E-commerce Adoption by Travel Agencies in Jordan

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December, 2014

A thesis submitted to Cardiff Metropolitan University for the degree of Doctor of Philosophy

Cardiff School of Management

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Abstract

The advents of information and communication technologies (ICTs), especially the Internet applications, have become indispensable tool to the tourism industry. ICTs have had a major influence in changing the structure of this industry, to be information-intensive industry. Travel agencies category of SMEs , have a vital role in tourism; managing, coordinating and supplying all aspects thereof, such as transport sector, hospitality sector and leisure attractions.

The factors affecting e-commerce adoption by SMEs have been well-documented in developed countries, but inadequate studies have been conducted regarding e-commerce adoption in the developing countries; particularly in Arab countries. Moreover, it has been found that in spite of potential benefits for travel agencies of adoption of e-commerce, travel agencies are commonly regarded as slow adopters of e-commerce, lagging far behind the developed countries.

Therefore, the focus of this study is on investigating the factors affecting e-commerce adoption by focusing on Jordanian travel agencies. To achieve this objective; an integrated conceptual framework was developed on the basis of previous models and theories relevant to ICTs and e-commerce adoption, namely Rogers' Diffusion of Innovation model, the Technology-Organisation-Environment model and Hofstede's Cultural Dimensions theory. The conceptual framework was developed for the explanation of the factors affecting e-commerce adoption by travel agencies. These factors were used to identify different levels of e-commerce adoption. These levels include: non-adoption, e-connectivity, e-window, e-interactivity, e-transaction and e-enterprise.

The quantitative method was applied in this study for data collection using self-administrated questionnaire distributed to 300 Jordanian travel agents. The total number of valid questionnaires was 206, constituting a response rate of 68.6%. The descriptive analysis was used to explain demographic profiles of participants and current state of e-commerce adoption level. Multinomial Logistic Regression was used to test the research hypotheses. The research findings revealed that there are three different adoption levels of e-commerce by Jordanian travel agencies: e-connectivity, e-window and e-interactivity. The results showed that relative advantage, observability, business/partner pressure, uncertainty avoidance and government support were the significant predictors differentiating e-window from e-connectivity. Moreover, relative advantage, observability, financial barriers, power distance, business/partner pressure and government support proved to be significant predictors differentiating between e-interactivity and e-connectivity. It was also found that observability, competitive pressure, firm size and complexity were significant predictors differentiating between e-interactivity and e-window. On the other hand, the results showed that compatibility,

trialability, employees' IT knowledge, top management support, manager's attitude, and customer pressure were insignificant predictors of any of the e-commerce adoption levels.

Upon that, it can be argued with confidence that different levels of e-commerce adoption are affected by different factors. This entails the necessity of addressing the above ten significant predictors as they can be useful for managers, IT/web vendors and policy makers in drawing a roadmap and strategies for expanding the use and benefits of e-commerce adoption. Moreover, the conceptual framework of the study provide a best explanation of factors affecting e-commerce adoption levels in travel agencies as an example of SMEs, which contribute to the knowledge in the area of information systems particularly in the context of e-commerce adoption in developing countries.

ACKNOWLEDGEMENTS

DEDICATION

I dedicated this thesis to my father Dr Kasim Alrousan , to my mother Seham Alrousan , to my sisters and brother , to my father-in-law professor Turki Obeidat ,to my mother-in-law Muzaz Turki, and to my wife Dima , who have supported and encouraged me to achieve success and completion this PhD.

Publications

Alrousan, M. and Jones, E. (In Press) 'A conceptual model of factors affecting e-commerce adoption by SME owner/managers in Jordan', *Int. J. Business Information Systems*.

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LIST OF ABBREVIATIONS

ICTs	Information and Communication Technologies
E-commerce	Electronic Commerce
EDI	Electronic Data Interchange
DOI	Diffusion of innovation Theory
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behaviour
TOE	Technology–Organisation–Environment Framework
IT	Information Technology
SMEs	Small Medium Enterprises
E-business	Electronic Business
CRM	Customer Relationship Management
ERP	Enterprise Resource Planning
OECD	The Organisation for Economic Cooperation and Development
GDSs	Global Distribution Systems
CRSs	Computer Reservation Systems
AVE	Average Variance Extracted
GDP	Gross Domestic Product
JSTA	Jordan Society of Tourism and Travel Agents

Chapter One

Introduction

1.1 Research Background

The Internet revolution has become a major influence on global economy, having penetrated every aspect of human life, health, education, business, governance and entertainment. The Internet had a significant contribution to global economy, accounting for 21% of world GDP over the past five years (Manyika and Roxburgh, 2011). It also provides great opportunities for organisations to conduct more and better business transactions, through electronic commerce (e-commerce).

Many studies have confirmed that e-commerce will dominate the world economy and consider it a significant determinant of future growth in the next ten years (Indecon, 2013; Jagoda, 2010; Gawady, 2005). A recent study by the Census Bureau of the Department of Commerce (2104) found that the U.S. total retail website sales were $70.1 billion for the second quarter of 2014, marking 15.9% increase from the same period in 2013.

E-commerce offers numerous benefits to small and medium enterprises (SMEs), such as: reducing operation costs; increasing profits; enhancing customer services; expanding into new markets and reaching new customers; and improving their competitive positions (Heung, 2003; Apulu, 2011; Ashrafi and Murtaza, 2008). In addition, e-commerce offers a survival guarantee and stability to SMEs in the market and provides a competitive environment (Stansfield & Grant, 2003a, cited in Abou-Shouk et al., 2012).Regarding the travel industry, the Organisation for Economic Co-operation and Development (OECD) reported that tourism is the biggest and most dynamic industry in OECD economies and it has positive effects on developing countries. They also reported that e-commence provides opportunities to the developing countries to expand their exports and increase

the efficiency of tourism industry, which is considered one of the main the key success factor to sustain their economies (National Tourism Strategy, 2010).

Also, the World Tourism Organisation (2002) reported that the Internet has become the major influence on the structural changes of tourism industry, being an information-intensive industry. Also, the Internet users are rapidly increasing with a large portion of them turning to buy their travel products online (Wang & Cheung, 2004). According to Poon (1993, P.173), "a whole system of ITs being rapidly diffused throughout the tourism industry and no player will escape its impacts". Therefore, it can be argued with confidence that e-commerce has become an essential and integral part of tourism industry.

The tourism industry is divided into four distinct sectors: travel, transport, hospitality and visitor and leisure attractions sector. The travel subsector includes travel agencies and tour operators. The transport subsectors include airports, port authorities, buses companies, railways and car rental companies; while the hospitality subsectors include accommodation, such as hotels and catering such as restaurants. Visitor and leisure attractions include theatres, cinemas, parks, nightclubs and religious and historical sites.

Travel agencies are considered the backbone of tourism industry as they provide customers with information about the transport, hospitality and leisure attractions subsectors. Despite the benefits provided by the Internet to the tourism industry, travel agencies, as SMEs, have been considered slow adopters of e-commerce due to the various challenges they encounter when seeking such adoption like the need to restructure their business strategy as to shift from traditional business models to

electronic ones, lack of sufficient budget for implementing e-commerce, complexity of implementing e-commerce applications and mangers' perceptions of the strategic value of e-commerce adoption in SMEs (Grandon and Pearson, 2004; Heung, 2003; Musawa and Wahab, 2012; Bradley et al., 1993; Poon, 1993).

In Jordan , SMEs are considered very important to jordan's economoy ,contributing about 50% of total GDP , notable significance as 97% of total number of employment and 96% of all Jordan's exports (JEDCO, 2011; Al-Rawashdeh, 2011). SMEs in Jordan are mainly consisted of three main sectors ,namely : services , industry and agriculture. According to Feral Reseach Divisin (2006), Jordan's economy is service-oriented as a services sector accounts for over 70% of Jordan's total GDP. According to World Trade Organization (2013,b) , tourisim industry in Jordan contributes about 20.3% of total GDP and travel agencies provide 1% of countris employment.

According to JEDCO (2011) , successful SMEs are very important to Jordan's economic growth as e-commerce adoption by SMEs is considered as significant component stratigy to survive in the market as technology adoption provides many immense benefits for SMEs that makes them able to have ultimate competitive advantage such as ablilty to compete with larger organization. However, many studies argued that the diffusion and adoption of e-commerce by Jordanian SMEs are slower than and far behind larger organisations (Al-Dmour and Al-Surkhi (2012) Al-weshah and Al-zoubi (2012) Allahawiah et al. (2010).

