster can rely on this information to anticipate the behaviour of the trustee. Lewis & Weigert (1985) argued that the need of trust is associated with the range of knowledge that the truster has about the trustee. Therefore, a truster with total knowledge does not need trust to deal with a trustee; on the other hand, if the case is a truster with a total ignorance (i.e. without any previous knowledge or experience) then this knowledge-based trust could not be a base for a trust decision.

The third base which was proposed by Distefano & Hess (2005) is identification-based trust which has the same meaning of affective based trust proposed by (Lewis & Weigert 1985). It is manifested due to the similarity of intentions and desires of the trust parties. They added that understanding and appreciating the desires of the other part in the relationship is the reason of trust existence. (Venkatesh et al. 2003) assumed that trust in this base is formed through "genuine care and concern for the welfare of partners, belief in the intrinsic virtue of the relationship, and belief that these sentiments are reciprocated" (Venkatesh et al. 2003, p. 26).

Moreover, Doney and Cannon (1997) conducted another attempt by proposing an integrative view of five processes: calculative, prediction, capability, intentionality, and transference process. In fact, calculative, prediction, and intentionality processes shared the same concept of calculus-based trust, knowledge-based trust, and identification-

based trust respectively. However, capability process includes “a trustee’s willingness to trust based on an assessment of the target's ability to meet his or her obligations as well as the trustee’s expectations” (Doney et al. 1998, p. 606). Finally, transference process is that base in which a truster transfers trust from a trusted party to another unknown or little known party.

Although the literature mentioned many bases for trust, the following five trust-bases are commonly used in the field of MIS (Gefen 2000; Jarvenpaa et al. 2000; Wengraf 2001; McKnight et al. 2002b; Gefen & Straub 2004; Kim & Prabhakar 2004; Koufaris & Hampton-Sosa 2004): personality-based trust, cognitive-based trust, institutional-based trust, knowledge-based trust, and calculative-based trust. They also categorized those antecedents into two groups based on the need of previous first-hand knowledge (Wengraf 2001). The following section explains trust types and the antecedents which belong to each type.

3.3.2. Trust types

Researchers determined the type of trust depending on the need of first-hand knowledge or experiences about the trustee (Wengraf 2001; McKnight et al. 2002b; Jackson et al. 2009; Kim 2012) and the time period of forming trust (Kim 2012). Trust has two types: ongoing trust and initial trust. In the following section, details of both types are provided.

3.3.2.1. Initial trust

According to Kim & Tadisina (2007), Initial trust is defined as “a construct that measures trust in the initial stage of a relationship, in which a trustee’s attitude may not have been built yet”. It represents the early stage of trust which does not rely on any

kind of previous experiences or interaction between the trust parties. Moreover, initial trust is described as a temporary stage of trust, which is built in a short time (Doney & Cannon 1997). Further, initial trust is considered as a prerequisite for online transactions. That is because the first purchase or transaction depends upon having an initial trust in the online system (Kim 2012).

This study focuses on the Jordanian context in which most of the people do not have any previous experience in using IBS. Thus, initial trust is the main concern of this study.

3.3.2.2. Ongoing trust

It is defined as the trust type that is formed upon direct interaction between the truster and the trustee. Obviously, previous experience and first-hand knowledge about the trustee is a must in forming ongoing trust. In e-commerce, the first purchase influences the ongoing trust (Kim 2012). Moreover, in the trust lifecycle (Kim 2012), initial trust is considered as a crucial element in new customers making their first dealing since it is prerequisite for online transactions (Patton 2002). However, ongoing trust is the result of customers' satisfaction which is, originally, assessed after the first dealing between the truster and trustee (see Figure 3.1).

3.3.3. Antecedents of trust types

The literature of MIS focuses on five main antecedents of trust: personality-based trust, cognitive-based trust, institutional-based trust, calculative-based trust and knowledge-based trust (Jarvenpaa et al. 2000; Wengraf 2001; McKnight et al. 2002b; Kim 2012).

3.3.3.1. Personality-Based Trust

Mayer et al. (1995) and McKnight et al. (1998, 2000) defined personality-based trust as the tendency of someone to believe in others, resulting in the level of trusting them. It is also known as propensity to trust or disposition to trust (Kim 2012). Rotter (1971) interpreted that the tendency which the truster has depends upon his previous experiences. Therefore, the truster could get his initial trust in a trustee based on his tendency to trust others, which is influenced by his life experience. Generally speaking, this type of trust depends on one's beliefs that others are usually reliable and well-meaning. Li et al (2008) stated that tendency to trust differs based on the nature of the situations. McKnight et al (1998) argued that personality-based trust plays a significant role and has a significant effect on one's initial trust when he/she is in a situation without first-hand knowledge or experience. However, this base becomes less important when the person interacts with the other party; since the interaction itself will affect his beliefs as it is considered as an actual experience for that person (Rotter 1971; Straub et al. 2004). Obviously, the importance of this antecedent is clearly noticed for those who are inexperienced in online purchasing (Gefen 2000; Wengraf 2001).

3.3.3.2. Cognition-Based Trust

It represents how trust is formed during the first impression or meeting rather than depending on first-hand knowledge or previous interaction (Meyerson et al., 1996). Cognitive-based trust is formed through the categorization process and illusion of control (McKnight et al., 1998). McKnight and his colleagues argued that the categorization process proposes that individuals trust those who have similarity to themselves more than others and evaluate trustworthiness based on unit grouping (high trusting beliefs towards others from the same group), stereotyping (positive stereotyping

that leads to positive trusting beliefs), and reputation categorization (high reputation of one leads to high trust beliefs in him/her). Two subcomponents, unit grouping and stereotyping have been explored in previous studies and been found to be related to context with personal interaction (Li et al. 2008). However, reputation does not rely on personal interaction and might be considered a source of initial trust (Susanto et al. 2013).

Li et al. (2008) examined the influence of cognition-based trust (reputation component) on trusting beliefs and excluded the other components. They excluded unit grouping and stereotyping because they focused on: i) user to system interaction, ii) users who do not have any previous observations of the system. Based on that, cognition base is considered as one of the initial trust bases.

3.3.3.3. Institutional-Based Trust

This trust base claimed that initial trust will increase when the truster perceives that such interaction with the trustee fits a common standard (Bahmanziari et al. 2008). Further, two institutional predictors of initial trust have been introduced (McKnight et al., 1998) which are situational normality and structural assurance. According to Baier (1986) and Lewis and Weigert (1985), situational normality means that the normality of a such situation makes someone believe that his/her order is in a proper environment and will succeed. Structural assurance means that the existence of structures such as guarantees, regulations, rules, polices, security, legal resources, or other procedures will increase and promote success (Shapiro 1987; McKnight 1998). Consequently, to increase initial trust among customers, the trustee should present significant indicators for the truster to convince him/her that the situation is normal and assured.

3.3.3.4. Knowledge-based trust

This trust base suite those who had a previous and direct interaction with the trustee. In other words, this antecedent can create trust if the knowledge that a truster has about the other party; enables him to anticipate the other party's behaviour (Doney et al. 1998). Therefore, knowledge-based trust or familiarity works only with those who have made their first dealing; and then, it cannot be an antecedent for initial trust.

3.3.3.5. Calculative-based trust

Also called economic trust base, it is the base in which trust can be formed based on rational evaluation by the truster of the costs and benefits of the trustee to cheat or cooperate in the relationship (Shapiro et al. 1992). Accordingly, calculative-based trust occurs when a relationship between the parties exists (Wu et al. 2005). Thus, this trust base is an antecedent for ongoing trust.

Based on the above analysis, all of the trust bases are considered as sources for ongoing trust. However, it is clear that personality-based trust, cognition-based trust, and institutional-based trust bases do not rely on previous experiences or knowledge, thus, they are the sources of initial trust. Accordingly, Figure 3.1, adapted from (Kim 2012), illustrates which of the bases can be considered as a source for initial trust and which of them for ongoing trust, trust lifecycle, and the actions for each process in the lifecycle.

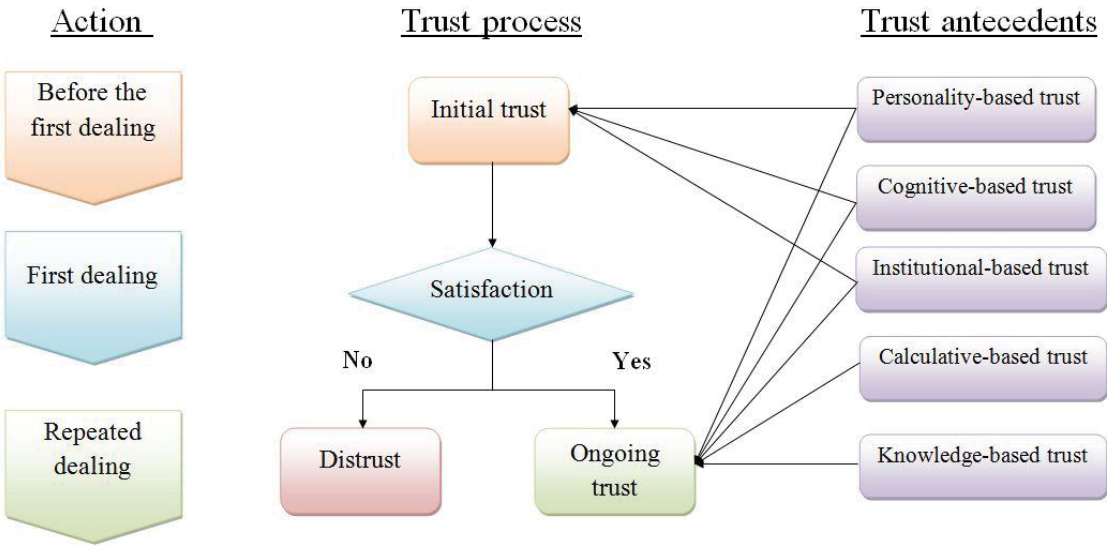


Figure 3.1 Trust bases and trust types (Kim 2012).

3.3.4. Previous studies of initial trust

Over the previous fifteen years, trust has been investigated intensively in the field of management information systems (MIS), especially e-commerce. For the purpose of reviewing related literature, a table of 30 studies has been developed for reviewing online trust and online initial trust (see Appendix A). This section present a table that summarized 16 important models of online initial trust in the field of electronic commerce ranging from 1999 to the year 2014. Table 3.2 presents the theoretical background, antecedents and consequences of the investigated models, and the most important results for each study. In the selection process of the reviewed studies, the focus was on the studies that have been examined empirically, conceptualized based on theoretical framework, and their populations without prior experience. Those criteria enable the researcher to have a clear understanding about the examined constructs and apply a suitable methodology while examining our model. Section 3.3.4.1 describes the theoretical backgrounds of the selected studies and how the literature conceptualized trust. Section 3.3.4.2 presents the context and samples of the literature. Section 3.3.4.3

discusses the followed methodologies and analysis techniques that had been adopted in the selected literature.

3.3.4.1. Theoretical backgrounds used in conceptualizing online trust

The literature has showed a variety of theoretical backgrounds that are used in conceptualizing initial online trust. However, two theoretical backgrounds, in addition to trust literature, were the dominant and most widely used in studying online initial trust in electronic commerce: technology acceptance model (TAM) (Koufaris & Hampton-Sosa 2004; Chen & Barnes 2007; Zhou 2011; Luo et al. 2014) and diffusion of innovation theory (DOI) (Kim et al. 2009; Lin et al. 2011; Susanto et al. 2013).

In addition, the literature review shows that online initial trust had been investigated using different approaches. The famous approach was the integration between trust literature with other technology theories, such as TAM and DOI (Wengraf 2001; Kim et al. 2009), focusing on exploring trust antecedents and trust outcomes, assessing trust effect on behavioural intention to use or adopt (Kim & Prabhakar 2004; Susanto et al. 2013), or to conceptualize and explain initial trust bases, beliefs, definitions, and instrument (Bhattacherjee 2002; McKnight et al. 2002a; Kim 2012).

Also, prior studies differ on how they view initial trust. Some researchers viewed initial trust as a number of specific beliefs related directly to the trustee: benevolence, ability, competence, and integrity are considered popular as trust beliefs (McKnight et al. 2002a; Gefen & Straub 2003). On the other hand, some researchers view trust as general belief that a trustee can be trusted (Kim & Prabhakar 2004; Koufaris & Hampton-Sosa 2004; Kim et al. 2009; Zhou & Tian 2010; Zhou 2011; Susanto et al. 2013).

3.3.4.2. Contexts and samples of the literature

Online initial trust has been investigated intensively in the context of e-commerce through investigating the relationship between individuals and unknown e-vendors (Lee & Turban 2001; McKnight et al. 2002b; Patton 2002; Bélanger & Carter 2008; Eastlick & Lotz 2011; Luo et al. 2014). However, some of the studies discussed initial trust formation in specific branches of e-commerce. For instance, Internet banking has been investigated in three studies (Bhattacherjee 2002; Kim & Prabhakar 2004; Susanto et al. 2013), two studies investigated mobile banking (Kim et al. 2009; Zhou 2011), one study was to investigate National Identity System (NID) (Li et al. 2008), and one study was on legal advice (McKnight et al. 2002b).

Most studies that examined online initial trust were conducted in developed countries (Susanto et al. 2013), especially the USA and China (McKnight et al. 2002b, 2002a; Kim & Prabhakar 2004; Li et al. 2008; Eastlick & Lotz 2011; Lin et al. 2011; Zhou 2011). On the other hand, a few studies have been conducted in developing countries (Susanto et al. 2013); thus this field of research needs more investigation in the contexts of developing countries.

3.3.4.3. Methodologies and analytical techniques

Surveys and experimental surveys are found as the most used approaches in the field. Although the majority used either questionnaire surveys (Koufaris & Hampton-Sosa 2004; Cheung & Lee 2006; Li et al. 2008; Kim et al. 2009; Lin et al. 2011; Luo et al. 2014) or an experimental approach (Jarvenpaa et al. 2000), some of the studies combined the two approaches (McKnight et al. 2002b; Patton 2002). In addition, the majority of the reviewed literature used students as their samples (Jarvenpaa et al. 2000; McKnight et al. 2002b, 2002a; Patton 2002; Koufaris & Hampton-Sosa 2004; Cheung

& Lee 2006; Li et al. 2008; Lin et al. 2011) except four studies (Ford et al. 2003; Kim & Prabhakar 2004; Kim et al. 2009; Zhou 2011; Luo et al. 2014) that used subjects who were not students.

Regarding the analysis techniques, most of the reviewed literature computed Cronbach's alpha coefficient to assess the reliability of the instrument. Moreover, factor analysis techniques were used to confirm the discriminant and convergent validities of the instruments. Exploratory Factor Analysis (EFA) with principal component method (Patton 2002; Koufaris & Hampton-Sosa 2004; Kim et al. 2009; Luo et al. 2014) was used to find the loading for each item within the same construct, and Confirmatory Factor Analysis (CFA), using one of the multivariate analysis packages for the discriminant validity of the constructs (Jarvenpaa et al. 2000; McKnight et al. 2002b; Cheung & Lee 2006; Li et al. 2008; Lin et al. 2011; Zhou 2011).

In terms of testing the hypotheses, the majority of the studies used the Structural Equation Modelling (SEM). They employed different statistical packages to analyse SEM: Susanto et al. (2013) analysed their model using Partial Least Square (PLS), Jarvenpaa et al. (2000) and Li et al. (2008) used Analysis of Moment Structure (AMOS), and the majority used Linear Structural Relations (LISREL) (McKnight et al. 2002b, 2002a; Cheung & Lee 2006; Kim et al. 2009; Lin et al. 2011; Zhou 2011; Luo et al. 2014). Although the SEM has been widely used, a few studies used regression analysis using the Statistical Package for the Social Sciences (SPSS) (Patton 2002; Kim & Prabhakar 2004; Koufaris & Hampton-Sosa 2004). Also, Mancova and Anova tests were used only in one study (Patton 2002).

3.3.4.4. Limitations of previous studies

One of the most frequent limitations mentioned in the studies is related to the population of the study and the sampling decision. As mentioned in the previous section the population of most of the reviewed literature was formed of students, which makes it difficult to: (i) address population differences, since most students have similar age range, income, knowledge; and (ii) generalize the results to other types of customers. The sampling issue is very critical since a small sample size can affect the decision of using certain statistical techniques, such as EFA (Sample >100) and SEM (sample > 150) (Al-Dwairi & Kamala 2009). Therefore, some researchers prefer to reduce the number of factors in the model which causes the loss of focus of some potentially important variables. Finally, most of the studies applied a quantitative methodology only. Thus, a mixed methodology approach is needed to increase the understanding of the problem from different perspectives.

3.3.4.5. Trust literature in Jordan and other developing countries.

Despite the large number of studies investigated initial trust/ trust in developed countries, only limited number of studies were found in the literature that investigated trust in developing countries (Susanto et al. 2013). Consequently, only few studies were conducted in Jordan and developing countries. For instance: only two study were found in Jordan (Abu-Shanab & Al-Azzam 2012; Al-Dwairi 2013), one in Saudi Arabia (Alsaghier 2010), and one in Tunisia (Khadraoui & Gharbi 2013). The following paragraphs summarize those studies.

Alsaghier (2010) investigated the critical factors that enable Saudi citizens to trust and use e-government. The study integrated trust literature with TAM variables and created a comprehensive model to achieve the aims. The study focused on the general trust,

instead of initial trust, as a critical factor of intention to use e-government. The findings of this study indicated that trust in e-government is affected by disposition to trust, institutional based trust, familiarity, perceived website quality, and perceived ease of use. Also, trust in e-government was found to influence the intention to use e-government. The study used mixed methodology to investigate the model. The study was designed and conducted in a thorough way. It covered many points of view; however, national culture influence on citizens' trust has not been explored. In addition, the study considered its population from those who were familiar with using e-government; however this was not the case for the wider population especially in the time of collecting the data, which was in 2005.

Table 3.2 summarizes 16 important models of online initial trust in the field of electronic commerce ranging from 1999 to the year 2014. The table discusses the theoretical background, antecedents and consequences of the investigated models, and the most important results for each study.

Table 3.2 literature of initial trust in electronic commerce

Authors	Theoretical background	Factors	Findings
(Lee & Turban 2001)	Personality theory Sociology and economics Social psychology	Ability Integrity Benevolence Technical competence Reliability Medium understanding Effectiveness of third party certification Effectiveness of security infrastructure Trust propensity Consumer trust in Internet shopping	Results showed strong effect of perceived integrity on consumer trust toward Internet shopping. Also, it showed a high level of significance for the individual trust.
(McKnight et al. 2002b)	Trust literature	Perceived vendor reputation Perceived site quality Structural assurance of the web Perceived web risk Trust intention Trust beliefs Intention to follow vendor advice Willingness to give personal information to a web vendor Willingness to make a purchase from a web vendor	Perceived vendor reputation and perceived site quality significantly affect trust intention and beliefs. Structural assurance affects trusting intention and beliefs. Trusting intention and beliefs affect intention to follow, intention to share personal information, intention to purchase. Perceived risk affect intention to share information and intention to purchase.

Authors	Theoretical background	Factors	Findings
(Kim & Prabhakar 2004)	Trust literature	Propensity to trust Word of mouth referrals (relational content, Tie strength) Structural assurance Initial trust in e-channels Trust in banks Behavioral adoption	E-channels are affected by propensity to trust, relational content, and structural assurance. Trust in banks and trust in e-channels affect the adoption of Internet banking
(Koufaris & Hampton-Sosa 2004)	Trust literature TAM	Trust propensity Perception about the company (perceived willingness to customize, perceived reputation, perceived size) Perceptions about the website (perceived usefulness, perceived ease of use, perceived security control). Initial trust in company	The results showed that initial trust in company affected only by perceived willingness to customize, perceived reputation, perceived usefulness, perceived ease of use, and perceived security control). Propensity to trust and perceived size have no effect on initial trust.

Authors	Theoretical background	Factors	Findings
(Patton 2002)	Trust literature	Assurance for store Assurance for product Initial trust in store Initial trust in product Willingness to buy.	The results showed that customer's initial trust toward an unknown online store mediates the relationship between his/her recognition of a third-party assurance seal for the store and the willingness to buy. Also, it showed that a customer's initial trust toward a used product in an unknown online store mediates the relationship between his/her recognition of a third-party assurance seal for the store and the willingness to buy.
(Cheung & Lee 2006)	Trust literature	Perceived integrity Perceived competence Perceived security control Perceived privacy control Propensity to trust Third party recognition Legal framework	The findings indicated that all paths (except perceived privacy control and propensity to trust) have a significant effect on Consumer Trust in Internet shopping.

Authors	Theoretical background	Factors	Findings
(Chen & Barnes 2007)	Trust literature TAM	Perceived ease of use (PEOU) Perceived usefulness (PU) Enjoyment of technology Perceived security Perceived privacy Reputation Size Willingness to customize Interaction Disposition to trust Familiarity Online initial trust Purchase intention	The result showed that Perceived usefulness, perceived security, reputation, and willingness to customize are positively related to online initial trust in e-commerce. Disposition to trust positively affect initial trust. Familiarity positively affects purchase intention.
(Bélanger & Carter 2008)	Theory of reasoned action (TRA) Theory of planned behavior (TPB)	Perceived size Perceived reputation Trust in store Attitude Risk perception Willingness to buy	The finding showed that perceived reputation has significant impact on trust in store. Trust in store affects attitude and risk perception. Risk perception affects Attitude and willingness to buy. Attitude affects willingness to buy.

Authors	Theoretical background	Factors	Findings
(Li et al. 2008)	Trust literature Theory of planned behavior (TPB)	Personality- Faith in humanity and trusting stance. Cognitive-Reputation Calculative-cost/benefit Org. situational normality Org. structural assurance Tech. situational normality Tech. structural assurance Trusting beliefs Trusting attitudes Trusting intention Subjective norms	The results showed that reputation, calculative based trust, and organizational situational normality have effect on trusting beliefs. Trusting beliefs affected trusting attitudes. Trusting attitudes affecting trusting intentions. Subjective norms affected Trusting beliefs, Trusting attitudes, and Trusting intention
(Kim et al. 2009)	Trust literature Diffusion of innovation theory.	Propensity to trust Reputation Structural assurance Relative advantage Initial trust Usage intention	Initial trust affected by propensity to trust, relative advantages, and structural assurance. Usage intention affected by initial trust, and relative advantages.

Authors	Theoretical background	Factors	Findings
(Thaw et al. 2009)	Trust literature	Perceived information security Perceived information privacy Trustworthiness of web vendor Institutional trust Economic incentives Consumer's trust Perceived risk	The results showed positive correlation between perceived privacy and trustworthiness of web vendor with consumer's trust. A consumer's trust is negatively associated with perceived risk in online transaction.
(Eastlick & Lotz 2011)	Trust literature Theory of planned behavior	Perceived online retailer reputation Situational normality of online Env. Information privacy concern Trusting beliefs Trusting intention Purchase intention	Perceived online retailer reputation and information privacy concern affect trusting beliefs. Trusting intention affected by trusting beliefs. Purchase intention affected by information privacy concern, trusting beliefs, and Trusting intention.

Authors	Theoretical background	Factors	Findings
(Lin et al. 2011)	Trust literature Diffusion of innovation theory	Disposition to trust. Structural assurance. Perceived ubiquity. Compatibility. Perceived information quality. Perceived reputation. Perceived size. Initial trust Intention to use.	The results showed that disposition to trust, structural assurance, perceived ubiquity, compatibility, and perceived information quality positively related to initial trust. Perceived ubiquity and compatibility positively related to intention to use the service. Initial trust in mobile brokerage service is positively related to the intention to use the service.
(Zhou 2011)	Trust literature TAM	Structural assurance Trust propensity Information quality System quality Initial trust Perceived usefulness Usage intention	The results showed that structural assurance, trust propensity, information quality, and system quality affect initial trust. Perceived usefulness affected by information quality, system quality, and initial trust. Usage intention affected by initial trust and perceived usefulness.

Authors	Theoretical background	Factors	Findings
(Susanto et al. 2013)	Trust literature Diffusion of innovation theory	Perceived security Perceived privacy Relative benefits Trust propensity Reputation Website usability Government support Initial trust Usage intention	The results showed that initial trust is affected by perceived security, perceived privacy, relative benefits, reputation, website usability, and government support. Usage intention is affected by relative benefits, perceived security, website usability, and initial trust.
(Luo et al. 2014)	Trust literature TAM	Perceived usefulness Perceived ease of use Perceived safety Perceived reputation Propensity to trust Customers' initial trust Attitude to e-vendor Intention to purchase online	The findings showed that consumers' initial trust is affected by perceived usefulness, Perceived safety, Perceived reputation, Propensity to trust. Attitude to e-vendor affected by consumers' initial trust and affects Intention to purchase online.

The study of Abu-Shanab & Al-Azzam (2012) investigated general trust in the government and general trust in the Internet and how they affect general trust in e-government. The study ignored the social and cultural effects on building trust in this context and similar to the previous study only focused on general trust. In addition, the study mentioned that more than 70% of its sample was students, therefore, the results of this study could not reflect the actual reality of the Jordanian context.

In the context of e-commerce, Al-Dwairi (2013) investigated security, privacy, design, and content of the website and their influence on intention to trust an e-commerce website. As in all previous studies, Al-Dwairi (2013) focused on the technological part and neglected other important parts such as trust antecedents and national culture.

Finally, Khadraoui & Gharbi (2013) conducted a study in Tunisia, which is found to be related to this study. They investigated three sets of variables that affect initial trust: perceived value of satisfaction, trust propensity, structural assurance. Moreover, they used SEM to estimate the measurement model and employed AMOS to analyse the data. The study applied quasi-experimentation method for data collection, and hence it was found to be a relevant and very useful study. However, the researchers themselves pointed out that they ignored the investigation of sociological dimensions, which are very important.

Accordingly, none of the above studies examined the national culture effect despite its importance in accepting new innovation technologies (Al Sukkar & Hasan 2005). In addition, all studies examined general trust except one (Khadraoui & Gharbi 2013).

On the other hand, although there is a lack of initial trust literature in developing countries, trust was examined sufficiently in IS/IT studies. Table 3.3 presents some of these studies and explained the way that trust was investigated.

The majority of the selected studies have been conducted in Jordan, and one in Saudi Arabia. The studies examined the human behaviour toward accepting, adopting, and intention to use new technology innovations such as e-commerce, online banking, and e-government. All of the reviewed studies examined trust as an independent variable which influences the human behaviour toward accepting or adopting new technological innovations (AbuShanab & Pearson 2009; AL-Majali & Mat 2011; Abbad et al. 2012; Al-Hujran 2012; Alomari et al. 2012), variables from technology acceptance model (TAM) (Al Sukkar & Hasan 2005; Abbad 2011; Alnsour & Al-Hyari 2011), or the human attitude (Al-Somali et al. 2009; Al-Majali 2011).

In addition, studies differed in the way of investigating the notion of trust. The majority of the studies investigated trust as a single construct (Al-Somali et al.2009; Abu-shanab & person 2009; Al-Majali and Mat 2011; Alnsour and al-hyari; Al-Majali 2011), some of the studies viewed trust as security and privacy (Al-hujran 2012; Alomari et al. 2012), others specify trust according to their studies such as trust in electronic channels, trust in the Internet, or trust in e-government (Al Sukkar and Hasan 2005; Alomari et al. 2012), or combined it with security (Abbad 2011).

Table 3.3 Trust in adoption studies in Jordan and other developing countries

Study	Main aim	The usage of trust	What trust affect
Al Sukkar and Hasan (2005)	Examined the appropriateness of the TAM model for the study of Internet banking in a developing country.	Independent variable. Variable name: trust in banks. Trust in electronic channels.	Perceived Usefulness Perceived Ease of Use
Al-Somali et al. (2009)	The aim of this study was to identify the factors that encourage customers to adopt online banking in Saudi Arabia.	independent variable Variable name: Trust	attitude towards using online banking
Abu-shanab & person (2009)	The main objective of this work is to validate and test an Arabic instrument in the context of Internet Banking utilizing a modified UTAUT model. The sample was bank customers in Jordan.	Independent variable. Variable name: Perceived of trust.	Behavioral intention.
Alnsour and al-hyari (2010)	Concentrate on two critical factors in acceptance behavior of Jordanians, namely, security and trust. The study focuses on business / corporate customers who use Internet for banking Purposes. They used TAM as a theoretical framework.	Independent variable. Variable name: Trust.	Perceived Usefulness Perceived Ease of Use
Abbad (2011)	The study aims to examine the factors underlying customers' technology adoption based on the technology acceptance model (TAM). The sample was bank customers in Jordan.	Independent variable. Variable name: Security and trust.	Perceived Usefulness Perceived Ease of Use

Study	Main aim	The usage of trust	What trust affect
Abbad et al.(2011)	Clarify the status of e-commerce in terms of limitations, problems and barriers facing the application and use of e-commerce in Jordan. The sample was undergraduate students at two Jordanian universities	Independent variable. Variable name: Security and trust.	e-commerce adoption
Al-Majali (2011)	Understand what factors will impact the customer's attitude toward (IBS) adoption in Jordan. The sample was 700 Jordanian public university employees that have used IBS.	Independent variable Variable name: Trust	attitude
AL-Majali & Mat (2011)	Investigating the success factors (perceived ease of use, perceived usefulness, compatibility, trialability, trust, awareness) on Internet Banking Services in Jordan. The sample is employees from four public universities.	Independent variable. Variable name: Trust.	IBS adoption
Alomari et al. (2012)	The study aims to identify the main factors that influence citizens' intention to adopt e-government websites in Jordan, using a theoretical framework consisting of (DOI) (TAM) and trust. The sample was 400 Jordanian citizens who had regular access to the Internet.	Independent variable. Variable name: Trust in government Trust in Internet (Security and privacy).	e-government adoption
Al-hujran (2012)	Investigate the key factors that influence the successful adoption of m-government in the Arab countries, specifically Jordan. The sample was people who are responsible for e-government planning, development and management in Jordan.	Independent variable. Variable name: Trust (security and privacy as main factors)	adoption of m-gov services

In summary, all studies that investigated the effect of trust on the human behaviour of accepting, adopting, developing an intention to use new IT/IS innovations agreed that trust is the most important impediment in the adoption process (Al Sukkar & Hasan 2005; AbuShanab & Pearson 2009; Al-Somali et al. 2009; Abbad 2011; AL-Majali 2011; AL-Majali & Mat 2011; Al-Hujran 2012; Alomari et al. 2012). Therefore, investigating factors that affect trust is a necessity. In addition, in the context of Arab countries, national culture is also found to affect trust formation, and hence needs to be investigated. The following section describes national culture in detail.

3.4. National Culture

Culture has been defined in many different ways over the last century. The term, culture, has been used across different sciences (disciplines) such as: anthropology, sociology, psychology, economics, business, management, and information systems and technology related sciences (Twati 2006). The wide-spread use of this term across many disciplines interprets the various definitions that have been put forward. Kroeber & Kluckhohn (1952) gathered and reported 164 definitions of the term "culture". They noticed that the diversity in the definitions of culture was a result of the discipline in which the term culture was being used in and the level of analysis involved.

The effort of defining "culture" anthropologically started in 1871. Al Hazmi (2010) cited Tylor (1871) as the researcher who is the owner of the original anthropological definition of culture. Tylor stated "culture or civilization, taken in its wide ethnographic sense, as that complex whole which includes knowledge, beliefs, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society". Further, Kroeber & Kluckhohn (1952, p. 181) who are considered as famous researchers

in the science of anthropology defined culture as "Culture consists of patterns, explicit and implicit, and of behaviour acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiments in artefacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, and on the other as conditioning elements of further action." Kroeber & Kluckhohn (1952, p. 181).

In addition, the United Nations Education, Scientific, and Cultural Organization (UNESCO) have produced its own declaration about culture in 2001. Magder (2004) reported that UNESCO defines that, “culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs”.

Another definition comes from the Global Leadership and Organizational Behaviour Effectiveness research program (GLOBE). The researchers of GLOBE stated that culture has “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations” (Dorfman et al. 2004).

In the psychology science, the American Psychological Association relies on Fiske et al. (1998) definition to be considered in its guidelines which was published in 2002. It defined culture as "the belief systems and value orientations that influence customs, norms, practices, and social institutions, including psychological processes (language, care taking practices, media, educational systems) and organizations (media, educational systems)” (Fiske et al. 1998b).

In the discipline of Information System (IS), the most popular journal in management information systems (MIS) MISQuarterly has published a review article for Leidner & Kayworth (2006). They found in their review of 51 articles (which examined culture at national level) that 60% used at least one dimension of Hofstede's culture theory. Agreeing with these findings, Twati (2006) stated that Hofstede's definition is the most popular, broadly acknowledged and cited definition of culture in IS/MIS field. Hofstede (2001, p. 9) defined culture as:

> *"The collective programming of the mind that distinguishes the members of one group or category of people from another".* Hofstede (2001, p. 9).

Although there are many definition of culture depending on the discipline and level (i.e. National, Organizational), all of them have shared elements such as shared norms, values, beliefs, and attitudes that distinguish one group of people from another (Twati 2006). Even though similarity in these elements exists, the conceptualization of culture still differs according to minor details (e.g. level). This can be viewed as a form of motivation to study culture in independently unique disciplines.

3.4.1. Culture frameworks

From the early 1960s, researchers started a new research direction to develop suitable methods to measure culture in quantifiable terms. Along this period, Hofstede study was the first and most significant one which defined its own four cultural dimensions (Van Bossuyt 2008). Also, Van Bossuyt (2008) pointed that (Hall 1960) is the initiator of measuring culture in quantifiable term. Harvard Business Review contained a series of relevant articles. The main objective of these anecdotal articles is to illustrate the effect

different cultures in various overseas countries have on the work of American Business people.

After that, a Dutch management researcher Hofstede (1980) developed his own cultural model which is considered as the most widely used model in organisational literature (Bhagat & Steers 2009). Briefly, his work was based on the assumption that the difference in what people value is the distinguishable mark between cultures. One example is that some cultures place a high value on equality between their people, while other cultures have low value on equality and high value on hierarchies between people. The initial model has four dimensions but then he added another one to make them five dimensions (Hofstede 1980, 2001).

In addition, (Schwartz 1994) studied culture and identified seven cultural levels, which are: Conservatism, Intellectual autonomy, Affective autonomy, Hierarchy, Egalitarianism, Mastery, and Harmony. He claimed that a huge survey has been carried out across 54 countries and 56 values have been tested. The sample was college students and elementary school teachers. Asking the sample about its basic values resulted in ten distinct value types at the individual level analysis. Unlike Hofstede, he used individual scores instead of countries means. At the end, his results can be summarized in two dimensions: openness to change vs. conservation, and self- enhancement vs. self-transcendence which can be compared to IND and MAS dimensions from Hofstede results (Twati 2006). Van Bossuyt (2008) summarized it in one dimension which represents a passive vs. active attitude toward life.

Another large study based on Hofstede's work was conducted in 1994. Fons Trompenaars concentrated on differences along with values and personal relationships (Bhagat & Steers 2009). The study focused on cultural dimensions of business

executives and collected data from around 15000 managers from 43 countries. The study resulted in seven dimensions: universalism/particularism, individualism/communitarianism, neutral/emotional, specific/diffuse, achievement/ascription, attitudes to time, and attitudes to environment (Twati 2006).

Finally, the Global research program (GLOBE) focused mainly on understanding the relationship between cultural differences and leadership processes (House et al. 2004). Robert House was the leader of the international team of researchers. The period of the study was around ten years, 17,300 managers responded to the questionnaire, 951 organizations, and 170 investigators from 62 different cultures (House et al. 2004). The study resulted in identifying nine dimensions: Uncertainty Avoidance, Power Distance, Institutional Collectivism (Collectivism I), In-Group Collectivism (Collectivism II), Gender Egalitarianism, Assertiveness, Future Orientation, Performance Orientation, Humane Orientation (House et al. 2004).

3.4.2. Criticisms of cultural models

In this section, criticism of the various models of culture is presented, as it is important to understand the shortfalls of the current models. This will also enable the choice of the most appropriate model and to build on it.

3.4.2.1. Hall's Model

Hall (1969; 1981; 1990) argued the concept of high/low context of culture. Twati (2006, P: 55) stated that "This concept deals primarily with language, and is one of the most basic concepts for any type of intercultural communication, or analysis thereof". Therefore, the work of Hall is crucial and very important in the way of transforming the information between different cultures. Also, high/low context is considered to

differentiate between cultures. However, while high/low context has a major role in differentiating between cultures, there are other factors that have the ability to address cultures and differentiate between them (Hall & Hall, 1990; Buragga, 2002).

In conclusion, Hall's idea depends on measuring societal culture differences on one concept (i.e. high and low context). A number of researchers (e.g. Hofstede) were motivated by Hall's work to find more criteria (later on dimensions) to differentiate between cultures.

3.4.2.2. The Hofstede's model

Hofstede's model is the most popular and most cited model in cross-cultural studies (Ford et al., 2003). Various criticisms are pointed to its instrument, methodology, the number of dimensions, sampling, and rating method. For the instrument, McSweeney (2002) and Sondergaard (1994) claimed that surveys are unsuitable to measure culture. Tayeb (1996) stated that Hofstede's questionnaire asked about work values and other workplace issues such as associated stress. No doubt these questions will not examine people who are not in the same environment (offices).

Regarding the Hofstede's methodology, McSweeney (2002) noticed that the average or central tendency of the examined dimensions, which is calculated at the societal level, is not used appropriately. Further, McSweeney criticizes the sampling method of Hofstede's model. He pointed that the sampling method which Hofstede's applied in IBM organization branches failed to represent well the national population profile of the countries where the sampled branches were located. Another criticism is that Hofstede's dimensions are fully depending on the field of management and businesses (Holden, 2002).

In addition, researchers criticized the limited number of Hofstede's model dimensions (Triandis 1996; House et al. 1997). They suggested renaming the dimensions differently to avoid any wrong ideas and misunderstanding for the meaning of the dimension. Nevertheless, Schepers (2006) criticised the simplicity of his dimensions either in number or in conceptualizing them (e.g. individualism and collectivism).

Additionally, Hofstede examined his assumptions in only one organization (i.e. international business machines (IBM)). Despite the fact that Hofstede examined only IBM employees to guarantee that his sample differed only by societal culture, Shanks et al. (2000) criticised this reliance and stated that the generated results represents IBM culture and not any other. In other words, they argued that whatever Hofstede get through his study is related to IBM Company only and cannot be generalized to other companies. Moreover, they criticised the number of examined dimensions and believed that only four dimensions are not enough to cover all aspects of cultural differences.

Lastly, Ess & Sudweeks (2005) criticised the sampling method used in the Hofstede's model. They noticed that the model depends on unequal groups, non-representative samples, and not identifying sub-cultures. They also claimed that culture cannot be evaluated using two ratings (i.e. high or low) only, and suggested using more than one rating to evaluate culture.

3.4.2.3. The Schwartz's Model

Schwartz's model also has received much criticism. Van Bossuyt (2008) stated that the measurements which Schwartz used cannot be considered as dimensions, because they are not independent of one another. In addition, he criticised the method of measurements construction and complexity of those measurements. Finally, Van Bossuyt (2008) mentioned that the collected data were limited compared to other

models (e.g. Hofstede's model, GLOBE). He added "The work of Schwartz has been largely ignored and dismissed by the bulk of the cultural dimensions community" (Van Bossuyt 2008).