Travel agency as a category of SMEs are described as slow adopter and still in early levels of e-commerce adoption (Kokash, 2012). According to Dajani (2012) , Jordanian

travel agents are facing threat to demise from market due rapid diffusion of e-commerce applications. This is because e-commerce has changed tourism market stuture and provides opportunities to the large organization such as flight companies and hotels to encourage their customers to bypass intermediaries such as travel agents and buy their travel products directly through their own website.

Therefore, investigation of e-commerce adoption by SMEs in developing countries , and travel agencies in particular constitutes an emerging topic to research with limited number of studies have conducted to date. The following section will discuss the rational of the study.

1.2 Rationale of the Study

A number of studies found e-commerce to be widely adopted by firms that are larger than SMEs, identifying many reasons of slow e-commerce adoption by SMEs such as limited financial resources, firm size, security, computer literacy and inadequate ICTs resources including both software and hardware (Pham et al., 2004; Kotelnikov, 2007; Simpson & Docherty, 2004; Kapurubandara and Lawson, 2006). According to Lai (1994), cited in Pham et al. (2004), investigating technology adoption by SMEs cannot necessarily be generalized to large companies.

Also, SMEs in developing countries is slower in adopting e-commerce and technology than those of developed countries (Khan et al., 2010; Hashim, 2007; Alzougool and Kurnia, 2008). Many prior studies suggested that factors affecting e-commerce adoption by SMEs in developing countries are different from those affecting such adoption in developed countries. Several suggested that the main reasons of these differences are of a

cultural origin (Kartiwi, 2006; Zhu et al., 2006b). In addition, Molla and Licker (2005a) found that the main reasons of slow e-commerce adoption in developing countries are expensive internet access, poor ICTs infrastructure and security.

The literature shows that studies have used several models and frameworks to investigate e-commerce adoption by SMEs such as the Theory of Reasoned Action (TRA), Theory of Perceived Behaviour, Technology Acceptance Model (TAM), Technology-Organization Environment (TOE), Diffusion of Innovation (DoI) and Hofstede's Cultural Dimensions. Most of these studies were conducted in developed countries, while few were conducted to predict e-commerce adoption in developing countries and fewer studies in Arab countries (Ramsey and McCole, 2005; Teo and Ranganathan, 2004; Molla and Licker, 2005a; Teo et al., 2009; Huy et al., 2012; Al-Qirim, 2006; Allahawiah et al., 2010; Abou-Shouk et al., 2012; Rania, 2009; Hunaiti et al., 2009). Several studies recommended investigating e-commerce adoption in developing countries in order to form a comprehensive view in understanding the potential and relevance of e-commerce adoption by SMEs.

Also, limited empirical e-commerce studies investigated e-commerce adoption by travel agencies in developing countries, despite that such agencies are regarded as the most critically threatened type of SMEs to disintermediate (Rania 2009;Buhalis and Jun, 2011; Patricia, 2008; Cheung, 2009). Hung et al. (2011) claimed that there are no current theories or models whether single or integrated that offers an ideal explanation of e-commerce adoption in SMEs in developing countries, particularly in travel sector.

Reviewing the literature on e-commerce adoption shows that most of previous studies focused on factors affecting e-commerce adoption by SMEs as simple dichotomy, that is 'adopters versus non-adopters' (Sparling et al., 2010; Hung et al., 2012; Aghaunor and Fotoh, 2006; Teo and Ranganathan, 2004; Sutanonpaiboon and Pearson, 2008; Andreu et al., 2010; Huy et al., 2012; Teo et al., 2009). Only a limited number of these studies identified factors that distinguish different levels of e-commerce adoption by SMEs (Chen and McQueen, 2008; Senarathna and Wickramasuriya, 2011; Abou-Shouk et al., 2012; Raymond, 2001).

Since the internet revolution and e-commerce's wide availability many studies have described e-commerce maturity models in SMEs varying from basic adoption that includes Internet access, which enables organizations to use facilities such as e-mail in business activities moving to more sophisticated levels of e-commerce adoption such as online payment, customer relationship management and enterprise resource planning within companies that provide online services for both employees and customers (Molla and Licker, 2005; Boisvert, 2002; Daniel et al., 2002; Rayport and Jaworski, 2002; Rao et al., 2003; Duncombe et al., 2005; Lefebvrea et al., 2005).

Although several different models were identified in the literature under a variety of names for the stages and numbers of e-commerce adoption levels, all these models have a common goal: Provide guidance in assessing the maturity level of e-commerce in SMEs (Molla and Licker, 2004). Limited studies were conducted to investigate and explain the

potential factors that might be associated with different levels of e-commerce adoption by SMEs in order to address these factors and attain a mature e-commerce adoption.

The current study seeks to review the background, strengths and weaknesses of the most dominant models, theories and maturity models related to e-commerce adoption by SMEs in both developed and developing countries in order to fill gaps by developing a comprehensive framework that best explains e-commerce adoption levels by Jordanian travel agencies as an example of SMEs and developing countries.

1.3 Importance of the Study

It is clear that there is lack of literature on the factors affecting e-commerce adoption by SMEs in developing countries, such as Jordan. Travel agencies can be considered one of the most critically-threatened types of SME facing demise if they do not transform from traditional business strategies to electronic strategies such as e-commerce adoption (Abou-Shouk et al., 2012). This is attributed to the fact that travel products are information-based, where travel agencies act as agents between travel suppliers such as airlines and providers of accommodation, sea cruises, railways, car rentals, tour packages and travel insurance on the one hand and consumers on the other. This characteristic distinguishes travel agencies from most other service providers in that they sell their services in the form of information rather than physically. Moreover, their income is generated through the information they provide to customers about the services of travel suppliers, as a commission paid from these latter.

The Internet penetration is rapidly increasing, urging travel suppliers to change their business strategies by encouraging customers to buy their travel products directly through the Internet without resorting to traditional travel agencies (Cheung and Lam, 2009; Buhalis an Jun, 2011). In addition, travelers not only find the Internet a flexible and accessible gateway to search for travel information, packages and prices but also consider it easier to buy their travel products by bricks and clicks rather than dealing with a traditional travel agency, which is called disintermediation (Abou-Shouk et al., 2012; Patricia, 2008; Ma et al., 2003; Cheung and Lam, 2009;).

Therefore, travel agencies must change their strategy by adopting e-commerce in their business in order to reach out to their customers and their suppliers. Many studies agreed that beside the traditional business approach to travel business, travel agencies' adoption of e-commerce provide them with the ability to survive in the global travel market and increase their profits (Buhalis and Jun, 2011; Cheung and Lam, 2009). On the other hand, low level implementation of e-commerce due to several factors such as high costs, limited strategic scope, mangers, e-commerce perception, employee technological skills and partner participation (Heung, 2003; Buhalis and Jun, 2011).

Many studies, therefore, paid special attention to the impact of e-commerce on travel agencies in developed countries (Andreu et al., 2010; Vatanasakdakul and D'Ambra, 2006; Braun, 2005; Cheung and Lam, 2009; Warnaby et al., 2008; Wang and Cheung., 2004; Raymond, 2001; Standing et al., 1998). However, few studies addressed the factors affecting e-commerce adoption by travel agencies in developing countries (Heung, 2003; Kenneth et al., 2012; Li and Buhalis, 2006; Hussain and Noor, 2005). The Arab countries are a good example of the shortcoming (Hussein, 2009; Abou-Shouk et al., 2012).

In this regard, this study attempts to fill the gap in the existing literature by identifying the factors that influence and inhibit e-commerce adoption in Jordanian travel agencies.

1.4 Research Aim and Objectives

The main aim of this research is to contribute e-commerce literature by developing a comprehensive model in order to explain the factors affecting e-commerce adoption by SMEs in developing countries particularly travel agencies in Jordan. This aim is achieved by meeting the following objectives:

- Conduct a critical review of relevant literature related on ICTs and e-commerce and develops a conceptual framework that can be used to identify the factors associated with the adoption level of e-commerce in Jordanian travel agencies.

- Study the current e-commerce adoption level in travel agencies in Jordan.

- Analyse data and validate the proposed conceptual model to determine the factors associated with e-commerce adoption level in Jordanian travel agencies.

- Provide valuable guidance to decision makers, IT consultants and web vendors on adopting, facilitating and accelerating the diffusion of e-commerce by Jordanian travel agencies.

To achieve the above objectives, the following questions are posed:

1. What factors can be included in the proposed conceptual framework to study and identify e-commerce adoption by Jordanian travel agencies?

2. What is the current state of e-commerce adoption level in Jordanian travel agencies?

3. What are the significant factors associated with the adoption level of e-commerce in Jordanian travel agencies?

1.5 Research Methodology

Based on the above objectives, an explanatory research based on a deductive approach was considered as the most appropriate for this study, as this research attempts to understand e-commerce adoption by Jordanian travel agencies and determine the significant factors associated with the adoption level in order to provide a general statement. This can be achieved through an in-depth investigation of previous studies' findings and relevant models as to develop a conceptual framework, and propose hypotheses based on that framework and test them.

This characterizes the study that is intertwined with a quantitative method of data collection and analysis. The primary data is collected through survey using self-administered questionnaire, being the most appropriate tool for explaining relationships between variables. The questionnaire forms were hand-delivered to target population, the owners/managers of travel agencies in Jordan.

The sampling frame was obtained from the Jordan Society of Tourism & Travel Agents (JSTA), using simple random sampling method. Close-ended questions were used in the questionnaire that consists of three parts the first of which includes demographical questions about the travel agency and respondents. Questions of the second part address the current level of e-commerce adoption (dependent variable), while those of the third are directed at independent variables derived from the original questionnaires of DoI, TAM, TOE and Hofstede's Cultural Dimensions. An Arabic version of the questionnaire was handed to respondents.

A cover letter was attached with the questionnaire forms explaining the purpose of the study and observing the ethical guidelines of School Ethics Committee at Cardiff Metropolitan University. A pilot study was conducted on 15 of the travel agencies owners/mangers upon whose outcomes changes were introduced to the questionnaire.

The final version of the questionnaire was distributed to 300 owners/managers of Jordanian travel agencies. The total number of valid questionnaires was 206, constituting a response rate of 68.6%. All data were coded, screened, refined and analysed using the Statistical Package for Social Sciences (SPSS) Version 20.0. The results showed that all data had an adequate level of validity and reliability. The non-response bias was assessed, showing no significant differences between respondents and non-respondents. Thus, the data collected from participants was representative of the sample chosen.

The data analysis in this study consisted of two phases: descriptive analysis and inferential analysis. A descriptive analysis was undertaken as the first phase of data analysis as to summarize data meaningfully, making it simpler for interpretation. The inferential analysis of the second phase was conducted to test the study's hypotheses. Multinomial logistic regression was employed as inferential statistical technique in order to test and determine the factors associated with e-commerce adoption level by Jordanian travel agencies.

1.6 Research Contribution

The main original contribution of this research is developing a comprehensive conceptual framework by integrating many theoretical frameworks in order to produce a best explanation of factors affecting e-commerce adoption by travel agencies, which expands

the body of knowledge on information systems particularly in the context of e-commerce adoption in developing countries.

Moreover, this study also contributes to theory by investigating the different levels of e-commerce adoption explanations for travel agencies in Jordan. It explains the factors that affect the adoption of different levels. This explanations is a contribution to extant maturity models explanation , specifically in the context of Jordan travel agencies.

It was found that limited previous studies have focused on different levels of e-commerce maturity adoption by SMEs, as and most studies of ecommerce diffusion used a dichotomous approach in examining adoption (i.e., adoption versus non-adoption). Based on this , this study attempts to explore the reasons that influence SMEs in adopting different levels of e-commerce maturity and suggests how SMEs can be moved to higher levels of e-commerce maturity. Therefore, it can be argued that this study's approach of conceptualizing and evaluate different levels of e-commence maturity adds value to relevant literature.

In view of slow adoption of e-commerce by SMEs in Jordan, there is a need for investigating the underlying causes (Alamro and Tarawneh, 2011). The findings of this study may provide rich information to the existing literature on e-commerce adoption by SME in developing countries particularly travel agencies sector, by presenting the factors that affect the management decisions on the adoption level.

Therefore, this study provides input to managers, policy makers and IT vendors and consultants about e-commerce adoption in Jordanian travel agencies. It provides

managers with a useful guidance on enhancing their businesses by investing the advantages of e-commerce, while it also enables IT vendors and consultants, seeking to understand the business profiles of travel agencies and managers' perceptions regarding e-commerce adoption, to identify the appropriate strategies that effectively address agencies needs in adopting a relevant level of e-commence applications.

Moreover, the findings of this study will be useful for policy makers seeking to understand the factors that affect e-commence adoption in travel agencies in order to design policies that promote e-commerce adoption among travel agencies in Jordan. Finally, the findings could be applied to SMEs in other sectors in Jordan.

1.7 Thesis Structure

Chapter Two presents tourism industry in Jordan and its relationship with technology. It first presents the importance of tourism industry to economy in developing countries particularly Jordan and the Arab countries. It moves to overview the importance, benefits and challenges of adopting ICTs and e-commerce in developing countries, Jordan and Arab countries in particular. This is followed by a brief description of Small-Medium Enterprises (SMEs), their characteristics and economic role.

It also addresses ICTs and e-commerce phenomena and their relationship to SMEs by exploring the drivers and challenges of ICTs and e-commerce adoption in developing countries, specifically Jordan. Then, it introduces the affiliation of ICTs and e-commerce in tourism industry, its benefits and challenges. Finally, the chapter describes the nature of travel agencies business and its relevance to ICTs and e-commerce, the importance of e-commerce adoption in travel agencies and the immanent threats facing them.

Chapter Three reviews relevant literature, presenting the most prominent theories and models in technology adoption by SMEs and the most common sequences in e-commerce adoption levels by SMEs. Also, it discusses the most influential factors of e-commerce adoption in literature.

Chapter Four offers a conceptual framework and hypotheses of the bases of identifying weaknesses and strengths of models and theories presented in Chapter Three as to embark on the conceptual framework that best explains the factors affecting e-commerce adoption by Jordanian travel agencies.

Chapter Five discusses the research methodology and the selection of research appropriate methods. It also presents the rationale of the research design and strategies and their viability for this study in terms of data collection process, sampling unit and sample size. The questionnaire design and development, and measurement of variables and ethical considerations are also discussed. . Finally, the chapter outlines the validity and reliability of constructs and the suitable techniques used to verify them.

Chapter Six presents the details of statistical procedures and the outcomes of data obtained from the survey conducted on the basis of research methodology presented in Chapter Five. The chapter starts with data preparation, coding, refining and screening. It moves to inspecting and explaining non-response bias, multicollinearity and outliers. The reliability and validity are also examined through Cronbach's alpha and factor analysis, respectively. This is followed by a descriptive analysis of the demographic profile including respondent's profile, company's profile and e-commerce information and an analysis of the research constructs using independent sample t-test as to determine the

differences in levels of e-commerce adoption in travel agencies. Finally, the inferential statistics technique using multinomial regression analysis was applied in testing the hypotheses associated with the research model.

Chapter Seven discuses the findings presented in Chapter Six, starting with the results of the surveyed sample in terms of respondent's profile, travel agency profile and the current state of e-commerce adoption. A subsequent discussion of the outcomes of research hypotheses examination compares them with those of the literature review presented in Chapter Four.

Chapter Eight presents the main findings of this study in addition to its main contributions. Finally, the study's limitations and suggestions for future research are outlined.

Chapter Two

Technology and Tourism

2.1 Introduction

This chapter consists of two parts of reviewed literature divided into nine sections. The first part involves ICTs and e-commerce in developing countries, followed by presenting the country profile of Jordan, which involves an overview of Jordan's culture, economy and resources, followed by presenting ICTs and e-commerce in Jordan. Then a profile of small-medium enterprises (SMEs), their characteristics, challenges and role in Jordan's economy are presented. The fourth section explores SMEs and e-commerce adoption in Jordan including challenges, opportunities and technology infrastructure.

The second part of reviewed literature addresses certain views of relevance to this study. It starts with presenting tourism industry and its effect on the economy, particularly in developing courtiers. This is followed by showcasing the importance of tourism industry in Jordan. The focus is then turned to the relationship between ICTs and e-commerce in tourism industry, discussing the benefits observed in e-commerce adoption and the threats accompanied with e-commerce adoption in tourism industry, particularly travel agents. This is followed by an overview of travel agencies in Jordan, while the last section addresses relationship between e-commerce and travel agencies in Jordan.

2.2 Information and Communication Technologies and E-commerce in Developing Countries

Information and communication technologies (ICT) include hardware, software, computer networks, telecommunications such as telephone lines, mobile, internet, wireless signals and audio visual systems; enabling users to create, access, store, transmit

and manipulate information. In other words, ICT is simply articulated as a diversity of computerized technologies (Apulu and Latham, 2009c).

With the development in the Internet and World Wide Web technologies in 1990s, the rapid expansion of the Internet has become commercialized and affordable among businesses as well as individuals, giving birth to the concept of 'e-commerce'. There is no agreed definition of the term of 'e-commerce' among researchers. For example, Goel (2007, p.1) defined e-commerce as "The e-commerce can be defined as a modern business methodology that addresses the needs of organizations, merchants, and consumers to cut costs improving the quality of goods and services and increasing the speed of service delivery, by using Internet".