3.4.2.4. The Trompenaars and Hmpden-Turner Model

Trompenaars and Hmpden-Turner (1993) framework can be criticised from the aspect of data comparing to other frameworks. While Hofstede's sample was 116,000 employee, their sample was only 50,000 managers.

3.4.2.5. The GLOBE Model

The GLOBE model sample can be considered as a limitation which is only leadership in organizations. Thus its sample could not be considered as a representative sample for the entire country and so the results could not be generalized (Van Bossuyt, 2008). Also he pointed out that newness and magnitude of the GLOBE made it not preferable to use.

3.4.3. Hofstede's model motivations

In spite of the criticisms that the Hofstede model received, it has been chosen in this study as a theoretical background to assess the cultural influence in initial trust of IBS. Below is a description that justifies this choice.

Twati (2006) mentioned that the Hofstede's study is the first study that has a rational framework exploited from previous literature, fragmented concepts, and scattered ideas. The author added that the main reason behind the popularity of the Hofstede's model of culture is the simplicity of his original dimensions. Some researchers consider this as a disadvantage of Hofstede's work (Schepers, 2006). In contrast, Twati (2006) consider it as strength. He stated that Hofstede's dimensions are very clear, simple, direct, and interesting for both academics and professional readers and researchers.

The value of Hofstede's study is clearly demonstrated in the MIS Quarterly article authored by Leidner and Kayworth (2006). They made an extensive literature review of national culture studies and they concluded that more than 60% of those studies adopted at least one or more dimension of the Hofstede's cultural dimensions. An equally important literature review study conducted by Ford et al. (2003) stated that the Social Science Citation Index (SSCI) indicated that up until 2003 Hofstede's book was cited around 1700 times. Further, Hofstede's anecdotes (Hofstede 1980, 1984, 1998, 2001; Hofstede et al., 2010; Hofstede et al., 2008) are the most popular and most cited in cultural studies. (Robertson et al., 2002, cited in AlHazmi, 2010).

Additionally, Zakour (2008) noticed the consistency of Hofstede's work. The author mentioned some studies that directly or indirectly validated Hofstede's work in different conditions and cultures (e.g. Hofstede and Bond, 1984; Chinese culture connection, 1987; Shackleton and Ali, 1987). Agreeing with this, Twati (2006) argued that other cross-culture studies (Bond, 1988; Schwartz, 1994; Trompenaars, 1994; House et al., 1996) which were conducted in different disciplines and areas found that they validated Hofstede's instrument and work. Also, Twati found that these studies were essentially based on Hofstede's dimensions. Smith and Bond (1999) support Twati's and Zakour's Claim. They stated that cross-cultural studies (Schwartz, 1994; Trompenaars, Hampden-Turner, 1998; the Chinese Culture connection group, 1987) which come after Hofstede validated and supported his study rather than rejecting it.

In the field of trust, Doney et al. (1998) and Gefen and Heart (2006) examined Hofstede's dimensions to find how the customer's trust is influenced based on differences in cultures. Furthermore, in the field of Information System (IS) the literature has many studies which used one or more dimensions of Hofstede model (e.g.

Gefen and Straub, 1997; Zakour, 2004). In studies that targeted Arab countries, Hofstede's dimensions received a lot of attention and were used to validate models that examined in a Western context such as TAM (e.g. Al Sucker, 2005; Alhujran, 2009), UTAUT (e.g. Abu Shanab, 2009).

From this discussion, it is clear that all cross-cultural models used what Hofstede found in his study (Schwartz, 1994; Trompenaars, Hampden-Turner, 1998; Bond, 1988; House et al., 1996). In other words, these studies have replicated Hofstede's work which in turn interprets the similarity between the results of these models and Hofstede's model results. In conclusion, the results of the cross-cultural studies can be referred to as similar to Hofstede with changes in dimensions names or number.

Finally, the widespread use of Hofstede's model comes from several strength points. Firstly, it is the first cross-cultural study. The existence of this study alone on the scene of cross-cultural field gives it the precedence to be used and adopted. Secondly, societal culture dimensions were created based on the empirical data, which was collected from a very large sample size of 116,000 respondents (Alder 1997; Parr et al., 1999). Thirdly, McCoy et al (2007) found that Hofstede's model is the most used in national culture research. Also, they noticed that Hofstede's dimensions are used by those who did not hold with them.

Hofstede identified five cultural dimensions. Although Hofstede dimensions have been criticized due to some methodological weaknesses (Baskerville 2003), 60 per cent of national culture studies used at least one of his dimensions (Leidner and Kayworth, 2006). In addition, McCoy et al (2007) stated that most national culture studies examined Hofstede's cultural dimensions and used them even those who criticized them negatively.

The dimensions based on Hofstede cultural theory are: Power Distance Index (PDI): the extent to which the less powerful members of group or society accept and expect that power is unequally distributed, Uncertainty Avoidance Index (UAI): the extent to which the members of group or society feel threatened by unknown situations, Individualism vs. Collectivism (IDV): the extent to which individuals are integrated into groups, Masculinity vs. Femininity (MAS): the extent to which gender roles are assigned in a culture, and Long-Term vs. Short-Term Orientation (LTO): a society's preference to be more forward looking or future oriented. Table 3.4 presents Hofstede's dimensions compares the indexes for Arab world states and the USA.

Table 3.4 A comparison of cultural indexes between Arab world and USA

Dimension	Arab world	USA
Uncertainty avoidance	68%	46%
Power distance	80%	40%
Individualism vs. Collectivism	91%	38%
Masculinity vs. Femininity	62%	53%
Long term orientation vs. short term orientation	NA	

3.4.4. Literature of national culture and IS/IT adoption in Arab countries

Many studies conducted in Arab countries showed the role of national culture in MIS, IS, IT fields. Table 3.5 summarizes the literature of national culture and IS/IT in Arab countries.

The country of Jordan, which belongs to the Arab world, is classified as one of the most complicated social and cultural systems (Al-Hujran et al. 2011). Due to the differences between Arab countries and the USA in the indexes of the dimensions, many

researchers from Arab countries investigated the effect of the national culture and demonstrated that it has crucial role in affecting individuals' behaviour toward adopting new IT innovations (Al-Gahtani 2004; Al Sukkar & Hasan 2005; Akour et al. 2006; Twati 2006; Alhujran 2009; Al Hazmi 2010; Al-Jaafreh et al. 2014).

Table 3.5 Literature of national culture and IS/IT in Arab countries

Author	Study aim	Cultural factors	results
Al Sukkar and Hasan (2005)	Examine the appropriateness of the TAM model for the study of **accepting Internet banking** in **Jordan.**	Hofstede's national culture dimensions	UA sig. on PU and PEOU. Long vs. Short term sig. On PU only.
Akour et al. (2006)	Examined the impacts of cultural dimensions, perceived ease of use (PEOU), and perceived usefulness (PU) of managers' **intentions to use the Internet** in **Jordan.**	Hofstede's national culture dimensions	PD and CO had a sig. On intention to use
Twati, J. (2006)	Explore and explain the influential relationship of culture (org and societal) on the **adoption and implementation of MIS** in 5 **Arab countries.**	Hofstede's national culture dimensions	All of them sig. On MIS adoption directly or mediating by PU or PEOU.
Al-Hujran (2009)	Identifying the factors that influence citizens' **adoption of e-government** services in **Jordan.**	Hofstede's national culture dimensions	UA, PD, and MAS are sig. On PU. UA only sig. On PEOU.
Al-Majali et al. (2010)	Investigates factors that may influence **Internet banking adoption** in **Jordan**.	Subjective norms. (Family media and Mass media)	Sig. On Behavioral Intention.
Al-Hujran et al. (2011)	Examine national cultural factors that may influence citizen **adoption** of **e-government** websites in **Jordan**	Hofstede's national culture dimensions	PD and UA had significant impacts on citizens' intention to adopt e-government.
Al-Haraizah and Choudhury (2012)	Examines **Jordan** government's employees' attitudes towards **adopting and use Electronic Mailing systems** within their job.	Hofstede's national culture dimensions	Not sig. On PU or PEOU.
Alomari et al.(2012)	Factors that affect **e-gov**. **adoption** in the developing country of **Jordan.**	Belief (Religion)	Sig. On adoption of e-government

3.4.5. Literature of national culture and trust

A number of researchers have stated that culture has not received enough attention in most of the existing studies (e.g. Susanto et al. 2013) and recommended the investigation of the influence of national culture on trust formation. The literature showed three studies that considered the national culture influence on the context of trust (Doney et al. 1998; Gefen & Heart 2006; An & Kim 2008).

The first attempt of viewing the concept of trust from the perspective of national culture was done by (Doney et al. 1998). The study aimed to understand the influence of national culture on trust formation in business contexts. Therefore, five cognitive processes of trust building were identified: calculative, prediction, intentionality, capability, and transference. The study created a series of propositions to explain the role of societal norms and values in trust formation through demonstrating its impact on each trust-building process. However, the propositions of this study have not been verified yet; thus, Gefen & Heart (2006) examined those propositions in the context of e-commerce within two different cultures. Table 3.6 summarizes the propositions of (Doney et al. 1998).

Table 3.6 Summary of Doney et al. (1998), adapted from (Gefen & Heart 2006).

			High
Trust building processes	**IDV (MAS)**	**PDI**	**UAI**
Calculative	+	+	+
Prediction	-	+	+
intentionality	-	-	+
capability	+	+	+
transference	-	-	+

***IDV**: individualism, **PDI**: power distance index, **UAI**: uncertainty avoidance index.*

Since trust and trust beliefs are crucial in the adoption of e-commerce (Gefen 2000; McKnight et al. 2002b; Gefen et al. 2003; Gefen & Straub 2004), Gefen & Heart (2006) investigated the impact of different national cultures on trust formation. They compared the U.S. culture with the Israel culture and found that there is a significant difference in intention to trust between Israel and USA samples based on the clear differences between their cultures. The results verified the propositions of (Doney et al. 1998). It showed that the effect of predictability and familiarity on trust belief may differ across different national cultures. They added that trust is all about two social aspects: reducing social uncertainty (Luhmann 1979; Gefen 2000) and willingness to depend on others (Mayer et al. 1995). Both of those social aspects are already enclosed in national culture dimensions: IDV, PDI, and UAI which are proposed and explained by (Hofstede 1980).

Likewise, An & Kim (2008) examined the influence of cultural values on consumer trust in online shopping. The study surveyed 289 respondents from the South Korea and the USA. The results indicated that the cultural dimension of individualism-collectivism has an indirect impact on consumer's online trust. They concluded that the underlying cultural norms have an important role with attributes of Internet sellers and system related factors in forming and developing the base of online trust.

In summary, the reviewed literature explained the importance of including national culture in trust research. In addition, the obtained results from each study illustrate markedly the need of including national culture in future investigation of trust, especially in new contexts, such as that of the Arab countries. However, the reviewed literature included the national culture in their models with general trust. Thus, investigating the impact of national culture on initial trust is necessary.

3.5. Diffusion of innovation theory

The Diffusion of innovation Theory (DOI) is also known as Innovation diffusion theory. Professor of communication studies, Everett Rogers, popularized DOI in his book Diffusion of Innovation. Although the theory was used widely in the field of information technology (Rogers 1995), it was used in other disciplines, such as sociology, communication, anthropology, education, and marketing (Alhujran 2009). Diffusion was defined as "the process by which an innovation is communicated through certain channels over time among the participants in a social system" (Rogers 1995, p. 5). An Innovation is a new idea, device or process, however; it is defined by Rogers (1995, p. 11) as "an idea, practice, or object that is perceived as new by an individual or another unit of adoption". In addition, Rogers (1995) pointed out that the spread of an innovation is mainly influenced by four important factors: the innovation itself, communication channels, time, and a social system in which the innovation is introduced.

Moreover, Rogers (1995) argued that the usage of a new innovation is totally influenced by five characteristics of the innovation itself: its relative advantages, compatibility, complexity, trialability, and observability. However, Tornatzky & Klein (1982) conducted an extensive literature review of the innovation adoption research and confirmed that the most important attributes of an innovation are relative advantages, compatibility, and complexity of an innovation.

The characteristic of relative advantage is defined by Rogers (1983, p. 213) as "the degree to which an innovation is perceived as better than the idea it supersedes". The second important characteristic of an innovation is compatibility which is defined as " the degree to which an innovation is perceived as being consistent with the existing

values, past experience, and needs of potential adopters" (Rogers 1983, p. 223). Finally, complexity of an innovation is also defined by Rogers (1983, p. 230) as "the degree to which an innovation is perceived as difficult to understand and use".

3.5.1. Literature of DOI and trust

The current research investigates the influence of those characteristics on the developing of customer's initial trust in Internet Banking Services (IBS) which is a higher concept to the traditional banking transactions. In the context of trust, significant influence of relative advantage was found on initial trust (Kim et al. 2009; Susanto et al. 2013). In addition, an empirical study conducted by (Lin et al. 2011) has approved the importance of an innovation's compatibility for initial trust formation. Despite the fact that the innovation complexity has not been thoroughly examined before, it has been included in this study because of the following reasons: its importance as an innovation characteristic, the study is conducted in a different and new context (Jordan), and to explore its influence on initial trust of the IBS. Those studies are discussed in detail in the following chapter because of their direct relation with the current studies.

3.6. Chapter summary

This chapter provided an intensive and comprehensive review of the literature related to the research field. It began with a theoretical background about the IBS including IBS definitions, history, types, benefits, risks, and levels. The chapter also showed the benefits of using IBS for both customers and banks. This was followed by discussion of the trust phenomena and providing detailed information about trust definitions, bases, types, antecedents for each trust types, and critical review of the literature that investigates initial trust in e-commerce, e-government, IBS, and mobile banking.

Moreover, the chapter discussed the investigation of trust in studies conducted in Jordan and other developing countries. Then, it presented totalitarian theoretical background of national culture and provided scientific criticism of the cultural frameworks. Further, the chapter showed the importance of national culture and the results of investigating it in the field of MIS in studies conducted in Jordan or other developing countries.

The chapter also clarified that although there are many previous conceptual models proposition and empirical studies that investigated initial trust, these studies are limited to developed countries. The empirical investigation of trust in the developing countries is insufficient. In Jordan, the geographical scope of the current study, customer's initial trust in IBS has not been investigated before. Therefore, the literature review proves the need of empirically investigating Jordanians' initial trust in IBS.

To achieve the goal and the need of this research, a theoretical framework of initial trust in IBS is presented in the following chapter. The proposed frameworks intended to examine the relationship between a set of factors with customers' initial trust in IBS, and the relationship between customers' initial trust in IBS and their intention to use IBS in the country of Jordan. Moreover, based on the literature review and the proposed framework, the next chapter develops a conceptual model which includes important factors founded in the literature, especially in those studies that focused on IBS or mobile banking (Kim et al. 2004; Kim & Tadisina 2007; Kim et al. 2009; Susanto et al. 2013).

Chapter 4
Research model and hypotheses

4.1. Introduction

In this chapter, the researcher presents the proposed research model for this study. The research model integrates factors from Diffusion of Innovation theory (DOI) with a set of important variables identified based on the literature review of trust in online environment (initial trust, disposition to trust, institution based trust, and reputation), and adoption of IS/IT literature (computer and Internet self-efficacy, and national culture factors). In addition, this chapter explains the relationships between the model constructs, justifies these relationships, and discusses and develops the research hypotheses.

4.2. The Development of the Research model

The main objective of this study is to address the problem of low usage of the Internet Banking Services (IBS) in Jordan (DOS 2012) from the trust perspective. Therefore, this study proposes a research model to facilitate conducting an empirical field investigation for resolving the problem statement discussed in Section 1.4. Then, the results of the investigation will be used to answering the questions listed in Section 1.6. The theoretical framework of the model consists of three components: factors influencing initial trust, initial trust in IBS and the behavioural intention to use IBS. The

research model includes two stages within the three components: the first stage involves investigating the relationships between the factors influencing initial trust in IBS; on the other hand, the second stage involves the relationship between initial trust in IBS and the intention to use IBS in Jordan.

In the current study an initial research model has been developed based on the intensive literature review which was explained in the previous chapter. The initial model included factors that are classified as human related factors and technology related factors (for further information see Appendix B). Despite assigning some of these factor different names, the literature has conceptualized and defined them similarly. Therefore, a pilot study has been conducted to validate the instrument and refine the initial model (see Section 5.4.1.6). Figure 4.1 represents the final version of the research model of this study.

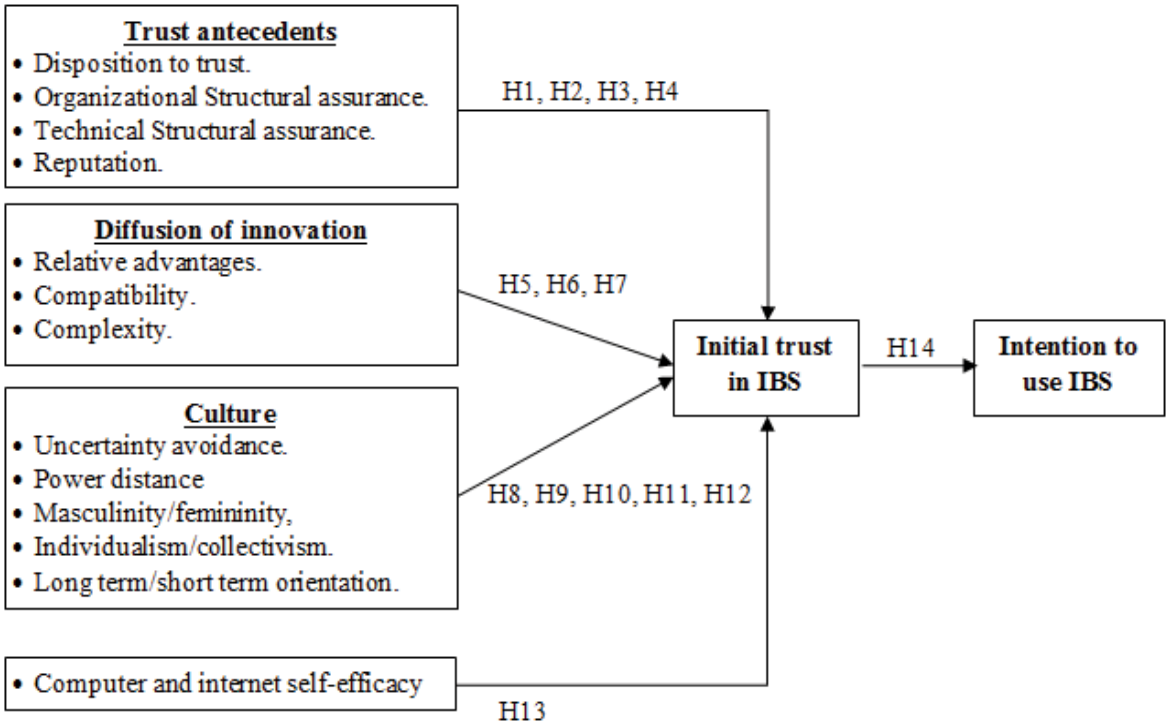


Figure 4.1 Research model

4.3. Research hypotheses

In this section the researcher develops the research hypotheses based upon the available literature. The researcher provides, within each sub-title of a factor, a table of the studies which examined those factors with their results. Also, the same flow of the theoretical framework is followed (antecedents → initial trust → outcome of initial trust).

4.3.1. Trust antecedents

The model includes four trust antecedents: disposition to trust, organizational structural assurance, technical structural assurance, and reputation. In this section, each antecedent and its relationship with initial trust is discussed.

4.3.1.1. Disposition to trust

This study focuses on customers who do not have previous experience with IBS. Individual disposition to trust represents the personality-based trust, which does not depend on previous knowledge about the trustee, but it is formed by the person's ongoing lifelong experience, cultural background, and psychological characteristics (Lee & Turban 2001). Disposition to trust is defined as *"a propensity or tendency to believe in the positive attributes of others in general*". (McKnight et al., 2004 p. 36)

Based on the extensive literature review presented in Section 3.3.4, disposition to trust (or trust propensity) is found to have a constant presence in the majority of studies that attempts to model the notion of trust. The relationship between disposition to trust and initial trust in different e-services has been confirmed. In online banking, disposition to trust is found to have a positive influence on initial trust in Internet or Mobile Banking (Kim & Prabhakar 2004; Kim et al. 2009; Zhou 2011). Similarly, studies that

investigated online initial trust confirm a positive relationship with disposition to trust (Chen & Barnes 2007; Zhou & Tian 2010; Lin et al. 2011; Luo et al. 2014).

According to the above, when the sample has no previous experience, disposition to trust (Trust propensity, Personal based trust, or Propensity to trust) has a positive effect on the dependent variable (trusting beliefs, initial trust, trust). The following table summarizes the references of the relationship between disposition to trust (DT) and initial trust (INT).

Table 4.1 Hypothesis 1

Number	Description of the hypothesis	References
H1 DT→ INT	A person's disposition to trust positively influences his/her initial trust in Internet banking.	Kim & Prabhakar 2004), (Kim et al. 2009), (Zhou 2011), (Lin et al. 2011), (Chen & Barnes 2007), (Luo et al. 2014), (Zhou & Tian 2010)

4.3.1.2. Organizational structural assurance

Structural assurance in an environment represents the individual's perception of the guarantees, regulations, legal resources, rules, policies, and any other procedures that increase the individual's feeling of success (Shapiro 1987). McKnight et al. (1998, p. 478) defined structural assurance as "the belief that success is likely because such contextual conditions as promises, contracts, regulations, and guarantees are in place". In the current study, organizational structural assurance reflects the structural assurance of the physical branches of the banks. For the purpose of this study, organizational structural assurance is defined as *"Safeguards such as promises, contracts, regulations, and guarantees are in place*" (Li et al. 2008, p.47)..

In offline contexts, Doney & Cannon (1997) declared the importance of the structural assurance by explaining its role in affecting customer's feeling to believe that the other party has no intention to behave defectively. Likewise, organizational structural assurance was considered in online contexts. It was argued that "When using a system in an organizational context, end users may also seek organizational policies, norms, regulations and sometimes even legal means to protect their interests" Li et al. (2008, p. 47). The following table summarizes the references of the relationship between organizational structural assurance (OSA) and INT.

Table 4.2 Hypothesis 2

Number	Description of the hypothesis	References
H2 OSA→ INT	A customer's perception of organizational structural assurances positively influences his/her initial trust in Internet banking.	(Li et al. 2008), (Yousafzai et al. 2005)

4.3.1.3. Technical structural assurance

This factor is mainly focused on the structural assurance of the Internet environment. McKnight et al. (2002b) defined structural assurance at the Internet level as a belief in which the web environment provides a set of regulations and techniques, such as encryption, that guarantee the privacy of the users' information, and the conducting of web business in a secure and safety manner. In this study, technical structural assurance defined as *"The belief that the web has protective legal or technological structures that assure that web business can be conducted in a safe and secure manner"* (McKnight et al. 2002b, p.304).

In the IBS context, if the customer feels that using such e-services is secured and the privacy of his/her information is guaranteed, then the willingness to use it will increase.

The role of technical structural assurance is to increase the belief in the environment that is safe and secure. Structural assurance in the online environment was examined to explore its effect on initial trust (McKnight et al. 2002b; Kim & Prabhakar 2004; Li et al. 2008; Kim et al. 2009; Lin et al. 2011; Zhou 2011). The following table summarizes the references of the relationship between technical structural assurance (TSA) and INT.

Table 4.3 Hypothesis 3

Number	Description of the hypothesis	References
H3 TSA→ITN	A customer's perception of technological structural assurance of the Internet positively influences his/her initial trust in Internet banking.	Li et al. (2008), McKnight et al. (2002a,b), Kim and Prabhakar (2004), Yousafzai et al. (2005), Li et al. (2006), Kim et al. (2009), Lin et al. (2011), Zhou (2011), Gefen et al. (2003).

4.3.1.4. Reputation

As mentioned earlier, this research focuses on building initial trust in IBS for those who have never used IBS before. Thus, second hand knowledge such as word of mouth (Kim & Prabhakar 2004) can be used to increase the degree of cognitive familiarity with the trustee. Li et al. (2008) argued that cognitive familiarity can be formed based upon second-hand knowledge, impressions, cognitive cues, and cognitive processes. Also, they found in their literature that a truster may trust an unknown trustee depending on the trustee's reputation. For the purpose of this study, reputation is defined as *"*(Doney and Cannon 1997).

Literature shows that reputation is considered as a significant factor influencing initial trust (Susanto et al. 2013) and trusting beliefs (McKnight et al. 2002a; Li et al. 2008; Yousafzai et al. 2009; Eastlick & Lotz 2011). Likewise, in this study the customer may build his/her initial trust of IBS based on the reputation of the bank. The following table summarizes the references of the relationship between reputation (REP) and INT.

Table 4.4 Hypothesis 4

Number	Description of the hypothesis	References
H4 REP→INT	A customer's perception of bank's reputation positively influences his/her initial trust in Internet banking.	Li et al. (2008), Eastlick and Lotz (2011), Susanto et al. (2013), Kim et al. (2009), Lin et al. (2011), Yousafzai et al. (2009).

4.3.2. Diffusion of innovation theory

According to Tornatzky & Klein (1982), relative advantages, compatibility, and complexity of a new innovation are the main attribute that affect the human behaviour toward adopting that innovation. In this section, the researcher presents the literature that investigated each attribute if it existed.

4.3.2.1. Relative advantages

Relative advantages are known as those advantages that are associated with new services and not with the old ones. Rogers (1995) defined relative advantages as "*the degree to which an innovation is perceived as being better than the idea it supersedes*" (Rogers 2003, p.299). These include: economic benefits, enhanced personal image, convenience and satisfaction. Kim et al. (2009) and Susanto et al. (2013) found that relative advantages have a significant and positive influence on customer's initial trust. The following table summarizes the references of the relationship between relative advantages (RA) and INT.

Table 4.5 Hypothesis 5

Number	Description of the hypothesis	References
H5 RA→INT	Perceived relative advantages of Internet banking services positively influence a customer's initial trust in those services.	Kim et al. (2009), Susanto et al. (2013).

4.3.2.2. Compatibility

Compatibility is another significant innovation's attribute of DOI theory which defined as *"the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters"* (Rogers 2003, p.15). Many studies in the field of Management Information Systems (MIS) showed the importance of compatibility in predicting an individual's accepting, adopting, and intending to use new innovation (Al-Majali et al. 2011; Alomari 2011). In the trust context, compatibility was found as a significant factor which reduces the level of risk perception and enhances customer's trust in 3G mobile banking services (Lee et al. 2003 cited in Lin 2011). Thus, compatibility is expected to affect a customer's initial trust positively. The following table summarizes the references of the relationship between compatibility (CPT) and INT.

Table 4.6 Hypothesis 6

Number	Description of the hypothesis	References
H6 CPT→INT	Perceived compatibility of Internet banking services positively influence a person's initial trust in those services.	Lin (2011).

4.3.2.3. Complexity

Although this attribute has been widely investigated in the field of MIS (AL-Majali & Mat 2011; Alomari et al. 2012), trust literature did not mention any study that investigated this attribute and its impact on initial trust or trust in general. Complexity defined as *"The degree to which an innovation is perceived as difficult to understand and use"* (Rogers 1983, p. 230). This study will evaluate the influence of an innovation's complexity on the initial trust in IBS. Therefore, this study hypothesizes the relationship between complexity (CPX) and initial trust as follows:

Table 4.7 Hypothesis 7

Number	Description of the hypothesis
H7 CPX→INT	Perceived complexity of Internet banking services negatively influence a person's initial trust in that services.

4.3.3. National Culture

A few studies investigated the influence of national culture on the building process of trust. Doney et al. (1998) proposed a series of proposition in which they explained the relationship between each cultural dimension with each trust-building process. In addition, other studies investigated national culture dimensions as contextual variables (Gefen & Heart 2006; An & Kim 2008). They compared the obtained results of building trust in e-commerce between two different contexts that have many cultural differences, i.e., the United States and South Korea. The following table defines the cultural dimensions used in this study.

Table 4.8 Definition of national culture dimensions

Dimension	Definition	Reference
Power distance	*The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.*	Hofstede's (1991, p.28).
Uncertainty avoidance	*The extent to which the members of a culture feel threatened by uncertain or unknown situations.*	Hofstede's (1991, p.113).
Individualism vs. collectivism	*Individualism stands for a society in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family only.* *Collectivism stands for a society in which people from birth onward are integrated into a strong, cohesive group in which, throughout people's life time; continue to protect them in exchange for unquestioning loyalty.*	Hofstede's (2001, p.255).
Masculinity vs. femininity	*Masculinity stands for a society in which social gender roles are clearly distinct: Men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender, and concerned with the quality of life. Femininity stands for a society in which social gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.*	Hofstede's (2001, p.297).
Long-term vs. short-term orientation	*Long Term Orientation stands for the fostering of virtues oriented towards future rewards, in particular perseverance and thrift. Its opposite pole, Short Term Orientation, stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations.*	Hofstede's (2001, p.359).

In a complex context, such as that of the developing countries (Al-Hujran et al. 2011), national culture is found to play a crucial role in affecting human behaviour to adopt new technological innovation as shown in Section 3.4.4. Therefore, the current study attempts to explore the direct influence of national culture dimensions on customer's initial trust in developing countries, Jordan in particular. The following table summarizes the references of the relationships between five dimensions of national culture and trust building.

Table 4.9 Hypothesis 8-12

Number	Description of the hypothesis	References
H8: UA→INT H9: PD→INT H10: IC→ INT H11: MF→INT H12: LOT→INT	There is a direct and negative influence of uncertainty avoidance (UA), power distance (PD), individualism vs. collectivism (IC), masculinity vs. femininity (MF), and long-term vs. short-term orientation (LSO) on customer's initial trust of Internet banking.	Gefen & Heart (2006), Doney et al.(1998), An & Kim (2008).

4.3.4. Internet and computer self-efficacy

Previous studies of trust in an e-vendor considered the dealing with other Internet vendors as a previous knowledge and experience (McKnight et al. 2002a; Gefen et al. 2003). They considered that the situational normality of using similar environment might affect user's initial trust. This study utilized a national survey that was conducted in 2009 and showed that 64.4% of the individuals who used the Internet in the previous 12 months were for listening music and watching films and only 3.6 % of them used Internet banking (DOS 2009, p. 30). Therefore, the researcher will focus on the general experiences and skills in computer and Internet that the users have which defined as *"an individual's perception of his or her ability to use computer (and Internet) in the accomplishment of a task"* (Compeau and Higgings 1995, p.191).

Many studies examined the effect of the previous experiences and skills that individual have on the adoption of such e-services. In the context of trust, researchers found that familiarity of the online environment positively affects initial trust of such e-services (Li et al. 2008; Alsaghier 2010; Eastlick and Lotz 2011).

Table 4.10 Hypothesis 13

Number	Description of the hypothesis	References
H13 ICSE→INT	A customer's Internet and computer self-efficacy positively influences his/her initial trust in Internet banking.	Alsaghier (2010), Eastlick and Lotz (2010), Li et al. (2008).

4.3.5. Initial trust outcome

Previous studies identified the relationship between initial trust and its outcome (e.g. intention to use IBS) as a significant one. Initial trust is defined as *"the status quo in which consumers trusted an unfamiliar e-vendor"* (McKnight et al. 2002b). Also, behavioural intention to use IBS is defined as *"Strength of one's intention to perform specified behaviour"* (Fishbein and Ajzen 1975, p.216). In the context of the banking sector, Kim & Prabhakar (2004) found that consumer's initial trust in e-channel significantly influenced his/her intention to adopt Internet banking. Similarly, Kim et al. (2009) results supported their assumption of the relationship between initial trust and intention to adopt mobile banking. They found that the level of initial trust a customer has in mobile banking is positively associated with customer's intention to adopt it. Recently, Susanto et al. (2013) agreed with previous literature and stated that the degree of one's initial trust in Internet banking is positively correlated with his/her intention to use.

Likewise, other contexts, such as intention or willingness to shop online (Lee & Turban 2001; McKnight et al. 2002b; Koufaris & Hampton-Sosa 2004; Lee & Lee 2005; Cheung & Lee 2006; Chen & Barnes 2007; Kim 2012;), or intention to use new information systems (Li et al. 2008), also supported the relationship between initial trust and the behavioural intention.

The following table summarizes studies that investigated the relationship between initial trust (INT) and intention to use (INU).

Table 4.11 Hypothesis 14

Number	Description of the hypothesis	References
H14 INT→INU	The level of initial trust a person has in IBS is positively influences his/her intention to use.	Lee & Turban 2001), (McKnight et al. 2002b), (McKnight et al. 2002a), (Kim & Prabhakar 2004), (Lee & Lee 2005), (Chen & Barnes 2007), (Kim et al. 2009), (Kim 2012), (Khadraoui & Gharbi 2013), (Susanto et al. 2013).

4.4. Research hypotheses summary

The following table summarizes all the research hypotheses. An empirical field study was conducted to test those hypotheses.

Table 4.12 Hypotheses summary

Code	Variables	Hypothesis description
H1	DT→ INT	*A customer's disposition to trust positively influences his/her initial trust in Internet banking.*
H2	OSA→ INT	*Bank's organizational structural assurance positively influences customer's initial trust in Internet banking.*
H3	TSA→INT	*Technological structural assurance of the Internet positively influences customer's initial trust in Internet banking.*
H4	REP→INT	*Bank's reputation positively influences customer's initial trust in Internet banking.*
H5	RA→INT	*Perceived relative advantages of Internet banking services positively influence a customer's initial trust in that services.*
H6	CPT→INT	*Perceived compatibility of Internet banking services positively influence a customer's initial trust in that services.*
H7	CPX→INT	*Perceived complexity of Internet banking services negatively influence a customer's initial trust in that services.*
H8	UA→INT	*There is a direct and negative effect relationship between uncertainty avoidance (UA) and customer's initial trust of Internet banking.*
H9	PD→INT	*There is a direct and negative effect relationship between power distance (PD) and customer's initial trust of Internet banking.*
H10	MF→INT	*There is a direct and negative effect relationship between masculinity vs. femininity (MF) and customer's initial trust of Internet banking.*
H11	IC→INT	*There is a direct and negative effect relationship between individualism vs. collectivism (IC) and customer's initial trust of Internet banking.*
H12	LSO→INT	*There is a direct and negative effect relationship between long-term vs. short-term orientation (LSO) and customer's initial trust of Internet banking.*
H13	CISE→INT	*A customer's Internet and computer self-efficacy (ICSE) positively influences his/her initial trust in Internet banking.*
H14	INT→INU	*Customer's initial trust (INT) in IBS is positively influences his/her behavioral intention to use (INU).*

The researcher adopted the relationships between the independent variables and the dependent variable from previous studies. Most of the relationships are hypothesized to have positive influence on INT; however, the national culture factors are hypothesized to have negative influence on INT. This is mainly due to the fact that the Jordanian

context is characterized by strong national culture among its people, and hence it is anticipated that the culture affects people's trust negatively.

4.5. Chapter Summary

The present chapter showed the development of the study model and study hypotheses. In addition, the chapter provided an operational definition for each factor in the model. The study model with causal relationships between the model constructs is presented in figure 4.2. The figure includes 15 constructs with 14 hypotheses (relationships). Chapter 5 addresses the research methodology employed to investigate the research model of this study.

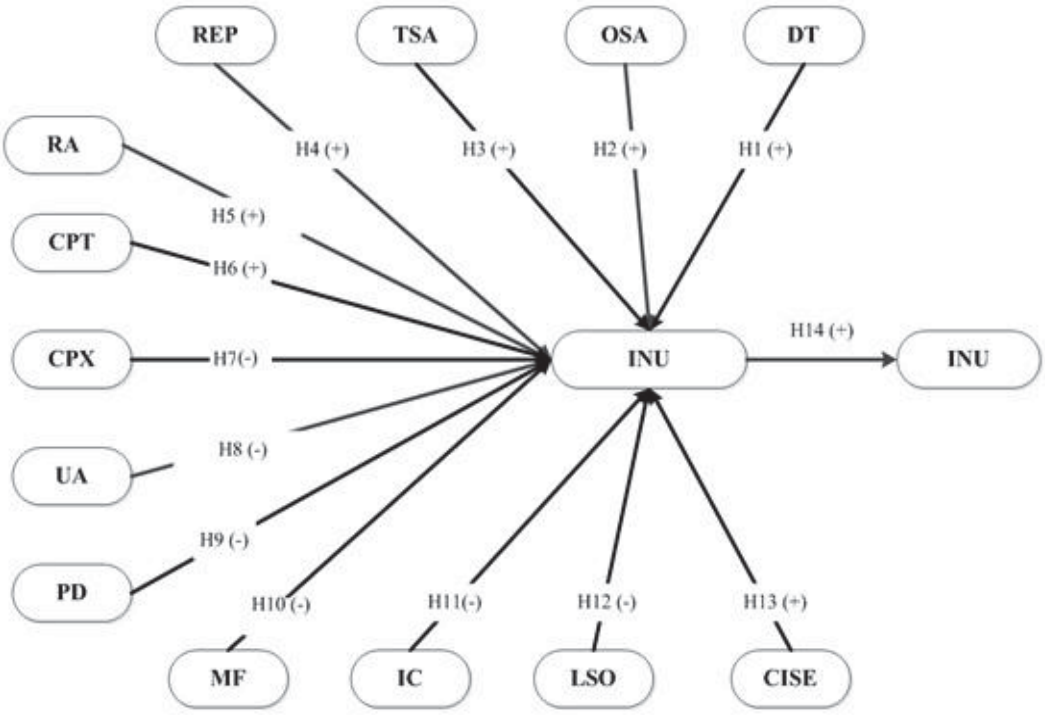


Figure 4.2 research model with causal relationships

Chapter 5
Research design and methodology

In this chapter, the researcher presents and explains the research design and methods used in this study. The chapter also provides additional details to justify the usage of the mixed methodology, that is quantitative and qualitative analysis. Section 5.1 provides an introduction about the research methodology. Section 5.2 describes the research design of this study. Then, section 5.3 provides more details about the adopted alternative research method. After that, section 5.4 explains the survey method, including design of the survey, survey development and pre-testing using a pilot study, discussion of the pilot study results, sample population of the main study, and survey administration of the main study. Section 5.5 provides detailed information about the qualitative method used in this study, including the data collection method and analysis strategy. Finally, section 5.6 provides a summary.

5.1. Introduction

The research design process is the steps which the researchers follows to answer research questions. A Research is defined as “the process of thoroughly studying and analysing the situational factors surrounding a problem in order to seek out solutions to

it" (Cavana et al. 2001, p. 4). Also, it has been argued that the research design is considered as systematic steps that result from logical decision-making to help in producing rational research results. Another definition of research considers it as an action with a purpose. Sekaran (2003, p. 5) defined a research as "organized, systematic, critical scientific, data-based, objective, scientific inquiry or investigation into a specific problem, undertaken with the purpose of finding answers or solutions to it". So this definition declares the researchers or investigators duties to enquire about the topic or the participants associated with a research problem. The current study employed a mixed method approach which combines a quantitative approach (self-administered questionnaires) with a qualitative approach (case studies) to identify the factors that affect initial trust in Internet Banking Services (IBS) by Jordanians.