Furthermore, Wen et al. (2001), cited in Purwati (2011, p.78), defined e-commerce as "buying and selling of product, services, or information via computer network, mainly the internet". Wigand (1997, p.2) provided another definition of e-commerce as "Electronic commerce denotes the seamless application of information and communication technology from its point of origin to its endpoint along the entire value chain of business processes conducted electronically and designed to enable the accomplishment of a business goal. These processes may be partial or complete and may encompass business-to-business as well as business to consumer and consumer-to-business transactions".

Grandon and Pearson (2004) state that the definition of e-commerce depends on research aims and objectives. However, the term e-commerce is based on two main elements. The first element is that all business activities such as buying, selling and exchanging

information occur by electronic means while the second element is the electronic medium that enables these business activities such as computer networks, electronic data interchange (EDI) and the internet.

According to Tagini (2000, p.1), "E-commerce is a recent phenomenon in the world of business. It represents the most radical force of change that nations have encountered in commerce since the Industrial Revolution". Yet, no one has any doubt that e-commerce is the fastest growing retail in world market and is expected to grow by 20% in 2014 (eMarketer, 2014).

E-commerce is classified into many categories, the most common of which are Business-to-Business (B2B), Business-to-Customer (B2C) and Customer-to-Customer (C2C). Business-to-Business is defined as electronic transaction between companies such as retailers and suppliers, while Business-to-Customer involves electronic business activities between companies and customers such as enabling customers to buy tangible or intangible products/services from retailer through the electronic network. Customer-to-Customer includes electronic transaction between customers through a third party such as online auctions (Nemat, 2011).

Information and communication technology has become essential for the growth of economic development for both firms and macro levels. At the macro-level, Kramer et al. (2007) argue that ICT and e-commerce are important parts of macro-level growth, identifying ICT and e-commerce to have a significant impact on GDP growth in both the developed and developing countries led by telecommunications, Internet service providers, and mobile investments.

Many studies provided evidence of the importance of ICT and e-commerce in economic growth in the developing countries. They found that ICT enabled e-commerce to play a significant role in enhancing global trade and facilitating developing countries' integration in the global economy. Moreover, ICT and e-commerce help developing countries to overcome their economic problems by increasing productivity, accessing global markets with little or no barriers and reducing transaction costs (Kraemer et al., 2002; Humphrey et al., 2004).

Qiang et al. (2009) conducted a study to investigate the impact of broadband on sustainable economic growth in developed and developing countries, finding a positive and significant relationship between the level of communication technology adoption and the rate of economic growth in these countries. Figure 2.1 shows that penetration of fixed, mobile, internet and broadband adoption can increase GDP growth to 0.43%, 0.60%, 0.77% and 1.38% in the developing countries and 0.73%, 0.81%, 1.12% and 1.21% in the developed countries, respectively.

As a result, it was found that higher levels of communication technology such as broadband has more effect on economic growth than lower levels of internet technologies such as fixed and mobile telephony, and internet communication.
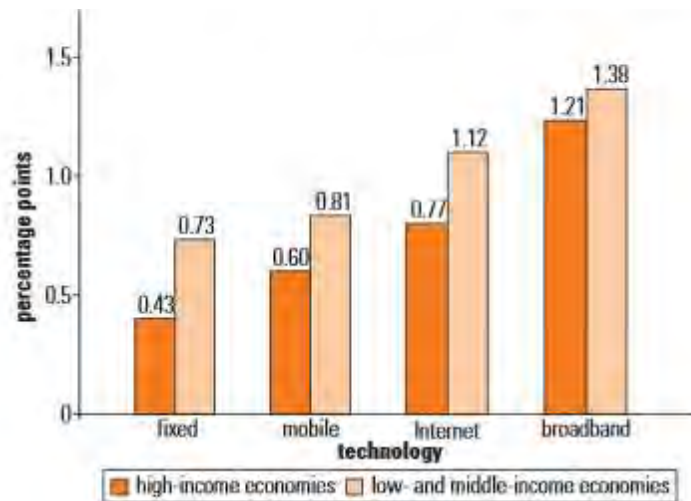
Figure 2.1: Growth Effect of ICTs in Developed and Developing Countries

Source: Qiang et al. (2009)

The results also confirmed, as shown in Figure 2.1, the impact of ICT, particularly internet technologies, on GDP growth in developed and developing countries, with more contribution in the latter. Qiang et al. (2009) suggests a 10% increase in the internet speed would lead to a 1.3% increase in economic growth in the developing countries.

For example, India and China, as developing countries, have gained the largest cumulative benefits to their economies from ICT usage. India's exports of software jumped from US$1 billion in 1995 to more than US$32 billion in 2007. Moreover, this has increased the number of employees in software industry in India to 1.6 million. China became the world largest exporter of ICT goods, reaching about $554 billion in 2012, making a 20% contribution in Chinese GDP growth (Stephen and Atkinson, 2014).

However, despite the significant benefits of ICT to economic growth, most of the developing countries are still lagging behind developed countries in terms of level of ICT penetration particularly internet usage. This ICT access gap is known as the 'digital

divide' (United Nations, 2010), which is caused by insufficient technological infrastructure and ICT availability, lack of financial resources for ICT, low computer literacy and technology skills, high cost of ICT equipment and internet access, and poor IT policies and regulations (OECD, 2004).

Alos, there are other barriers to potential impact of ICT in developing counties such as socio-economic factors including educational system, payment system and logistics; and socio-cultural factors including language, transactional trust, and personal contact (Lawrence and Tar, 2010).

An empirical study by Alrawabdeh et al. (2012) to investigate the current state of ICT penetration in Arab countries identified the availability of access to fixed telephone lines, mobile telephones, internet and broadband subscription and personal computer access. The study shows that Arab countries are still not active initiators of these ICT modes and still lag behind developed countries and that ICT infrastructure and cost are the main barriers of a better ICT penetration in these courtiers. They also found a negative significant relationship between global national income (GNI) per capita and internet penetration in Arab countries. For example, UAE that had the highest internet penetration in Arab countries constituted 0.8% of the monthly GNI, followed by Bahrain with 1.3% of the monthly GNI, while Syria and Yemen had the least internet penetration with 10.3% and 134.9%, respectively.

Moreover, Arendt (2008), Molla and Licker (2005a), and Alrawabdeh et al. (2012) state that government policies and legal framework have a significant role in increasing ICT and e-commerce adoption and penetration in Arab countries. They suggest that Arab

countries should build a reliable legal framework that encourages individuals and firms to adopt new technologies and governments to reform the policies such as liberalization and privatization of telecommunication industry which would enhance and support development of ICT infrastructure.

Also, a recent study by World Internet Stats (2014), found that Middle Eastern (mostly Arab) countries were the second least in the number of internet users in the world accounting for 3.7%, only second to Oceania/Australia which accounted for 0.9%. (see Figure 2.2).
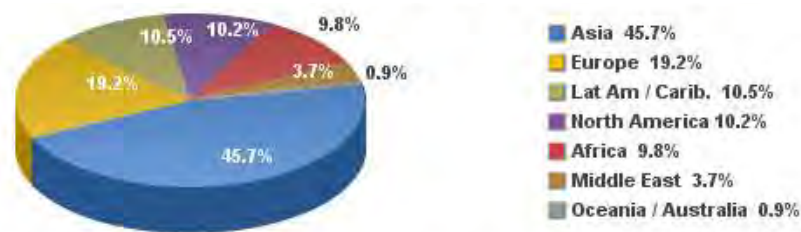
Figure 2.2: Internet Users in the World

Source: Internet Word Stats- www.internetworldstats.com/stats.htm

At the firm level, many studies found that ICT and e-commerce adoption had a positive and significant role in boosting organizations' efficiency. For example, the World Bank, cited in (Khalil and Kenney, n.d., p.7), conducted a survey of over 20,000 businesses in developing countries and suggests that "firms using ICT see faster sales growth, higher productivity and faster employment growth". Also, Gupta (2000) confirmed that ICT has a significant impact on operation, structure and strategy of organizations, as well as communication with consumers.

Many empirical studies show several impacts of ICT and e-commerce on organizations such as acquiring competitive advantages, increasing productivity and profitability, reducing inefficiency, improving and increasing access to global market, enhancing performance, creating new business and improving management (Peppard, 1993; Kew and Herrington, 2009; Ghobakhloo et al., 2011; Huy et al., 2012).

According to Oxford Economics (2011), cited in Stephen and Atkinson (2014), productivity growth is increased in firms adopting ICT about five times more than non-ICT firms. However, benefits of adopting ICT, particularly e-commerce, are not always guaranteed, as firms need to apply technology properly (Ma et al., 2003) and have appropriate skills and business plans such as business strategies and process. However, the percentage of firms with access to the ICT and e-commerce adoption in developing countries is still lower than that in developed countries, due to several factors. Many studies found that cultural factors such as computer anxiety, language, face-to-face contact with sellers and suppliers and attitude toward ICT usage are important barriers to ICT and e-commerce diffusion in firms in developing countries (Van Dijk, 2006; Grazzi, and Vergara, 2012; Kapurubandara and Lawson, 2006).

Second, several studies (Kapurubandara and Lawson, 2006; Ashrafi, R. and Murtaza, 2008; Archer et al., 2008; McGrgor and Varazalic, 2006; Robert et al., 2010) found that internal barriers in the firms were major impediments of adopting ICT and e-commerce, arguing that internal barriers include managerial and organizational barriers. Managerial barriers included lack of time, ICT skills and awareness; resistance of change and unfavourable top management attitudes among decision makers were significant factors hindering e-commerce diffusion in developing countries' firms. Organisational factors

included return on investment, cost of ICT and e-commerce implementation and access and firm size.

Third, firms in developing countries are inhibited in implementing ICT and e-commerce due to external barriers (Kapurubandara and Lawson, 2006) such as telecommunications infrastructure. Many studies addressed the external barriers and their impact on ICT and e-commerce adoption by firms in developing countries (Kapurubandara and Lawson, 2006; Robert et al.; 2010; Ashrafi and Murtaza, 2008; Robert et al., 2010) and agreed that lack of government legal and regularity systems was a serious barrier of ICT growth. Other external barriers include poor delivery and transport systems which hinder distribution of the products sold through the internet. Also, uncertainty of taxation rules was found as directly hindering adoption of ICT and e-commerce in organizations (Alamo, 201; Dedrick and Kraemer, 2001).

It can be concluded that developing countries are not yet ready to fully benefit from ICT usage, despite its becoming a necessary pillar of economic growth. Therefore, this study focuses on the internet technology as medium for e-commerce adoption in the developing countries including Jordan which falls under this category of countries.

2.3 ICTs and E-commerce in Jordan

This section presents information about country profile, ICTs and e-commerce infrastructure, and SMEs and e-commerce in Jordan.

2.3.1 Overview of Jordan

Jordan has a strategic location being in the heart of Middle East, bordered by five countries: Saudi Arabia from southeast, Iraq from northeast, Israel and Palestinian territories from west and Syria from north. Jordan has a total of 90,000 square meters.

According to the World Population Review (2014), Jordan is inhabited by over than 7 million, 70% of whom are under the age of 30 years. Jordan's population has dramatically increased since 2012 as over one million of Syrian and Iraqi refugees poured into Jordan due to war and violence in these countries. The official language of Jordan is Arabic, while English is widely spoken as a second language. Arabs constitute 98% of the population and the remaining includes Armenians, Chechens and Kurds. The majority of Jordanians is Sunni Muslims constituting 92% of the population, followed by 6% as Christians and 2% as Shia, Sophi and Durze (Jordan embassy, 2013).

According to the World Health Organisation (2013, p.13) "Jordan has limited natural resources and suffers from severe fresh water scarcity; it is ranked among the five most water-poor countries in the world". Also, Jordan suffers from scarcity of natural resources such as oil and gas. Therefore, it mainly relies on imported energy resources to meet domestic demand, which consumes 40% of the country's budget. However, Jordan enjoys abundant quantities of phosphate and potash, making the country the second largest exporter of phosphates in the world, with an annual production around 7 million

tons. Phosphate and potash together generated $564 million which constitutes about 22% of Jordan's domestic export earnings.

Jordan is classified by World Bank (2014) as upper-middle income developing country. According to the Department of Statistics of Jordan (2014) unemployment was estimated at 12% for the first half of 2014, being higher among females who constituted 25.4% of the unemployed population. On the other hand, more than 25% of the population is below the poverty line. Finally, inflation has increased by 6.1%. Therefore, as poverty, unemployment and inflation are of the most challenging economic problems facing Jordan's economy, the government lunched a national agenda to address these issues.

For examples, official policies encouraged private sectors to play an active role in economic growth by granting them several incentives such as tax exemptions for 9 years, custom exemptions and unlimited profit repatriation. Moreover, Jordan's membership in the WTO and partnership with the European Union enabled it to access the global market, attract foreign investments and improve its economy (Jordan embassy, 2013). In 2011, foreign investments in Jordan reached around US$1.5 billion, being focused in the information and telecommunication sector, banking sector and tourism sector (OECD, 2013).

Against the backdrop of scarce natural resources, Jordan's economy is service-oriented as services sector contributed more than 70% of total GDP (Federal Research Division, 2006). This reliance encouraged the government to render more attention to services sectors such as tourism as shall be discussed in the following sections.

2.3.2 ICTs and E-commerce in Jordan

Jordan displayed a steady growth in information and communication technologies infrastructure in the last decade. Strategic plans were developed and investments allocated to optimize ICTs infrastructure, increase ICTs literacy and liberalize and regulate the ICTs market. Although the environment for e-commerce is still in early stages of development and therefore has not yet acquired a sufficient level of readiness and usage penetration, Jordan has a strong ICTs and e-commerce agenda, which can have a significant impact on its development.

According to the Ministry of Information and Communications Technology (2007), there are a number of factors for slow e-commerce adoption in Jordan such as the relatively high cost of Internet access compared to individuals' incomes and unaffordable prices of computers for many Jordanians. There is also a general lack of awareness of e-commerce applications among businesses and customers like the electronic payment system. The legal framework that protects customers and businesses using e-commerce is insufficient. Finally, taxes imposed by the government discourage e-commerce adoption in business processes.

Moreover, there is inadequate training and technical assistance provided by government to people who may otherwise use information technology in their work. In 2007, about 8% of Jordanian shoppers used the Internet to purchase products and services, a low rate that can be also attributed to cultural issues such as lack of trust in e-commerce, security concerns regarding electronic payment methods and unreliable postal infrastructure.

In spite of the low e-commerce adoption and ICTs tools in Jordan, the country has a strong ICTs infrastructure. Jordan ranked third in Arab countries with respect to e-commerce readiness after UAE and Bahrain, respectively. The Jordanian government is working intensively by establishing the necessary strategies to move from e-commerce readiness to actual use of e-commerce amongst Jordanian stakeholders (Al-Khaffaf, 2011).

2.3.3 Small and Medium Enterprises (SMEs) in Jordan

Small and medium-size enterprises are an important participant in economic performance and play a crucial role in economic growth, especially in developing countries through creating jobs and increasing international trade. In most Organisations for Economic Cooperation and Development (OECD) countries, SMEs make around 95% of the total number of enterprises (OECD, 2002).

SMEs in Jordan are particularly important to Jordan's economy for three main reasons. Representing 98% of all businesses in Jordan, SMEs assume a significant role in employment, accounting for 97% of all jobs and provide for about 96% of all exports and contribute about 50% of Jordan's GDP (JEDCO, 2011; Al-Rawashdeh, 2011). According to the Jordanian Ministry of Industry and Trade (2012), SMEs in Jordan consist of three main sectors: services, industry and agriculture.

There is no specific definition of SMEs; as this depends on the country's criteria that are based on either quantitative or qualitative measurement. Quantitatively, the criteria are based on the number of employees, total amount of assets, and production capacity; qualitatively, measurement includes the business operations and the structure of

organisation (Meredith, 1994). In Jordan, the classification of SMEs is based on the quantitative criteria, using number of employees. As shown in the Table 2.1 below, the Ministry of Industry and Trade classified as medium size businesses with less than 249 employees, small size those with less than 49 employees and micro size those with less than 9 employees (JEDCO, 2011).

SMEs Classification in Jordan	Total Number of Employees
Micro	1-9
Small	10-49
Medium	50-249

Table 2.1: Jordanian SMEs' classification

Many studies discussed the problems and challenges to SMEs that prevent them from growing and positively contributing to economic development in both developed and developing countries. The most common challenges include lack of finance, low human resources capability, limited technological resources, difficult access to market and lack of public and private awareness (Hussain et al., 2010; OECD, 2004). In Jordan, SMEs are facing similar challenges in addition to lack of managerial skills, procurement, long bureaucratic procedures, regulatory issues and marketing (Al-Rawashdeh, 2011; Ajlouni, 2006).

According to JEDCO (2011), technology adoption is the most critical factor that must be addressed in Jordanian SMEs, as technology provides SMEs with a wide range of opportunities and benefits such as cost reduction, productivity improvement, access to

new markets and improved competitiveness. However, the diffusion and adoption of e-commerce by Jordanian SMEs are slower than and far behind larger organisations due to lack of a strategic plan for e-commerce adoption, costs and lack of technological knowledge.