5.2. Research design

Determining an appropriate research methodology is considered an essential step in order to obtain a sufficient solution for a problem under investigation. Thus, this section outlines the issues related to the design of a research, choosing a suitable research approach, and data collection and analysis.

A research design is a set of steps which the researcher follows to answer the research questions. Cavana et al. (2001) defined research design as a procedural plan that includes a set of decisions or guidelines which lead to achieve reliable and accurate research results. Choosing a data collection method, research instruments to be employed, sampling strategy, and analysis techniques are examples of important decisions in a research design that follows the positivist philosophy (Cavana et al. 2001). The positivist philosophy according to Neuman (2006) is a process of empirical

observations of individual behaviour to confirm a set of hypotheses that are drawn from an existing theory. On the other hand, Easterby-Smith et al. (2002) argued another philosophy in social science research called social constructionism which focuses on interpreting the fact that individuals or groups have different experiences and observations. In addition, positivism and constructionism (interpretive) philosophy are associated with both quantitative and qualitative approaches.

Mainly, qualitative research focuses on definitions, perceptions, descriptions, properties, and metaphors symbols of the thing, therefore, qualitative approach has been associated with constructionism. However, quantitative research focuses on measures and counts of issues (Cresswell 2003); thus, it is associated with positivism.

In the current study, both positivist and interpretive (constructionism) approaches have been used through making a combination of the quantitative and qualitative approaches to achieve the highest level of understanding and investigation of the research problem. We employed quantitative and qualitative approaches in a sequential complementary manner (Zikmund 2000; Neuman 2006). The main approach of this study was the positivist (quantitative) approach, while the complementary approach was the interpretive (qualitative) approach in which it was used to complement and interpret the results of the positivist approach.

Basically, based on the knowledge generated from an intensive review of trust literature and other related theories such as Diffusion of Innovation theory (DOI) and National culture, the adapted positivist approach in this study developed a conceptual model that included group hypotheses to represent the relationship between the variables of the research model. The model was assessed using a set of steps and analysis techniques to

result in a final model that best describes the issue of initial trust formation in IBS. The interpretive (qualitative) approach was used in this study to evaluate and interpret the obtained results, and provide a better understanding of the factors influencing initial trust in IBS in Jordan from experts' perspective. In conclusion, in this study the primary and dominant approach was the quantitative research method, which was complemented using the qualitative method.

Newman et al. (2003) stated that adopting a mixed methods approach enables the researchers to achieve more accurate results and provide deep understanding of those results. Another benefit of using mixed methods (Maxwell & Loomis 2003) is that the qualitative method can help in interpreting unexpected results obtained by the quantitative method, and provide suggestions for future work.

Basically, this study has three main stages: firstly, since there are many related issues to both of the problems of trust and the adoption of IBS, an intensive and extensive literature review was essential. The literature review included reviewing literature of initial trust in developed countries and developing (including Arab) countries, IS/IT and marketing literature which investigated factors related to national culture and trust, and literature of trust that examined factors of Diffusion of innovation theory. The literature review helped in forming a clear vision and understanding of the issues related to the problem, and in developing the research model and research instrument.

Secondly, a quantitative approach was applied twice in this study. A pilot study was conducted to validate the questionnaire and refine the initial model. Then, the main study was conducted to examine the refined research model, using the validated

questionnaire, and to test the hypotheses, which represent the relationships between the model variables.

Thirdly, a qualitative approach was then carried out to evaluate the obtained results from the quantitative study, and to provide experts' perspectives and suggestions to refine the model for future studies. Figure 5.1 is a diagram that presents the research design of the current study. The diagram explains the three stages mentioned above, the published and submitted papers resulted from each stage, and other related managerial activities.

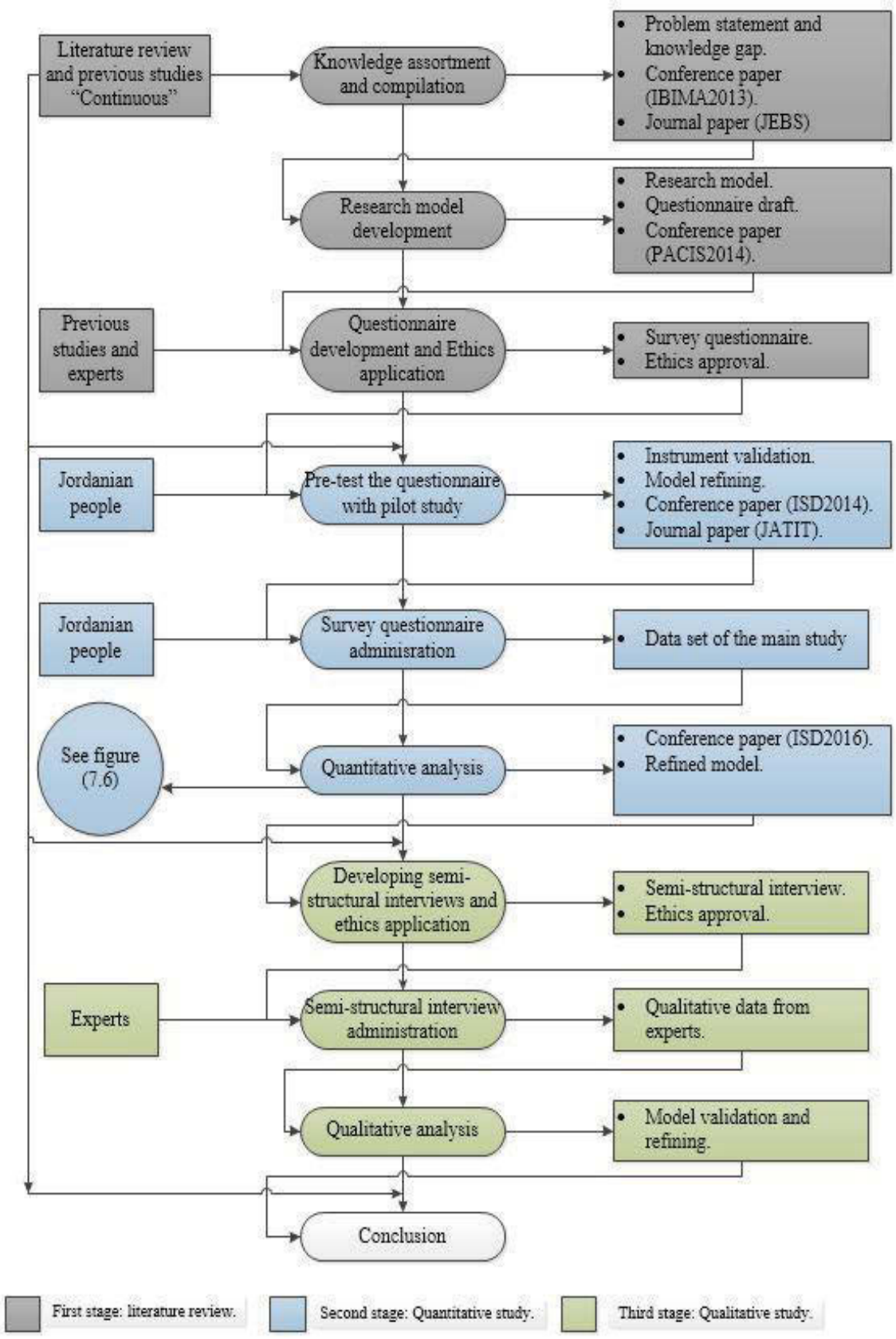


Figure 5.1 Study research design

5.3. Research methodology

This research employed a multi-method approach that combined two different research methods. A quantitative method and a qualitative one have been combined to answer the research questions of this study. Cresswell (2003) encouraged using mixed methods approach to get the best of both used methods. Also, using different methods to collect data from different sources increase researchers' ability to build better understanding of the research problem (Kaplan & Duchon 1988).

The current study used a sequential explanatory mixed methodology (strategy) (Cresswell 2003) in which the quantitative study is conducted first, and then this is followed by the qualitative study. Cresswell (2003) explained that in a sequential explanatory strategy the collected quantitative data provides a fuller image, and then the qualitative data comes to interpret and explain specific and significant parts of that image. Therefore, the quantitative part in this strategy is the dominant part over the qualitative part (Cresswell 2003). The following section describes the quantitative method of this study in detail.

5.4. The quantitative method

There are several research methods that can be used to collect research data for quantitative analysis (Yin 2013), such as: surveys, observation of phenomena, interviews, documentation, and recording; however, the survey is considered as one of the most famous and commonly used methods (Cresswell 2003). This section presents the questionnaire design and sampling strategy.

5.4.1. Survey design

Designing the survey for this study went over specific and clear steps starting from understanding the variables of the study and their operational and conceptual definitions. The following step was to choose the survey method and consider a unique format for questions and answers (Fink 2012). Then, a series of questions for each variable were adapted from previous researches in the field in order to prepare a draft questionnaire based on the chosen survey method. This was followed by a review process for the questionnaire and the translation. Finally, a pilot study was conducted to pre-test the questionnaire. Sections 5.4.1.1 to 5.4.1.5 explain each step in detail.

5.4.1.1. Variables conceptualization and operationalisation

To ensure that the study variables are understandable, Cavana et al. (2001) and Neuman (2006) stated that conceptualizing and operationalising relevant variables before collecting the data is a must. Conceptualization of a variable means "taking a construct and refining it by giving it a conceptual or theoretical definition" (Neuman 2006). On the other hand, Straub et al. (2005) defined the operationalisation of a variable as an accurate description of the way that a conceptualized variable is going to be measured.

The reviewed literature of the current study is used to be the source of the measures, and the questions for each variable. The behavioural intention to use (INU) measures were adopted from Venkatesh & Davis (2000) and Suh & Han (2003). Measures of initial trust in IBS were adopted from Koufaris & Hampton-Sosa (2004) and Kim et al. (2009). For disposition to trust (DT), the items were adopted from Gefen (2000). Measures of organizational structural assurance (OSA) were adopted from Li et al. (2008). Items for technical structural assurance (TSA) were adopted from McKnight et al. (2002b). Reputation (REP) was measured using items adopted from Jarvenpaa et al. (2000) and

Koufaris & Hampton-Sosa (2004). Items for cultural dimensions were adopted from Al-Sukkar (2005). For the diffusion of innovation variables, the items developed by Moore & Benbasat (1991) were adopted. Finally, items for measuring computer and Internet self-efficacy were adopted from Wang & Newlin (2002).

5.4.1.2. Choosing the survey method

The survey method is one of the most important steps in designing an instrument. Sekaran (2003) mentioned different types of survey that can be used to collect the data such as mail, Internet, and self-administered survey. Basically, none of the mentioned types is superior; however, specifying the type of the survey is determined by many factors such as: the cost, time availability, sample characteristics, and the researcher's experience (Sekaran 2003). In the current study therefore a personally administered survey was used because it is difficult to get mail or email addresses for the respondents. In addition, according to the research question of this study and the existence of the information required to answer it, the questionnaire is the best way to be followed in collecting data and to generalize the results.

The main advantage of the personally administered questionnaire is that the completed responses can be collected within a short time. Adding to that, adopting the personally administered questionnaire saves time and reduces cost, because of the large number of individuals being surveyed at the same time (Sekaran 2003).

5.4.1.3. Measurement scale development

To address the study hypotheses, this study used a questionnaire survey which was considered as the most popular and appropriate research instrument for such surveys. The questionnaire contains closed-ended questions only. The study questionnaire has three types of questions: yes/no, multiple choices (these two types used to ask

respondents about the demographic variables), and Likert scales for the study variables. So most of the scales used are Likert scales. Using a Likert scale provides some advantages for the study (Sekaran 2003): (i) It can show convenient responses which range from strongly agree to strongly disagree with considering the neutral opinions at the mid of the scale. (ii) It is considered as the most popular scale in information system research. (iii) It is very familiar to the public since it is used frequently.

The Likert scale can include seven or five points. In this research, the five-point scale is used because it is easier for the respondents to read all the choices and understand them. In addition, it is commonly used by many research studies in the field of online initial trust (Lee & Lee 2005; Luo et al. 2014) and management information systems in Jordan (Al-Sukkar 2005; Alhujran 2009; Alsaghier 2010).

The scale includes five choices ranging from strongly disagree to strongly agree. The participants were asked to give their responses by rating the statements based on the five-point scale, which is repeated for each statement. Figure 5.2 shows the scale appearance.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5

Figure 5.2 five-point Likert scales

For preparing a draft questionnaire for this study, the rules of thumb suggested by Cavana et al. (2001) were followed. These include the content and wording of the questions, and sequence and structure of the questions.

The content of each question is advised to be brief and relevant to the examined variable. In addition, doubled-barreled questions (i.e. questions that touched upon more than one issue) are not allowed. Moreover, the amount of the required effort to answer the questions should be considered.

The second principle is related to the wording of the questions. In the current study, all the items were adopted from previous studies; however, a rewording process was done for some items because most of the reviewed studies were conducted in Western countries, and/or different context such as e-Vendor, e-government, rather than IBS. Therefore, slight modifications were made to those items to make them more relevant to initial trust in IBS in Jordan. Adding to that, Cavana et al. (2001) emphasized that questions should be stated positively, words should reflect one meaning only, that is no double negatives, no leading words, no biased words, no abbreviations, and no incomplete sentences.

The structure of the questionnaire survey has mainly two types of questions: multiple-choice questions which are used to collect demographics data about the sample, and scale questions which are used to measure the variables related to the research model. Also, yes/no questions were used at the beginning of the questionnaire for the purpose of filtering the participants (if they are bank customers or not). Each type of questions was separated from other types. Thus, the demographic questions were put first, followed by the scale questions which were grouped based on the topic.

Adding to the measurement scale section, the survey composed of a set of elements. The first page of the survey is a participant sheet that contains information about: the purpose of the study, an introduction to the questionnaire and a guarantee of

participants' confidentiality and privacy. Moreover, contacts and names of the researcher, the supervisor, and the university were provided in order to give the survey a formal and legal shape. Also, it is mentioned in the front page that a copy of the results will be available on request as a motivation to complete the questionnaire. The second page contains instructions and guidelines for the participants to help them in filling the questionnaire. The rest of the survey contains the demographic and scale questions.

The first draft of the questionnaire included 17 variables grouped in 6 constructs. The total number of items was 64. The trust antecedent was allocated 18 items, national culture 19, diffusion of innovation 8, Internet related factors 13, initial trust in IBS 4, and intention to use IBS 2. Table 5.1 shows the measures in the first draft of the questionnaire.

Table 5.1 measures for the initial draft of the questionnaire

No.	Item
	Disposition to trust
1	I feel that people are generally reliable.
2	I generally have faith in humanity.
3	I generally trust other people unless they give me reason not to.
4	I tend to trust a person/thing, even though I have a little knowledge of it.
	Organizational structural assurance
5	I feel assured that legal structures adequately protect me from any problem with bank services.
6	I feel confident that regulations, laws, and social norms make it safe for me to use bank services.
7	In general, bank services are robust and safe.
	Organizational situational normality
8	I feel good about how things go when I do transaction or other activities on my bank.
9	I am comfortable making my activities on my bank.
	Reputation
10	My bank is well-known.
11	My bank has a good reputation.
12	My bank is recognized widely.
13	My bank offers good services.
	Uncertainty Avoidance
14	It is important to have job requirements and instructions spelled out in details so that people always know what they are expected to do.
15	Rules and regulation are important because they inform workers what the organization expects of them.
16	People should avoid making changes when their outcomes uncertain.
17	Order and structure are very important in a work environment.
18	It is better to work in an organization with specific rules and regulations as opposed to a more flexible organization.
19	Working in structural environment is better than working (rules and regulations) in an unstructured work environment.
	Power distance
20	Managers should be careful not to ask opinions of subordinates too frequently,

No.	Item
	otherwise the manager might appear to be weak and incompetent.
21	Managers should make most decision without consulting subordinates.
22	Employees should not question their manager's decision.
23	Manager should not ask subordinates for advice, because they might appear less power.
24	Decision making power should stay with top management in the organization and not be delegated to lower level employees.
	Masculinity vs. Femininity
25	It is preferable to have a man in high level position rather than women.
26	Men usually solve problems with logical analysis; women usually solve problems with intuition.
27	Solving organizational problems usually requires an active, forcible approach which is typical of men.
	Individualism vs. collectivism
28	Individual rewards are not as important as group welfare.
29	Group success is more important than individual success.
30	Working within team is better than working alone.
	Long term vs. short term orientation
31	Respect for tradition will not hamper performance.
32	The exchange of favors and gifts is not necessary to excel.
33	Upholding one's personal image contributes in goal achievement.
	Relative Advantages
34	Internet banking has more advantages than off-line banking because services are not limited by location.
35	Internet banking is more convenient than off-line banking.
36	Internet banking is more efficient than off-line banking.
37	Internet banking is more effective than off-line banking in managing a bank account.
	Compatibility
38	Using Internet banking is compatible with my lifestyle.
39	Using Internet banking fits well with the way I like to manage my finance.
40	Using the Internet to conduct banking transactions fits into my working style.
41	I think Internet banking services fits well with all aspect of my banking activities.

No.	Item
	Technical structural assurance
42	The Internet has enough safeguards to make me feel comfortable using it to transact personal business.
43	I feel confident that encryption and other technological advances on Internet make it secure and privacy to use Internet Banking Service.
44	I feel assured that technological structures of Internet adequately protect me from problems with Internet Banking Service.
45	In general, Internet is now a robust and safe environment in which to do transactions.
	Internet and computer self-efficacy
I can use IBS	
46	...if I could call someone for help if I got stuck
47	...if someone else had helped me get started
48	...if I had just the built in help facility for assistance
49	...if someone showed me how to do it first.
	Perceived security of Internet banking services
50	I believe that using the Internet to do money transaction is secure.
51	I think that banks implement security measures to protect Internet banking users.
52	I think that Internet banking website has the ability to verify users' identity for security purposes
53	I believe that Internet banking has the ability to solve problems such as security threats.
	Perceived privacy of Internet banking services
54	Using Internet to do money transaction is secure will not disclose my private information.
55	I am confident that the data I submit through Internet websites will not be misused and will be treated confidentially.
56	I am confident that no fraud will be committed.
57	Internet banking company will not divulge consumers' personal data to other parties.
58	Internet banking company concerns about consumers' privacy.
	Initial trust
59	The bank is trustworthy.
60	I believe in the information that this bank provides me.

No.	Item
61	Internet banking always provides accurate financial services.
62	Internet banking always provides reliable financial services.
Intention to use Internet Banking Services	
63	I intend to use Internet Banking Service.
64	I expect to perform my bank transactions through Internet banking in the future.

5.4.1.4. Instrument validation

Basically, a validation process is an essential step in developing a survey questionnaire. Sekaran (2003) argued the following types of validity: face, content, convergent, and discriminant validity

Face validity is considered as "a basic and very minimum index content validity" (Sekaran 2003, p. 206). Face validity indicates that the selected scale items look like they measure the variable which they are intended to measure (Sekaran & Bougie 2010). Content validity assessed whether the measure covers a sufficient and representative set of items that tap the concept. The higher the representation of the scale items for the measured concept, the greater the content validity (Sekaran & Bougie 2010).

The recommended way to assess the face and the content validity is to solicit experts in the field to assess if the scale items have face and content validity (Straub et al. 2005). The questionnaire was sent to four experts and two PhD students in the field of management information systems. The process started by sending the questionnaire to two PhD students from Jordan to complete it. They were asked if the items were worded in a correct, understandable, and clear way. Based on their feedback, some of the items were re-worded and refined. In the second step, the questionnaire was sent to four experts to complete it and examine if the items would measure their construct, items

ambiguity, items simplicity, and items redundancy. Finally, the questionnaire was modified to meet the experts' recommendations and comments.

5.4.1.5. Instrument translation

To achieve the maximum level of understanding for the instrument in the context of the study, it is necessary to translate it to the language of that context (Sekaran 2003). Moreover, Sekaran (2003) stated that any questionnaire should consider some criteria such as literacy of the respondents and some cultural expressions used in their daily life. Therefore, since Arabic is the first language in Jordan, not English, the instrument has been translated into Arabic. The translation process started by recruiting two certified translators who are fluent in both English and Arabic, where each translator was asked to translate the questionnaire from English to Arabic. After that, the two new Arabic versions have been exchanged between the translators and translated back to English. Moreover, to ensure the consistency and resolve any differences, a comparison process between the two versions in both languages was conducted. Finally, the resulting version has been pre-tested in the pilot study.

5.4.1.6. Pretesting the research instrument (pilot study)

The pilot study is defined as an experimental study aimed to complete the 'trying out' or to pre-test a specific research instrument for investigation (Baker & Risley 1994). The importance of the pilot study is clearly shown in previous research studies. For instance, De Vaus (1993) mentioned, "Do not take the risk, Pilot study first" (p. 54). Performing a pilot study helps in refining the research instrument and increasing the accuracy of the method and the anticipated results. Further, Teijlingen & Hundley (2001) listed some advantages of conducting a pilot study:

- It might provide in advance warning about the areas in which the research project could fail.

- It gives indications about the complexity of the unsuitability of the proposed instrument and method.

- It helps in anticipating the limitations and logistical problems which might occur during the actual data collection stage.

- It might provide an advance warning whether the research protocols are realistic and workable.

Accordingly, performing a pilot study helps in terms of refining the research instrument and increasing the accuracy of the method and the anticipated results.

5.4.1.6.1. Pilot study sample

The sample size of pilot studies does not generally have a common range. Hunt et al. (1982) stated that a sample size between 12 and 30 is recommended. However, Emory & Cooper (1991) suggested using a large sample in pilot studies. They stated that there is a positive relationship between the sample size and accuracy of results.

A convenient sample of 75 Jordanian teachers was surveyed. The returned surveys were 63, which compose 84% survey response rate. Out of the 63 returned surveys 8 were exempted because: three surveys were incomplete, three belonged to respondents who already used IBS in Jordan, and two were filled arbitrarily. Therefore, 56 surveys contained usable responses. The analysis shows that 33 respondents (58.9%) were females and 23 respondents (41.1) were males. Most of the respondents working in the public sector (89.3%). A large portion of the respondents had considerable level of

experience in using computer (67.9% had more than 5 years of experience). Moreover, 53.6% of them used the Internet at least once a day. This indicates that teachers in Jordan tend to have sufficient knowledge and experience in using computers and the Internet. Despite the relatively high percentage of using the Internet, responses revealed that only 8.9% of the respondents had made purchases from the Internet.

5.4.1.6.2. Demographic characteristics for the pilot study

The collected surveys were analysed using IBM SPSS 22.0. The frequency function has been used to extract the frequencies for each demographic variable. Table 5.2 details the frequencies and percentages for the demographic variables which were used in this pilot study.

Table 5.2 Demographic data for pilot study

Variable	Valid	Frequency	%
Gender	Male	23	41.1
	Female	33	58.9
Education	High school	0	0
	College degree	10	17.9
	Bachelor	31	55.3
	Postgraduate	15	26.8
Income/ monthly	< 400 JD	16	28.6
	400 – 600	30	53.6
	601-800	2	3.6
	>800	8	14.3
Job	Public sector	39	69.64
	Private sector	17	30.36
	Retired	0	0
	Others	0	0
Computer usage/ years	<3	7	12.5
	3-5	11	19.6
	>5	38	67.9
Internet usage frequency	Several times a day	21	37.5
	About once a day	9	16.1
	A few times a week	12	21.4
	A few times a month	7	12.5
	About once a month	3	5.4
	Never	4	7.1
Buying from the Internet	Yes	5	8.9
	No	51	91.9
Buying frequency	About once a month	5	8.9
	A few times a month	0	0
	A few times a week	0	0
	A bout once a day	0	0
	Several times a day	0	0

5.4.1.6.3. Reliability of the research instrument

The reliability of an instrument means the level in which the instrument can be considered free of random error. (Sekaran 2003) stated that reliability is concerned with stability and consistency of the questionnaire (measurement). In this pilot study, results of the reliability function were used to refine the research instrument. The reliability of the items that measured the same variable was assessed using Cronbach's alpha. Hair et al. (2006) and Malhotra (2008) considered a Cronbach's alpha value that is greater than

0.6 to be satisfactory, while a number of other researchers determined 0.7 as a cut-off value for an accepted reliability.

For the purpose of finding the reliability coefficient (Cronbach's alpha), IBM SPSS 22.0 was used to test the internal consistency for each group of items that belong to individual constructs. If the results showed that one or more of the items decrease the reliability of the questionnaire, these items were removed. The following table lists the Cronbash's alpha values for the remaining construct before and after removing some items to evaluate the reliability increase.

Table 5.3 reliability coefficients (Cronbach's alpha)

Scales	Original α	No	deleted	Modified α	No
Disposition to trust (DT)	.808	4	DT4	.824	3
Reputation (REP)	.868	4	-	.868	4
Organizational structural assurance (OSA)	.828	3	-	.828	3
Uncertainty Avoidance (UA)	.684	6	UA3,5	.728	4
Power Distance (PD)	.715	5	PD1	.756	4
Masculinity/Femininity (MF)	.885	3	-	.885	3
Individualism/Collectivism (IC)	.655	3	-	.665	3
Long Vs. Short-term time orientation (LSO)	.637	3	-	.637	3
Technical structural assurance (TSA)	.865	4	-	.865	4
Internet and computer self-efficacy (ICSE)	.422	5	ICSE1,4	.604	3
Relative advantages (RA)	.819	4	RA1	.869	3
Compatibility (CPT)	.892	3	-	.892	3
Initial trust of Internet banking services (INT)	.914	4	-	.914	4
Intention to use Internet banking services (INU)	.875	2	-	.875	2
Total		53			46

The values of Cronbach's alpha for the scale items ranged between 0.604 and 0.914. The function "If item deleted" was applied to enhance some of the reliability coefficients. Therefore, ICSE1 and ICSE4 were eliminated to increase reliability of the ICSE variable from 0.422 to 0.604. This procedure resulted in eliminating a number of other items, such as DT4, UA3, UA5, PD1, and RA1.

5.4.1.6.4. Pilot study Results

The conducted pilot study resulted in many good results. Firstly, it helped in anticipating the sample characteristics for the main study. Also, the frequency analysis benefited in reducing the choices for some demographic questions, such as job and education, where some choices had not been selected by any of the respondents. Secondly, the pilot study was used to validate and refine the study instrument and model. The reliability test was used to find the value of Cronbach's alpha which determines the internal consistency between the items that measure a specific variable. Applying the "if item deleted" function provides indications about items that make the alpha value low, and hence enable the elimination of these items. Thirdly, the pilot study helped in identifying highly correlated variables. After consulting three MIS academics and one statistics expert, it was decided to delete those variables. This decision was supported by (Sekaran 2003). The deleted variables were not included in table 5.1 and table 5.3 to avoid any misunderstanding or confusion in interpreting the results. All the details are provided in Appendix C.

In addition, the results have been published in a journal (Aljaafreh et al. 2015) and a conference proceeding (Aljaafreh & Al-Ani 2014) that are specialized in the field of Management Information Systems (see List of publication section). The reviewers of those two papers suggested adding the complexity variable to the model, and supported

the decision of deleting the variables that were found to be highly correlated. The final versions of the English and Arabic questionnaires are provided in the appendices (D and E).

5.4.2. Sample of the main study

The population of this study consisted of Jordanians who have not had any previous experience with internet banking. Since it is impossible to survey all members of the population, a subset of the population was selected to represent it. Therefore, a sample is defined as a group of members drawn from the targeted population of a study that is surveyed to draw conclusions about the entire population (Sekaran & Bougie 2010).

In Jordan, the literature found that educated people are willing to adopt the Internet before others (Al-Jaghoub & Westrup 2003). In other words, educated people have more willingness to adopt the Internet, and accordingly new Internet based innovations. Moreover, since the questionnaire contains some items that required previous dealings with banks, sample members were narrowed down to only include those whose salaries are deposited into their nominated bank accounts. Therefore, we identified teachers who already are well education, and have an adequate level of experience in using computers, and bank accounts.

Schools are spread all over the country. There are 37 directorates with 6355 schools that have 110,013 teachers. Table 5.4 shows the number of schools and teachers for three regions mentioned on an annual statistical report produced by the Ministry of Education (MOE) in Jordan (MOE 2013).

Table 5.4 Distribution of schools and teachers with regions

	No. of directorate	No. of schools	No. of teachers
North region	14	2139	33828
Middle region	22	3339	61442
South region	11	876	14743
Total	37	6355	110013

Moreover, a governmental report stated that: “The MOE has been keen on encouraging all teachers to attend and pass the international computer driving license ICDL, Intel Teach to the Future and word links professional development programs, and has granted scholarships to some teachers to obtain ICT diplomas or Master’s degrees in education” (MoICT 2012, p.9). Therefore, teachers are considered to have a sufficient level of Internet and computer skills.

Therefore, four directorates, from different regions within the country, were selected for the purpose of representing the whole sample population. However, since most of the Jordanian cities are located along the west border of the country (see Figure 5.3); the western region is replaced by the middle region.

Figure 5.3 Map of Jordan (Wikipedia 2016)

The selected directorates were from the North region: directorate of education of Irbid/ Irbid Governorate; the East region: directorate of education of Mafraq/ Mafraq Governorate which administratively belongs to the North region but geographically to the East region; the Middle region: directorate of education of Amman/ the Capital Governorate; and the South region: directorate of education of Al-Karak/ Al-Karak Governorate.

1. Directorate of Education of Irbid/ Irbid Governorate: this Directorate was established by His Majesty the late King founder Abdullah Bin Al Hussein in 1921 to serve the North region. As a result of the developing of the Education

sector in the country, twelve Directorates have emanated from this Directorate. It includes 160 public schools, 96 private schools, 102 kindergartens, and 63 educational centres.

2. Directorate of Education of Mafraq/ Mafraq Governorate: Mafraq is located at the east of the country; however, it belongs administratively to the North region of the country. The directorate of Education of Mafraq includes 157 public schools.

3. Directorate of Education of Amman/ the Capital Governorate: it is considered as one of the main directorates in the Capital Governorate. This directorate is located at the Middle region and includes 144 public schools. It covers the highest population density areas such as the Seven Mountains of Amman and other important suburbs.

4. Directorate of Education of Al-Karak/ Al-Karak Governorate: located in the South region of the country. It is considered one of the oldest directorates in the country, which contains one of the oldest schools: The Secondary school of Al-Karak (was established in 1899). It includes 107 public schools and 18 private schools.

5.4.3. Survey administration of the main study

The current study adopts the self-administered survey method in collecting data. As explained in the previous section, a convenient sample was identified for the survey. The process of distributing the survey was adopted from (Sekaran 2003). The process is summarized in the following steps: Firstly, obtaining approvals to conduct the study from the selected directorates (see Appendix F). Secondly, a certain number of schools

from each directorate are randomly selected. Thirdly, placing surveys in a box that is kept with the schools' secretary and providing an empty box for the completed surveys. One week is given to complete the survey. A total of 1050 questionnaires were distributed between the four directorates.

5.5. The qualitative method

Qualitative methods are usually employed in exploratory research studies if the following points are satisfied (Hennink 2008): there is a little to know about the phenomena, unexpected or new issue needs more clarification, and/ or the results generated from the quantitative methods are inconclusive. In order to confirm the results generated from the quantitative method, the interpretative approach was employed as according to (Dawson 2007) it is most suitable for such purpose. The interview research method was selected to collect the data for the qualitative methodology of this study.

5.5.1. The semi-structured interviews

For the purpose of conducting the interviews, the semi-structured approach was selected. This approach enables the interviewer to obtain a large amount of details from the interviewee. As well as this, the semi-structured interviews probe new areas that the interviewer felt are important for the research through asking the interviewee follow-up questions for explanation (Wengraf 2001).

5.5.2. Interview participants

The main aim of conducting the interviews is to confirm the results generated from the quantitative study and elicit some suggestions for the important areas. Therefore, the interviewees were carefully selected from those who had strong academic and scientific records, and/or work experience that were related to this study. In other words, the

preferable interviewee (expert) should possess long experience in academia and/or industry. In addition to this criterion, since national culture dimensions were examined in this study, the researcher approached interviewees who were from the same or similar culture to match the sampling frame of the quantitative part of this study.

The researcher completed nine interviews either face-to-face or using emails. Four of the interviewees were from Jordan, and the other five were from four different developing countries. To guarantee confidentiality, personal details of the interviewees were removed; however, some details about their qualifications, years of experience, work places, and country of residence were provided.

Table 5.5 Descriptive list of the interviewees

No.	Position	Interviewee pseudonym	Interviewee profile	Country
1	Regional director for a global bank	Exp1	Full professor in finance. The expert is also working as an academic staff. The expert has several publications and books published in Arabic languages. The expert has more than 25 years of experience in the banking industry, and 12 years as an Academic and a committee member for different universities.	Jordan
2	Head of risk department in a local bank in Jordan.	Exp2	The expert has a Bachelor degree in computer science and PhD degree in information systems. The expert started his career in a very large bank in Jordan since 1994 till present. The expert filled many position in the bank, especially those related to IT implementation. The expert filled a technician in the support unit (1994 – 2005). Then, the expert filled a position as a head of Support Unit (administrating and managing of Microsoft products) (2005 – 2010). Head of	Jordan

No.	Position	Interviewee pseudonym	Interviewee profile	Country
			Helpdesk and Support services department which is responsible of administrating and managing of ATMs, Networks, PCs, Printers and other hardware (2010 – 2015). In the meantime, the expert fills the position as Head of IT and Risk management (2015 – present).	
3	Head of Management information systems department	Exp3	An Associate Professor in the Department of Management Information Systems. The expert has several publications, including in Proceedings of the IEEE, Electronic Commerce Research Journal, Telematics and Informatics several book chapters. The expert researches predominantly in the area of social implications of emerging technologies, and has research interests in information systems innovation, adoption, diffusion and management.	Jordan

No.	Position	Interviewee pseudonym	Interviewee profile	Country
4	Academic staff in Marketing department	Exp4	An Associate professor in business administration. The expert has more than 10 years as an Academic staff in the faculty of economics and trading. In addition, the expert supervised many students in the master and PhD levels. The expert also has many papers and articles which are published in several international and local journals and conferences.	Algeria
5	Academic staff in MIS department	Exp5	An Associate professor at the Department of Management Information Systems. This expert has many papers and articles which presented in several international Journals and conferences. The expert's research interests include transformational impacts of e-government, e-governance, e-government and mobile government in developing countries and ICT adoption and diffusion.	Jordan

No.	Position	Interviewee pseudonym	Interviewee profile	Country
6	Academic staff in MIS department	Exp6	A senior lecturer in the department on MIS for 8 years. The expert worked in a bank as a teller for 5 years before getting the PhD degree and converts the career from the industry to Academy. Many publications in international and local conferences and journal have been presented. The expert focusing mainly in knowledge management and the adoption of new information systems.	Saudi Arabia
7	Academic staff in MIS department	Exp7	Associated professor in the department on MIS for 5 years. The expert wrote a thesis about e-government adoption as a requirement of PhD degree. The expert published many publications in international and local conferences and journals. The expert teaching subjects such as knowledge management and focus more on the adoption of new information systems.	Saudi Arabia

No.	Position	Interviewee pseudonym	Interviewee profile	Country
8	Academic staff in MIS department	Exp8	The expert has a PhD in information systems and working as a lecturer in the department of MIS in two universities for more than 10 years. The expert also has many papers in the field of accepting and adopting new technology innovations.	Libya
9	Academic staff in Business Administration department	Exp9	An Associated professor in the field of Business administration. The expert has got his PhD from United Kingdom and his thesis was about the diffusion of innovation technologies in the developing countries. The expert focuses on e-business research.	Saudi Arabia

5.5.3. The Interview process

After the selection process was completed, the nominees were invited by email. The email included an invitation letter in the body of the email, and attachments that contained: the ethics application number as approved by the University of Technology Sydney (UTS 2013000665), an information sheet about the study, consent form to be signed by the interviewees, summary of the study objectives, findings of the quantitative study, information sheet of the interviewee, and list of the interview questions. The nominees were given three weeks to confirm their acceptance of conducting the interviews.

After getting the approval from the participants; the interviewees were asked to determine suitable time slots for the interview. In the case of face-to-face interviews, the participants were asked to sign the attached consent during the interview time. On the other hand, for email or Skype interviews, the participants were asked to sign the form and send a scanned copy of it using email or to fax.

Every interview was planned to last approximately for 60 minutes. In addition to taking notes, permission of the interviewees was sought for voice recording the interviews. Based on the interviewees' interest, the transcript and a copy of the recorded interview were sent back to them. Appendix (G) shows the interview consent form and information sheet.

5.5.4. Qualitative analysis strategy

Qualitative analysis is defined as identification process of repeated or similar ideas, patterns of beliefs, and major themes for the collected data and the attempt to establish support for them (Miles & Huberman 1994). In other words, qualitative analysis is a

deep-thinking process in which the data is transformed into findings (Patton 2002). Miles & Huberman (1994) introduced a qualitative data analysis approach that is composed of three concurrent flows of activity: data reduction, data display, and conclusion drawing. Figure 5.4 illustrates those three activities. Every activity is explained below.

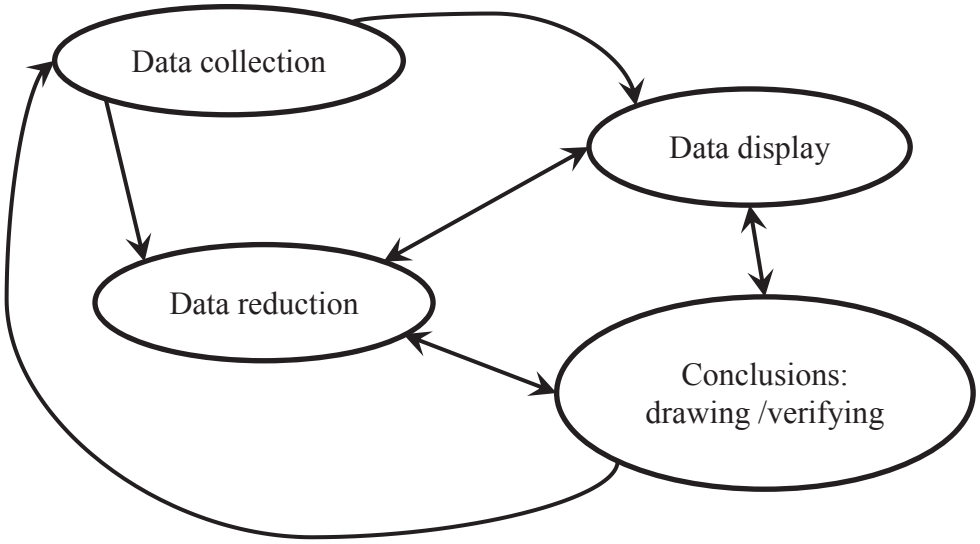


Figure 5.4 Components of qualitative data analysis. Adopted from Miles & Huberman (1994).

5.5.4.1. Data preparation

Two steps were followed to prepare data for qualitative analysis. Firstly, for easy referencing, each interview was kept in a separate word document which contained the level of interviewee's agreement and his/her comments if necessary for every single variable. Regarding the face-to-face interviews, the hand-written notes and voice recordings, which were taken during the interview, were included as additional sources of information. Secondly, each interview was checked to ensure accuracy.