2.3.4 SMEs and E-commerce in Jordan

E-commerce grew rapidly and penetrated SMEs in the past decade, transforming the organisational process by creating new ways of storing, distributing and exchanging information between companies and customers (Kollberg and Dreyer, 2006). Moreover, it has transformed SMEs' business structures and strategy.

Many researchers suggested that e-commerce adoption by SMEs provides opportunities to compete large organisations as it offers equal access to the global market. Also, SMEs adoption of e-commerce increases productivity improves customer services and enhances profitability. According to Kapurubandara and Lawson (2007, p. 141) "developing countries forge ahead to achieve rapid and sustainable economic and social development by building an economy based on an ICT enabled and networked SME sector capable of applying affordable yet effective ICT solutions".

In Jordan, however, e-commerce adoption is relatively slow. According to Allahawiah et al. (2010), who investigated the current state of e-commerce adoption amongst Jordanian SMEs, about 90% SMEs are using a basic internet tool (e-mail) for business activities rather than having simple website such as presenting only information about their business and/or more advanced website with more complex activates such online payment.

Few studies investigated the factors affecting e-commerce adoption by SMEs in Jordan. For example Alamro and Tarawneh (2010) investigated the factors affecting e-commerce adoption in different sectors of SMEs in Jordan, finding that CEO characteristics and employee's IT knowledge are the most significant factors in this regard. A study by Al-weshah and Al-zoubi (2012) found that SMEs in Jordan are still at lower stages of e-commerce adoption due to several factors such as high cost of implementation, absence of strategies and legal framework by the government, and low e-commerce awareness amongst decision makers in Jordanian SMEs.

Al-Dmour and Al-Surkhi (2012) focused on the adoption rate of Internet-based information systems by SMEs in Jordan, finding that more than half of the surveyed SMEs had a low level of adoption, while 15.6% and 31.3% adopted a medium and a high level, respectively. They identified top management support, system's cost and complexity and business partner's pressure to have the most significant effects on Internet-based information systems adoption in Jordanian SMEs.

2.4 Tourism Industry

The World Tourism Organisation defines tourists as people "traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes" (WTO, 2001). The travel industry is considered the biggest and fastest growing industry in 21st century due to convergence of social, economic and technological developments. According to WTO (2013a), tourism industry contributed about 9.5% of the worldwide GDP in 2013, and is expected to raise about 4.5% of total worldwide GDP in 2014.

Tourism industry includes other affiliated industries such as catering, hospitality, transport and entertainment industry (Liu, 2005). Consequently, it is a complicated business because it involves more than one industry at the same time.

Travel industry is divided into four different sectors, namely, travel sector, transport sector, hospitality sector, and visitor and leisure attractions sector. Travel sector includes travel agents, and tour operators. Transport sector includes airports, port authorities, buses companies, railway, and car rental companies. Hospitality sector includes accommodations such as hotels, and catering such as restaurants. Visitor and leisure attractions include theatres, cinemas, parks, night clubs, and religious and historical sites.

Therefore, tourism industry is mainly operated by SMEs. In 2013, more than 100 million employees were working directly in tourism sectors including travel agencies, hotels, restaurants, airlines, transportation and leisure providers, contributing about 3.4% of total employment in the world (WTO, 2013a).

As a product, tourism is intangible and cannot be consumed or inspected in advance for a trial. In addition, it depends totally on information and social interaction between the supplier and the consumer (Werthner and Klein, 1999). Information and time in tourism industry are very crucial to consumers to make an informed decision, and this makes effective use of information technology vital for tourism as it helps consumers obtain necessary information at the right time.

2.4.1 Tourism in Jordan

As discussed earlier in this chapter, Jordan is a small and open country with limited natural resources. In spite of limited natural resources, Jordan has plethora of tourism resources. There are three major tourism recourses in Jordan. First, natural resources that include land, and sea such as; Aqaba, Jordan valley. Second, cultural resources, which, include archaeological/historical sites such as Petra that is considered as the most attractive touristic destination in the country and designated as one of the New Seven Wonders of the World, Um Qais, and Jerash and other ancient cities (Wood and Wood, 2009). Finally, there are therapeutic resources like the Dead Sea and hot springs of Maeen.

Jordan has heavily invested in tourism by establishing luxury hotels, spas, resorts and real estate projects, thus enhancing its contribution to national income. In 2013, tourism in Jordan generated about $8 billion, or 20.3% of total GDP, and is expected to further grow by 2.7% in 2014.

Moreover, the total number of employees in tourism is 48,151, constituting about 4.5% of overall employment and considered the second biggest source of employment in Jordan. This is expected to continue growing over the next decade to reach about 96,000 through an average of 3.3% annual increase in contribution to overall employment (WTO, 2013b). Jordan, however, is still far from reaching its touristic potentials. According to Shdeifat et al. (2006), there are problems and challenges facing Jordan's tourism development, including:

- General unawareness of tourism importance and benefits.

- Jordan's limited presence in international tour operators catalogues.

- Lack of marketing Jordanian tourism products internationally.

- Inadequate training, skills and experience among employees in this sector.

- Weakness and financial inadequacy of many tourist agencies.

Shdeifat et al. (2006) suggested that one of the most significant measures to overcome these challenges is developing more promotional programmes, increasing promotion representatives abroad and adopting the Internet and technology in tourism industry.

The Ministry of Information and Communications Technology (2007) investigated the economic impact of ICTs on the Jordanian tourism sector, finding that ICTs have a significant and positive effect on tourism and suggesting that government should introduce well-structured technology to tourism industry which would facilitate interaction between all sectors of tourism industry and customers.

2.4.2 Tourism and ICTs

ICTs have penetrated all aspects of tourism, bringing more innovation to manage, monitor and market tourism products than traditional ways. The relationship between tourism and ICTs was born in 1970 when airlines established and adopted Computer Reservation Systems (CRSs) to manage their inventory, store and retrieve information and operate logistics. CRSs were expanded and made accessible to other tourism sectors such as travel agencies, tour operators, hotels and other hospitality firms (Buhails and Jun, 2011).

In the 1980s, CRSs became Global Distribution Systems (GDSs) with expanded geographical informational coverage by integrating with other different types of tourism sectors' systems, such as those of other airline companies, hotels and car rentals. GDSs became the backbone of tourism industry. Amadeus, Galileo, Sabre and Worldspan are the most robust and widespread GDSs in the marketplace (Buhails and Jun, 2011).

ICTs, especially Internet applications, have a potential impact on tourism industry as this latter is an information-intensive industry. The Internet and e-commerce revolution has changed the industry's structure especially tourist products distribution systems, as these are based on information rather than being physical products. Travel products are purchased and consumed on the bases of information obtained through previous experience, word of mouth and tourism intermediaries such travel agents, tour operators and tourist information centres (Beirne and Curry, 1999). The Internet allows customers to search, book and create their travel products easily and at any time. Figure 2.3 shows the structure of ICTs and Internet in tourism market.
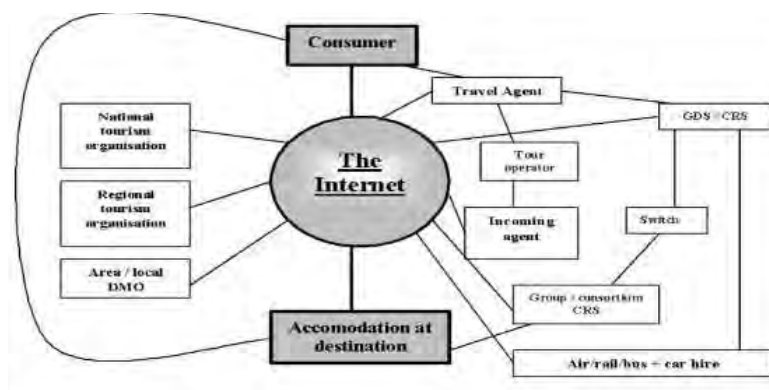
Figure 2.3: Structure of ICTs and Internet in Tourism Market

Source: Shanker (2008)

The percentage of U.S adult online travellers reached 74% in 2009 marking a 3% increase from 2008. Growth in travel online customers can be attributed to the ease of using technology such as the Internet that grants travellers more confidence and satisfaction by navigating and controlling their travels online.