5.5.4.2. Data reduction

Data reduction refers to "the process of selecting, focusing, simplifying, abstracting, and transforming the data that appears in written-up field notes or transcriptions" (Miles & Huberman 1994, p. 10). Since the data reduction process occurs continuously throughout the analysis, this stage is considered as an important part of the analysis and could not be separated from the analysis (Miles & Huberman 1994). During the data collection stage, data reduction takes place through writing summaries, coding, writing memos, and developing concepts (Miles & Huberman 1994; Punch 2013). In later stages of the analysis, gathering correlated concepts into focused themes is considered as data reduction. Finally, data reduction occurs also through drawing conclusions and confirming findings from the resulted themes.

5.5.4.3. Data display

Miles & Huberman (1994) indicated that display is a major flow of analysis activity in which the information is organized, compressed, and assembled into more readable format to facilitate conclusion drawing and action. Many forms of display are employed to illustrate the data, such as matrices, charts, graphs, and networks (Miles & Huberman 1994). Any of the up-mentioned forms of display is considered valid if it is meaningful and properly advances the analysis (Punch 2013).

5.5.4.4. Drawing and verifying conclusions

The third stream of the analysis activity aims to create a meaningful and reasonable image of the collected data (Punch 2013). Miles & Huberman (1994) explained that data reduction and displaying stages are performed on the collected data to establish a solid and coherent base for drawing and verification of conclusions. Despite the arrangement

that drawing and verifying conclusions come as final stages, drawing conclusions happen simultaneously with other stages (Miles & Huberman 1994).

Since this stage involves creating, developing and verifying propositions, drawing important conclusions, and confirming the obtained results, analysts and researchers consider this stage as the most difficult stage among the analysis steps (Miles & Huberman 1994; Punch 2013).

5.5.4.5. Ethics considerations

Ethical practices play an important role in information systems research (Davison 2005), as they guarantee that participants are not pressured to respond, rather they are only encouraged to do so in a friendly manner. Ethical practices also protect confidentiality of the participants, and protect them from any misrepresentation and exploitation (Cavana et al. 2001; Fink 2012).

To ensure the highest degree of applying ethical practices, and addressing ethical issues that arise from this study, this research strictly followed the ethics guidelines issued by The Human Research Ethics Committee (HREC) at the University of Technology Sydney (UTS). It is essential at UTS to get ethical approval before conducting research studies. Therefore, a copy of the questionnaire was attached to the human ethics application that was submitted to the HREC to obtain the ethical approval. An ethical approval for this study has been obtained (number 2013000665).

An information sheet was attached with the ethics application that declares some issues related to the researcher, research topic, research nature, participant role, research plan and procedures, confidentiality and privacy of the participants, and participants right to make complaint.

In addition, approval from the Ministry of Education (MOE) was obtained before surveying the sample. Every questionnaire was attached to an information sheet that describes the project aims and summarizes other ethical practices such as voluntary participation, assured confidentiality, and ability to withdraw from the study at any point. Also, participants were informed that a completion of the survey would be considered as consent. Finally, the completed questionnaires and interviews (either the notes or the recordings) were securely protected and stored during all the time of this research.

5.6. Chapter Summary

In this chapter, description and justification of the selected methodology was provided. The chapter also explained the use of the sequential mixed approach that was adopted in the current study, where analysis was performed using a quantitative method (self-administered survey) and a qualitative one (semi-structured interviews). The chapter explained the followed steps in developing the questionnaire that included validation process, translation process, and pre-testing it using a pilot study. A convenient sample was drawn from Jordanian teachers spread in different geographic regions (North, Middle, East, and South of Jordan) to cover the whole country. In addition, the chapter showed the use of semi-structured interviews with a set of academics and experts from the industry. Finally, the chapter discussed the ethics considerations and presented the flow of obtaining an approved ethics application by the ethics Committee of the University of Technology Sydney.

Chapter 6
Descriptive and Factor analyses

6.1. Introduction

The purpose of this chapter is to provide a descriptive analysis of the survey data that has been collected. The descriptive analysis is considered as the first stage of the quantitative analysis and aims to ensure that the collected data has certain characteristics that affirm its suitability for subsequent analysis. The descriptive analysis for this study starts with pre-processing steps that were used to prepare the collected data for the SPSS (Statistical Package for Social Science). Section 6.2 presents the sample demographic characteristics of this study. This was followed by checking for normality and outliers in the data (see section 6.3) by examining the standard deviation and standard error of the mean. Section 6.4 presents the preliminary results as interpreted from the mean values for each measured variable. Section 6.5 describes the scale validation process by providing the results of reliability statistics and the exploratory factor analysis.

6.2. Survey responses

A total of 1050 questionnaires were distributed. The description of the sample of this study is explained in Section 5.4.2 of the research design and methodology chapter. The number of the participants who responded and returned the survey was 573, which

represent a response rate of 54.57% from the total number of the distributed questionnaires. As participation in the survey was voluntary, this response rate is considered acceptable in the context of social and IS research (Sekaran 2003).

While entering data from the returned questionnaires in SPSS, it was noticed that some of the responses were improper either because they had many missing values, or because of the outlier issue. As the questionnaire was anonymous and did not contain identifying information, it was not possible to follow up the responses that contain outliers and missing values. Therefore the improper responses (33 responses that contain outliers and missing values) have been deleted. The final number of usable surveys for analysis was 540 which is greater than the recommended lower bound on sample size (200) according to (Hair et al. 2006).

The descriptive analysis benefits the researcher by giving indications for the quality and the richness of the collected data. In addition, some rates, such as response rate, reveal the extent to which the sample was helpful in responding to the surveys, as well as the degree of researcher success in getting the sample response. Moreover, the descriptive analysis allows the researcher to describe the sample and discover its characteristic. Therefore, in the questionnaire, six demographic questions were used to extract the sample demographic characteristics: Gender, education, monthly income, job (occupation), computer experience (in years), and Internet usage. Table 6.1 explains the frequencies and percentages for the demographic variables which were used in this study.

Table 6.1: Demographic characteristics for the sample population

Variable	Valid	Frequency	%
Gender	Male	306	56.7
	Female	234	43.3
Education	College degree (Diploma)	154	28.5
	Bachelor	282	52.2
	Postgraduate	104	19.3
Income/ monthly	< 500 JD	351	65.0
	500 – 1000	183	33.9
	>1000	6	1.1
Job	Public sector	336	62.2
	Private sector	204	37.8
Computer usage/ years	<3	117	21.7
	3-5	145	26.9
	>5	278	51.5
Internet usage frequency	Several times a day	219	40.6
	About once a day	110	20.4
	A few times a week	81	15.0
	A few times a month	52	9.6
	About once a month	50	9.3
	Never	28	5.2

As shown in Table 6.1, of the 540 respondents, 306 (56.7%) were male and 234 (43.3%) were female. Figure 6.1 shows the percentage of each gender type.

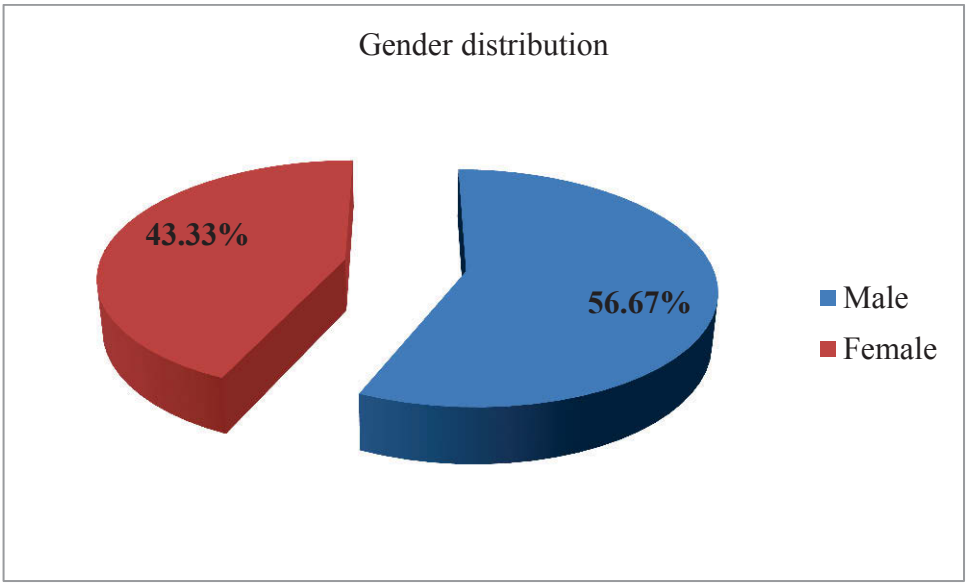


Figure 6.1 The gender distribution

Also, the table shows that 52.2% of the respondents had a bachelor degree. 28.5% of them had a college degree (diploma), while the rest of participants had a postgraduate degree (19.3%). Figure 6.2 shows the percentage of each education level.

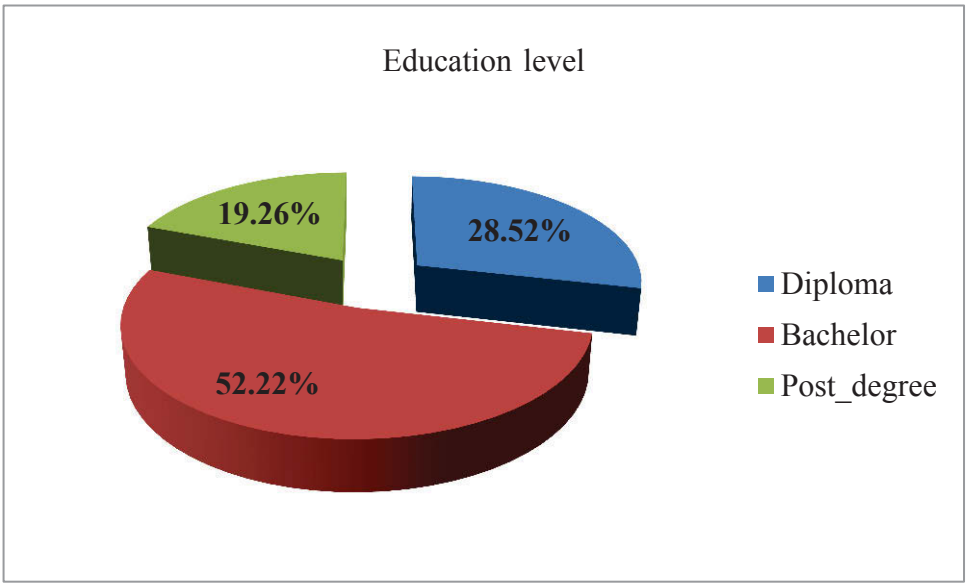


Figure 6.2 The education level distribution.

Regarding the income variable, the table demonstrates that the majority of the respondents (65%) belong to the low income group (less than JD 500), 33.9% of the respondents had income that ranged between JD 500-1000, while the lowest percentage

(1.1%) was for those who earned more than JD 1000. Figure 6.3 shows the participants' distribution among the income groups. In addition, the majority of participants worked in the public sector (62.2%), while 37.8% worked in the private sector.

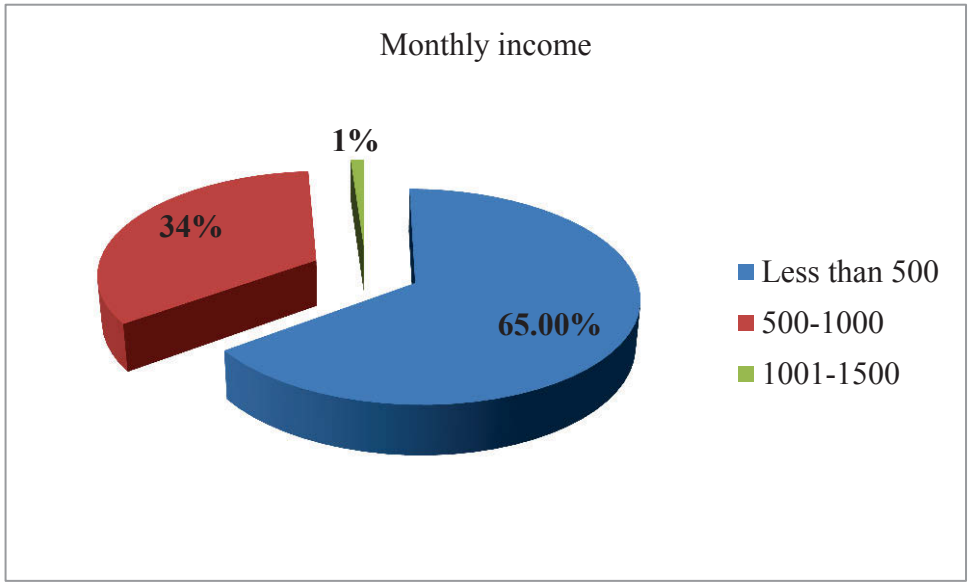


Figure 6.3 The monthly income distribution

In regards to computer usage, more than half of the respondents indicated that they had been using computers for more than five years (51.5%), 26.9% was the percentage for those who had been using computers for more than three years but less than five years, and the lowest percentage of respondents (21.7%) belong to the less experienced group (less than 3 years). Figure 6.4 shows the participants' distribution based on their computer usage.

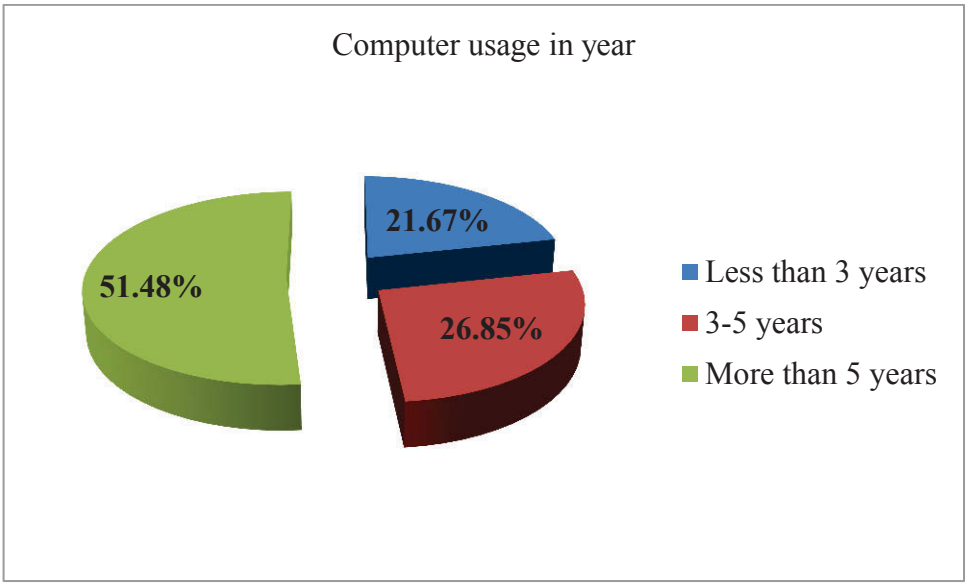


Figure 6.4 The computer usage distribution.

Finally, as Table 6.1 reveals, the majority of respondents (40.6%) were from the group who used the Internet several times a day, 20.4% used the Internet about once a day, 15.0% used the Internet a few times a week, 18.9% used the Internet at few times a month, and only 5.2% never used Internet before. Figure 6.5 shows the participants' distribution among the Internet usage frequencies groups.

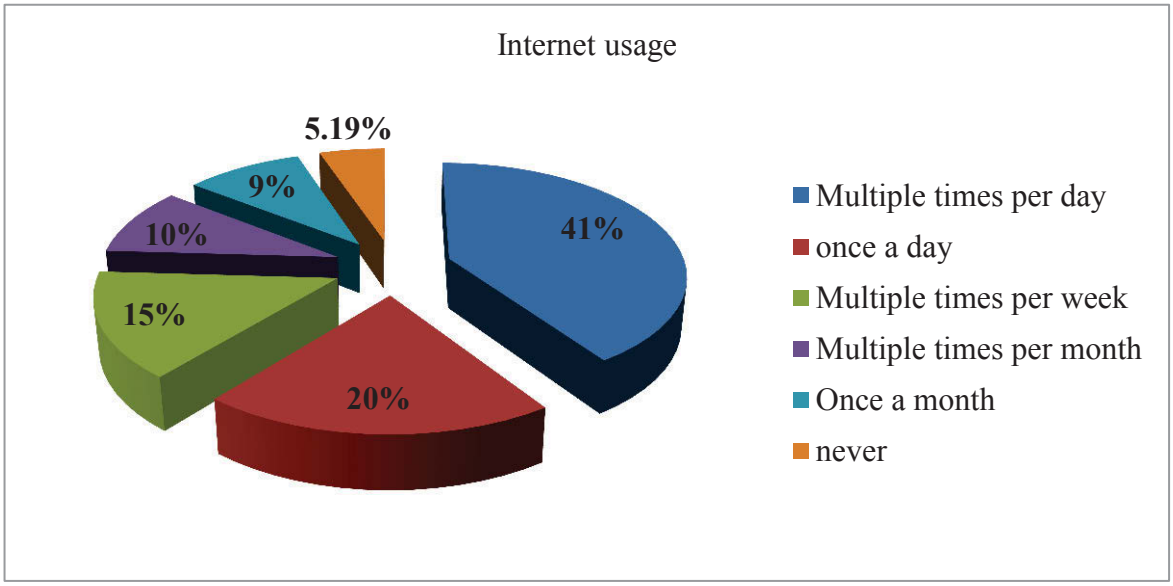


Figure 6.5 The Internet usage distribution

6.3. Preparing data for statistical analysis

A preparation stage, also known as examination stage, was implemented after collecting the survey data. Pallant (2007) treated this stage as a significant one due to its direct effect on the findings. Data coding, entry into a database, data cleaning, and data screening to find any missing responses are the main steps of data preparation (Fink 2012). Therefore, this study adopted a series of steps (Alhujran 2009; Alsaghier 2010) to conduct the data preparation, which includes the following:

1. Checking the data transcriptions once they were received.
2. Clearly identifying missing values.
3. Numbering the responses and checking their validity based on: eligibility of participant (those who have used Internet banking were excluded), amount of the missing values, and the way that the questions were answered (same response for all questions or following a certain pattern in answering questions).
4. Coding the data, by giving a code to each item in the questionnaire (which is generally the initials of the variable that the item belong to, followed by a number that represents the order of the item in the set of items that measure a specific variable). Table 6.2 lists the codes used in this study.

1. Entered the data from the usable responses into IBM SPSS Statistics 22.
2. Undertaking a review process by comparing a systematic random sample of the entered data with the original responses.

Table 6.2: Coding of Measuring Variables and questionnaire items

Latent Variable	Item code	Question number in questionnaire
Disposition to trust (DT)	DT1, DT2, DT3	1, 2, 3
Organizational structural assurance (OSA)	OSA1, OSA2, OSA3	4, 5, 6
Technical structural assurance (TSA)	TSA1, TSA2, TSA3, TSA4	7, 8, 9, 10
Reputation (REP)	REP1, REP2, REP3, REP4	11, 12, 13, 14
Uncertainty Avoidance (UA)	UA1, UA2, UA3, UA4	15, 16, 17, 18
Power Distance (PD)	PD1, PD2, PD3, PD4	19, 20, 21, 22
Masculinity/Femininity (MF)	MF1, MF2, MF3	23, 24, 25
Individualism/Collectivism (IC)	IC1, IC2, IC3	26, 27, 28
Long Vs. Short-term time orientation (LSO)	LSO1, LSO2, LSO3	29, 30, 31
Internet and computer self-efficacy (ICSE)	ICSE1, ICSE2, ICSE3	32, 33, 34
Relative advantages (RA)	RA1, RA2, RA3	35, 36, 37
Compatibility (CPT)	CPT1, CPT2, CPT3	38, 39, 40
Complexity (CPX)	CPX1, CPX2, CPX3, CPX4	41, 42, 43, 44
Initial trust of Internet banking services (INT)	INT1, INT2, INT3, INT4	45, 46, 47, 48
Intention to use Internet banking services (INU)	INU1, INU2	49, 50

6.3.1. Missing data analysis

The issue of missing values is vastly common in social sciences surveys (Straub 1989; Dawson 2007). Deleting all the cases that contain missing values may decrease the sample size to insufficient cases for many statistical analyses such multivariate analysis (Hair et al. 2006). Therefore, this section attempts to carefully handle the issue of missing observations through preserving variables with a tolerance threshold of 5% (Tabachnick & Fidell 2007). As a result, 33 cases were excluded as a significant part of

the questionnaire was missing (e.g. an entire section or a complete page was left blank). However, some of the remaining 540 cases had a number of missing values, but with an acceptable range of less than 5% for all variables. For that, a Missing Value Analysis technique in SPSS was employed to determine whether the missing data values follow a totally random dispersion (Tabachnick & Fidell 2007). The researcher performed the Little's missing completely at random test (known as Little's MCAR) in SPSS with the aim of validating the hypothesis that the missing values are completely at random. This must be satisfied prior to replacing missing values with various imputation techniques. The results of the estimated statistics (EM) showed non-significant Chi-Square statistics (Chi-Square = 1733.300, DF = 1754, Sig. = 0.633), which means that the missing pattern was a random one. These results justify the usage of mean replacement method to substitute missing data with mean values.

6.3.2. Normality assessment

Normal distribution of the data is considered as an assumption for many statistical techniques. Hair et al. (2006) argued that univariate normality is the most essential assumption in multivariate analysis. Therefore, the univariate normality and data distribution for each variable were assessed.

Hair et al. (2006) stated that there are two ways to assess the normality of the data: graphically or statistically. On one hand, the graphical analysis of normality is implemented by checking the histogram visually to compare the actual distribution of the observe data values with a normal distribution. On the other hand, statistical tests of normality compare the statistical values of the actual data values with those of the normal distribution. Hair et al. (2006) and Tabachnick & Fidell (2007) agreed that skewness and kurtosis values are essential in assessing the normality distribution. The

statistic values of skewness and kurtosis of a variable should be between +2.58 and -2.58 to consider it having a normal distribution (Kline 2005; Hair et al. 2006). Other statistical tests, such as 'Kolmogrov-Smirnov D' and Shapiro-Wilks W' can also be used by evaluating the non-significant value for any of the test indicates. However, since the sample size influences the statistical test for normality, Field (2005) recommended using histograms and skewness and kurtosis values to assess the normality of data.

This study adopted the Field (2005) recommendation in assessing the validity of the normal distribution assumption of the data using histograms, and skewness and kurtosis. The visual checking for the histograms' shapes showed that all of them were nearly normal. Moreover, the skewness and kurtosis for all variables (see Table 6.3 to Table 6.17) had scored values within the range of +2.58 and -2.58 which is recommended by (Kline 2005; Hair et al. 2006). Consequently, the observed data of this study appears to be normally distributed.

6.3.3. Outlier screening

Hair et al. (2006) described outliers as those cases in the data sets that have significantly high or low scores. According to Field (2005), the existence of such cases may cause bias in the mean values and inflate the standard deviation. Statistically, outlier case scores more than three standard deviations beyond the mean. Therefore, to determine the extreme outliers, the descriptive analysis was performed to convert scores of all 50 variables from all cases into standardized z-scores. According to Tabachnick & Fidell (2007), the value of 3.29 (three standard deviations as $p<0.001$) is considered as the cut-off value for z-score that determines conceivably problematic cases. By checking the obtained results of the Box-plots and z-scores for the data of the current study, a few

outliers of several variables were identified. However, in order to ensure if those outliers significantly distort the data (biasing the means), Pallant (2007) suggested to depend on the difference between the 5% Trimmed means and the original means. Consequently, if the 5% Trimmed mean and the original mean of the variables that have outliers are very similar (less than 0.10), the identified outlier values for these variables were not considered to be too different from the distribution of remaining variables (Pallant 2007, p. 62).

6.4. Findings of Descriptive Analysis

This section presents the descriptive results for each variable in the dataset by evaluating and interpreting the mean values for all variables in the dataset using the Likert scale response (five-point scale). In that scale, the value of five (5) indicates the highest score while one (1) indicates the lowest score. In addition, the analysis included the 5% trimmed mean, Δ mean, standard deviation, skewness, and kurtosis for each variable.

The mean values for the items that measure disposition to trust ranged between 3.20 and 3.44 (Table 6.3). The respondents have medium tendency to trust other people. The item that measured the faith of humanity (DT2) scored the highest mean of 3.44, however; the lowest mean was for the item that measures the reliability of the people (DT1).

Items that measure the organizational structural assurance variable scored mean values ranging from 3.35 to 3.44 (Table 6.4). The mean values indicated that the respondents are not very happy of the structural assurance of the bank, but they still have a satisfied level of it. Nevertheless the item that measured the respondents' confidence that regulations, laws, and social norms make it safe to use bank services (OSA2) scored the

highest mean value (3.44); while the lowest mean value (3.35) was scored for the item (OSA1) that measures the respondents' confidence in the legal structures of the bank and its ability to help them.

For the technical side of the structural assurance, the mean values shown in Table 6.5 are located in the range of (3.36 to 3.72). On the other hand, the items that measured the respondents' perception in specific techniques (TSA2, TSA3), such as encryption, scored mean values higher than those items that measure the perception of general confidence in the Internet environment (TSA1, TSA4). Consequently, the respondents were looking for specific concepts which they believed were important while they are using the Internet (such as security and privacy).

For perceived reputation scale, the mean values for all items were relatively high and ranged between 3.91 and 4.08 (see Table 6.6). Interestingly, the lowest mean value 3.91 was for REP4 which measures offering good services by the bank; however, the other items REP1 (well-known), REP2 (good reputation), and REP3 (recognized widely) got mean values of 4.06, 4.08, and 4.03 respectively. By that, the respondents clearly depended on their perception about the general image of the bank to assess its reputation.

The mean values of the items that measure the uncertainty avoidance (see Table 6.7) ranged between 3.92 and 4.21. As expected, the respondents perceived that the regulations, rules, structures, and specific instructions were important factors in the work environment (Hofstede 1980). The preliminary inspection for the mean values in Table 6.7 showed that the highest mean value was scored by UA4 (working in a structured environment is better than working in an unstructured work environment),

however; the mean value of item UA1, which measured the importance of having job requirements and detailed instructions for conducting a task, was the lowest (3.99).

For the power distance dimension, the mean values as shown in Table 6.8, ranged between 2.74 and 3.16. Surprisingly, the overall level of this dimension was noticeably low which did not reflect the assumption that Arab people have high power distance perception (Hofstede 1980). Only one measure (PD4) scored mean value greater than 3 (3.16) in which the respondents support the idea of leaving the decision making for the top management, however; PD1, PD2, and PD3, which measured the managers' behaviour with subordinates, scored low mean values (2.82, 2.74, 2.74 respectively).

The mean values for the items of masculinity and femininity variable were in the range of 3.40 to 3.49. Table 6.9 shows that the mean values were above medium level and very close to each other. For individualism vs. collectivism, Table 6.10 shows that the overall perception was moderate. All mean values were very close and in the range of 3.70 and 3.73 which reflect the collectivism nature of the respondents' culture as assumed by (Hofstede 1980). Finally, the measures of long term orientation vs. short term orientation dimension were above the medium level and scored mean values between 3.50 and 3.84 (see Table 6.11).

For the dimensions of diffusion of innovation theory, the mean values for all measures were greater than 3. However, the highest mean values and range were for measures of relative advantages. Table 6.12 shows that the mean values for measures of relative advantages were between 3.81 and 3.86. Perceived compatibility measures CPT1, CPT2, and CPT3 scored mean values of 3.80, 3.75, and 3.65 respectively (see Table 6.13). For mean values of perceived complexity, CPX1, CPX2, CPX3, and CPX4 scored 3.78, 3.75, 3.80, and 3.81 respectively as shown in Table 6.14. Nevertheless, the

respondents appear to perceive the relative advantages of the IBS more than its compatibility or complexity.

For computer and Internet self-efficacy, the mean values of the measures, as shown in Table 6.15, ranged between 3.48 and 3.95. The highest mean value 3.95 was for item CISE3 that measures the respondents' need for a sort of training. The lowest mean value 3.48 was for CISE1 which assesses the respondents' ability to start using IBS and then asking for a help if he/she got stuck. Indeed, the respondents showed that their self-efficacy in computer and Internet is not strong enough to rely on, and that training is needed.

For initial trust in IBS, as presented in Table 6.16, the mean values of the measures were around 4.00 and in the range of 3.97 to 4.06. The highest mean 4.06 was for the item that measures the bank trustworthiness INT1, while the lowest mean value 3.97 was for the item that assesses the reliability of the Internet banking services. With similar results, the overall level of intention to use IBS was also high, 4.08 for INU1 and 4.11 for INU2.

Table 6.3 Descriptive statistics of the Disposition to trust (DT) variables

Disposition to trust	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
DT1: I feel that people are generally reliable.	540	0	0.00%	3.20	3.20	0.00	1.176	-.243	-1.018
DT2I: generally have faith in humanity.	539	1	0.19%	3.44	3.46	0.02	1.043	-.402	-.624
DT3: I generally trust other people unless they give me reason not to.	539	1	0.19%	3.37	3.36	-0.01	1.066	-.441	-.599

Table 6.4 Descriptive statistics of the Organizational structural assurance (OSA) variable

Organizational structural assurance (OSA)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
OSA1: I feel assured that legal structures adequately protect me from any problem with bank services.	540	0	0.00%	3.35	3.37	0.02	1.064	-.359	-.637
OSA2: I feel confident that regulations, laws, and social norms make it safe for me to use bank services.	537	3	0.56%	3.44	3.46	0.02	1.026	-.383	-.583
OSA3: In general, bank services are robust and safe.	539	1	0.19%	3.43	3.46	0.03	.991	-.395	-.372

Table 6.5 Descriptive statistics of the Technical structural assurance (TSA) variable

Technical structural assurance (TSA)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
TSA1: The Internet has enough safeguards to make me feel comfortable using it to transact personal business.	540	0	0.00%	3.48	3.50	0.02	1.077	-.449	-.656
TSA2: I feel assured that technological structures, such as encryption of data, provide adequate level of protection when using Internet Banking Services.	537	3	0.56%	3.65	3.67	0.02	.925	-.808	.406
TSA3: The technological structures ensure privacy when using Internet Banking Services.	537	3	0.56%	3.72	3.76	0.04	.903	-1.069	1.031
TSA4: In general, the Internet is now a robust and safe environment in which to transact business.	538	2	0.37%	3.36	3.39	0.03	1.083	-.410	-.542

Table 6.6 Descriptive statistics of the Reputation (REP) variable

Reputation (REP)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
REP1: My bank is well-known.	540	0	0.00%	4.06	4.13	0.07	.816	-.819	.769
REP2: My bank has a good reputation.	537	3	0.56%	4.08	4.14	0.06	.798	-.970	1.335
REP3: My bank is recognized widely.	536	4	0.75%	4.04	4.10	0.06	.826	-.743	.418
REP4: My bank offers good services.	540	0	0.00%	3.91	3.95	0.04	.879	-.542	-.188

Table 6.7 Descriptive statistics of the Uncertainty avoidance (UA) variable

Uncertainty Avoidance (UA)	**Cases**			**Mean**	**5% Trimmed mean**	**Δ Mean**	**Standard deviation**	**Skewness**	**Kurtosis**
	Valid	Missing	Missing (%)						
UA1: It is important to have job requirements and instructions spelled out in details so that people always know what they are expected to do.	540	0	0.00%	3.92	3.99	0.07	.999	-.810	.245
UA2: Rules and regulation are important because they inform workers what the organization expects of them.	537	3	0.56%	3.99	4.06	0.07	.951	-.901	.568
UA3: Order and structure are very important in a work environment.	536	4	0.75%	4.16	4.24	0.08	.929	-1.233	1.512
UA4: Working in structural environment is better than working (rules and regulations) in an unstructured work environment.	540	0	0.00%	4.21	4.31	0.10	.964	-1.313	1.350

Table 6.8 Descriptive statistics of the Power distance (PD) variable

Power distance (PD)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
PD1: Managers should make most decision without consulting subordinates.	540	0	0.00%	2.82	2.79	-0.03	1.286	.149	-1.128
PD2: Employees should not question their manager's decision.	539	1	0.19%	2.74	2.74	0.00	1.279	.217	-1.081
PD3: Manager should not ask subordinates for advice, because they might appear less power.	537	3	0.56%	2.74	2.72	-0.02	1.308	.200	-1.171
PD4: Decision making power should stay with top management in the organization and not be delegated to lower level employees.	539	1	0.19%	3.16	3.20	0.04	1.254	-.168	-1.045

Table 6.9 Descriptive statistics of the Masculinity vs. Femininity (MF) variable

Masculinity vs. Femininity (MF)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
MF1: It is preferable to have a man in high level positions rather than a woman.	540	0	0.00%	3.45	3.50	0.05	1.333	-.482	-.927
MF2: Men usually solve problems with logical analysis; unlike women who usually solve problems with intuition.	538	2	0.37%	3.49	3.54	0.05	1.204	-.582	-.584
MF3: Solving organizational problems usually requires an active, forcible approach which is typical of men.	537	3	0.56%	3.40	3.45	0.05	1.196	-.504	-.681

Table 6.10 Descriptive statistics of the Individualism vs. Collectivism (IC) variable

Individualism vs. Collectivism (IC)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
IC1: Individual rewards are not as important as group welfare.	540	0	0.00%	3.71	3.77	0.06	.916	-1.136	1.412
IC2: Group success is more important than individual success.	538	2	0.37%	3.73	3.78	0.05	.916	-.803	.501
IC3: Working within a team is better than working alone.	539	1	0.19%	3.70	3.73	0.03	.963	-.689	.003

Table 6.11Descriptive statistics of the Long term orientation vs. Short term orientation (LSO) variable

Long term orientation vs. Short term orientation (LSO)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
LSO1: Respect for tradition will not hamper performance.	539	1	0.19%	3.83	3.89	0.06	.993	-.797	.283
LSO2: The exchange of favors and gifts is not necessary to excel.	540	0	0.00%	3.50	3.56	0.06	1.059	-.489	-.356
LSO3: Upholding one's personal image contributes in goal achievements.	540	0	0.00%	3.84	3.89	0.05	.927	-.749	.488

Table 6.12 Descriptive statistics of the Relative Advantages (RA) variable

Relative Advantages (RA)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
RA1: I believe that Internet banking is more convenient than off-line banking.	539	1	0.19%	3.81	3.86	0.05	.925	-.647	.039
RA2: I believe that Internet banking is more efficient than off-line banking.	537	3	0.56%	3.86	3.92	0.06	.894	-.534	-.089
RA3: I believe that Internet banking is more effective than off-line banking in managing a bank account.	539	1	0.19%	3.84	3.92	0.08	.901	-.667	.286

Table 6.13 Descriptive statistics of the Compatibility (CPT) variable

Compatibility (CPT)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
CPT1: I think Internet banking services fits well with the most aspect of my banking activities.	540	0	0.00%	3.80	3.86	0.06	.885	-.474	-.188
CPT2: I think using Internet banking is compatible with my lifestyle.	538	2	0.37%	3.75	3.80	0.05	.875	-.544	-.062
CPT3: I think using Internet banking fits well with the way I like to manage my finance	539	1	0.19%	3.65	3.71	0.06	.943	-.274	-.686

Table 6.14 Descriptive statistics of the Complexity (CPX) variable

Complexity (CPX)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
CPX1: I believe that learning to use the Internet banking services for exploring information and do different transaction is easy for me.	540	0	0.00%	3.78	3.84	0.06	.957	-.499	-.316
CPX2: I believe that it is easy to get the Internet banking services to do what I want it to do.	539	1	0.19%	3.75	3.79	0.04	.913	-.517	-.142
CPX3: I believe that Interacting with Internet banking services to explore information and do different transaction will be clear and understandable.	538	2	0.37%	3.80	3.85	0.05	.964	-.544	-.400
Overall, I believe that using the Internet banking services to explore information or do different transactions is easy.	539	1	0.19%	3.81	3.88	0.07	.923	-.628	.148

Table 6.15 Descriptive statistics of the Computer and Internet Self-efficacy (CISE) variable

Computer and Internet Self-efficacy (CISE)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
CISE1: I could use IBS if I could call someone for help if I got stuck	540	0	0.00%	3.48	3.50	0.02	1.065	-.563	-.604
CISE2: I could use IBS if someone else had helped me get started	539	1	0.19%	3.69	3.72	0.03	1.061	-.743	-.245
CISE3: I could use IBS if someone showed me how to do it first.	540	0	0.00%	3.95	4.02	0.07	.985	-.955	.497

Table 6.16 Descriptive statistics of the Initial trust in IBS (INT) variable

Initial trust in IBS (INT)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
INT1: The bank is trustworthy.	540	0	0.00%	4.06	4.10	0.04	.774	-.684	.867
INT2: I believe in the information that the bank provides me.	538	2	0.37%	4.04	4.09	0.05	.754	-.532	.116
INT3: I believe that Internet banking always provides accurate financial services.	537	3	0.56%	4.00	4.05	0.05	.759	-.459	-.041
INT4: I believe that Internet banking always provides reliable financial services.	539	1	0.19%	3.97	4.01	0.04	.755	-.599	.944

Table 6.17 Descriptive statistics of the Intention to use IBS (INU) variable

Intention to use IBS (INU)	Cases			Mean	5% Trimmed mean	Δ Mean	Standard deviation	Skewness	Kurtosis
	Valid	Missing	Missing (%)						
INU1: I intend to use Internet Banking Service.	540	0	0.00%	4.08	4.13	0.05	.720	-.785	1.594
INU2: I expect to perform my bank transactions through Internet banking in the future.	538	2	0.37%	4.11	4.18	0.07	.760	-.806	1.156

6.5. Measurement scale validation

The purpose of this section is to demonstrate the procedures that have been performed to validate the measurement scale used in this study. First of all, the reliability coefficients for all the factors were obtained. Then, to explore and confirm the structure of the model factors, exploratory factor analyses were applied. IBM SPSS Statistics 22 was employed to conduct exploratory factor analysis (EFA).

6.5.1. Reliability of the scale

Reliability of a measure measures to what extent the instrument is free of random error. Sekaran (2003) referred reliability to the degree of consistency and stability a measurement has. Therefore, reliability function in IBM SPSS Statistics 22.0.0 was employed to ensure that a set of items reflect the internal consistency and captures the meaning of their factor. The following section presents the steps followed to assess the reliability of the scale, and presents the results.

6.5.1.1. Internal consistency

Myers (1997) defined the internal consistency reliability as the degree to which a specific set of items comprising a scale are homogenous. In other words, if the responses for a specific set of items that measure a scale are consistent, then that scale is supposed to have internal consistency (Sekaran 2003). Internal consistency is usually measured by calculating the correlation among a specific set of items. The resulting measure is known as alpha coefficient (α) which was introduced by (Cronbach 1951). The higher value of Cronbach's alpha coefficient for a set of items represents higher internal consistency between the items. Therefore, the internal consistency for a set of items is considered excellent if the value of Cronbach's alpha is around 0.9, very good

if it is around 0.8, adequate if it is around 0.7 which is suggested to be an accepted cut-off (Hair et al. 2006). Nevertheless, a value more than 0.6 is also considered to be accepted (Nunnally 1978; Malhotra 2008). Table 6.18 shows the value of Cronbach's alpha for each scale.