In addition, the technologies owned by online travellers such as laptops, iPods, MP3 players, and mobile technologies have increased by 20% in 2009 compared to 2007 (eMarketer, 2011). A recent study by eMarketer (2014) found that U.S mobile travellers who used mobile devices such as smartphones and tablets to book their travels are expected to increase from 2013 to 2014 by 59.8% and to boost sales to reach US$26.14 billion which accounts for 18% of total digital travel sales. Moreover, eMarketer (2014) expects that mobile travellers could grow to reach 37% of total digital travel sales in 2018 which accounts for US$64.69 billion.

In Europe, digital travel sales have grown dramatically by 41% between 2002 and2007 reaching €50 billion in 2007 which accounted for 20% of all European travel sales. (EyeforTravel Research, 2008). This considerable growth can be attributed to change in customer behaviour in Europe that found the internet a provider of an easy means to search in a wide range of destinations and travel products. A recent study conducted by Catalyst Corporate Finance (2013) reported that online travel sales in Europe generated US$140 billion, growing by 20% compared to 2012.

With regard to online travel sales worldwide, World Travel Market (2014) reported that online travel sales accounted for US$590 billion in 2013, comprising 27% of total global

travel sales, a trend that will continue to grow and is expected to reach US$950 billion by

2018 as shown in Figure 2.4.
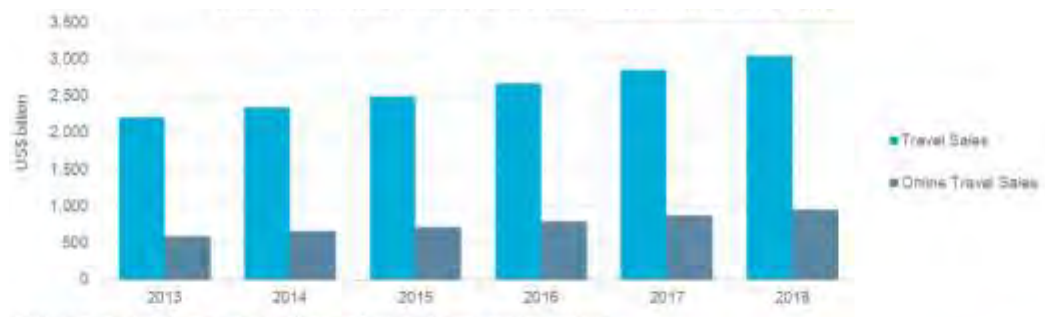
Figure 2.4: Global Travel and Online Travel Sales

Source: World Travel Market (2014)

As a result, the Internet is the most important source of travel information to online

travellers. However, online travellers are not entirely dependent on the Internet for their

travel information, as previous experience and word of mouth are also important. It is

believed, however, that traditional sources of travel information such as magazines,

brochures, newspapers and books, will disappear (Travel Industry Association, 2009).

Naryan et al. (2005) conducted a study to investigate the relationship between ICTs and

Fiji's tourism industry as an example of developing countries, focusing on the hotels

sector and identifying some obstacles to adopt ICTs, the most important of which being

the high costs of ICTs implementation in hotel business especially costs of the Internet

services. They also found that every 1% increase in ICTs investment increases hotel

turnover by 0.46%. Moreover, there is lack awareness of ICT usage in Fiji.

Shanker's study (2008) of ICT and tourism identified the Internet as the biggest

information provider to all tourism industry players and end-users. The Internet has

transformed the traditional tourism industry strategies especially those of marketing, communication and pricing, which added more effectiveness and efficiency to this industry. However, unstructured, unusable and weakly presented tourist website may be misleading and time consuming to Internet users searching for convenient information. Researches also confirmed that the contents of tourism website such as information and images and its usability will positively attract consumers to buy tourist products online (Zhou and DeSantis, 2005).

Ma et al. (2003) found that the Internet has definitely changed the structure of tourism industry in China by providing more added value services such as booking airlines, hotels and packages directly by consumers. They found out that while airlines and hotels are adopting Internet applications, tour operators, visitor attractions and destination management organisations in China are still in an early stage of the Internet adoption due to low awareness of ICTs and Internet, cultural and governmental issues.

2.4.3 Disintermediation and Reintermediation

The Internet revolution has changed the strategies and structures of many tourism sub-sectors. For example, hotels, airlines, car rentals became able to sell their products directly to consumers. Analogously, customers' behaviour has also changed as they obtained access to travel information which enabled them to organize and book their trips independently through a new effective marketplace of travel products where the Internet directly links between travel suppliers and customers. This has downplayed the role of intermediaries in what became known as "disintermediation" (Cheung and Lam, 2009; Ma et al., 2003; Buhalis and Jun, 2011; Patricia, 2008).

Disintermediation is rapidly gaining more ground in tourism sectors than other industries. According to Kaewkitipong (2010), cited in Nelson et al. (2010, p.162), "the tourism industry is one of the first industries in which disintermediation has been attempted".

This can be attributed to treating travel products as information-intensive which fits well into Internet marketing. Travel suppliers such as airlines seeking to reduce commissions paid to intermediaries like travel agents and tour operators started encouraging customers to buy their travel products directly through their websites. This development occurs against a backdrop of the fact that travel agencies have traditionally been found as the highest contributors in selling flights tickets of most airline companies. As a result, the survival of intermediaries, particularly travel agents, is now threatened to be replaced by these airline suppliers (Buhalis and Jun 2011; Cheung and Lam, 2009).

Cheung and Lam (2009, p.86) argued that "changes in the industry over the past ten years have dramatically altered the nature and value of information in the travel industry and, consequently, the role of travel agency". Traditionally, travel agency is considered as a retail business that intermediates between customers and travel suppliers, selling travel products through different GDSs on basis of commission. GDSs enabled travel agencies to access all types of tourism suppliers and coordinate with customers by providing them with tourist information such as available flight seats, hotel and car rental reservations, in a business environment on behalf of customers who their satisfaction became more complicated and demanding more services .(Livi, 2008; Buhalis and Jun, 2001; Ma et al., 2003).

Therefore, ICTs are inevitable tools for traditional travel agencies to provide their services and enhance the intermediation between suppliers and customers. Travel agencies have also the role of informing the customer about their destinations like exhibitions, attractions, weather, climate, customs, regulations, currency rates and required documents like passports and visas (Cheung and Lam, 2009). All these characteristics differentiate travel agencies from other retail companies that sell tangible products, for they do not have a stock in hand but generate profits through commissions charged from suppliers and sometimes from customers as well (Buhalis and Jan, 2011).

Although, travel agencies are facing disintermediation by e-commerce, this latter offers them a powerful tool to reintermediate back into global travel market (Patricia, 2008; Cheung and Lam, 2009). According to Livi (2008, p.2) "Access to GDSs was soon no longer an option but obligation for travel agencies. They had to learn specific terminology and new technical and technological skills".

The Internet has not simply become a tool for distribution channels, or a tool of services promotion for travel agencies, but even a forceful catalyst to change their business strategies. For example, GDSs operators have employed Internet advantages and updated their services, which brought them closer to other suppliers and consumers by creating their own websites and adopting e-commerce in their business. Instances include 'expedia.com' and 'travelocity.com' that are owned by Sabre and 'vacation.com, 'opodo.com' and 'traveltainment.com' that are owned by Amadeus IT Group (Buhalis and Jun, 2011).

Moreover, adopting e-commerce provides travel agencies with an organisational added value by aggregating and sorting information on travel products offers by travel suppliers to online customers, especially that customers may find it difficult to fetch and compare information and prices from different travel suppliers, thus they prefer to use online travel agency as one-stop shop (Buhalis and Law, 2008).

Although travel suppliers seek to cut off the intermediary costs, SME travel suppliers such as hotels and car rentals still prefer to deal with online travel agencies to promote and sell their products as they have less experience in making their products visible over the Internet in addition to avoiding the cost of developing and maintaining an online booking system (Kaewkitipong, 2010). Having unfolded these factors, it is fair to confirm that the Internet adoption is inevitable to travel agencies. In addition to selling their products and services traditionally (using GDSs), they should invest the Internet advantages and launch their own websites to provide information of their products and services and sell them directly to customers (Levi, 2008).

As a result, many travel agencies have recently made that step transforming their business from "brick and mortar" to "brick and click" thus becoming cybermediaries (Buhalis and Jun, 2011; Paricia, 2008). However, despite the benefits of e-commerce adoption in supporting travel agencies future survival in the market, e-commence has not been yet fully adopted, particularly in developing countries. Therefore, investigating the factors of e-commerce adoption by travel agencies represents a novel area for academic research. As a result, the interest of this study to investigate reasons of slow e-commerce adoption by travel agencies has become an urgent need for analysing e-commerce adoption in developing countries, specifically Jordan.