All the values of the alpha coefficient were greater than 0.7 except one scale (Technical structural assurance). Moreover, Cronbach's alpha coefficient of the scale (Long term vs. short-term orientation) was below the acceptable level of 0.6; therefore, the "if-item-deleted" function was applied to attain the desired level of internal consistency, and hence item LSO3 was deleted (see Table 6.18).

Table 6.18 Cronbach's alphas for the measurement scales

Scales	No. of items	Cronbach's alpha (α)	
Disposition to trust (DT)	3	0.799	
Organizational structural assurance (OSA)	3	0.816	
Technical structural assurance (TSA)	4	0.636	(**)
Reputation (REP)	4	0.826	
Uncertainty Avoidance (UA)	4	0.835	
Power Distance (PD)	4	0.827	
Masculinity/Femininity (MF)	3	0.874	
Individualism/Collectivism (IC)	3	0.893	
Long term Vs. Short-term orientation (LSO)	2	0.626	(***)
Internet and computer self-efficacy (ICSE)	3	0.729	
Relative advantages (RA)	3	0.861	
Compatibility (CPT)	3	0.844	
Complexity (CPX)	4	0.730	(**)
Initial trust in Internet banking services (INT)	4	0.828	
Intention to use IBS (INU)	2	0.734	
Total	49		

**** The original value of Cronbach's alpha for this scale was 0.515. After deleting the item LSO2, the value of Cronbach's alpha became 0.626 (See Table 6.27).*

*** Deleting an item in the scale (TSA4, CPX1) will increase the value of alpha, however; the current value of alpha is acceptable (greater than 0.6).*

6.5.1.2. Item-total correlation

According to Triandis (1996), item-total correlation indicates the degree of correlation of an item with a composite of other items that shapes a specific scale. Therefore, high correlation scores for all the items that measure a specific scale means the high representing of that items for that scale. The main purpose of performing item-total correlation analysis is to filter a measure by removing items that are considered redundant 'garbage items' (Churchill 1979). The value of the item-total correlation should be greater than 0.3 to confirm that this item belongs to the expected scale (Cohen 1988). Results of the item-total correlation are presented in Table 6.19 to Table 6.33. According to the obtained results, values of the item-total correlation for the following items: TSA4, LSO2, CPX1 are 0.239, 0.205, and 0.230 respectively (less than 0.3), therefore; it is recommended to delete these items before proceeding with the other analysis steps.

Table 6.19 Item-total correlation of the DT scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
DT1: I feel that people are generally reliable.	.653	.718
DT2I: I generally have faith in humanity.	.633	.737
DT3: I generally trust other people unless they give me reason not to.	.648	.721

Table 6.20 Item-total correlation of the OSA scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
OSA1: I feel assured that legal structures adequately protect me from any problem with bank services.	.651	.765
OSA2: I feel confident that regulations, laws, and social norms make it safe for me to use bank services.	.727	.684
OSA3: In general, bank services are robust and safe.	.628	.786

Table 6.21 Item-total correlation of the TSA scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
TSA1: The Internet has enough safeguards to make me feel comfortable using it to transact personal business	.520	.483
TSA2: I feel assured that technological structures, such as encryption of data, provide adequate level of protection when using Internet Banking Services.	.576	.457
TSA3: The technological structures ensure privacy when using Internet Banking Services.	.370	.597
TSA4: In general, the Internet is now a robust and safe environment in which to transact business.	.239***	.696
*** *The value of CITC <0.3, deleting the item increases α from .636 to .696*		

Table 6.22 Item-total correlation of the REP scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
REP1: My bank is well-known.	.623	.792
REP2: My bank has a good reputation.	.729	.745
REP3: My bank is recognized widely.	.704	.756
REP4: My bank offers good services.	.558	.825

Table 6.23 Item-total correlation of the UA scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
UA1: It is important to have job requirements and instructions spelled out in details so that people always know what they are expected to do.	.593	.824
UA2: Rules and regulation are important because they inform workers what the organization expects of them.	.697	.777
UA3: Order and structure are very important in a work environment.	.720	.767
UA4: Working in structural environment is better than working (rules and regulations) in an unstructured work environment.	.654	.796

Table 6.24 Item-total correlation of the PD scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
PD1: Managers should make most decision without consulting subordinates.	.553	.826
PD2: Employees should not question their manager's decision.	.780	.721
PD3: Manager should not ask subordinates for advice, because they might appear less power.	.718	.751
PD4: Decision making power should stay with top management in the organization and not be delegated to lower level employees.	.570	.817

Table 6.25 Item-total correlation of the MF scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
MF1: It is preferable to have a man in high level positions rather than a woman.	.744	.841
MF2: Men usually solve problems with logical analysis; unlike women who usually solve problems with intuition	.802	.785
MF3: Solving organizational problems usually requires an active, forcible approach which is typical of men.	.736	.843

Table 6.26 Item-total correlation of the IC scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
IC1: Individual rewards are not as important as group welfare.	.744	.886
IC2: Group success is more important than individual success.	.804	.836
IC3: Working within a team is better than working alone.	.824	.817

Table 6.27 Item-total correlation of the LSO scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
LSO1: Respect for tradition will not hamper performance.	.385	.321
LSO2: The exchange of favours and gifts is not necessary to excel.	.205***	.626
LSO3: Upholding one's personal image contributes in goal achievements.	.421	.273
*** *The value of CITC <0.3, deleting the item increases α from .515 to .626*		

Table 6.28 Item-total correlation of the CISE scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
CISE1: I could use IBS if I could call someone for help if I got stuck	.626	.548
CISE2: I could use IBS if someone else had helped me get started	.645	.523
CISE3: I could use IBS if someone showed me how to do it first.	.401	.804

Table 6.29 Item-total correlation of the RA scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
RA1: I believe that Internet banking is more convenient than off-line banking.	.702	.837
RA2: I believe that Internet banking is more efficient than off-line banking.	.750	.792
RA3: I believe that Internet banking is more effective than off-line banking in managing a bank account.	.757	.785

Table 6.30 Item-total correlation of the CPT scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
CPT1: I think Internet banking services fits well with the most aspect of my banking activities.	.674	.817
CPT2: I think using Internet banking is compatible with my lifestyle.	.738	.757
CPT3: I think using Internet banking fits well with the way I like to manage my finance	.722	.773

Table 6.31 Item-total correlation of the CPX scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
CPX1: I believe that learning to use the Internet banking services for exploring information and do different transaction is easy for me.	.230***	.877
CPX2: I believe that it is easy to get the Internet banking services to do what I want it to do.	.662	.585
CPX3: I believe that Interacting with Internet banking services to explore information and do different transaction will be clear and understandable.	.697	.557
CPX4: Overall, I believe that using the Internet banking services to explore information or do different transactions is easy.	.699	.561
*** *The value of CITC <0.3, deleting the item increases α from .830 to .877*		

Table 6.32 Item-total correlation of the INT scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
INT1: The bank is trustworthy.	.666	.777
INT2: I believe in the information that the bank provides me.	.663	.779
INT3: I believe that Internet banking always provides accurate financial services.	.605	.805
INT4: I believe that Internet banking always provides reliable financial services.	.683	.770

Table 6.33 Item-total correlation of the INU scale

Item	Corrected Item-total correlation	Cronbach's alpha If-Item-Deleted
INU1: I intend to use Internet Banking Service.	.581	NA
INU2: I expect to perform my bank transactions through Internet banking in the future.	.581	NA

6.5.2. Exploratory Factor Analysis

Hair et al. (2006) stated that the main purpose of conducting factor analysis is to define the underlying structure among a set of variables. It allows studying the structure of the interrelationships within a large number of items in order to gather the highly interrelated items into higher level of variables known as factors (Hair et al. 2006). Therefore, in the current study, an exploratory factor analysis (EFA) was employed to explore if the variables used in the research instrument represent their scales (factors). Also, it is used in order to decrease the large number of variables into a manageable, smaller, and representative set of factors.

Despite the fact that most of the measured variables were adopted from previous empirical studies and literature review, conducting EFA is considered a necessary step to examine their interrelationships within the initial trust context. Thus, EFA was applied to all items in the instrument. The original factors are disposition to trust (DT: 3 items), organizational structural assurance (OSA: 3 items), technical structural assurance (TSA: 3 items after eliminating TSA4), reputation (REP: 4 items), uncertainty avoidance (UA: 4 items), power distance (PD: 4 items), masculinity vs. femininity (MF: 3 items), individualism vs. collectivism (IC: 3 items), long vs. short time orientation (LSO: 2 items after eliminating LSO2), computer and Internet self-efficacy (CISE: 3 items), relative advantages (RA: 4 items), compatibility (CPT: 3 items), complexity (CPX: 3 items after eliminating CPX1), initial trust in IBS (INT: 4 items), and intention to use IBS (INU: 2 items).

6.5.2.1. Data factorability

This type of analysis assumes that there are some correlations amongst the variables that enable the identification of coherent factors. One of the ways that help in confirming the

factorability is the values of the anti-image correlation matrix (Tabachnick & Fidell 2007). Other tests also can be used to determine the factorability of the data such as Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) (Hair et al. 2006; Tabachnick & Fidell 2007).

For the purpose of this study, the three mentioned criteria were used to test data factorability. Table 6.34 presents the values of Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity. The values of KMO (0.782) were greater than the generally accepted threshold (0.5) (De Vaus 1993; Field 2005) (De Vaus 1993; Field 2005 Cited in Alhujran 2009, P. 151). Moreover, the values of Bartlett's test of sphericity appeared to be highly significant at p <0.001. Additionally, all the values in anti-image correlation matrix were above 0.5 (Pallant 2007). Finally, the sample size for this study was 540 cases (>100 cases) which is considered sufficient for conducting EFA (Tabachnick & Fidell 2007). In addition, (Hair et al. 2006) indicated that the minimum eligible sample size for EFA is at least five times as many subjects as the number of variables to be analysed

Moreover, the analysis showed that the Anti-image correlation values are located in the range of (0.680 to 0.895) > 0.500, which indicates that the data is factorable and that conducting EFA is applicable (Hair et al. 2006; Pallant 2007; Tabachnick & Fidell 2007).

Table 6.34 Factorability of the data

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
Bartlett's Test of Sphericity	Approx. Chi-Square	12783.829
	df	1081
	Sig.	.000

6.5.2.2. Factor extraction and rotation

Pallant (2007) considered the factor extraction and rotation method as the main step in conducting EFA for any construct. Therefore, the EFA of this study applied the principal component as an extraction method and Varimax rotation as a rotation method on each group of variables. Hair et al. (2006) mentioned four criteria to be used in the factor extraction process: eigenvalue (latent root) criterion, Catell's scree test, percentage of variance criterion, and a priori criterion (this is more for CFA). The eigenvalue criterion is the most common technique. According to Hair et al. (2006), a factor is considered significant if its eigenvalue is more than (1) and non-significant if its eigenvalue is less than (1). This study employed the Varimax rotation method because it is widely known and simple (Tabachnick & Fidell 2007), and as well, it provides a clear separation of the factors (Hair et al. 2006).

6.5.2.3. Results of EFA

In order to conduct EFA, the IBM SPSS Statistics 22.0.0 was used. The principal component and Varimax rotation methods were conducted for all the items in the scale (47 items were entered to the EFA). Table 6.35 presents the values of total variance. The values obtained for the scales is 72.952 (See Table 6.35) which is considered acceptable in the social sciences field (Hair et al. 2006) and higher than the threshold of 0.70 (Pallant 2007). The table also shows that the EFA for all variables resulted in extracting 14 components to represent the scale. Each component is known as factor or construct. However, the scale was expected to include 15 factors instead of 14, i.e., one of the factors has not been extracted. This means that the variables that were expected to represent that factor were loaded on different ones. The loading values for all variables are presented in the rotation component matrix in Table 6.36.

Table 6.35 Total variance explained the scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.518	16.343	16.343	7.518	16.343	16.343	3.362	7.308	7.308
2	3.579	7.781	24.124	3.579	7.781	24.124	2.796	6.077	13.385
3	3.169	6.889	31.013	3.169	6.889	31.013	2.739	5.955	19.34
4	3.122	6.787	37.8	3.122	6.787	37.8	2.72	5.913	25.253
5	2.305	5.01	42.81	2.305	5.01	42.81	2.499	5.432	30.685
6	2.078	4.518	47.328	2.078	4.518	47.328	2.459	5.346	36.031
7	1.987	4.319	51.648	1.987	4.319	51.648	2.407	5.233	41.264
8	1.891	4.11	55.757	1.891	4.11	55.757	2.353	5.115	46.379
9	1.574	3.421	59.178	1.574	3.421	59.178	2.282	4.961	51.34
10	1.489	3.236	62.415	1.489	3.236	62.415	2.256	4.904	56.244
11	1.383	3.007	65.422	1.383	3.007	65.422	2.207	4.799	61.043
12	1.278	2.778	68.2	1.278	2.778	68.2	1.958	4.257	65.3
13	1.108	2.41	70.61	1.108	2.41	70.61	1.928	4.191	69.491
14	1.077	2.342	72.952	1.077	2.342	72.952	1.592	3.461	72.952
15	0.883	1.92	74.873						
16	0.769	1.672	76.544						
17	0.671	1.458	78.002						
18	0.619	1.345	79.347						
19	0.606	1.317	80.664						
20	0.567	1.232	81.896						
21	0.561	1.22	83.116						
22	0.538	1.17	84.286						
23	0.501	1.088	85.374						
24	0.478	1.039	86.414						
25	0.442	0.962	87.375						
26	0.426	0.927	88.302						
27	0.409	0.89	89.192						
28	0.384	0.835	90.028						
29	0.371	0.808	90.835						
30	0.349	0.759	91.594						
31	0.343	0.746	92.34						
32	0.333	0.724	93.065						
33	0.324	0.704	93.768						
34	0.31	0.674	94.442						
35	0.298	0.648	95.09						
36	0.278	0.605	95.695						
37	0.266	0.578	96.273						
38	0.243	0.529	96.802						
39	0.235	0.511	97.313						
40	0.224	0.486	97.799						
41	0.206	0.447	98.246						
42	0.191	0.416	98.662						
43	0.185	0.402	99.064						
44	0.171	0.372	99.436						
45	0.145	0.314	99.75						
46	0.115	0.25	100						

Extraction Method: Principal Component Analysis.

Table 6.36 Rotated Component Matrix[a]

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
UA3	**.797**	-.079	.051	.169	-.042	.059	-.031	-.060	.086	.044	.087	-.005	.142	-.001
UA2	**.789**	.023	.030	.172	.087	.005	.023	-.033	.061	.060	.097	.000	.059	.087
UA4	**.763**	-.067	-.069	.155	-.039	.118	.022	-.040	.120	.082	.014	.102	.032	.007
UA1	**.686**	-.009	.110	.221	.083	.133	.020	.061	.023	.187	-.011	.033	.016	.037
LSO3	***.493***	.193	-.088	-.112	.395	.035	.193	.294	-.032	-.061	.006	.122	.124	-.085
LSO1	***.483***	.102	.080	-.110	.238	-.119	.082	.427	-.069	.028	.006	.105	.095	-.091
INT1	-.015	**.794**	.009	.144	.056	-.038	.026	.041	.095	.075	-.093	.034	.011	.034
INT4	.000	**.791**	.060	.113	-.005	.084	.004	-.042	.145	.033	.001	.044	-.021	.132
INT2	.023	**.784**	-.007	.105	-.060	.095	.068	.004	.144	.109	.041	-.080	-.075	.132
INT3	-.034	**.700**	.023	.089	-.014	.019	.028	.011	.156	.093	-.039	.041	.129	.200
PD2	-.030	.002	**.864**	.057	.104	.070	.127	.107	.047	.070	.049	.016	.068	.035
PD3	-.120	-.029	**.849**	.069	-.119	.000	.127	.050	.014	.106	.050	.027	.018	-.008
PD4	.132	.045	**.744**	.021	.100	.122	.103	-.001	.042	-.062	-.040	-.164	.014	.044
PD1	.124	.072	**.704**	-.009	.044	.013	.070	-.011	.024	.204	.039	.191	-.049	-.081
REP3	.135	.069	-.014	**.808**	.085	.066	-.042	.022	.044	.102	.028	.059	.193	.002
REP2	.200	.145	-.004	**.793**	.084	.060	.009	.043	-.038	.092	.033	-.020	.102	-.006
REP1	.148	.147	-.008	**.771**	.047	.044	.078	.061	.039	-.020	.007	.090	.078	-.055
REP4	.109	.106	.166	**.682**	-.061	.013	.023	.080	-.072	.111	.058	-.042	.082	.065
IC2	.073	.009	.058	.033	**.868**	.145	-.001	.084	.086	.112	.017	.092	.024	-.005
IC3	.048	-.016	.046	.057	**.862**	.213	-.016	.055	.110	.102	.023	.069	.057	.024
IC1	.075	-.044	.031	.081	**.829**	.183	.015	.078	.074	.132	-.013	.010	.087	.035
CPX3	.083	.079	.089	.076	.175	**.851**	.040	.172	.031	.018	-.013	.035	.044	-.027
CPX4	.110	.014	.045	.096	.186	**.799**	.047	.268	.057	.055	.057	.052	.107	.026

	component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CPX2	.092	.073	.073	.012	.218	**.771**	.094	.230	.077	.035	.002	.043	.006	-.001
MF2	.046	.043	.106	.062	-.006	.063	**.892**	-.035	.080	.054	.017	.112	-.004	.057
MF1	.067	.011	.105	.052	.040	.079	**.871**	.018	-.002	.050	-.012	.058	-.027	-.053
MF3	-.012	.060	.189	-.046	-.011	.004	**.859**	.005	.010	.087	.033	-.006	-.025	-.002
CPT3	-.026	-.026	.065	.123	.081	.226	-.020	**.806**	.159	.080	-.016	-.003	-.022	.069
CPT2	.036	-.022	.029	.107	.060	.232	-.019	**.804**	.147	.050	.063	.044	-.046	.021
CPT1	.025	.027	.059	.034	.069	.445	-.010	**.684**	.023	.092	.034	.031	.065	.096
RA2	.049	.184	.066	.002	.066	.031	.011	.072	**.855**	.020	-.083	.027	.064	.056
RA3	.132	.176	.026	.005	.084	.105	.000	.064	**.846**	.110	.029	.018	.035	.074
RA1	.058	.181	.028	-.036	.103	.019	.076	.141	**.819**	.029	-.015	-.036	-.015	-.011
OSA2	.112	.166	.086	.061	.118	.069	.043	.103	.077	**.830**	.075	.045	.035	.006
OSA3	.037	.066	.111	.127	.072	.035	.081	.107	.046	**.774**	.029	.028	.162	.086
OSA1	.149	.094	.104	.094	.156	.010	.086	-.028	.041	**.763**	.006	.132	.159	-.039
DT1	.033	-.052	.155	.003	.038	.021	-.012	.032	-.032	.118	**.838**	-.031	.046	-.015
DT3	.058	-.015	.002	.082	.027	.010	.041	.013	-.060	-.071	**.835**	.100	.076	.001
DT2	.070	-.020	-.064	.025	-.040	.008	.006	.020	.027	.056	**.818**	.145	.083	-.066
CISE2	.119	-.007	.056	.015	.061	.004	.037	.034	.033	.095	.076	**.874**	.045	.032
CISE1	.024	.023	-.002	.060	.079	.099	.119	-.001	-.025	.121	.150	**.855**	.046	.042
CISE3	.472	.085	-.029	.013	.134	.054	.038	.293	-.005	-.132	.003	**.473**	.132	-.150
TSA2	.093	-.035	-.054	.129	.025	.091	.001	-.022	.002	.224	.159	.060	**.778**	-.012
TSA1	.054	-.008	.104	.250	.016	-.016	-.018	.016	.034	.160	.111	-.051	**.751**	.099
TSA3	.161	.068	.007	.087	.129	.066	-.039	.021	.044	-.010	-.016	.111	**.685**	-.043
INU2	.052	.231	-.038	-.010	.031	.013	.021	.018	.013	.063	-.024	.019	-.006	**.836**
INU1	-.016	.245	.032	.010	.004	-.004	-.025	.091	.096	-.020	-.060	.015	.034	**.835**

The results presented in Table 6.36 reveal that according to Hair et al. (2006) all the variables of the scale have got acceptable loading values that are greater than 0.45 (the criterion in the significance level 0.05 with 150 samples and more). The first component includes 6 variables (UA1, UA2, UA3, UA4, LSO1, and LSO3). The loading values for the variables that measure UA range between 0.693 and 0.799 which are really far from the loading values for LSO1 and LSO3.

For the rest of the components (2 to 14), each component represents a single construct with sufficient, acceptable, and significant loading values. Component 2 includes only variables that belong to initial trust in IBS (INT) construct (INT1, INT2, INT3, and INT4) with loading values (0.794, 0.787, 0.700, and 0.793). Component 3 consists of PD1, PD2, PD3, and PD4 which measure the power distance (PD) construct with loading values 0.700, 0.867, 0.851, and 0.746 respectively. Component 4 represents the individualism vs. collectivism (IC) construct which includes IC1, IC2, and IC3 variables with loading values 0.828, 0.868, and 0.862 respectively. The variables CPX2, CPX3, and CPX4 scored 0.773, 0.854, and 0.799 which loaded on component 5 that represents the complexity (CPX) construct. In addition, masculinity vs. femininity (MF) construct was measured by MF1, MF2, and MF3 with loading values 0.871, 0.893, and 0.859 respectively. Component 7 represents the compatibility (CPT) construct and consists of CPT1, CPT2, and CPT3 with loading values 0.689, 0.812, and 0.816. The relative advantages (RA) construct is found to be represented by component 8, and consists of RA1, RA2, and RA3 with loading values 0.820, 0.857, and 0.848 respectively. Component 9 represents the organizational structural assurance (OSA) construct with three variables OSA1, OSA2, and OSA3 with corresponding loading values of 0.764, 0.831, and 0.776. Consequently, the variables REP1, REP2, and REP3,

that belong to the reputation (REP) construct, are loaded highly on component 10. For component 11, variables DT1, DT2, and DT3 are found to have loading values of 0.838, 0.818, and 0.835 under component 11 which represents the disposition to trust (DT) construct. Component 12 represents the computer and Internet self-efficacy (CISE) construct and includes CISE1, CISE2, and CISE3 with loading values 0.855, 0.874, and 0.473 (the loading value of CISE3 is low but still acceptable). Variables TSA1, TSA2, and TSA3 measure the technical structural assurance (TSA) construct that is represented using component 13 with loading values of 0.751, 0.778, and 0.685. Finally, component 14 is the one that represents the intention to use (INU) construct with loading values of 0.835 and 0.836 for variables INU1 and INU2 respectively.

In summary, although the variables LSO1, LSO3 and CISE3 had low loading values (0.491, 0.486, and 0.473) respectively, it was decided not to exclude these variables at this stage to ensure that eliminating variables takes place only after satisfying strong scientific criterion. Thus, in the following chapter, a measurement model will be established and tested in order to examine the constructs' validity and constructs' unidimensionality.

However, since the sample size of this study is (540), which, according to (Hair et al. 2006), is large enough, EFA has been conducted for all variables at the same time. In conducting EFA in this way produces results that are more efficient.

6.6. Chapter Summary

This chapter achieved the aim of the descriptive analysis by providing results of demographic analysis and an understanding of the characteristics of the collected data. The overall response rate was 54.57% which is considered high. In addition, the chapter

reported the steps undertaken to prepare the data. Moreover, the data was free from extreme outliers; therefore, the normality and linearity of the data were confirmed.

Results of reliability analysis were also reported and confirmed that the internal reliability values are acceptable. Adding to that, the results of exploratory factor analysis proved the validity and unidimensionality of the scale. In conclusion, the data upheld the assumptions of multivariate analysis; thus, the following chapter is to continue assessing the study model and testing the study hypotheses.

Chapter 7
Model Assessment

7.1. Introduction

In this chapter, the proposed relationships between the model constructs are assessed. The technique, which the study employed to examine the hypotheses and assess the relationships between the constructs of the model, is known as Structural Equation Modeling (SEM). Therefore, Section 7.2 provides an overview of the SEM technique; Section 7.3 presents the measurement model assessment and the assessment criteria that have been used; Section 7.4 reports the structural model assessment and discusses the assessment results of testing the study model and hypotheses. Finally, the chapter concludes with a summary.

7.2. An overview of SEM

SEM stands for structural equation modeling which is a famous multivariate statistical analysis technique. SEM is used to examine hypotheses that represent relationships between observed and latent variables (Hoyle 1995). In the field of information systems, SEM is also known as covariance-based SEM or covariance structure analysis (Gefen et

al. 2000; Kline 2005). Mainly, SEM uses the covariance or correlation values between the constructs to calculate linear relationships and causal links (Hair et al. 2006).

In SEM, the linear relationships between the observed and unobserved variables are assessed in order to verify validity of a theoretical model (Shah & Goldstein 2006). In addition, (Byrne 2001) explained that SEM is considered an ideal method to extract values of the proposed inter-connected path coefficients, especially when there are multiple causal and linear relationships between model variables. Moreover, SEM analysis has the ability to concurrently perform two types of relationship analysis, which are: analysing relationships between latent variables and their corresponding observed variables (CFA), and relationships (hypotheses) among the latent variables themselves (regression analysis) (Groenland & Stalpers 2012). Byrne (2001) listed some advantages of SEM over other multivariate techniques, which include:

- SEM follows a confirmatory approach through determining relationships between the observed and unobserved variables a priori. On the other hand, other multivariate techniques mainly use a descriptive way, which makes hypotheses testing difficult.
- In SEM, the error variance parameters are estimated explicitly.
- Both latent and observed variables can be incorporated in SEM analysis, which is not the case in other multivariate techniques that depend on observed measurements only.
- SEM is able to assess direct and indirect effects among the study constructs. Also, it can be used in modelling multivariate relations.

There are different types of SEM that have been commonly used in the literature (Raykov & Marcoulides 2006). These include: path analytic model (PL), measurement model or confirmatory factor analysis model (CFA), structural regression models (SR), and latent change model (LC). However, the current study follows a two-step approach to SEM which combines the measurement model (CFA) and the structural model (regression model) (Mulaik et al. 1989). (Hair et al. 2006) argued that the measurement model is used to identify the relationships between the indicators (observed variables) and their correspondent constructs (latent variables) to confirm the measurement accuracy (See Figure 7.1). On the other side, the structural model is used to assess the proposed relationships between the model constructs (See Figure 7.2). Therefore, the SEM analysis in this study starts with assessing the entire measurement model including verifying construct validity and unidimensionality. After that, the structural model is built in order to examine the proposed relationships between the constructs.

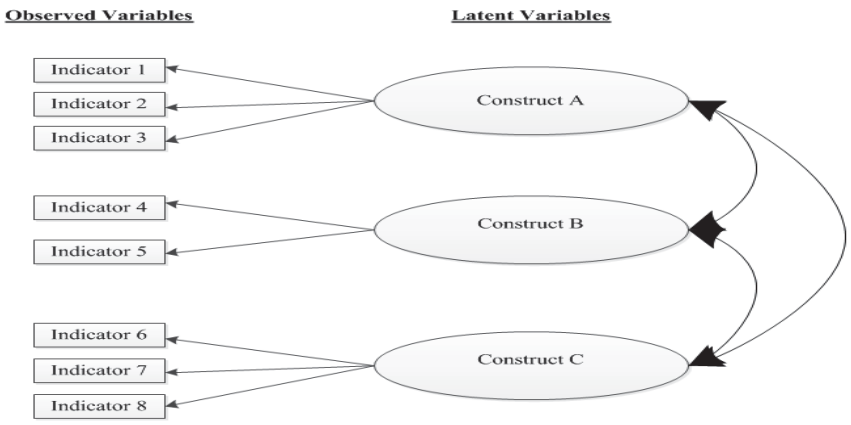


Figure 7.1 The Measurement model

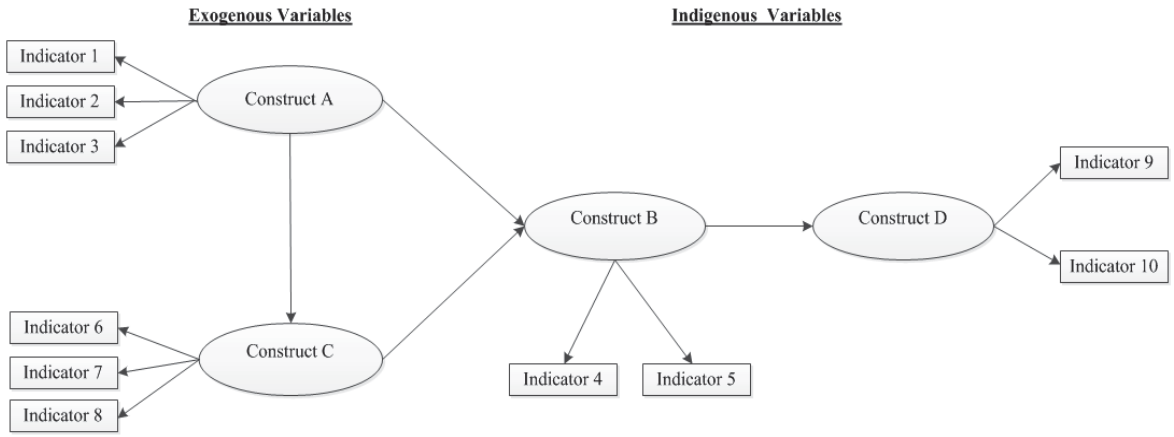


Figure 7.2 The structural model

7.3. Measurement model assessment

The main purpose of conducting exploratory factor analysis (EFA) is to determine the factors of the measurement scales and their structure by which the model constructs are supposed to be measured. However, examining constructs' validity and unidimensionality are crucial in measurement theory (Hair et al. 2006) and need a more advanced technique than EFA.

Confirmatory factor analysis (CFA) has started to attract increased attention from many researchers due to its ability in evaluating the validity and unidimensionality/ multidimensionality of the constructs of a theoretical framework (Byrne 2001). CFA is considered as a part of structural equation modeling (SEM); consequently, this study has used the Analysis of Moment Structure (AMOS) software to conduct CFA and SEM analysis.

CFA is an analytic tool which is used in developing and refining an existing measurement instrument, ensuring construct validity, evaluating known factor invariance in new contexts (Distefano & Hess 2005; Brown 2006). Hair et al. (2006) explained that CFA is mainly conducted to assess the extent to which a loading of priori

factor structure match with the original data. In other words, CFA tests pre-defined hypotheses about relations between observed variables and latent variables (Jackson et al. 2009). Therefore, in order to confirm the priori factor structure with consideration of the identified model and EFA results, this study employed the CFA analysis technique to all model constructs. The analysis of moment structure (AMOS) software is used to conduct CFA and SEM analysis.

In the current study, the process of conducting CFA involved examining how the factor structure fits with the actual data, and evaluating the multidimensionality and discriminant validity of the constructs. The following sections present model fit types and indicators that the current study adopts in the CFA and SEM analysis.

7.3.1. Model fit types and indices

The study examines the measurement model to assess the multidimensionality and validity of the study model constructs. Hair et al. (2006) stipulated establishing adequate levels of the goodness-of-fit for the measurement model, and providing specific numeric proofs as conditions for assessing a construct's multidimensionality and validity. The model goodness-of-fit is determined by specific values known as model fit indices. Therefore, a model is considered acceptable to represent a data if the achieved values of the fit indices for that data are found to be good. However, if the first attempt (known as initial measurement model) of assessing the model results in insufficient fit indices, Byrne (2001) suggested proceeding with the analysis with an exploratory approach to adjust and re-examine the model instead of rejecting it. Model fit is assessed by three different types of indices: absolute fit, incremental fit, and parsimony fit (Byrne 2001;

Hair et al. 2006). The following sections provide more details and explanations about each type of index.

7.3.1.1. Absolute fit indices

The absolute fit indices are measures that determine the ability of the hypothesized model to reproduce the sample data (Shah & Goldstein 2006). Essentially, the absolute fit is determined by the likelihood ratio test statistic which is Chi-square (χ^2). Three values in the likelihood ratio test statistic are considered to determine the absolute fit of a model: the value of χ^2, degree of freedom (*df*), and p-*value* which is compared with the significance level. The tested model is said to have a good fit if the value of χ^2 is non-significant ($p > 0.05$). Contrarily, if the value of χ^2 is significant ($p < 0.05$) then the model does not fit the data.

However, Byrne (2001) mentioned that the sample size is an important factor that can affect the accuracy of the likelihood ratio test, especially when the sample is large. Therefore, to avoid any biased outcomes that could result from a small sample size issue, Gefen et al. (2000) and Shah & Goldstein (2006) suggested reporting other fit indices in which the degree of model fit can be precisely measured. The first index is the goodness-of-fit index (GFI) which is defined as the extent to which the proposed model is able to explain the variance and covariance (Raykov & Marcoulides 2000). The second index is the adjusted-goodness-of-fit (AGFI) which is an adjusted version of GFI based on the number of the degree of freedom in the proposed model. Basically, GFI and AGFI are considered as absolute measures since they compare the hypothesized model with the case of no model at all (Hu & Bentler 1995). Gefen et al. (2000) stated that the values of GFI and AGFI range between 0 to 1.00 where a value of 1.00 indicates perfect fit; however, well-fit-model should have a GFI value greater than

0.90 and AGFI value greater than 0.80 (Hair et al. 2006). The higher the values of both indices the better the model fits the data.

An important index known as the root mean square residual (RMR) is also recommended to be reported as an absolute fit index (Gefen et al. 2000; Shah & Goldstein 2006). RMR measures the extent of discrepancy between the sample covariance matrix and the hypothesized model covariance matrix. RMR with a value of .05 or less is indicative of a well-fitting model (Hair et al. 2006).

7.3.1.2. Relative fit indices

Relative fit indices are also know as incremental fit indices (Tanaka 1993), and comparative fit indices (Bentler 1990). Relative fit indices compare likelihood of the hypothesized model with that of the null (or baseline) model using chi-square (Hair et al. 2006). The null model assumes no correlations between any of its variables, which results in a very large chi-square value (poor fit model) (Hooper et al. 2008). Relative fit indices include the normed-fit-index (NFI), Tucker-Lewis-index (TLI), comparative-fit-index (CFI), and incremental-fit-index (IFI).

The normed fit index (NFI) measures the deviation in the values of chi-square between the hypothesized and null models (Hair et al. 2006). The value of normed fit index (NFI) ranges between 0 and 1.00 where the model has a perfect fit when NFI equals 1.00, and a good-fit when NFI is greater than 0.90 (Byrne 2001; Hair et al. 2006).

The Tucker-Lewis-index (TLI) (also known as non-normed fit index (NFI)) measures the discrepancy in the values of the *normed* chi-square for the hypothesized model and the null model in which the model complexity is relatively considered (Hair et al. 2006).

Regarding the value of TLI, Byrne (2001) and Hair et al. (2006) recommended a value more than 0.90 for a good model fit.

The comparative fit index (CFI) is similar to the normed-fit-index (NFI), but it also considers the sample size when conducting the chi-square test. The value of CFI range from 0 to 1.00 with better fit for larger values. The threshold of CFI value is 0.90 or more to consider a model fit acceptable (Byrne 2001; Hair et al. 2006).

The incremental fit index (IFI) is also similar to NFI and CFI; however, what distinguishes IFI from those two fit indices is that it considers the degree of freedom (Byrne 2001). The main purpose of IFI is to address the issues of sample size and parsimony (Byrne 2001). Similar to NFI and CFI, the value of IFI ranges from 0 to 1.00 with larger value indicates better fit. A model is said to have good-fit if the value of IFI is greater than 0.90.

7.3.1.3. Parsimony fit indices

The last set of fit indices to be used in this study is related to the issue of model parsimony. Hair et al. (2006) explained that the main objective of developing those indices is to provide indications for the best competing model, considering its fit relative to its complexity. Parsimony fit indices are adjustments to most of the ones explained above and include PGFI (based on the GFI), PNFI (based on the NFI), and PCFI (based on the CFI). This study adopted two parsimony indices: PGFI and PNFI. The values of PGFI and PNFI both range between 0 and 1.00, with higher values representing a more parsimonious fit.

In addition, the root mean square error of approximation (RMSEA), considered as parsimony-adjusted index, is recognized as an important index and informative criterion

in covariance structure modeling (Byrne 2001). RMSEA measures the difference between the hypothesized model and the population covariance matrix in terms of selected parameter estimates (Hooper et al. 2008). RMSEA values range between 0 and 1.00, and according to Hair et al. (2006) and (Byrne 2001) values less than 0.05 indicate good fit, values between 0.05 and 0.08 indicate reasonable error of approximation, while values close to 1.00 indicate poor model fit.

7.3.1.4. Estimation method

Choosing a suitable estimation method is crucial in generating rigorous results for the model parameters and fit indices. Hair et al. (2006) defined an estimation method as a mathematical algorithm used to calculate estimates for every single model parameter and fit index. There are different types of estimation methods including: generalised least square (GLS), weighted and unweighted least square (WLS and ULS), ordinary least square (OLS), asymptotically distribution free (ADF), and maximum likelihood (ML) which is known as the most common estimation method (Shah & Goldstein 2006).

A set of determinants are considered to select an estimation method including: sample size, data distribution, and model complexity (Shah & Goldstein 2006). For instance, a normal data distribution is assumed for ML and GLS, and a very large sample size is required for WLS, ULS, and ADF. OLS is considered one of the simplest and most robust methods that do not assume data follows a normal distribution; however, this method does not provide fit indices or standard errors for estimation (Shah & Goldstein 2006).

The current study was shown to have a univariate normal distribution for its data, as well as adequate sample size with 540 cases (greater than the recommended sample size

of 200 that according to (Kline 2005) is needed for conducting CFA (See Chapter 6). Based on the given data, the ML estimation method is recommended (Shah & Goldstein 2006) and confirmed as a robust method (Byrne 2001). Therefore, this study has adopted the ML estimation method.

In conclusion, the following criteria should be achieved when a model is considered to have acceptable fit:

- χ^2/df <3.0;
- GFI, NFI, CFI, IFI, and TLI > 0.90;
- AGFI > 0.80;
- RMR < 0.05; and
- RMSEA < 0.08.

7.3.2. Construct validity and unidimensionality

As mentioned earlier, construct validity and unidimensionality are the intended results and the main aim of conducting CFA. Construct validity is defined as "the degree to which a test measures what it claims, or purports, to be measuring" (Brown 1996, p. 231). In other words, construct validity is the ability of a set of measured items (variables) to measure a construct (Hair et al. 2006). Achieving construct validity provides a strong indication that the data which is collected using a validated instrument would reflect the right and the actual situation of the targeted population. Construct validity is achieved when a construct achieves the requirements of two important types: convergent validity, and discriminant validity.

Hair et al. (2006) defined convergent validity as the extent to which a set of items that measure a certain construct are correlated and share a high proportion of variance in

common. Statistically, factor loading value is used to assess the convergent validity of the measurement items; therefore, high loadings value (the threshold for the loading value is greater than 0.50) for a set of items mean that those items converge to a common point and address a single latent construct (Hair et al. 2006). Moreover, the reliability of the constructs is an important indication for the convergent validity, which is determined based on the value of R^2 (also known as squared multiple correlation (SMC)) (Byrne 2001; Hair et al. 2006). The R^2 value should be greater than 0.5 (Hair et al. 2006) to achieve the condition of acceptable reliability.

Another important type of construct validity is discriminant validity which is conceptualized as the degree to which a construct is different from other constructs in a measurement model (Hair et al. 2006). In other words, a construct would have discriminant validity if the measures of that construct have a high correlation between each other and are not related to any other measures from other constructs in a measurement model. Therefore, the value of the correlation coefficient between each pair of measures (items) is the determinant of discriminant validity (Hofstede 1983).

Also, construct unidimensionality is considered a very important result of CFA. Unidimensionality is established by achieving two conditions: (i) when the observed variables (items or measures) have a significant loading on only one construct that they are assumed to measure, and (ii) the fit indices of the model are above the mentioned criteria (Triandis 1996).

7.3.3. CFA results

In the current study, AMOS software is employed to conduct the CFA of the measurement model. The maximum likelihood method is used as an estimation method,

the model is assessed based on the above mentioned fit indices and the constructs validity and unidimensionality are assessed.

Consequently, the initial measurement model of the CFA is developed based on the EFA results. Figure 7.3 present the initial measurement model based on the results generated out of the EFA.

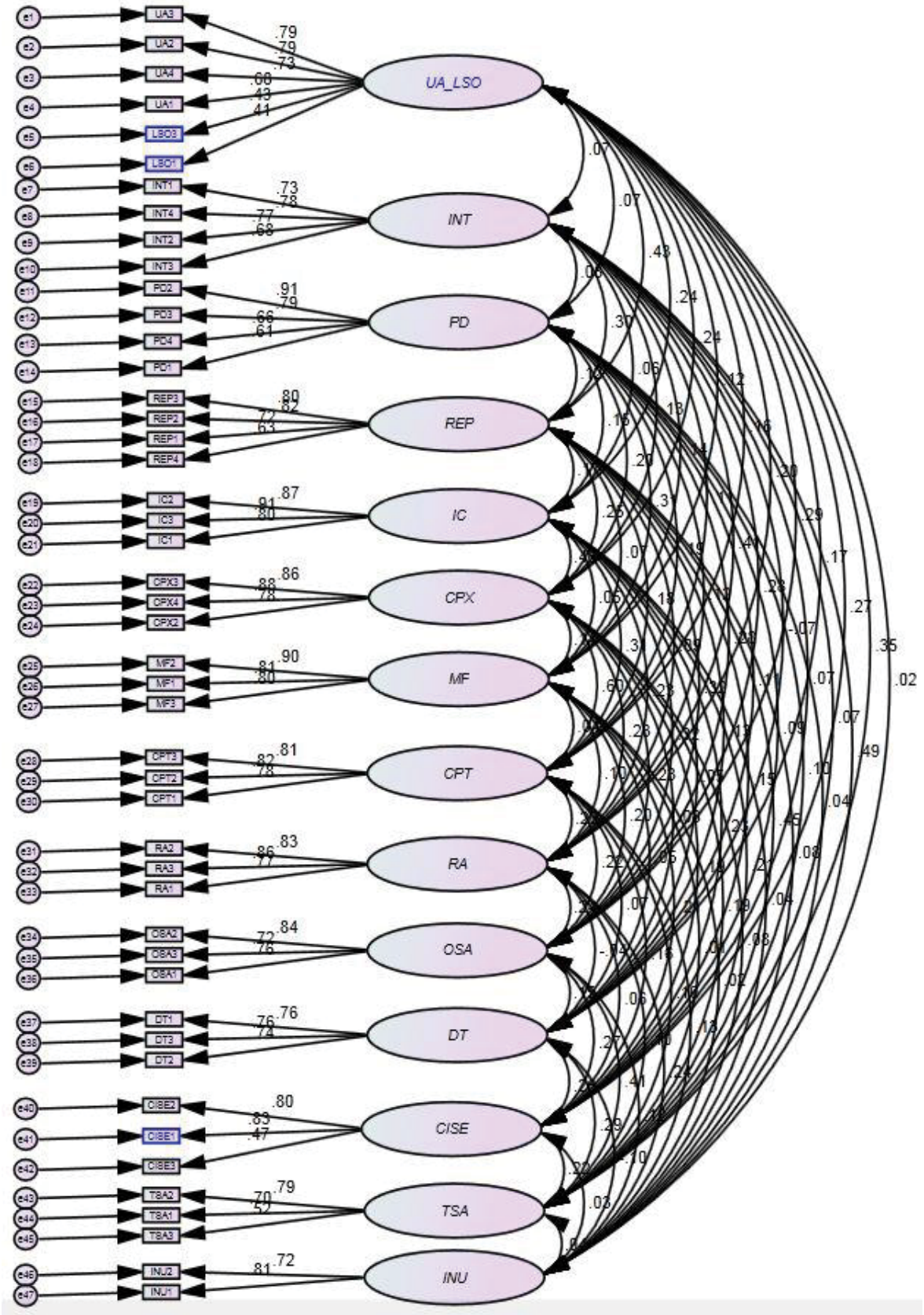


Figure 7.3 Initial measurement model

As shown in Figure 7.3, the initial measurement model has 14 factors (latent variables) with 47 items (observed variables). The loading values for all observed variables are significant except LSO3, LSO1, and CISE3 which scored low loading values: 0.430, 0.407, and 0.467 respectively. According to Hair et al. (2006), the threshold of loading value for a variable to be accepted as significant loading is > 0.50; therefore, those items should be eliminated. Moreover, the results show that the R^2 (SMC) value for those observed variables is very low and less that the required threshold (Hair et al. 2006) (See Appendix H).

The results of the likelihood ratio test for the initial measurement model show the following: χ^2 of 2501.690, with degree of freedom df = 943, however; the probability is 0.000 which is considered significant. The χ^2/df value is 2.653 < 3.0, which indicates good model fit. Byrne (2001) suggested not relying on the value of Chi-square since it is sensitive to the size of the study sample.

Regarding the assessment of model fit, the study follows the criteria suggested by (Byrne 2001; Hair et al. 2006). The absolute (GFI, RMR) and incremental (NFI, CFI, IFI, TLI) indices indicated poor fit to the data as: RMR = 0.054 > 0.05, GFI = 0.840 < 0.90, NFI = 0.810 < 0.90, CFI = 0.871 <0.90, IFI = 0.873 < 0.90, and TLI = 0.852 < 0.90. On the other hand, the parsimony fit indices (AGFI, RMSEA) indicates a good model fit to the data: AGFI = 0.809 > 0.8, RMSEA = 0.055 < 0.08.

Therefore, to enhance the values of the model fit indices, the study deleted some observed variables based on their loadings and the value of squared multiple correlation (SMC). In addition, this study used the modification indexes (MIs) which are related to the covariances between the variables. As a result, Figure 7.4 is the final version of the measurement model of this study.

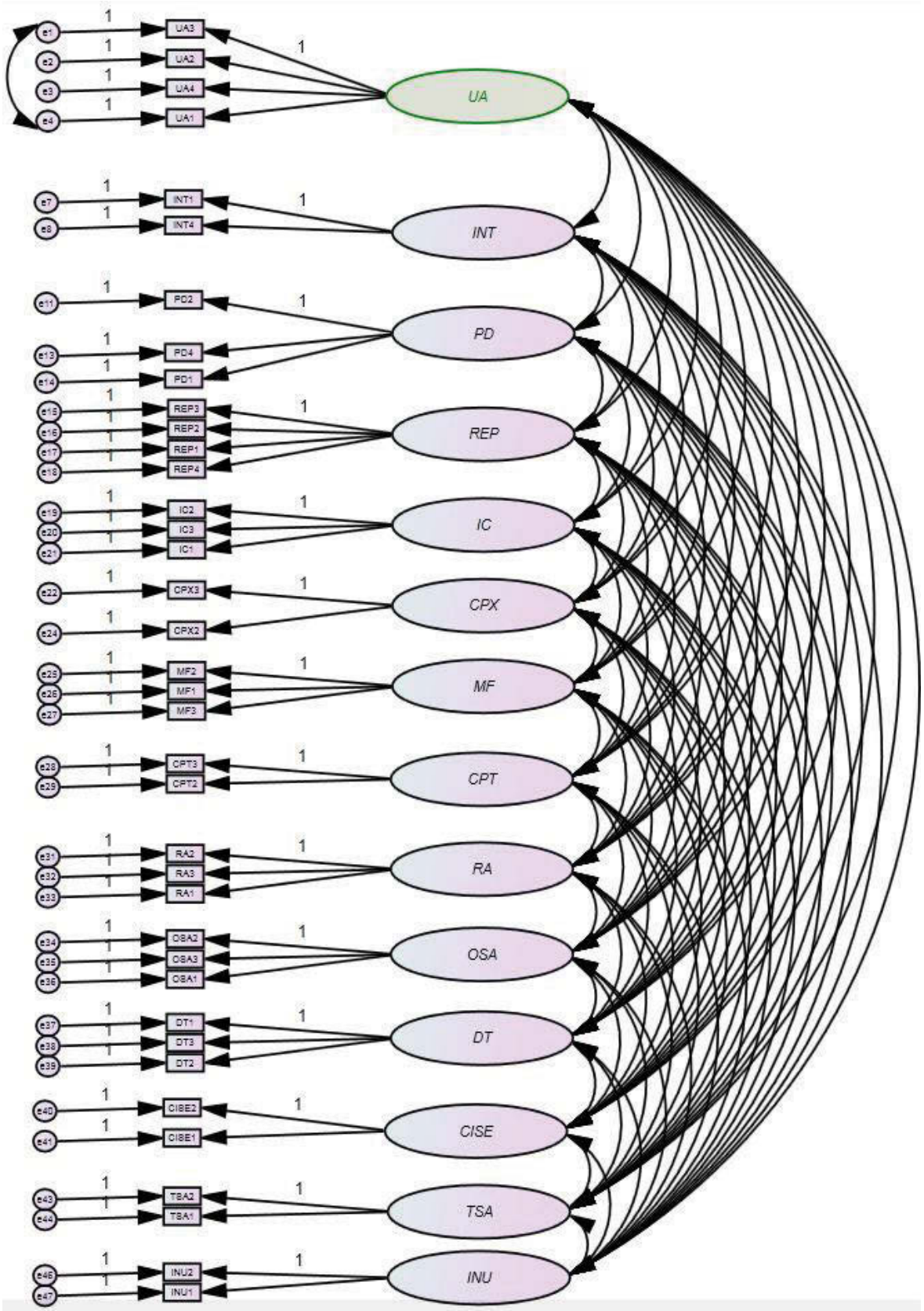


Figure 7.4 The final measurement model

The results of the likelihood ratio test for the final measurement model show the following: χ^2 of 1104.785, with degree of freedom df = 573; however, the probability is (P = 0.000) which is considered significant. The χ^2/df value is 1.928 < 3.0, which indicates good model fit. According to Byrne (2001), relying on the value of Chi-square is not recommended since it is sensitive to the sample size.

The model fit indices for the final measurement model are much better than those of the initial model. The study follows the recommended criteria by (Byrne 2001; Hair et al. 2006) in order to assess the fit of both initial and revised models. The values of the fit indices indicate a good fit to the data as shown in Table 7.1.

Table 7.1 fit indices for the initial and the final measurement model

Measure	Initial measurement model	Final measurement model
Likelihood ratio test		
CMIN/df ≤ 3	2.653	1.928
Absolute fit measures		
RMR ≤ 0.50	0.054	0.041
GFI ≥ 0.90	0.840	0.906
AGFI ≥ 0.80	0.809	0.878
Incremental fit measures		
IFI ≥ 0.90	0.873	0.941
TLI ≥ 0.90	0.852	0.926
CFI ≥ 0.90	0.871	0.940
Parsimonious fit measures		
RMSEA ≤ 0.80	0.055	0.041
Constructs No.**	14	14
Measures No.	47	39

** No change in the number of the constructs, but the name of one construct (UA_LSO → UA).

The first construct in the initial model was named UA_LSO because it included variables that are assumed to measure two different constructs (UA and LSO). After inspecting the loading values for the observed variables some of the variables that scored loading values <0.5 were deleted including LSO3 and LSO1. Therefore, as shown in Figure 7.4, the first construct was renamed to UA.

In addition, the construct validity concerns were checked. The results showed that the loading values for the remaining observed variables are greater than the recommended threshold (0.05) (Byrne 2001; Hair et al. 2006). The value of R^2 for the remaining

observed variables is also found to be greater than the threshold (0.5) (Byrne 2001; Hair et al. 2006) (See Appendix H).

Table 7.2 provides evidence of internal consistency, construct validity, and unidimensionality. The internal consistency for each construct was assessed using the composite reliability and shows that all the values are above the 0.70 threshold (Hair et al. 2006). Also, the average variance extracted (AVE) values also support the discriminant and convergent validity. All the values of AVE are greater than 0.50 which confirms the convergent validity (Hair et al. 2006). Moreover, the square root of the AVE for each construct was found to be more than 0.70 (see the diagonal line in the Table 7.2), and is greater than the construct's correlation with other constructs (Hair et al. 2006). Table 7.3 presents the remaining observed variables and their loading value in EFA and CFA. All the loading values are above the threshold (0.50) which indicates strong convergent validity. In addition, it shows the squared multiple correlation (SMC) for each variable as greater than 0.50 (Hofstede 1983) and the critical ratio (CR) was greater than +1.96 or less than -1.96 which is considered as indication that the variable has significant loading value on its construct.

Table 7.2 Composite reliability and Average variance extracted

	CR	AVE	TSA	UA	INT	PD	REP	IC	CPX	MF	CPT	RA	OSA	DT	CISE	INU
TSA	0.718	0.561	***0.749***													
UA	0.857	0.601	0.314	***0.775***												
INT	0.709	0.550	0.054	0.036	***0.741***											
PD	0.777	0.549	0.134	0.100	0.091	***0.741***										
REP	0.832	0.556	0.461	0.420	0.307	0.121	***0.746***									
IC	0.894	0.739	0.179	0.182	0.087	0.201	0.169	***0.860***								
CPX	0.814	0.686	0.096	0.188	0.137	0.235	0.207	0.467	***0.828***							
MF	0.877	0.705	0.011	0.086	0.123	0.293	0.075	0.054	0.167	***0.840***						
CPT	0.819	0.694	0.056	0.115	0.104	0.197	0.188	0.292	0.522	0.030	***0.833***					
RA	0.862	0.676	0.090	0.166	0.410	0.133	0.089	0.234	0.239	0.103	0.280	***0.822***				
OSA	0.820	0.603	0.411	0.272	0.263	0.267	0.323	0.322	0.215	0.201	0.198	0.242	***0.777***			
DT	0.800	0.572	0.294	0.159	-0.093	0.109	0.132	0.052	0.049	0.051	0.057	-0.039	0.151	***0.756***		
CISE	0.823	0.703	0.144	0.127	0.089	0.071	0.133	0.201	0.161	0.217	0.093	0.025	0.253	0.258	***0.839***	
INU	0.740	0.589	0.061	-0.001	0.457	0.053	0.078	0.038	0.075	0.021	0.120	0.239	0.117	-0.098	0.040	***0.768***

CR: Composite reliability.

AVE: Average variance extracted.

Table 7.3 EFA and CFA of the constructs

Constructs	**EFA**	**CFA**		
	Factor loading*	**SMC****	**Factor loading**	**CR*****
Disposition to trust (DT)				
DT1	0.838	0.589	0.764	f.p.
DT2	0.818	0.554	0.744	14.643
DT3	0.835	0.577	0.760	14.752
Organizational structural assurance (OSA)				
OSA1	0.763	0.589	0.767	17.084
OSA2	0.830	0.701	0.837	f.p.
OSA3	0.774	0.521	0.722	16.273
Technical structural assurance (TSA)				
TSA1	0.751	0.596	0.772	f.p.
TSA2	0.778	0.525	0.725	10.420
TSA3	*----------Removed in CFA----------*			
Reputation (REP)				
REP1	0.771	0.522	0.723	116.699
REP2	0.793	0.642	0.814	16.699
REP3	0.808	0.662	0.801	f.p.
REP4	0.682	0.637	0.730	14.351
Uncertainty avoidance (UA)				
UA1	0.686	0.553	0.743	15.405
UA2	0.789	0.565	0.751	17.726
UA3	0.797	0.792	0.890	f.p.
UA4	0.763	0.570	0.704	15.405
Power distance (PD)				
PD1	0.704	0.879	0.573	11.465
PD2	0.864	0.906	0.852	f.p.
PD3	*----------Removed in CFA----------*			
PD4	0.744	0.854	0.643	12.418
Individualism vs. collectivism (IC)				
IC1	0.829	0.628	0.792	22.373
IC2	0.868	0.762	0.873	f.p.
IC3	0.862	0.829	0.910	26.455
Masculinity Vs. Femininity (MF)				
MF1	0.871	0.653	0.808	21.888
MF2	0.892	0.821	0.906	f.p.
MF3	0.859	0.642	0.801	21.671

Long term orientation vs. short term orientation				
LSO1	*----------Removed in CFA----------*			
LSO3	*----------Removed in CFA----------*			
Relative advantages (RA)				
RA1	0.819	0.583	0.763	18.879
RA2	0.855	0.686	0.829	f.p.
RA3	0.846	0.758	0.871	20.936
Compatibility (CPT)				
CPT1	*----------Removed in CFA----------*			
CPT2	0.804	0.652	0.807	13.118
CPT3	0.806	0.737	0.858	f.p.
Complexity (CPX)				
CPX2	0.771	0.753	0.868	14.571
CPX3	0.851	0.619	0.787	f.p.
CPX4	*----------Removed in CFA----------*			
Computer and Internet self-efficacy (CISE)				
CISE1	0.855	0.883	0.953	8.537
CISE2	0.874	0.908	0.856	f.p.
CISE3	*----------Removed in CFA----------*			
Initial trust in IBS (INT)				
INT1	0.794	0.622	0.705	f.p.
INT2	*----------Removed in CFA----------*			
INT3	*----------Removed in CFA----------*			
INT4	0.791	0.602	0.776	10.701
Intention to use IBS(INU)				
INU1	0.835	0.685	0.828	7.922
INU2	0.836	0.578	0.702	f.p.

Notes: * Extraction method: principle component analysis; Rotation: Varimax;
**: SMC: Squared Multiple Correlation (R^2)
***: Critical Ratio (CR > 1.96 → significant at 0.05 level);
f.p.: fixed parameter for estimation.

In conclusion, the results of the final measurement model (CFA) support the unidimensionality of the constructs, and provide strong satisfactory level for discriminant validity and convergent validity. In addition, the value of fit indices evidenced good model fit. Therefore, the remained observed variables represented by the final measurement model were found to have good validity and good reliability to measure their constructs.

7.4. Structural Model Assessment

The first step of SEM is the measurement model in which the constructs validity and unidimensionality are verified, achieves an acceptable level of model fit indices. The second step in SEM analysis is to assess the structural model (SR). Therefore, the structural model is developed from the final measurement model by deleting the double-headed arrows between the exogenous variables and endogenous variables. Then, single-headed arrows replace the deleted arrows to represent the causal relationships between the constructs. Therefore, the entire study hypotheses are represented by the single-headed arrows. The full structural model is shown in Figure 7.5. The model specifies DT, TSA, OSA, REP, UA, PD, IC, MF, LSO, RA, CPT, CPX, and CISE as exogenous variables, while INT, INU are specified as endogenous variables.

The AMOS software was employed in this study to assess the structure of the model, where it utilized the same criteria that were used to assess the model fit indices. In addition to fit indices, the assessment used the standardized path coefficients, which represent the study hypotheses, to determine the accepted and the rejected hypotheses. Byrne (2001) studied the value of standardized path coefficients, which are known as critical ratios, and determined the threshold of *t-value* (CR< - 1.96, CR > + 1.96) to achieve significant level when $p < 0.05$. The following sections provide results of structural model assessment.

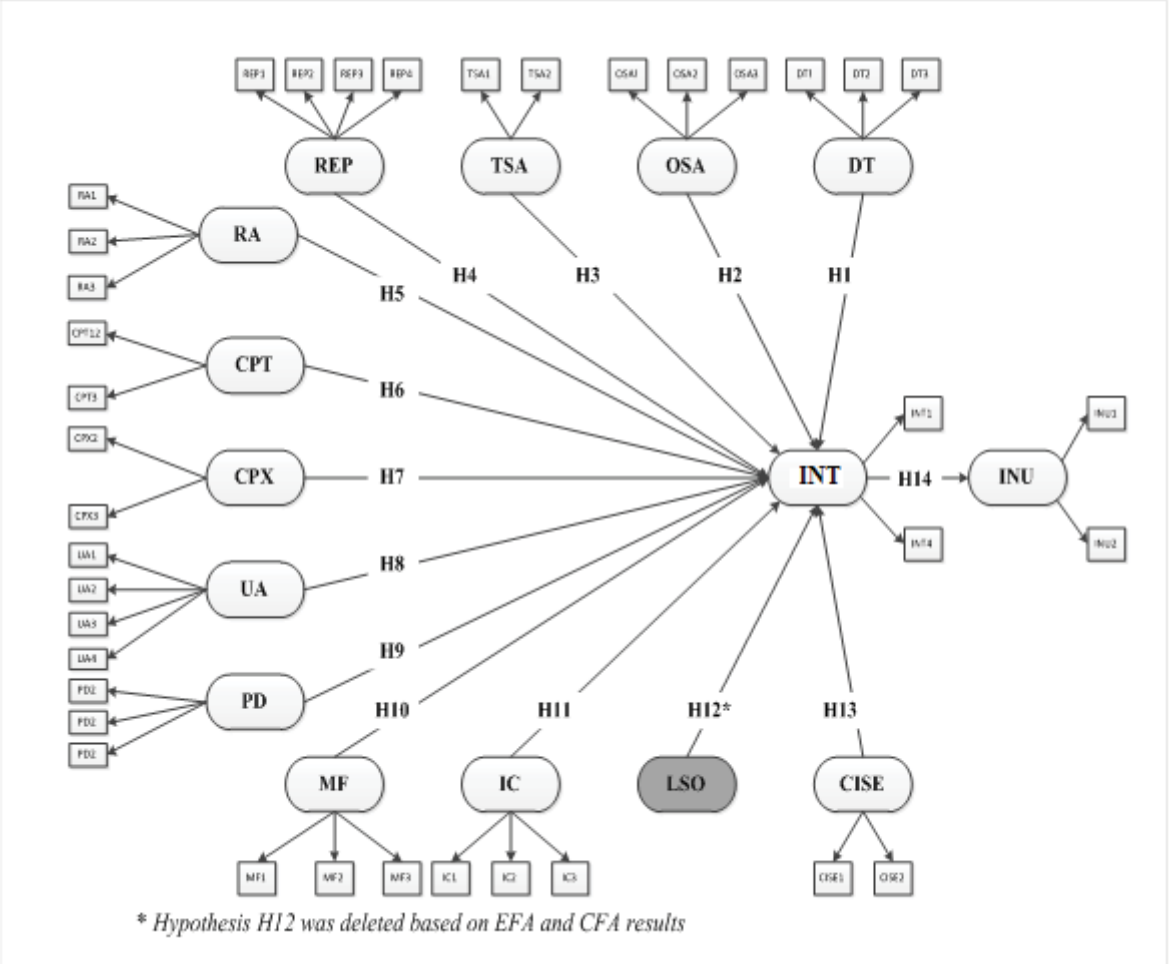


Figure 7.5 initial structural model

7.4.1. Initial results of structural model assessment

The initial results of the structural model assessment are reported and presented in Table 7.4 and Figure 7.6. The initial assessment revealed strong acceptable level of fit ($\chi 2$ = 1058.073, df = 549, $\chi 2$ / df = 1.927, RMR = 0.42, GFI = 0.907, AGFI = 0.881, IFI = 0.941, TLI = 0.927, CFI = 0.940, and RMSEA = 0.41). In addition, the results revealed that the coefficients value of six paths (known as critical ratio (CR)) were greater than + 1.96 or smaller than -1.96, and therefore considered significant (Byrne 2001).

The disposition to trust (DT) construct was found to have significant negative influence on initial trust in Internet banking services (INT) construct ($p < 0.05$); however, H1 was not supported because it hypothesized a positive influence on INT. In addition, a

significant path was found from the organizational structural assurance (OSA) construct and INT ($p < 0.05$); therefore, H2 was supported. However, the path coefficient value for the link between technical structural assurance (TSA) and INT was not significant; thus H3 was rejected. Moreover, H4 and H5 that represent reputation (REP) and relative advantages (RA) constructs were found to have significant path coefficient values ($p < 0.05$; therefore, H4 and H5 were supported. Both compatibility (CPT) and complexity (CPX) constructs are found to have non-significant influence on INT; thus, hypotheses H6 and H7 were rejected.

Adding to that, a significant link was found between the uncertainty avoidance (UA) construct and INT ($p < 0.05$); so H8 was significant. Hypotheses H9, H10, and H11, which represent the relationships between power distance (PD), masculinity vs. femininity (MF), and individualism vs. collectivism (IC) with INT respectively, were found not supported. H12 was dropped from the assessment because the observed variables that measure the construct LSO were deleted due to construct validity and unidimensionality concerns. The computer and Internet self-efficacy (ICSE) construct was found to have no influence on the INT construct; therefore, H12 was not supported.

Finally, the link between INT and intention to use Internet banking services (INU) construct was found significant and positive ($p < 0.05$), so H14 was supported.

7.5. Chapter Summary

The main aim of this chapter is to present the analyses procedures and results of this study. The chapter provided detailed description of the analysis technique SEM that has been used. The chapter started with an overview of the SEM technique and the analysis procedure which involved two main steps: measurement model and structural model.

The measurement model assessment was established based on the results of the EFA mentioned in the previous chapter. The process of assessing the measurement model proved that the specified measurement model touched adequate and acceptable levels of fit. Moreover, the convergent and discriminant validity, and unidimensionality of the constructs have been found to be acceptable.

Structural model assessment is the next stage of the SEM technique in which the hypotheses of the study were tested. The results indicated that the data supported the following relationships: H2: OSA→ INT, H4: REP→ INT, H5: RA→ INT, H6: UA→ INT, and H14: INT→ INU. Table 7.4 provides a summary of statistical results (such as path coefficient, C.R. value, and P value) of the hypothesized relationships. Finally, figure 7.6 showed the structural model with standardized path coefficient.

Further, the results of this chapter are going to be assessed by a group of experts in both academic and industry fields related directly to the field of this study. The experts will be interviewed to confirm, justify, or disagree with the obtained results. In addition, the experts will be asked to suggest any new ideas that will enrich the future work of this research. The content analysis approach will be employed to analyse the interviews.

Table 7.4 Structural equation modeling results

Hypothesis (Path)	Path coefficient	C.R. (t-value)	P value	Results
H1: DT → INT	-0.126	-2.062	0.039*	Not supported [a]
H2: OSA→ INT	0.180	2.709	0.007**	Supported
H3: TSA → INT	-0.097	-1.601	0.109	Not supported
H4: REP→ INT	0.350	5.078	0.000***	Supported
H5: RA → INT	0.405	6.778	0.000***	Supported
H6: CPT → INT	-0.047	-1.046	0.296	Not supported
H7: CPX → INT	0.028	0.53	0.596	Not supported
H8: UA → INT	-0.166	-2.947	0.003**	Supported
H9: PD → INT	0.001	0.035	0.972	Not supported
H10: MF → INT	0.009	0.342	0.732	Not supported
H11: IC → INT	0.055	-1.332	0.183	Not supported
H12: LSO → INT	----------Deleted path [b]----------			
H13: CISE → INT	0.052	1.325	0.185	Not supported
H14: INT → INU	0.464	6.524	0.000***	Supported

Model fit indices: $\chi 2 = 1058.073$, df = 549, $\chi 2$ / df = 1.927, RMR = 0.42, GFI = 0.907, AGFI = 0.881, IFI = 0.941, TLI = 0.927, CFI = 0.940, RMSEA = 0.41.

[a]: H1 hypothesized positive influence; however, the results indicate negative influence.

[b]: LSO was deleted in CFA due to construct validity and unidimensionality concerns.

*: significant when $p < 0.05$; **: significant when $p < 0.001$; ***: significant when $p < 0.000$.

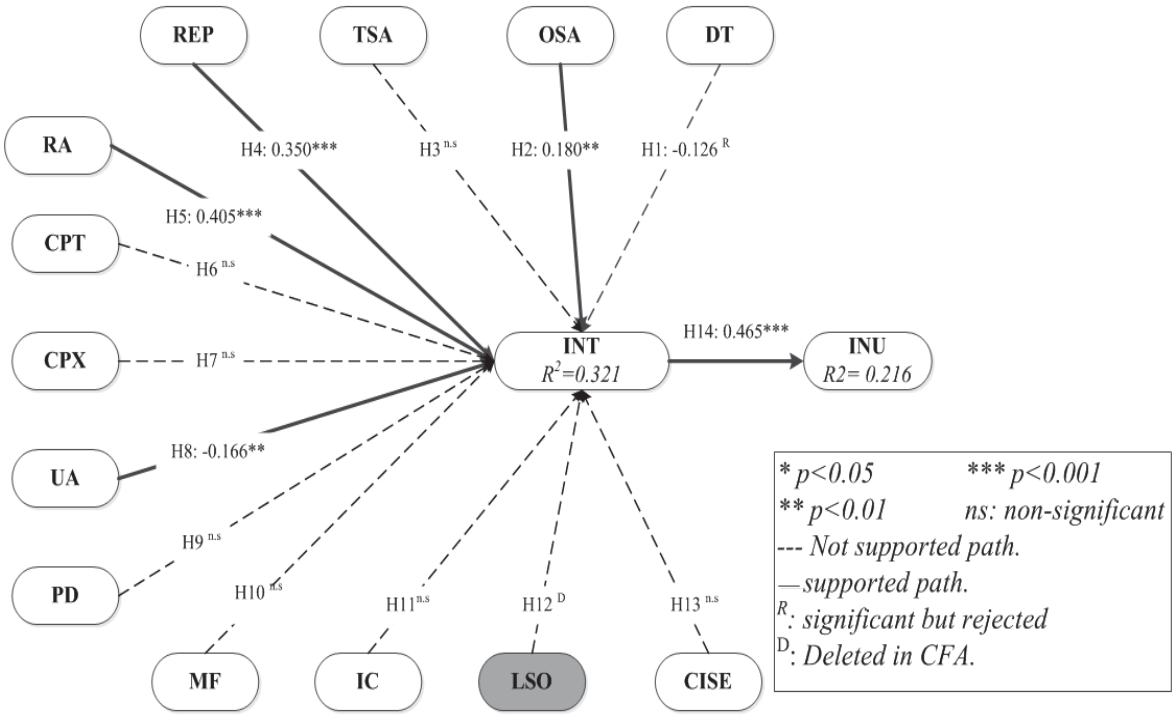


Figure 7.6 The structural model with standardized path coefficient

Chapter 8
Qualitative analysis

8.1. Introduction

The current chapter discusses the qualitative data collected using the semi-structured interviews. The content analysis approach is employed to analyse nine interviews. The main purpose of the current qualitative analysis is to evaluate and confirm the findings achieved in the quantitative study. The participants were chosen from both industry and academic fields. The chapter provides a thorough analysis for the interviews, discusses the descriptive summary of the responses, and includes some relevant statements made by the participants followed by their critical evaluation. Finally, the findings of the qualitative analysis were compared with those from the quantitative analysis in order to spotlight how the analysis supports the hypotheses.

8.2. Semi-structured interviews

A semi-structured interview is a research method used widely in the field of management information systems (MIS) (Alhujran 2009). In this study, nine semi-structured interviews were conducted to confirm the results of the quantitative study as presented in the previous chapter. The participants were asked to rank the obtained results (1 strongly agree to 5 strongly disagree) and adding their comments especially if

their rank is ≤ 3. They showed their interest in answering the questions and adding some valuable comments. All the responses were transcribed in a word sheet.

8.3. Analysis of the responses

In order to meet the ethical requirements, all the participants (experts) were labelled as following: Exp1, Exp2 …Exp9. The data collected from the participants was focused on confirming the findings of the quantitative study. The analysis of the interviews resulted with several themes in which every theme was found to represent a variable of the study model. Below is the discussion of each emerged theme.

8.3.1. Trust antecedents

This section presents the analysis of the variables that represent the antecedents of trust: disposition to trust (DT), technical structural assurance (TSA), organizational structural assurance (OSA), and reputation (REP). In addition, it discusses the results of the hypothesized relationships (H1, H2, H3, and H4) between those variables and initial trust in IBS (INT).

8.3.1.1. Disposition to trust

Eight out of nine participants supported the results obtained from the quantitative analysis. Exp1, Exp2, Exp4, Exp5, Exp7, Exp9 ranked the result of H1 with 4 (agree), Exp6 and Exp8 ranked it as 5 (strongly agree). Exp3 disagreed on the result and ranked it as 2. Exp1 and Exp2 gave explanations of the result and justified it. They argued that the items that measured DT focus on how humans have been trusted. In other words, they thought that trust in people does not necessarily reflect trusting Internet banking services (IBS). Exp2 added that the negative relationship obtained in the quantitative results was because of the context's culture that the study population belongs to. On the

other hand, Exp3 argued that the obtained results were due to the sensibility of the financial matters in such societies (Jordanian context).

The following are some of the participants' statements:

> *"Although Disposition to trust is an important factor in supporting initial trust, I think that the results obtained in this study are reasonable. That is because DT was measured on behalf of the people and not on the Internet banking services. Therefore, the used items didn't reflect the customer disposition to trust on IBS but on human being" (Exp1).*
>
> *"I agree with the result. Trusting people does not mean trusting IBS. So, I think rejecting the hypothesis acceptable. Regarding the negative relationship, I can understand that the participants belong to a collectivism culture which will affect their responses on the items that measure disposition to trust" (Exp2).*
>
> *"From my point of view, DT is an important element which represents the personality-based trust. Also, it is important in shaping the general belief of someone in unknown or new things. In the current study, I support how the researcher hypothesizes the relationship between DT and INT (positive relationship). As far as I know, the obtained results contradict most of the literature. The only meaningful justification for this result is the way that the respondents' understand initial trust in IBS. I believe the result would be positive if the issue wasn't related to financial matter" (Exp3).*

Based on the discussion and analysis above, the result of H1 got an average of (4.0). Therefore, there is evidence that the disposition to trust does not affect Jordanians'

initial trust in Internet banking services. So the result of this hypothesis is supported by the experts.

8.3.1.2. Organizational structural assurance

The relationship between OSA and initial trust in IBS was hypothesized to have a positive relationship in the quantitative study. Based on the analysis of the interviews, all the participants support the results. Exp4, Exp5, Exp7, and Exp9 support the result and ranked it as 4. Exp1, Exp2, Exp3, Exp6, Exp8 ranked the results as 5. Therefore, the average of the participants' rank is (4.55) which mean strongly agree. In their comments, they stated that OSA plays a crucial role in showing the banks' ability in saving customers' rights and applying the regulations and rules correctly. Some of them claimed that OSA can be used as first-hand knowledge to build up customers' trust.

Some of the participants' statements are mentioned below to support the discussion above:

> *"Very important factor that represents the actual dealing between the customer and the banks in which the customers can draw their general view for other facilities and services that the banks offer" Exp4.*

> *"An actual experience and source of knowledge that provides individuals with an impression to trust or not trust" Exp5.*

The above content analysis showed that the result of H2 which is obtained from the quantitative analysis is strongly supported and accepted. The result was ranked greater than or equal to 4 which reflects the participants' satisfaction.

8.3.1.3. Technical structural assurance

The results obtained for H3 that hypothesized positive relationship between TSA and INT in IBS surprised some of the experts. For instance, Exp6 disagreed with the results

and ranked it as (3). Exp6 argued that TSA is important to improve the customer satisfaction in the bank; therefore, trust the bank. Another view that was made by Exp8 focused on TSA from a pure technical aspect and ranked the results of H3 as (2). Exp8 argued that the customer should judge TSA based on the network protocol being used by the IBS provider and the existence of a third party protection stamp that guarantees the security and privacy of the customers. In addition, Exp9 supposed that the existence of TSA should enhance the initial trust, and be considered as strong evidence for the customer to convince them to use the IBS.

On the other hand, the remaining experts were supportive of the results. Exp1, Exp2, Exp3, Exp4, Exp5, and Exp7 ranked the results as (4). Exp1 accepted the results based on the argument that the vast majority of the examined population (Jordanian context) had never used IBS; therefore, it is expected that TSA did not affect INT in IBS.

Following are some of the participants' statements who supported the results

> *"...if the customers knew, noticed, or heard that X bank provides strong technical structural assurance, then their initial trust on the banks and its online services will be affected. However, this factor is not workable when the customers didn't use, or even browse the bank website or its online services. In conclusion, I believe that TSA doesn't affect customer's initial trust at least in the meantime and current situation" Exp1.*
>
> *"This hypothesis, in a theoretical manner, should be accepted. However, my experiences in a risk department and with our customers support the result that is TSA does not affect initial trust. Based on the given datum, our people are very precise and prefer to make every single financial transaction documented. They are very sensitive when the issue is related to*

money. Thus, they don't care if the Internet is secure or not because they have no idea or intention to use IBS" Exp2.

Some of the participants' statements who disagree with the results

"Technical structural assurance should affect the customer's initial trust in IBS. This is because that IBS itself mainly does rely on technological platform and web applications which must be legally assured and lawfully complied with the international standards which regulate and approve the assurance of all the technologies being implemented and used in order to provide trusted and acceptable IT services. Therefore, customers should judge the IBS security and safety based on what technical assurance solutions and standardizations are being implemented by the IBS provider. For example, a quick check by customers to determine the initial trust can be what HTTP protocol is being employed when logging on to the IBS website. If the protocol is not HTTPS, this can lead to lowering the initial trust if the customer has this type of personal measurement for ICT assurance" Exp8.

"I believe that the technical structural assurance is important for initial trust. Logically, a bank with strong structural assurance (organizational and technical) would have more evidence for the customers to say that: We are reliable and you can trust us"Exp9.

In conclusion, the average of the participants' rank for the result of H3 is (3.44) which means it is still acceptable. The analysis showed evidence that TSA is important and would positively affect INT if the customers tried IBS or other electronic services.

8.3.1.4. Reputation

The relationship between REP and INT is hypothesized as a positive influence of REP on INT. H4 represents this relationship and the quantitative results confirm it. The qualitative analysis strongly supports the quantitative findings. All the experts ranked the result as (5) or (4) with average of (4.55). The experts affirm the importance of REP especially when the context has a sort of collectivism. They linked REP with the bank's ability to satisfy the customers from all aspects. Therefore, the people will feel comfortable to use or at least to accept new services from their reputable banks.

The following statements are to support the discussion above

> *"Of course, reputation is very important to give indications to the customers about the bank. Banks with good reputation get more customers, and their offers and services are more acceptable and trustworthy than less reputable banks. In addition, a bank's reputation can be spread through the country depending on the customers themselves" Exp1.*
>
> *"Good reputation means that this bank is strongly recommended by the customers. Thus, this bank is trusted. Reputation can influence customers' decision to trust the services belonging to the reputable bank" Exp2.*
>
> *"Reputation is a basic antecedent for trust. Banks should maintain their reputation in order to gain customers using their current customers" Exp7.*

The above discussion and analysis showed evidence that REP has a positive impact on INT in IBS. In addition, some of the experts mentioned the importance of the human factor in transferring their impression and satisfaction about the banks to others.

8.3.2. Diffusion of innovation

This section presents the analysis of the variables that represent the diffusion of innovation, namely: relative advantages (RA), compatibility (CPT), and complexity (CPX). In addition, it discusses the results of the hypothesized relationships (H5, H6, and H7) between those variables and initial trust in IBS.

8.3.2.1. Relative advantages

This study hypothesized a positive relationship between RA and INT. Both quantitative and qualitative studies are in agreement and support this relationship. Exp1, Exp4, Exp5, Exp6, and Exp7 ranked the quantitative findings as (4). Exp2, Exp3, Exp8, and Exp9 ranked the result as 5. Their argument was formed around people understanding the benefits coming through applying the technology.

Below are some statements that support the discussion above

> *"I support the result of this hypothesis even if there is no actual use. People can draw their perception depending on the rapid development in technology in different areas and the suitability of that for people or companies. For instance, they found that technology is faster, easier, and effective than the previous ways" Exp3.*

> *"I think the respondents used their perception of the benefits coming with technology to respond to the study questionnaire, regardless of the knowledge they should have about IBS" Exp5.*

Participants' showed their support to H5. The rank average was (4.5) which indicate high agreement with the findings of the quantitative study. Therefore, these findings support the positive link between RA and INT in IBS.

8.3.2.2. Compatibility

All the participants support the quantitative findings of the relationship between compatibility (CPT) and INT. The qualitative study hypothesized (H6) a positive relationship which was not confirmed by the obtained quantitative data. Participants added some comments for CPT and complexity (CPX) variables. Therefore, some of their comments are added in the following section (8.3.2.3). The participants ranked the quantitative findings of H6 as (4.11) which is relatively high.

8.3.2.3. Complexity

The relationship between CPX and INT (H7) was hypothesized as a negative influence of CPX on INT. The quantitative results showed no influence of CPX on INT. The qualitative analysis revealed that CPX and CPT required actual use on IBS; therefore, the respondents can reflect their perception on behalf the e-services that have already been used. The measures used in the questionnaire were focused on people's belief but not the actual use. In conclusion, the qualitative analysis confirms the quantitative findings which were ranked as (4.12).

Some of the participants' statements supporting the above summary are:

> *"Customers should use IBS in order to give reasonable responses on CPT and CPX measures" Exp7.*

> *"...I agree with the results of compatibility and complexity of the IBS. Most of the banks' customers didn't use IBS before; therefore, it is difficult to comprehend those characteristics of the services even if the items that measured those variables are focused on the participants' belief and not the actual use" Exp1.*

"...those two items would have influence on trust more than initial trust. Based on my view, the compatibility and complexity of IBS is better to be examined if there is sufficient firsthand knowledge or actual use, but not customers' beliefs" Exp2.

"CPT and CPX are workable when we are looking for IT diffusion more than building trust in new innovation. However, I support examining them and support the results as well. I can explain the results depending on my knowledge on how the people in Jordan deal with the e-services. I conducted some researches which show that the actual use of the e-services in Jordan is very low. Consequently, since CPT and CPX required actual use more than beliefs, then I support that both variables will not affect the customer's initial trust in IBS" Exp3

Based on the above analysis, there is evidence that the relationship between CPT and CPX with INT would have influence if there is previous usage. Therefore, the results of the quantitative analysis for H6 and H7 were confirmed by the analysis of the qualitative data.

8.3.3. National culture dimensions

The following section presents the analysis of the variables that represent the national culture dimensions: uncertainty avoidance (UA), power distance (PD), individualism vs. collectivism (IC), masculinity vs. femininity (MF), and long term orientation vs. short term orientation (LSO). Moreover, the section discusses the results of the hypothesized relationships (H8, H9, H10, and H11) between those variables and INT. H12 was deleted before getting any results for it.

Considering the national culture in this study was welcomed by the participants. Some of the participants' sayings are mentioned below to show their interest in national culture:

> *"First of all, I'd like to thank you that you have included national culture in your research"Exp3.*
>
> *"Basically, our culture is important, as I explained before, not only for IBS intention to use but in all life aspects" Exp2.*
>
> *"An important addition to this research field is investigating the cultural impact. I believe that culture of our context has a critical and not ignorable impact on the way that people trust others (either people or online services) or accept such new technology" Exp1.*

However, most of the participants' arguments were focused on two dimensions: UA and IC. All of them affirmed the negative relationship between UA and INT; in turn, they confirmed and strongly supported the quantitative findings of H8. The result of H8 was ranked as (4.67). On the other hand, H11 (represents the relationship between IC and INT) was not supported as strongly as H8 where they ranked it as (3.56).

Some of the participants depended on their experiences in the field to disagree with the obtained results (Exp3, Exp5). However, other participants supported the quantitative results through analysing the context of the current study.

Some of the participants' statements supporting the above summary are:

> *"I believe that UA is the only dimension that should influence the human perception toward trust. Basically, UA is the thing that makes the person hesitates to do something" Exp3.*

> *"...regards H11 of IC dimension, I'd say that in our context, the people still hear from each other and specially their parents; however, due to the gap in education and the knowledge of using the technology between the young people and their parents, the influence of the parents' advice or words is not effectible because they can't justify or have experienced that" Exp1.*

> *"...IC may have more influence when it is not related to financial transaction. Some people get upset if you asked them about their salaries or their accounts balance. So I'm not surprised of the IC results. Therefore, I strongly support the results for the hypotheses H8 – H11" Exp2.*

> *"I think this is true as within the one same family some members there can have diverse personal opinions and perceptions based on their personality even if they have the same cultural background. And, when it comes to the forming of the initial trust of IBS, the same can apply" Exp8.*

On the other hand, sentences that did not support H11 include:

> *"I think as this factor is very important in the context of the study (Arab context), therefore, the result of this hypothesis does not make sense" Exp6.*

> *"As I know, this cultural dimension should have a strong effect on customers' behaviour (I showed that empirically in my PhD thesis)" Exp5.*

The participants also support the results of H9, and H10 which represent the relationship between PD, and MF with INT. The participants also argued that none of those dimensions are supposed to have an influence on INT. the average ranking for each hypothesis is as following: H9 is ranked as (4.11), and H10 as (4.33).

Some of the participants' statements supporting the above summary are:

> *"Power distance has more influence on the individual decision when the issue is related to organizations or to the managerial issue. In the case of this study, I don't think it will affect someone's initial trust (psychology)" Exp4.*

> *"Nowadays, both males and females have got their rights almost equally. The development in education and other sectors in Jordan enhance the ability of the females to choose whatever they want. So my opinion is the gender type of a person hasn't any effect on his/her decision to trust or not" Exp7.*

In summary, although two participants didn't support H11, the average ranking showed that it is still acceptable. In addition, Exp5 added that his research about this particular issue was conducted long time ago "…however, that was before 8 years….". So, a recommendation is given to examine this dimension in future research. Therefore, all the obtained findings from the quantitative analysis were confirmed.

8.3.4. Computer and Internet self-efficacy

The relationship between this variable and INT was hypothesized as a positive one. Computer and Internet self-efficacy (CISE) examined the previous experience that the customer has. The qualitative analysis showed that CISE is one of the important factors which can influence INT positively. However, some participants justified the findings of the quantitative analysis as being due to people sensibility of the financial transactions, so their CISE would not convince them to trust IBS. Moreover, one expert added that the CISE that the people have in this context is unsubstantial experience since most of their usage is bounded in social media, browsing news, and watching movies. Therefore, customer's CISE does not qualify them to trust IBS.

Some of the participants' statements supporting the above summary are:

> *"The results of this hypothesis surprised me. Self-efficacy in using computers and Internet should build a strong base and an impression on how the IBS would be even if the customer hasn't use IBS before" Exp1.*
>
> *"... I support the result of this hypothesis since the knowledge that our people have does not reflect the real knowledge (for example: the respondents claim that they knew how to deal with and use the computers and the Internet, but in fact, if you test them they will say that: "Ooooh sorry we use the electronic news website and facebook". Therefore, even if they are well educated and did some courses, that does not mean we can consider their knowledge as enough previous experiences to trust IBS" Exp2.*
>
> *"As I mentioned before, the problem is related directly to the people sensibility of the financial issues. It is an important variable to be examined and, logically, ICSE should influence the initial trust but not on financial matters" Exp3.*
>
> *"Obviously, this variable is supposed to have an impact on initial trust on Internet banking services. It plays a part as firsthand knowledge of online services and to what extent the customer is confident in using the online services. However, it is counted for you to examine this variable in your model even if you get unexpected results" Exp5.*
>
> *"I have no evidence in this point but I feel that computer and Internet self-efficacy have an effect on customer's initial trust. Computer and Internet as*

a communication method between customer and banks are a critical factor" Exp6.

"Lack of self-efficacy in computer and the Internet can lead to lack of self-confidence or self-trust to engage in IBS. This would subsequently prevent or concern the customer which can affect his/her initial trust in doing IBS" Exp8.

Based on the above discussion, the quantitative result of H13 is ranked as (3.22) which is sufficient to say acceptable. Although some of the participants did not support the results, the rank was more than 3. Moreover, some of the participants strongly recommended examining this variable again. Finally, the analysis showed evidence that CISE has no influence on INT in IBS.

8.3.5. Initial trust in IBS

In this study, the relationship between INT and intention to use IBS (INU) is hypothesized as a positive relationship. H14 is the hypothesis that represents the relationship. The qualitative analysis revealed that all participants have supported the quantitative findings of the positive influence of INT on INU. The average rank of this relationship is (4.78) which indicate that the qualitative findings strongly agree with the quantitative findings of this hypothesis. Exp1, Exp2, Exp3, and Exp6 stated that the positive relationship between trust or initial trust and intention to use is inevitable.

8.4. Summary of the qualitative analysis

Based on the above discussion, the vast majority of the quantitative findings were confirmed in the qualitative analysis. A few results from the quantitative analysis are found to have a different view in the qualitative analysis.

For instance, H3 which hypothesized a positive relationship between TSA and INT have not got strong support from the experts (only 3.44). In addition, the qualitative analysis showed another significant result of H11 in which the experts added some comments on it. H11 hypothesized negative relationship between IC and INT. Both quantitative and qualitative analysis was in agreement and did not support the hypothesis; however, the participants of the qualitative analysis have argued that such a factor is very important and recommended to be considered in future studies. The third case was H13 which hypothesized a positive relationship between CISE and INT. The quantitative findings did not support this hypothesis; however, the qualitative analysis revealed that this factor is important to the customers and should influence INT positively but did support the hypothesis. Although H13 has received many comments from the experts, it's ranking still acceptable (3.22). Also, the experts recommended re-examination of this relationship in future work.

Despite the evaluation and confirmation of the quantitative results, some of the experts suggested adding new factors to the model for future work. The experts support their suggestions with their experiences and expectations. Exp1 affirmed that the banks should have a plan to show their programs and new services properly. The expert explained that marketing IBS for the banks' customers would help to increase their trust. The expert mentioned different ways for that such as: preparing a video as a tutorial and put it on the banks' websites; the banks should print brochures to help the customers know the steps of using IBS; in the case of new customers, short training sessions that show how to use IBS could be run. Thus, the expert suggested adding marketing and training as independent variables.

Exp3 suggested including privacy and perceived risk issues. The expert recommended adopting the Smith model (Smith et al. 1996) which is known as the concern for information privacy (CFIP) model. According to Smith et al. (1996), CFIP model includes four dimensions: collection, errors, unauthorized secondary use, and improper access. In addition, the expert suggested adding perceived risk to mediate the relationship between initial trust and intention to use IBS.

8.5. Chapter summary

The current chapter discussed and analysed nine interviews conducted with academic and industry experts in the field of MIS and Banking. The main purpose of conducting these interviews is to confirm the outcomes of the quantitative study. Each interviewee represented his/her own view regarding the results. The analysis also showed that the interviews introduced some issues that were not investigated in the research model of this study, such as considering risk issue, advertising and marketing the e-service, considering the privacy issue, and providing training and awareness programs. In addition, the qualitative analysis indicated that some factors that have been found not significant should be examined again in the future work. The following chapter is to discuss the results of both quantitative and qualitative analyses and synthesizing them with the literature. Also, the next chapter aims to provide detailed guidelines for banks to stabilize customers' trust in IBS.

Chapter 9
Discussion and conclusion

9.1. Introduction

This chapter begins with discussing the findings of this research by answering the research questions. Section 9.2 discusses the contributions that this research has added to the existing body of knowledge. In section 9.3, the study provides implications that can help banks to enhance customer's initial trust. Section 9.4 shows the limitations of this study, presents recommendations and suggestions, and provides ideas for future research.

9.2. Responses to the research questions

This section presents the responses to the research questions developed in Chapter 1 and summarizes the findings of the study. In addition, the section synthesizes the study findings with the literature.

9.2.1. Research Question 1

Does customers' initial trust in IBS affect their intention to use IBS in the Jordanian context?

The findings of this study showed that customers' initial trust in IBS is found to have significant impact on their intention to use IBS. The results of the quantitative study revealed that the relationship between initial trust in IBS and intention to use is a direct and positive relationship. The qualitative study also confirmed the positive effect of initial trust in IBS on intention to use IBS.

The result of this relationship is found to be consistent with the results of empirical study conducted recently by Susanto et al. (2013), and found initial trust positively affects intention to use IBS. Moreover, the result is consistent with the findings of previous studies that examined the effect of initial trust on intention to use mobile banking (Kim et al 2009, Zhou 2011), intention to use e-government (Carter & Bélanger 2005; Alsaghier 2010), and e-commerce (Gefen & Straub 2004; Chen & Barnes 2007; Kim 2012).

9.2.2. Research Question 2

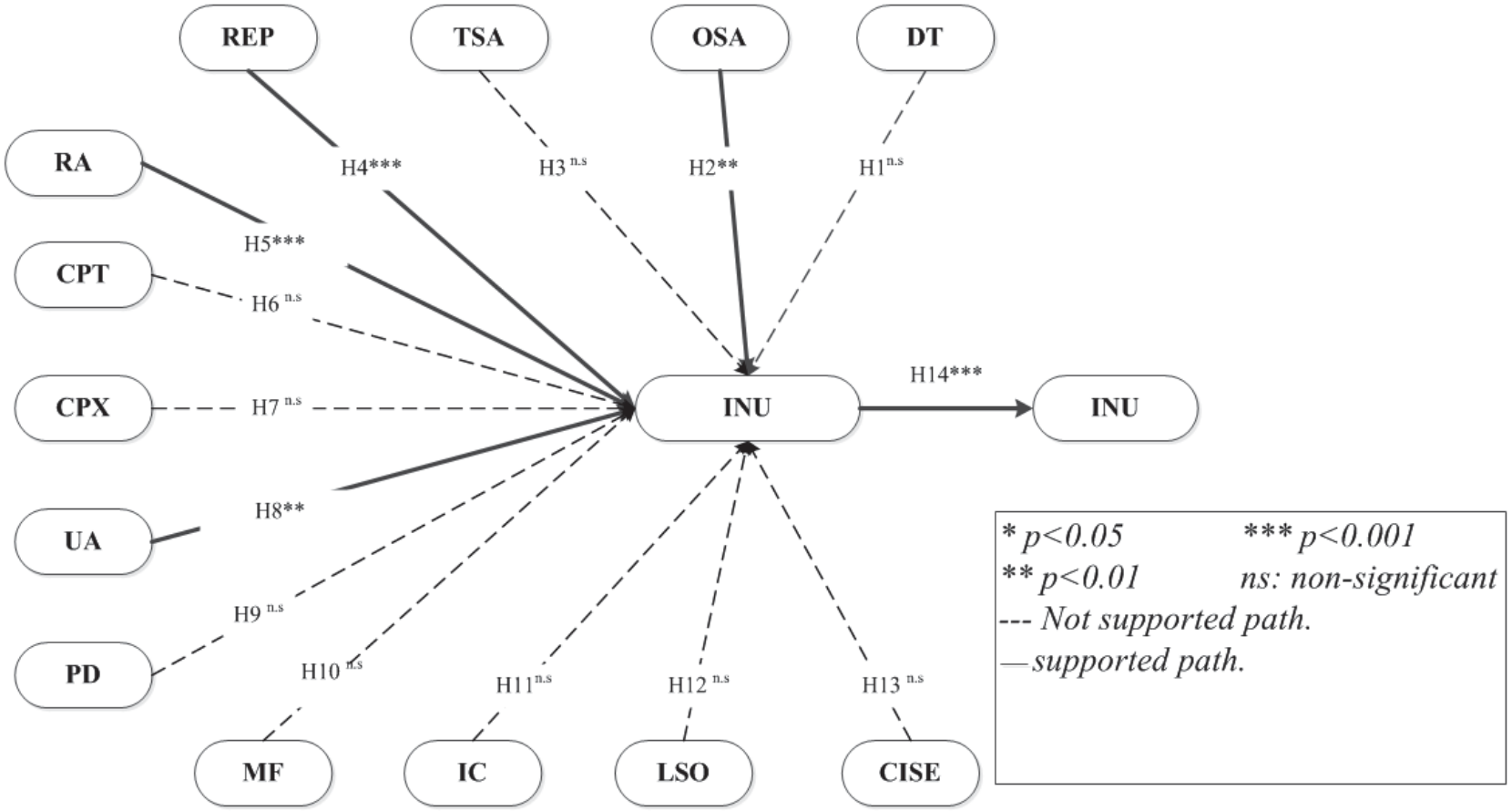
What are the factors that affect customers' initial trust of Internet banking services in the Jordanian context, subsequently, their intention to use IBS?

For the purpose of answering this question, an intensive and extensive literature review was conducted in (Chapter 3). Based on the knowledge obtained from the literature, a comprehensive model was developed and hypotheses were proposed (Chapter 4). The developed model includes the following factors: trust antecedents (disposition to trust, organizational structural assurance, technical structural assurance, and reputation), national cultural dimensions (uncertainty avoidance, power distance, masculinity vs. femininity, individualism vs. collectivism, and long term orientation vs. short term

orientation), diffusion of innovation theory (relative advantages, compatibility, and complexity), and computer and Internet self-efficacy.

In Chapter 5, a research instrument was developed and pre-tested using a pilot study. The research instrument was then used to survey the study sample and collect the data. Then, a rigorous quantitative analysis was applied to validate the main survey, describe the sample characteristics (Chapter 6) and to test the research model. The analysis used advanced statistical techniques to test the study hypotheses, such as the factor analysis and the SEM technique. The findings of the analysis showed that organizational structural assurance, reputation, uncertainty avoidance, and relative advantages were found to have a significant influence on initial trust in IBS and supported the hypotheses.

Nevertheless, a qualitative study was conducted to confirm the findings of the quantitative study (Chapter 8). Table 9.1 summarizes the findings for each factor as follows: quantitative study findings in column 1, qualitative findings in column 2, synthesizing with literature findings in column 3, and column 4 is to draw a conclusion about the factor. Figure 9.1 summarises the results of the quantitative study and explains the factors affecting customers' initial trust in IBS as resulted from the SEM analysis.



9.1 Research model with the final results

Table 9.1 Summary of the research findings

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Disposition to trust was hypothesized to positively influence customers' initial trust in IBS. The hypothesis was rejected since disposition to trust was found to negatively affect customer's initial trust in IBS.	The experts agreed that disposition to trust does not have positive influence on customers' initial trust in IBS. In addition, the negative influence of disposition to trust on initial trust was justified by the sample culture, and the low experience of the respondents in using such e-services.	The finding that disposition to trust does not affect customers' initial trust positively is found to be supported by the work of Koufaris & Hampton-Sosa (2004), Li et al. (2008), Zhou & Tian (2010), Azam et al. (2012), and Susanto et al. (2013).	Both quantitative and qualitative analyses of the current study have rejected the hypothesized positive influence of customers' disposition to trust on customers' initial trust in IBS.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Organizational structural assurance was found to have positive influence on customers' initial trust in IBS. Therefore, H2 was supported by the data (organizational structural assurance → customers' initial trust in IBS is significant when $p < 0.01$).	Critical and important factor that affect customers' initial trust in IBS. Applying the regulations and the rules of the bank creates safe environment and presents the banks' ability in protecting customers' rights. Therefore, it is one of the most important factors that establish initial trust among customers.	The finding of the current study falls in line with the findings of Li et al. (2008) and Yousafzai et al. (2005), which suggested that organizational structural assurance has a positive influence on initial trust.	Organizational structural assurance of the banks is very important and increases the customers' willingness to trust. It also is considered as first-hand knowledge that can be used by customers to build their trust.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
The SEM analysis showed that **technical structural assurance** does not affect customers' initial trust in IBS. The factor was hypothesized to influence initial trust positively (H3) and the data does not support it.	The SEM finding of this factor was supported by the qualitative findings. Some of the experts expected that technical structural assurance does not affect initial trust due to the low usage of e-services among the surveyed sample. However, other experts were disappointed and affirmed the importance of it.	These findings agreed with the findings of McKnight et al. (2002b) and Li et al. (2008. Nevertheless, these findings contradict many studies. Therefore, it was suggested to re-examine this relationship in the future work.	The finding of the SEM analysis and the qualitative analysis of the current study rejected the positive impact of technical structural assurance on initial trust in IBS.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Reputation has positive effect on initial trust in IBS (reputation → initial trust is significant when $p<0.001$), therefore the data supported H4. Based on the significant level of this relationship, it is evident that banks' reputation has a strong impact on customer's initial trust in IBS.	Reputation is considered as one of the milestones of initial trust building process. Banks' with high reputation have adequate satisfaction level that increases their customers' ability to accept new services or products.	These findings agree with the findings of the empirical investigation studies conducted by Li et al. (2008), Kim et al. (2009), Yousafzai et al. (2009), Eastlick & Lotz (2011), Susanto et al. (2013).	Banks' reputation has significant and positive impact on customer's initial trust in IBS.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Relative advantages positively influences customers' initial trust in IBS (relative advantages → customers' initial trust in IBS is significant when $p<0.001$), thus the data supports H5. The SEM analysis found that relative advantages generate the highest impact on customers' initial trust with path coefficient 0.405.	The qualitative analysis confirmed the SEM finding. People understanding of relative advantages of new technologies (convenience, efficiency, and effectiveness) positively affect their initial trust.	These findings support the work of Kim et al. (2009) and Susanto et al. (2013). They found that relative advantage of new e-services is very important for establishing customers' initial trust in that new e-service, in particular IBS.	Relative advantage is fundamental in obtaining customers' initial trust in IBS. It influences initial trust by showing the benefits associated with it.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Compatibility and **complexity** of IBS do not affect customers' initial trust. The data does not support hypotheses H6 and H7; therefore, both of them were rejected.	The SEM findings of both hypotheses were confirmed by the qualitative analysis. The experts agreed that compatibility and complexity would only affect customers' initial trust if the customers have had an actual use only. In addition, some experts justified the rejection to the low rate of using other e-services in general.	These findings contradict the work conducted by Lin et al. (2011) which is the only study that examined the impact of compatibility on customers' initial trust. The current study is the first one to examine the impact of complexity on customers' initial trust.	In the Jordanian context, compatibility and complexity do not affect customers' initial trust in IBS.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Uncertainty avoidance was found to have negative influence on IBS. H8 (uncertainty avoidance → customers' initial trust in IBS is significant and has negative relationship when $p<0.01$). The SEM analysis of data confirmed H8. Uncertainty avoidance is the only cultural dimension that influences the customers' initial trust in IBS.	The findings showed that uncertainty avoidance is one of the major issues that affect building initial trust. The qualitative study confirmed that this cultural dimension affects customers' initial trust negatively. Uncertainty avoidance is considered as a source of hesitation which leads in such context to not trusting unknown e-services.	These findings support the work of Doney et al. (1998), Gefen & Heart (2006), An & Kim (2008) and Vance et al. (2008) who found that individuals' initial trust is affected negatively when the societies are characterized by high uncertainty avoidance index.	Uncertainty avoidance negatively affects customers' initial trust in IBS. Uncertainty avoidance frustrates customers' initial trust building.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Power distance and **masculinity vs. femininity**; do not affect customers' initial trust in IBS. Therefore, the SEM analysis rejected H9 and H10. In addition, the hypothesis H12 that represents the relationship between **long term orientation vs. short term orientation** and customers' initial trust was deleted due to a validity concern.	The SEM findings for H9, H10, and H12 were confirmed. The confirmation of H9 (PD → INT) was justified based on the experts' assumption that power distance related more to organizational and managerial issues than psychological beliefs. In the case of H10 (MF → INT) was confirmed based on the reality that nowadays both males and females have the same rights. H12 was deleted.	These findings do not agree with the work of Gefen & Heart (2006). In the current study, the expectation was to find negative influence of them; however, both quantitative and qualitative findings confirmed that those dimensions have no influence on customer's initial trust.	Power distance, masculinity vs. femininity, and long term orientation vs. short term orientation do not affect customers' initial trust in IBS.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Individualism vs. collectivism does not affect customers' initial trust in IBS. H11 hypothesized that there is a negative impact of individualism vs. collectivism on customers' initial trust. The SEM analysis rejected H11 and confirmed that there was no effect of this factor on initial trust.	The qualitative analysis showed two contradictive views. The strong view was to support the SEM findings and justified that in explaining the current situation and the huge gap in education and using technology between young people and their parents or relatives (affecters). In addition, money issue sensibility leads the people not to listen to others advice. The other view disagreed with the results and suggested considering this factor in future work.	The literature findings showed that this factor affected initial trust (Doney et al. 1998; Gefen & Heart 2006; An & Kim 2008). Therefore, the findings of this study do not agree with the literature.	H11 (individualism vs. collectivism → customers' initial trust) was rejected and both analyses of this study confirmed there is no influence for this factor on customers' initial trust in the context of this study.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Computer and Internet self-efficacy does not affect initial trust in IBS. H13 hypothesized a positive influence of this factor on customers' initial trust in IBS. The SEM analysis found that no significant impact of this factor; thus, H13 was rejected.	The experts were divided between supporting and opposing. Supporters argued that the knowledge of using computers and Internet was not real and used only for social networks and browsing some information. In addition, people experiences collided with their sensibility of the financial issues. The opponents pointed to the role of this factor in building initial trust. As there are more supporters than opponents, the SEM finding was confirmed.	The factor influence on initial trust was not examined before; however, this factor was adopted from a study that examined its impact on the adoption of e-government in Jordan (Alomari et al. 2012).	Computer and Internet self-efficacy does not affect customers' initial trust in IBS in Jordan.

Quantitative findings	Qualitative findings	Synthesizing with Literature	Effect on initial trust in IBS
Initial trust in IBS positively influences intention to use IBS. The SEM analysis found that initial trust → intention to use = 0.465, $p < 0.001$), thus supporting H14.	The qualitative analysis supported the SEM finding. Most of the participants stated that the positive impact of customers' initial trust in IBS on their intention to use IBS is an inevitable result.	These findings extend the work of the following studies which examined intention to use or the adoption of online or mobile banking services (Kim & Prabhakar 2004; Kim et al. 2009; Yousafzai et al. 2009; Zhou 2011; Susanto et al. 2013). In addition, the findings support studies in other e-services such as the work of Bhattacherjee (2002), Wu & Chen (2005), Chen & Barnes (2007), and Alsaghier (2010).	Customers' initial trust in IBS has clear influence on the intention to use IBS.

9.2.3. Research Question 3 (Practical implications)

How can the findings of this research help banks in Jordan and other developing countries in similar circumstances to motivate customer's initial trust of IBS, subsequently, intention to use IBS?

The current study examined a set of factors from different disciplines in order to create an accurate depiction of the issues related to customers' initial trust in IBS. Those factors were aggregated to compose a comprehensive research model. The model was then assessed using advanced statistical analyses and a rigorous validation process. Adding to that, the outcomes of the study were confirmed and justified by nine academic and industrial experts in the field of MIS and banking sector. Therefore, the final results of this study can be offered as implications that could help banks to enhance their customers' initial trust in IBS, subsequently, increasing their willingness to adopt IBS. The following are an explanation of these implications.

Banks' decision and policy makers should consider the factors that affect customers' initial trust in IBS; therefore, foster the initial trust and, ultimately, improve the rate of using IBS. The study showed that organizational structural assurance, reputation of the banks, relative advantages of IBS, and uncertainty avoidance are the most important factors that affect customers' initial trust in IBS. In addition, the experts added other factors which they believe are critical in increasing customers' initial trust in IBS, such as: customers' awareness of the service, as well as, customers' familiarity with the service. Moreover, the experts suggested reconsidering some factors in future work even though the collected data did not support them. These factors are: technical

structural assurance, individualism vs. collectivism, and computer and Internet self-efficacy.

The study targeted developing countries, in particular Jordan, because of the fact that online trust is considered one of the major barriers that frustrate the adoption of new IT/IS in Jordan (Al-Sukkar 2005; Alhujran 2009; AL-Majali 2011; Alomari et al. 2012) or other developing countries (Alsaghier 2010; Azam et al. 2012; Khadraoui & Gharbi 2013). Therefore, the study outcomes are supposed to help and support banks in Jordan and other developing countries that shared the same circumstances. They could reformulate or modify their strategies in order to boost their customers' initial trust in IBS; thus, grow the adoption rate of IBS to an adequate level.

The outcomes recommended that banks need to pay attention to their structural assurance (both organizational and technical) and reputation. They should show-up their ability in offering a safe and standardized environment in which customers' feel assured that their transactions are performed smoothly and correctly, and their money and information are secured and protected. In addition, banks are recommended to maintain and improve their reputation through offering the best customer services practices in the branches, and marketing themselves and their strengths for existing and new customers.

Findings also showed that the customers' perception of IBS relative advantages have significant positive impact on their initial trust in IBS. Therefore, it is a vital priority for the banks to introduce IBS for their customers and clarify the advantages of using it through adopting a marketing strategic plan that includes: introducing IBS for new customers, using video, audio, and social media advertisements, and brochures distribution for existing and expected customers.

Furthermore, the outcomes revealed that the cultural dimension of uncertainty avoidance had significant impact on customers' initial trust in IBS. In addition, the experts also pointed to the importance of another cultural dimension (individualism vs. collectivism) on initial trust. Since culture is very hard to be changed or modified, banks should work to relieve the ambiguity about IBS through offering training promotion sessions; or developing videos presenting customers who already have tried IBS and let them talk about their experience.

In conclusion, banks are recommended to conduct awareness, promotion, and training campaigns to convey to customers information about the banks' ability to manage, facilitate, and guarantee the security of their transactions and protection for their credentials. Banks are also recommended to inform customers about the relative advantages of IBS, and to provide IBS training sessions, in order to ambiguity about IBS. Further, due to the collectivism context of the study, customers are anticipated to spread the information to other people.

9.3. Academic contributions of this study

Despite the knowledge provided by previous research studies about online initial trust, the majority of those studies focused on investigating online initial trust in developed countries (Susanto et al. 2013). The literature showed few studies that investigate online trust in developing countries. Those previous studies investigated initial trust in the context of e-government (Alsaghier 2010; Abu-Shanab & Al-Azzam 2012), e-commerce (Kassim & Abdulla 2006; Azam et al. 2012; Al-Dwairi 2013; Khadraoui & Gharbi 2013) and in online initial trust (Khadraoui & Gharbi 2013). However, none of those studies investigated the initial trust of online banking. In addition, this study is

distinguished by investigating the impact of national culture dimensions on customers' initial trust. The current study aimed to address the critical factors influencing customers' initial trust in IBS in the developing countries, and Jordan in particular.

For the purpose of filling the above mentioned research gap, the current study proposed and examined a comprehensive research model which is developed based on an intensive review of the literature. The model was essentially developed based on well-established initial trust model and by concentrating on the online banking context. The model also included factors that influence initial trust in different e-services (e.g. e-government, e-commerce) and different contexts (i.e. developed countries). In addition, the study considered the national culture of Jordan as an important player in building individuals' initial trust; thus, the model encapsulated national cultural dimensions as potential factors to affect individuals' online initial trust.

The examination of the proposed model provided empirical findings in which the most important factors that affect initial trust in IBS and subsequently intention to use IBS were determined. The findings were also validated by qualitative analysis based on interviews of nine experts. This study provides significant contributions to the body of research of online initial trust, specifically IBS. The following points summarize the contributions of this thesis.

1. The significant role of customers' initial trust in IBS and their intention to use IBS was proven quantitatively and qualitatively. This addresses the first research question, and supports the findings of previous studies that trust is one of the most important impediments of using online banking (Kim & Prabhakar 2004; Kim et al. 2009; Zhou 2011; Susanto et al. 2013).

2. The study extracted a group of critical factors based on extended literature review from multiple discipline such as: psychology (initial trust antecedents), socio-technology (diffusion of innovation theory), sociology (national culture), and management information systems. Then, those factors were used to build a comprehensive research model which proposed relationships between the factors in order to provide a maximal view on initial trust in IBS. The study also validated and tested the research model quantitatively and qualitatively.
3. The study applied a rigorous research design that lead to the creation of reliable and validated measurement scales for the identified factors. Three main stages were conducted: pilot study (to validate the research instrument), the main study (which employed sophisticated analytical analyses such as EFA and SEM in which the measurement scales have been validated and the hypotheses have been tested), and the qualitative study (used the content analysis techniques for nine interviews to validate and confirm the results of the quantitative analysis).
4. The empirical validation of uncertainty avoidance provided evidence of the significant role that the national culture has in such context (Developing countries and in particular Jordan). The findings showed the negative impact of uncertainty avoidance on initial trust in IBS. Previous research of online trust or online initial trust in developing countries has ignored national culture. However, this study shed light on the effect of these social factors.
5. Finally, the study yields a set of benefits. Practically, the study provides the banks with justifiable recommendations (see section 3.2.4) in which customers' initial trust in IBS might be improved. Theoretically, the study suggested future research directions in the field of online initial trust based on the analysis of the

semi-structured interviews. In addition, validated measurement scales were provided.

9.4. Limitations and direction for future research

Although the study adopted a thorough research design and rigorous statistical analyses, there are several limitations which arose during the period of the study. In addition, the study outcomes increase the opportunities for future research. The limitations and future directions of this researched are summarized below:

1. The study followed the cross-sectional research design in which it was conducted in a specific and small period of time. Since the time is an important factor in trust theories, future research is recommended to adopt a longitudinal research design. Thus, the research can be conducted in different slices of time which allow the researchers to draw better understanding and observations about the phenomena.
2. The study employed the survey as the main instrument for the data collection. Since the subjects have not used IBS before, some of the measurement scales (e.g. TSA, CPT, and CPX) were misunderstood even though they were adopted from the literature; ultimately, this resulted in some inaccurate responses. For any future study, it is recommended to adopt a quasi-experimental approach in which the subjects will get actual experience before responding to the survey.
3. In addition, the study adopted the Hofstede's national culture framework. Although many researchers adopted and cited it (Leidner & Kayworth 2006), others have criticized it due to methodological weaknesses (McSweeney 2002).
4. The sampling approach of this study can be considered as one of its limitations. Because of the time and resource constraints, the random sample approach could

not be applied. Future research should attempt to apply the random sampling approach, and increase the number of the interviews. This will improve the generalisability of the outcomes, as well as, the validation of the model.

5. The last limitation is related to the geographical location of the study, i.e., Jordan. The main study was conducted in Jordan; however, the qualitative study participants were from different Arab countries (Jordan, Saudi Arabia, Algeria, and Libya). Due to some difficulties, it was hard to get experts from other. Therefore, it is not necessary that the findings of the current study be generalized or applicable to all developing countries. In summary, researchers in other developing countries may overcome this limitation by adopting the developed empirical model to strengthen and validate the outcomes of this study.

9.5. Conclusion

Despite of the importance of this topic for many developing countries, only few studies currently exist about the formation of initial trust in developing and Arab countries. The current study attempts to fulfil the need of conducting such a research in the context of Arab countries to bridging the gap between developing and developed countries, in particular Jordan. The study articulates the issues that influence customer's initial trust in IBS in Jordan.

This study examined a unified model of initial trust formation in IBS in the context of Jordan. The research model integrates a combination of trust antecedents, national culture, diffusion of innovation theory (DOI), and computer and internet self-efficacy. The empirical investigation of this model enhances the understanding of initial trust formation in developing and Arab countries.

Findings of this study have significant implications for the academic and practical fields. Previous studies that deal with online initial trust in developing countries have not focused on the cultural influence. Also, this collection of factors has not been examined in a comprehensive framework before. Based on the findings, the study provides important recommendations for the banks to improve customer's initial trust in IBS, ultimately; improve the adoption of IBS.

Finally, this study could be a useful resource and a base for future research concerned with online initial trust. In addition, the model can be beneficial for research studies concerned with the adoption of other online services. Accordingly, generalization of the research model to other eServices/countries is possible and could open the door for new research.

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Appendices

Appendix A: summary of literature

Study	Trustee	Trusting antecedents	Empirical results	country
Li et al. (2008)	Trust in NID sys	Faith in humanity and trusting stance.	Not-sig	U.S.A
		Cognitive-Reputation.	Sig. effect on trusting beliefs	
		Calculative-cost/benefit.	Sig. effect on trusting beliefs	
		Org. situational normality.	Sig. effect on trusting beliefs.	
		Org. structural assurance.	Not-sig	NID system.
		Tech. situational normality.	Not-sig	
		Tech. structural assurance.	Not-sig	

Study	Trustee	Trusting antecedents	Empirical results	country
Eastlick and Lotz (2010)	Trust in unfamiliar online retailer	perceived online retailer reputation	Sig. effect on trusting beliefs	U.S.A Online retailer.
		Situational normality of online Env.	Not-sig	
		Information privacy concern.	Sig. effect on trusting beliefs	
Kim and Prabhakar (2004)	Trust in the electronic channel.	Propensity to trust	Sig. effect on trusting dimensions	U.S.A Internet Banking.
		Word Of Mouth-Relational Content	Sig. effect on trusting dimensions	
		Tie Strength	Not sig.	
		Structural Assurance.	Sig. effect on trusting dimensions	
Susanto et al. (2013)	Trust in Internet Banking.	Relative benefits.	Sig. effect on initial trust. Sig. effect on usage intention.	Indonesia. Internet Banking.
		Perceived security.	Sig. effect on initial trust. Sig. effect on usage intention.	
		Perceived privacy.	Sig. effect on initial trust. Not-Sig. on usage intention.	

Study	Trustee	Trusting antecedents	Empirical results	country
		Trust propensity.	Not- sig. on initial trust.	
		Company reputation.	Sig. effect on initial trust.	
		Website usability.	Sig. effect on initial trust. Sig. effect on usage intention.	
		Government support.	Sig. effect on initial trust.	
Yousafzai et al. (2005).	Trust in e-banking	Institutional-based trust	Sig. effect	U.K. e-banking
		Security policy.	Sig. effect on trusting beliefs.	
		Privacy policy.	Sig. effect on trusting beliefs.	
		Legal & regulatory compliance.	Sig. effect on trusting beliefs.	
		Trusted third party verification.	Not-sig.	
		Guarantees.	Sig. effect on trusting beliefs.	
		Testimonials.	Not-sig.	
		Website design and quality.	Sig. effect on trusting beliefs.	
		Brand identification.	Sig. effect on trusting beliefs.	

Study	Trustee	Trusting antecedents	Empirical results	country
McKnight et al. (2002b)	Trust in legal advice website	Faith in humanity.	Sig. effect on Institutional based. Sig. effect on trusting beliefs. Not-sig on trusting intention.	U.S.A Legal advice.
		Trusting stance.		
		Structural Assurance.	Not-sig on trusting beliefs. Not-sig on trusting intention.	
		Situational Normality.		
Yousafzai et al. (2009)	Trust in Internet Banking adoption	Perceived trustworthiness. (Ability, integrity, benevolence).	Sig. effect on trust. Sig. effect on Perceived security. Sig. effect on Perceived privacy.	Scotland. Internet Banking
		Perceived security.	Sig. effect on trust.	
		Perceived privacy.	Sig. effect on trust.	
McKnight et al. (2002a)	Trust in online (legal advice) vendor.	Perceived vendor Reputation.	Sig. effect on trusting beliefs. Sig. effect on trusting intention.	U.S.A Legal advice.
		Perceived site quality.	Sig. effect on trusting beliefs. Sig. effect on trusting intention.	
		Structural assurance of the web	Sig. effect on trusting beliefs. Sig. effect on trusting intention.	

Study	Trustee	Trusting antecedents	Empirical results	country
Li et al. (2006)	Trust in NID systems.	Faith in humanity.	Sig. effect on Institutional based. Sig. effect on trusting beliefs.	U.S.A
		Trusting stance.		
		Structural assurance.	Sig. effect on trusting beliefs.	NID system.
		Situational normality.		
Wu et al. (2010)	Trust in online vendor	Disposition to trust	Not-sig. on initial trust.	U.S.A E-vendor Web site.
Azam et al. (2012)	consumer trust and satisfaction to intention to purchase online	Disposition to trust	Not-sig. on trust.	China
		Privacy	Sig. effect on trust	
		Security	Sig. effect on trust	E-vendor Web site.

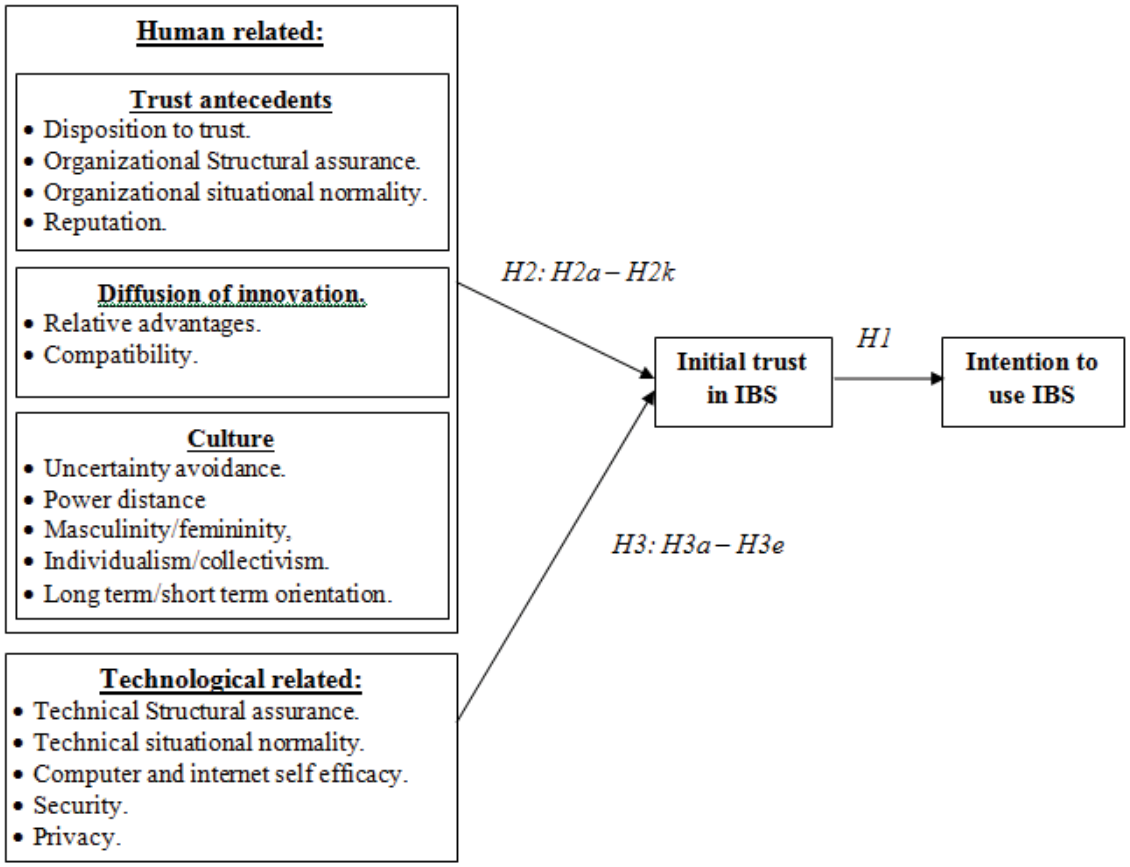
Study	Trustee	Trusting antecedents	Empirical results	country
Kim et al. (2009)	Trust in mobile Banking adoption	Relative benefits.	Sig. effect on initial trust. Sig. effect on intention to use.	Korea Mobile banking adoption.
		Personal propensity to Trust.	Sig. effect on initial trust.	
		Structural assurance in mobile banking.	Sig. effect on initial trust.	
		Firm reputation. (mobile phone provider)	Not-Sig. on initial trust. Not-Sig. on intention to use.	
Lin et al. (2011)	Initial investor trust in mobile brokerage service.	Disposition to trust	Sig. effect on initial trust.	China Mobile brokerage service adoption.
		Structural assurance.	Sig. effect on initial trust.	
		Perceived ubiquity.	Sig. effect on initial trust.	
		Compatibility.	Sig. effect on initial trust.	
		Perceived information quality.	Sig. effect on initial trust.	

Study	Trustee	Trusting antecedents	Empirical results	country
		Perceived reputation. mobile phone provider)	Not-Sig. on initial trust.	
		Perceived size.	Not-Sig. on initial trust.	
Zhou (2011)	The effect of initial trust on mobile banking user adoption.	Trust propensity	Sig. effect on initial trust.	China Mobile banking adoption
		Structural assurance	Sig. effect on initial trust.	
Zhou and Tian (2010)	Initial trust in an online Vendor.	Disposition to Trust	Not-Sig. on trusting beliefs	China Online shopping
		Perceived Web Site Quality.	Not-Sig. on ability. Not-Sig. on integrity. Not-Sig. on benevolence.	
		Perceived Corporate Image	Sig. on ability. Sig. on integrity. Sig. on benevolence	
		Perceived Reference Power	Sig. on ability.	

Study	Trustee	Trusting antecedents	Empirical results	country
			Sig. on integrity. Not-Sig. on benevolence.	
		Perceived Security	Not-Sig. on ability. Sig. on integrity. Sig. on benevolence.	
Kassim and Abdulla (2006)	Trust-relationship commitment model to an Internet banking setting.	Shared value.	Sig. effect on trust	Qatar Internet banking
		Opportunistic behavior.	Sig. effect on trust	
		communication	Sig. effect on trust	
Lean et al. (2009)	factors that influencing the intention to use e-government service	Perception of online authentication	Not-Sig. effect on trust	Malaysia e-gov.
		Perception of online non-repudiation	Sig. effect on trust	
		Perception of online privacy protection.	Sig. effect on trust	

Study	Trustee	Trusting antecedents	Empirical results	country
Gefen et al. (2003)	Trust on online vendor.	Calculative-based	Sig. on trusting beliefs	U.S.A Online shopper
		Structural assurance.	Sig. on trusting beliefs	
		Situational normality.	Sig. on trusting beliefs	
		Knowledge-based familiarity	Not-Sig. on trusting beliefs	
Gefen and Straub (2004)	Trust in online vendors.	Disposition to trust.	Most of the dimensions of e-Trust were affected.	U.S.A Amazoon.com
		Knowledge- Familiarity with website	Most of the dimensions of e-Trust were affected.	
Thaw et al (2009)	Trust in online shopping	Perceived information security.	Positively related	Malaysia
		Perceived information privacy.	Not related	
		Trustworthiness of Web Vendor	Positively related	

Appendix B: Initial research model.



Appendix C: pilot study results explanation

The correlation means the level of association between variables or between the items which measuring the same variable. The Pearson's correlation coefficient reflects the strong of the linear relationship between paired data. Statistically, it denoted by r ($-1 \leq r \leq +1$). After collecting the data for the pilot study, the researcher started analysing it and the Pearson's correlation test has been conducted. Sekaran (2003, p 314) said "if correlations were higher (say, .75 and above), we might have had to suspect whether or not the correlated variables are two different and distinct variables ..." According to Sekaran (2003) if the correlation is greater than .75, then the variables might not considered as two different variables. The following findings are the most important from the correlation matrix between the variables:

- The correlation coefficients between Technical structural assurance (trust in Internet), Security, and Privacy are greater than .75(.852 and .834 respectively).

Based on the above discussion, the researcher combines technical structural assurance, security, and privacy into one variable for the following reasons.

- To avoid the redundancy in the variables (lead to multicollinearity).
- Reduce the number of the items so the respondent will not feel boring while answering the questionnaire.

Be consistent with prior research claims and results. For instance, Carter and Belanger (2005), Alhujran (2008), and Alomari (2011) used the construct Trust in the Internet instead of Technological structural assurance. Moreover, they define it as security and privacy of the Internet.

Appendix D: The study cover letter and questionnaire – English version

INFORMATION SHEET

Factors influencing customer's initial trust of Internet banking services in Jordanian context

WHO IS DOING THE RESEARCH?

My name is ALI ODEH MUSTAFA AL-JAAFREH and I am a PhD student at University of Technology, Sydney (UTS). Australia. My supervisor is Dr AHMAD AL-ANI and Daniel Chandran. I am conducting a survey as partial fulfillment of requirements for the degree of Doctor of Philosophy in Information systems in University of Technology Sydney.

WHAT IS THIS RESEARCH ABOUT?

This study is to find out about a customer's initial trust of Internet banking services (IBS) in Jordanian context. Also, to determine the factors that influence customer's initial trust in IBS and then intention to use it. We hope that banks in Jordan can benefit from the result of this study, and increase the number of IBS users in Jordan.

IF I SAY YES, WHAT WILL IT INVOLVE?

I will ask you to answer questionnaire which take about 20 minutes to fill it. This survey seeks information about initial trust of Internet Banking Services in Jordan. Also, it has some questions about you such as: Gender, income, education level, and so on. Please be assured that your responses will be used only for scientific research purposes. You can ask a copy of the study results by contacting the researcher (Ali Aljaafreh) on the following email: Ali.O.Aljaafreh@student.uts.edu.au.

ARE THERE ANY RISKS/INCONVENIENCE?

There are no risks because the research has been carefully designed.

WHY HAVE I BEEN ASKED?

You are able to provide us the information I need to find out about which of the study factors going to affect your initial trust (as a bank customer) of Internet banking services, and /or intention to use Internet banking services. The success of this study depends in your participation and responses. You can change your mind at any time and stop completing the survey without consequences.

DO I HAVE TO SAY YES?

You don't have to say yes.

WHAT WILL HAPPEN IF I SAY NO?

Nothing. I will thank you for your time so far and won't contact you about this research again.

IF I SAY YES, CAN I CHANGE MY MIND LATER?

You can change your mind at any time and you don't have to say why. I will thank you for your time so far and won't contact you about this research again.

WHAT IF I HAVE CONCERNS OR A COMPLAINT?

If you have concerns about the research that you think I can help you with, please feel free to contact me: email Ali.O.Aljaafreh@student.uts.edu.au or Phone no.: +61 2 9514 9099.

If you would like to talk to someone who is not connected with the research, you may contact the Research Ethics Officer on 02 9514 9772, and quote this number UTS HREC 2013000665.

Thank you for your participation to complete this survey. This study will investigate initial trust of Internet Banking Services in Jordanian culture.

Internet Banking Services (IBS): the customer's ability to access their bank accounts and complete all their banking transactions through banks websites without the need for a physical presence in physical places of banks.

For the first section questions just put a tick in the square ✓ that corresponds to your answer as this example:

What is your Gender?

☑ Female ☐ Male.

For most questions simply circle the number that corresponds to your opinion, as shown below:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel that people are generally reliable.	1	2	3	4	(5)

Section 1:

Please tick (✓) the most appropriate answer for the following items (Only one answer):

1. Are you a bank customer?

☐ yes ☐ No (If No, please do not continue this questionnaire, many thanks)

2. Did you use Internet Banking services before?

☐ yes ☐ No (If yes, please do not continue this questionnaire, many thanks)

3. What is your Gender?

☐ Female ☐ Male

4. What is your education level?

☐ College degree ☐ Bachelor degree ☐ Postgraduate degree

5. Roughly, your total monthly income is:

☐ Less than 500 JD ☐ 500-1000 JD ☐ More than 1000

6. How long have you been using the computers?

☐ Less than 3 years ☐ 3-5 years ☐ More than 5 years

7. How often do you use the Internet?

☐ About once a month ☐ A few times a month ☐ A few times a week ☐ About once a day ☐ Several times a day

Section 2: This part is to examine the human part of trust antecedents.

Please circle the degree to which you agree with the following statement.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I feel that people are generally reliable.	1	2	3	4	5
2	I generally have faith in humanity.	1	2	3	4	5
3	I generally trust other people unless they give me reason not to.	1	2	3	4	5
4	I feel assured that legal structures adequately protect me from any problem with bank services.	1	2	3	4	5
5	I feel confident that regulations, laws, and social norms make it safe for me to use bank services.	1	2	3	4	5
6	In general, bank services are robust and safe.	1	2	3	4	5
7	The Internet has enough safeguards to make me feel comfortable using it to transact personal business	1	2	3	4	5
8	I feel assured that technological structures of Internet adequately protect me from problems with Internet Banking Service.	1	2	3	4	5
9	I feel confident that encryption and other technological advances on Internet make it secure and privacy to use Internet Banking Service.	1	2	3	4	5
10	In general, the Internet is now a robust and safe environment in which to transact business.	1	2	3	4	5
11	My bank is well-known.	1	2	3	4	5
12	My bank has a good reputation.	1	2	3	4	5
13	My bank is recognized widely.	1	2	3	4	5
14	My bank offers good services.	1	2	3	4	5
15	It is important to have job requirements and instructions spelled out in details so that people always know what they are expected to do.	1	2	3	4	5
16	Rules and regulation are important because they inform workers what the organization expects of them.	1	2	3	4	5
17	Order and structure are very important in a work environment.	1	2	3	4	5
18	Working in structural environment is better than working (rules and regulations) in an unstructured work environment.	1	2	3	4	5
19	Managers should make most decision without consulting subordinates.	1	2	3	4	5
20	Employees should not question their manager's decision.	1	2	3	4	5
21	Manager should not ask subordinates for advice, because they might appear less power.	1	2	3	4	5
22	Decision making power should stay with top management in the organization and not be delegated to lower level employees.	1	2	3	4	5
23	It is preferable to have a man in high level position rather than women.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
24	Men usually solve problems with logical analysis; women usually solve problems with intuition	1	2	3	4	5
25	Solving organizational problems usually requires an active, forcible approach which is typical of men.	1	2	3	4	5
26	Individual rewards are not as important as group welfare.	1	2	3	4	5
27	Group success is more important than individual success.	1	2	3	4	5
28	Working within team is better than working alone.	1	2	3	4	5
29	Respect for tradition will not hamper performance.	1	2	3	4	5
30	The exchange of favors and gifts is not necessary to excel.	1	2	3	4	5
31	Upholding one's personal image contributes in goal achievement.	1	2	3	4	5
I could use IBS						
32	...if I could call someone for help if I got stuck	1	2	3	4	5
33	...if someone else had helped me get started	1	2	3	4	5
34	...if someone showed me how to do it first.	1	2	3	4	5
I believe that IBS						
35	…is more convenient than off-line banking.	1	2	3	4	5
36	…is more efficient than off-line banking.	1	2	3	4	5
37	…is more effective than off-line banking in managing a bank account.	1	2	3	4	5
38	I think Internet banking services fits well with the most aspect of my banking activities.	1	2	3	4	5
39	I think using Internet banking is compatible with my lifestyle.	1	2	3	4	5
40	I think using Internet banking fits well with the way I like to manage my finance	1	2	3	4	5
41	Learning to use the Internet banking services for exploring information and do different transaction will be easy for me.	1	2	3	4	5
42	I believe that it is easy to get the Internet banking services to do what I want it to do.	1	2	3	4	5
43	I believe that Interacting with Internet banking services to explore information and do different transaction will be clear and understandable.	1	2	3	4	5
44	Overall, I believe that using the Internet banking services to explore information or do different transactions is easy.	1	2	3	4	5
45	The bank is trustworthy.	1	2	3	4	5
46	I believe in the information that this bank provides me.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
47	I believe that Internet banking always provides accurate financial services.	1	2	3	4	5
48	I believe that Internet banking always provides reliable financial services.	1	2	3	4	5
49	I intend to use Internet Banking Service.	1	2	3	4	5
50	I expect to perform my bank transactions through Internet banking in the future.	1	2	3	4	5

Please do not hesitate to add any comments

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Thank you

End of the questionnaire.

Appendix E: The study cover letter and questionnaire – Arabic version

نموذج معلومات للمشاركين في الدراسة

العوامل المؤثرة على ثقة العملاء الاولية في الخدمات المصرفية عبر الانترنت في الاردن.

من يقوم بهذه الدراسة ؟

الطالب علي عوده مصطفى الجعافرة, طالب دكتوراه في جامعة سيدني للتكنولوجيا, استراليا و تحت اشراف الدكتور احمد العاني و الدكتور دانييل شاندران. اقوم بهذه الدراسة الميدانية كجزء من متطلبات الحصول على درجة الدكتوراه في تخصص نظم المعلومات الادارية من جامعة سيدني للتكنولوجيا.

ما هو هدف هذه الدراسة؟

هدف هذه الدراسة هو معرفة المزيد عن ثقة العملاء الاولية في الخدمات المصرفية عبر الانترنت في الاردن و تحديد العوامل التي تؤثر عليها و بالتالي استخدام تلك الخدمات. نأمل ان تستفيد المصارف العاملة في الاردن من نتائج هذه الدراسة في زيادة عدد مستخدمين الخدمات الالكترونية عبر الانترنت في المملكة.

اذا وافقت على المشاركة, ماذا يتضمن ذلك؟

سأطلب منك اكمال الاستبانة و التي تتطلب حوالي 20 دقيقة لأكمالها. من خلال هذه الاستبانة نطلب رأيك في الجوانب المتعلقة بثقة العملاء الاولية في الخدمات المصرفية عبر الانترنت في الاردن. بالاضافة الى بعض المعلومات العامة مثل العمر, الجنس, التعليم, الخبره في استخدام الكمبيوتر و الانترنت, و الدخل. هذه المعلومات ستستخدم فقط لأغراض البحث العلمي. بإمكان المشترك طلب نسخة من نتائج الدراسة من خلال الاتصال بـ علي الجعافرة من خلال البريد الالكتروني (ali.o.aljaafreh@student.uts.edu.au).

هل هناك اية مخاطر؟

ليس هناك أيّة مخاطر لأن الدراسة صُمِّمت بعناية.

لماذا تم اختياري؟

لأنك قادر على تزويدنا بالمعلومات المطلوبة لمعرفة العوامل التي تؤثر على ثقتك الاولية في الخدمات المصرفية عبر الانترنت (كعميل للبنك) و نيّتك لأستخدام تلك الخدمات. ان نجاح هذه الدراسة يعتمد على مشاركتكم. يمكنك تغيير رأيك في اي وقت و التوقف عن اكمال الاستبانة دون اي عواقب.

هل يجب علي الموافقة؟

لا, لا يتوجب عليك ذلك.

ماذا سيحدث اذا رفضت المشاركة؟

لاشيء, سأشكرك و لن اطلب منك المشاركة في هذه الدراسة مرة اخرى.

اذا قلت نعم, هل بأمكاني تغيير رأيي لاحقا؟

يمكنك تغيير رأيك في اي وقت دون ابداء اي مبررات. سأشكرك و لن اطلب منك المشاركة في هذه الدراسة مرة اخرى.

ماذا لو كان لدي استفسار او شكوى؟

اذا كان لديك اي استفسار بخصوص الدراسة و تعتقد ان بأمكاني مساعدتك, ارجو منك الاتصال مباشرة على البريد الألكتروني التالي : Ali.o.Aljaafreh@student.uts.edu.au أو الرقم: +61 2 9514 9099

اذا كان لديك اي مخاوف او شكاوي حول اسلوب اجراء هذا البحث يمكنك الاتصال على ضابط ارتباط اخلاقيات البحث الانساني في جامعة سيدني للتكنولوجيا على الرقم التالي +61295149772 و اعطائهم هذا الرقم (UTS HREC 2013000665)

شكرا لمشاركتكم في هذه الدراسة

تعليمات تعبئة هذه الاستبانة

شكرا لمشاركتكم في اكمال هذه الاستبانة و اعطائنا بعضا من وقتكم. كما اسلفنا سابقا فأن هذه الاستبانه تهدف الى جمع المعلومات حول ثقة العملاء الاولية في الخدمات المصرفية عبر الانترنت في الاردن.

الخدمات المصرفية عبر الانترنت: هي امكانية وصول العميل لحسابه المصرفي و اجراء جميع معاملاته المصرفية (مثل: تحويل الاموال, دفع الفواتير, الاستفسار عن الرصيد, و غيرها) من خلال موقع المصرف الالكتروني دون الحاجة للذهاب الفعلي الى مبنى الفرع الذي يتعامل معه.

لأكمال الجزء الاول من هذ الاستمارة ما عليك سوى وضع اشارة ✓ في المربع الذي يمثل اجابتك. مثال:

الجنس:

☑ ذكر ☐ انثى

للأجزاء الاخرى من هذه الاستبانة, ضع دائرة حول الرقم الذي يعبر عن مدى موافقتك على العبارة كما هو موضح:

الجزء الثاني: لطفا ضع دائرة حول الرقم الذي يعبر عن مدى موافقتك على العبارة كما هو موضح

		لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق بشدة
1	بشكل عام, يمكنني الثقة بعامة الناس.	1	2	3	4	(5)

الجزء الأول: ارجو وضع رمز (✓) في مربع الاجابة المناسبة في الاسئلة التالية (اجابة واحده فقط):

1. هل لديك حساب بنكي؟

☐ نعم ☐ لا (اذا كانت الاجابة لا, الرجاء عدم اكمال هذه الاستبانة, شكرا لك)

2. هل قمت باستخدام اي من الخدمات المصرفية عبر الانترنت من قبل؟

☐ نعم ☐ لا (اذا كانت الاجابة نعم, الرجاء عدم اكمال هذه الاستبانة, شكرا لك)

3. الجنس: ☐ ذكر ☐ انثى

4. المستوى التعليمي:

☐ دبلوم ☐ بكالوريوس ☐ تعليم عالي

5. اجمالي الدخل الشهري بالدينار الاردني تقريبا:

☐ اقل من 500 دينار ☐ 500 - 1000 ☐ أكثر من 1000

6. تقريبا, كم عدد سنوات استخدامك للكمبيوتر؟

☐ اقل من 3 سنوات ☐ 3- 5 سنوات ☐ اكثر من 5 سنوات

7. تقريبا, كم مرة تستخدم الانترنت؟

☐ عده مرات باليوم ☐مرة واحده يوميا ☐ عدة مرات اسبوعيا

☐ عدة مرات شهريا ☐مرة بالشهر ☐ نهائيا

		لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق بشدة
1	بشكل عام يمكنني الثقة بعامة الناس.	1	2	3	4	5
2	بشكل عام املك ايمانا بالطبيعة البشرية	1	2	3	4	5
3	اثق بمن هم حولي من عامة الناس الا اذا رأيت منهم ما يغير ذلك.	1	2	3	4	5
4	اشعر بالاطمئنان بأن القوانين و الانظمة قادرة على حمايتي بشكل كافٍ في حال واجهت اي مشاكل مع البنك.	1	2	3	4	5
5	اشعر بالثقة بأن قوانين المصرف و انظمته تجعل استخدام الخدمات المصرفية داخل المصرف آمنا.	1	2	3	4	5
6	بشكل عام تعتبر الخدمات المصرفية داخل المصرف آمنه.	1	2	3	4	5
7	في الانترنت وسائل حماية كافية تجعلني اشعر بالراحة في استخدامه للتعامل مع الخدمات المصرفية.	1	2	3	4	5
8	اشعر بالاطمئنان بأن الانظمة التقنية للانترنت, كتشفير البيانات, قادره على حماية حسابي البنكي عند استخدامي للخدمات المصرفية عبر الانترنت.	1	2	3	4	5
9	الانظمة التقنية للانترنت قادره على ضمان خصوصية المعلومات عند استخدامي للخدمات المصرفية عبر الانترنت.	1	2	3	4	5
10	بشكل عام الانترنت الان بيئة قوية امنة للتعامل مع الخدمات المصرفية عبر الانترنت.	1	2	3	4	5
11	المصرف الذي اتعامل معه يعتبر مشهورا.	1	2	3	4	5
12	المصرف الذي اتعامل معه يعتبر ذو سمعة حسنة.	1	2	3	4	5
13	المصرف الذي اتعامل معه يتم التعامل معه بشكل واسع.	1	2	3	4	5
14	المصرف الذي اتعامل معه يقدم خدمات متميزة.	1	2	3	4	5
15	من الاهمية ان يكون هناك متطلبات للعمل موضحة بشكل دقيق, وبذلك يعرف الناس ما هو متوقع منهم عمله.	1	2	3	4	5
16	الانظمة والقوانين مهمة لأنها تبين للموظفين ما الذي يتوقعه التنظيم منهم .	1	2	3	4	5
17	ان النظام والهيكل التنظيمي مهم جدا في بيئة العمل.	1	2	3	4	5
18	ان العمل في بيئة منظمة (ذات قوانين وتشريعات محددة) افضل من العمل في بيئة غير منظمة.	1	2	3	4	5
19	على المدير اتخاذ القرارات دون استشارة مرؤوسيه.	1	2	3	4	5
20	على الموظفين عدم مناقشة قرارت مديرهم.	1	2	3	4	5
21	ينبغي على المدير ان لا يطلب النصيحة من مرؤوسيه كي لا يبدو ضعيفا.	1	2	3	4	5

		لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق بشدة
22	ان سلطة اتخاذ القرارت يجب ان تبقى لدى الادارة العليا في المؤسسة وان لا تفوض موظفي المستوى الادنى .	1	2	3	4	5
23	من الافضل ان يكون في مناصب المستوى الاعلى رجل وليس امراة.	1	2	3	4	5
24	في الغالب الرجال يحلون المشاكل بالاعتماد على التحليل المنطقي, بينما تعتمد النساء على العاطفة.	1	2	3	4	5
25	ان حل المشاكل التنظيمية غالبا ما يتطلب مدخلا قويا ونشيطا, والذي يتوفر في الاصل عند الرجال.	1	2	3	4	5
26	رفاهية الفريق اهم من رفاهية الفرد.	1	2	3	4	5
27	نجاح الفريق اكثر اهمية من نجاح الفرد.	1	2	3	4	5
28	العمل ضمن فريق افضل من العمل منفردا.	1	2	3	4	5
29	احترام العادات والتقاليد لا يعيق الاداء.	1	2	3	4	5
30	تبادل الهدايا والخدمات ليس ضروريا للتميز.	1	2	3	4	5
31	تاييد الاخرين للفرد يسهم في تحقيق الاهداف.	1	2	3	4	5
يمكنني استخدام الخدمات المصرفية عبرالانترنت						
32	...لو ساعدني احدهم في حال واجهتني مشكلة	1	2	3	4	5
33	...لو ساعدني احدهم في ارشادي كيف ابدأ	1	2	3	4	5
34	...لو بين احدهم كيف اقوم بذلك لأول مره	1	2	3	4	5
اعتقد ان الخدمات المصرفية عبر الانترنت						
35	...اكثر ملائمة من الخدمات المصرفية التقليدية.	1	2	3	4	5
36	... اكثر كفاءة من الخدمات المصرفية التقليدية.	1	2	3	4	5
37	... اكثر فعالية من الخدمات المصرفية التقليدية في ادارة الحساب البنكي.	1	2	3	4	5
38	تعتبر الخدمات المصرفية عبر الانترنت طريقة مناسبة لأدارة اموالي.	1	2	3	4	5
39	يعتبر استخدام الخدمات المصرفية عبر الانترنت متوافق مع نمط الحياة التي اعيشها.	1	2	3	4	5
40	اعتقد ان استخدام الخدمات المصرفية عبر الانترنت يناسب تماما الطريقة التي ارغب بها في ادارة اموالي.	1	2	3	4	5
41	اعتقد ان تعلم استخدام الخدمات المصرفية عبر الانترنت للقيام بمختلف التعاملات سهل بالنسبة لي	1	2	3	4	5

		لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق بشدة
42	اعتقد ان من السهل استخدام الخدمات المصرفية عبر الانترنت للقيام بمختلف التعاملات المصرفية التي اريدها	1	2	3	4	5
43	اعتقد ان التفاعل مع الخدمات المصرفية عبر الانترنت للقيام بمختلف التعاملات سيكون وا ضحا و مفهوما	1	2	3	4	5
44	بشكل عام, اعتقد ان من السهل استخدام الخدمات المصرفيه عبر الانترنت للقيام بمختلف التعاملات	1	2	3	4	5
45	البنك الذي اتعامل معه جدير بالثقة.	1	2	3	4	5
46	اثق بصحة المعلومات التي يزودني بها البنك	1	2	3	4	5
47	اعتقد ان الخدمات المصرفية عبر الانترنت دائما ما تكون دقيقة و صحيحة.	1	2	3	4	5
48	اعتقد ان الخدمات المصرفية عبر الانترنت دائما ما تكون موثوقة.	1	2	3	4	5
49	انوي استخدام الخدمات المصرفية عبر الانترنت للقيام بمعاملاتي النقدية.	1	2	3	4	5
50	اتوقع ان أستخدم الخدمات المصرفية عبر الانترنت في المستقبل .	1	2	3	4	5

لا تتردد اذا كان لديك اي ملاحظات

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نشكر لكم حسن تعاونكم

Appendix F: Approval letter from MoE

بسم الله الرحمن الرحيم

وزارة التربية والتعليم

الرقم ٣/١٠/١\٣٣٥٩٧

التاريخ ١٠ شوال ١٤٣٥

الموافق ٢٠١٤/٠٨/٠٧

السيـــد مدير التربية والتعليم للواء قصبة عمـــان

السيـــد مدير التربية والتعليم لمنطقـــــة الكـــرك

السيـــد مدير التربية والتعليم للواء قصبة إربـــد

السيـــد مدير التربية والتعليم للواء قصبة المفرق

الموضوع: البحث التربوي

السلام عليكم ورحمة الله وبركاته، وبعد؛

فأرجو إعلامكم بأن الطالب علي عوده الجعافره يقوم بإجراء دراســة عنوانهــا " العوامــل المؤثرة على ثقة العملاء الأولية في الخدمات المصرفية عبر الانترنت في الأردن "، استكمالاً لمتطلبات الحصول على درجة الدكتوراه في تخصص نظم المعلومات الإدارية فــي جامعــة التكنولوجيا في سيدني استراليا، ويحتاج ذلك إلى توزيع استبانة على عينة من الموظفين فــي مديريتكم.

يرجى تسهيل مهمة الطالب المذكور وتقديم المساعدة الممكنة له، على أن يتم مطابقة الاستبانة المطبقة مع الاستبانة المرفقة.

واقبلوا الاحترام

وزير التربية والتعليم

مدير البحث بالوكالة

د. نايل حجازين

المملكة الأردنية الهاشمية

وزارة التربية والتعليم

نسخة/ مدير إدارة التخطيط والبحث التربوي

نسخة/ مدير البحث والتطوير التربوي بالوكالة

نسخة/ رئيس قسم البحث التربوي

نسخة/ الملف ٣/١٠

المرفقات : (٦) صفحات

Appendix G: Interview consent form and participant's information sheet.

UNIVERSITY OF TECHNOLOGY SYDNEY

CONSENT FORM

I _____ agree to participate in the research project "Investigating factors affecting customer's initial trust in internet banking services in developing countries" being conducted by Ali Aljaafreh, email address: Ali.O.Aljaafreh@student.uts.edu.au, Mobile No.: +61 of the University of Technology, Sydney for his degree of Doctor of Philosophy in Information Systems, under the supervision of Dr. Ahmed Al-Ani, at the Faculty of Engineering & IT, Ahmed.Al-Ani@uts.edu.au, Phone No: +61 2 9514 2420.

I understand that the purpose of this study is to evaluate the final results and model for initial trust in internet banking services in developing countries. The student got his final results and model after conducting a quantitative study.

I understand that I have been asked to participate in this research because I have a PhD degree in the field of Management Information Systems, and have enough experience (more than five years). Also, I'm living in one of the countries that the student target in his research (Jordan and neighbouring countries).

I am aware that my participation in this research will involve evaluation for the initial research model which is based on the literature review of the research topic, the research design and research methodology that the student follows, and the final results that the student got after conducting the quantitative analysis.

I am aware that this evaluation will take about 30 - 60 minutes. Also, I know that potential risk associated with this research is minimal due to the nature of the evaluation (which will be conducted by email only).

I am aware that I can contact Ali Aljaafreh or his supervisor Dr. Ahmed Al-Ani if I have any concerns about the research. I also understand that I am free to withdraw my participation from this research project at any time I wish, without consequences, and without giving a reason.

I agree that the research data gathered from this project may be published in a form that does not identify me in any way.

_____ ____/____/____
Signature (participant)

_____ ____/____/____
Signature (researcher or delegate)

NOTE:
This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au) and quote the UTS HREC reference number. Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

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INFORMATION SHEET

INVESTIGATING FACTORS AFFECTING CUSTOMER'S INITIAL TRUST IN INTERNET BANKING SERVICES IN DEVELOPING COUNTRIES

WHO IS DOING THE RESEARCH?

My name is Ali Aljaafreh and I am a PhD student at UTS. (My supervisor is Dr. Ahmed Al-Ani)

WHAT IS THIS RESEARCH ABOUT?

This research is to find out about the factors that affecting customer's initial trust formation in internet banking services in developing countries

IF I SAY YES, WHAT WILL IT INVOLVE?

I have established and examined a model to investigate the factors that influence initial trust in internet banking in the context of developing countries. I will ask you to *evaluate my final model and results.*

ARE THERE ANY RISKS/INCONVENIENCE?

There are very few if any risks because the research has been carefully designed.
The raw data will be accessible only from the student. Also, no identification to participants (name, work id, ...) will be mentioned that I'll code the responses and keep the codes separate so nobody can know the codes except me (only unidentifiable results will be published).

WHY HAVE I BEEN ASKED?

You are able to give me the information I need to find out about the results I've got from conducting the quantitative study and what your opinion about those results is.

DO I HAVE TO SAY YES?

You don't have to say yes.

WHAT WILL HAPPEN IF I SAY NO?

Nothing. I will thank you for your time so far and won't contact you about this research again.

IF I SAY YES, CAN I CHANGE MY MIND LATER?

You can change your mind at any time and you don't have to say why. I will thank you for your time so far and won't contact you about this research again.

WHAT IF I HAVE CONCERNS OR A COMPLAINT?

If you have concerns about the research that you think I or my supervisor can help you with, please feel free to contact (us) on +61 [redacted], +61 2 9514 2420. OR at Ali.O.Aljaafreh@student.uts.edu.au, Ahmed.Al-Ani@uts.edu.au.

If you would like to talk to someone who is not connected with the research, you may contact the Research Ethics Officer on 02 9514 9772, and quote this number *(UTS HREC 2013000665)*

Appendix H: Details of interviews with experts

No.	Position	Interviewee pseudonym	Country	Main questions
1	Regional director for a global bank	Exp1	Jordan	• What is your judgment for each of the following results (the researcher provided a table of the study results)? • Based on this study, what are your suggestions, modifications, and recommendations for future work?
2	Head of risk department in a local bank.	Exp2	Jordan	
3	Head of Management information systems department	Exp3	Jordanian university	
4	Academic staff in Marketing department	Exp4	Algerian university	
5	Academic staff in MIS department	Exp5	Jordanian university	
6	Academic staff in MIS department	Exp6	Saudi university	
7	Academic staff in MIS department	Exp7	Saudi university	
8	Academic staff in MIS department	Exp8	Libyan university	
9	Academic staff in Business Administration department	Exp9	Saudi university	

Appendix I: The loading and SMC values for the observed variables.

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
UA3	<---	UA	.794
UA2	<---	UA	.793
UA4	<---	UA	.727
UA1	<---	UA	.676
INT1	<---	INT	.702
INT4	<---	INT	.779
PD2	<---	PD	.963
PD4	<---	PD	.635
PD1	<---	PD	.567
REP3	<---	REP	.801
REP2	<---	REP	.814
REP1	<---	REP	.721
REP4	<---	REP	.631
IC2	<---	IC	.875
IC3	<---	IC	.908
IC1	<---	IC	.792
CPX3	<---	CPX	.788
CPX2	<---	CPX	.866
MF2	<---	MF	.906
MF1	<---	MF	.809
MF3	<---	MF	.800
CPT3	<---	CPT	.854
CPT2	<---	CPT	.811
RA2	<---	RA	.829
RA3	<---	RA	.871
RA1	<---	RA	.763
OSA2	<---	OSA	.837

			Estimate
OSA3	<---	OSA	.724
OSA1	<---	OSA	.766
DT1	<---	DT	.762
DT3	<---	DT	.761
DT2	<---	DT	.744
CISE2	<---	CISE	.804
CISE1	<---	CISE	.828
TSA2	<---	TSA	.721
TSA1	<---	TSA	.776
INU2	<---	INU	.704
INU1	<---	INU	.825
LSO3	<---	UA	***.430***
LSO1	<---	UA	***.407***
CISE3	<---	CISE	***.467***

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
CISE3	***.218***
LSO1	***.165***
LSO3	***.185***
INU1	.681
INU2	.672
TSA1	.602
TSA2	.520
CISE1	.686
CISE2	.646
DT2	.553
DT3	.579
DT1	.581
OSA1	.587
OSA3	.524
OSA2	.701
RA1	.582
RA3	.758
RA2	.687
CPT2	.659
CPT3	.729
MF3	.641
MF1	.655
MF2	.820
CPX2	.751
CPX3	.621
IC1	.628
IC3	.825
IC2	.766
REP4	.599

	Estimate
REP1	.520
REP2	.663
REP3	.642
PD1	.532
PD4	.551
PD2	.927
INT4	.607
INT1	.593
UA1	.657
UA4	.529
UA2	.628
UA3	.631