2.4.4 Travel Agencies in Jordan

According to the Jordan Society of Tourism and Travel Agents JSTA (2012), there are 631 travel agencies in Jordan based in 13 cities among which Amman hosts 81% as shown in Table 2.2. These agencies are classified in three types as shown in Figure 2.5. Type A includes agencies carrying out inbound and outbound tourist activities. About 13% of the total number of travel agencies are type A, while type B that only carries out inbound tourism activities and issues flight tickets includes 517 travel agencies, accounting for 82% of total agencies. Type C, which carries out inbound and outbound tourist activities which are organized and carried out by type A agencies, accounting for 5% of the total numbers of travel agencies in Jordan.

City	Number of Travel Agencies
Amman	517
Petra	31
Irbid	28
Alzraqa	18
Alkarak	5
Madaba	4
Wadi Rum	3
Jerash	3
Almafraq	2
Alrsaifeh	1
Albaqaa	1
Alsalt	1
Alramtha	1
Aquba	16

Table 2.2: Numbers of Travel Agencies in Jordan's Main Cities

Source: JSTA (2012)
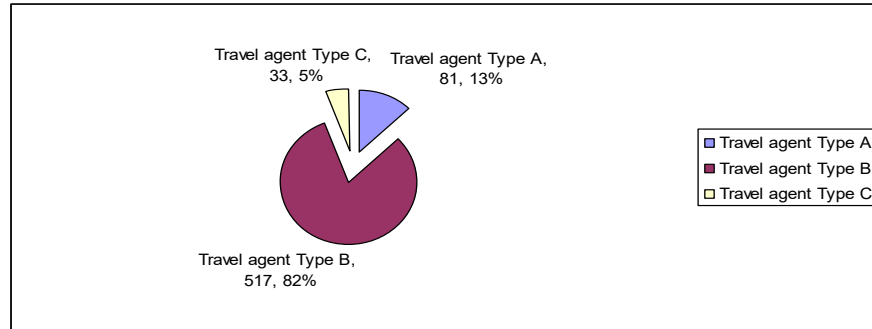
Figure 2.5: Numbers of Travel Agencies Types in Jordan

Source: JSTA (2012)

Recent statistics by JSTA in 2013 show that travel agencies in Jordan has the second highest portion of total number of employees in Jordanian tourism industry, accounting for 9.9% with 4,719 employees. This indicates that travel agencies are like other SMEs in Jordan that have important participation in economic performance and play a crucial role in economic growth.

2.4.5 Travel Agencies and E-commerce in Jordan

There is no doubt that Jordanian travel agencies' adoption of e-commerce will increase their profits and attract more international tourists to buy their travel products through their websites. Although online shopping has dramatically increased in the past decade among Jordanian customers from 15.4% in 2010 to 24.4% in 2011 , Jordan travel agencies are still in early stages of e-commerce adoption and have not yet adopted advanced applications such as online booking and online payment (Ghazal, 2012).

Kokash (2012) found that most Jordanian travel agencies adopting e-commerce have basic applications displaying essential tourist information such as offers, events,

attractions, recommendations, climate and currency. The study also found that many of Jordanian travel agencies only use e-mail, telephone and fax to interact with their customers and therefore recommends adopting a higher level of technology applications in order to enhance their competitive position and customer relations. These technologies include online live chat, computer telephone using VoIP technology, and interactive and transactional website that allow booking and buying travel products.

Traditional travel agencies in Jordan are facing the threat of losing commissions paid by airlines and even becoming ousted by online agencies (Dajani, 2012). The investigation of factors affecting e-commerce adoption by travel agencies stand out as an important issue that is not yet sufficiently addressed either in developed or developing countries including Jordan. This study seeks to contribute in filling this gap by studying the factors affecting e-commerce adoption level in travel agencies SMEs.

The next chapter discusses in details the most common models, theories and factors relevant to e-commerce adoption in order develop a comprehensive framework that better explains e-commerce adoption in the context of travel agencies.

2.5 Conclusion

This chapter opened with an overview of Jordan including location, population, and culture, showing that it is a developing upper-middle income country with limited natural resources and three main economic challenges: poverty, unemployment and inflation. Jordan is heavily dependent on foreign investments, private sectors and services such as tourism. The chapter moved to highlight the use of ICTs and e-commerce in Jordan, as the country is witnessing a rapid development in this field although it is still in an early

stage of e-commerce adoption due to several factors. Then the chapter addressed small and medium size enterprises (SMEs) in Jordan, their challenges, classification, and importance to the economic development before presenting issues related to e-commerce adoption by SMEs in Jordan and benefits obtained from such adoption.

The main factors responsible for the slow e-commerce adoption were identified to be the cost, system complexity, decision maker characteristics and employees e-commerce literacy. Also discussed was the importance of tourism to global economy whether in developed or developing countries including Jordan where tourism plays a role in the economy, employment and contribution to the GDP, despite the problems and challenges facing it. The chapter also reviewed literature on ICTs and e-commerce adoption in tourism industry showing the special relevant benefits as tourism is considered an information-intensive industry.

The chapter discussed the threats facing travel intermediaries, especially travel agencies, as a result of Internet utilization, in what is known as disintermediation and the need to adopt e-commerce to overcome this threat. Finally, the chapter addressed issues related to travel agencies in Jordan in terms of numbers and types. The next chapter discusses the most dominant theories and models that explain the factors affecting e-commerce adoption.

Chapter Three

Theoretical Background

3.1 Introduction

This chapter explores the most common theories applied in information systems, particularly technology adoption by individuals and organisations and their relevance to this study. Also, it presented the most common sequences levels of-commerce adoption by SMEs. The chapter consists of three sections, the first of which describes the most dominant theories and models related to innovation diffusion and technological adoption, including Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Technology-Organisation-Environment (TOE) model, Diffusion of Innovation Theory (DoI) and Hofstede's Cultural Dimensions.

The second section reviews the most common e-commerce maturity models that describing the sequential levels of Internet adoption in SMEs including Rao model, Daniel model, PriceWaterhouseCoopers model, Rayport and Jaworski model , Lefebvrea et al. model and Molla and Licker model for staged Internet adoption. Then it discusses the numerous factors suggested by prior studies that influence e-commerce adoption in SMEs in general and travel agencies in particular. The last section presents limitations and gap in literature.

3.2 Theories and Models in Technology Adoption

This section of this chapter reviews and discusses the most five prominent models and theories were developed in information systems literature in order to attempt to understand the factors that influence/inhibit technology adoption by individuals and organisations. The five models reviewed are: Theory of Reasoned Action (TRA);

Technology Acceptance Model (TAM); Technology-Organization-Environment (TOE); Diffusion of Innovation (DoI); and Hofstede's Cultural Dimensions.

3.2.1 Theory of Reasoned Action (TRA)

The TRA model was developed by Martin Fishbein and Icek Azjen (1975) proposing that the behavioural intension is determined by an individual's attitude toward behaviour and subjective norms (See Figure 3.1). Attitude toward behaviour means the degree level of individual's perception towards performing the behaviour, while subjective norms are the degree of environmental and social pressure surrounding individual influencing them to perform or not perform the behavioural intention . Behavioural intention, in turn, is an immediate predictor for the actual behaviour.
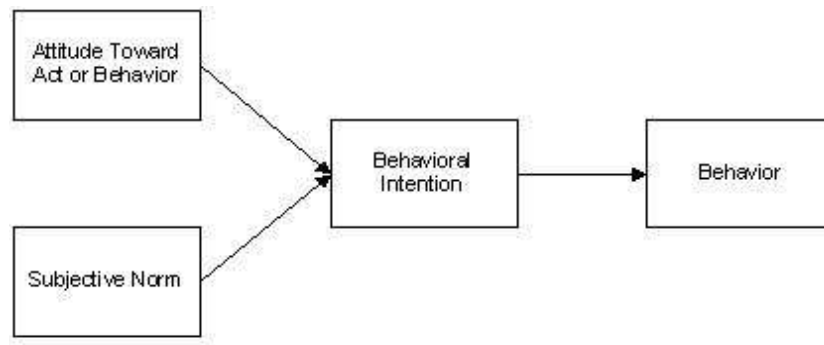
Figure 3.1: Theory of Reasoned Action

Source: Fishbein & Ajzen (1975)

TRA was originally developed in the context of social physiology in order to understand and predict individual behaviour. However, TRA is "intuitive, parsimonious, and insightful in its ability to explain behaviour" Bagozzi (1982) cited in Yousafzai et al. (2010, p. 1173). From theoretical point view, TRA has some limitations such as its confusion in differentiating between attitude toward behaviour and subjective norm and

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presenting no explanation of the beliefs that are significant predictors of a particular behaviour (Cho and Agrusa, 2006). Therefore, silent beliefs from individuals must be taken into consideration by researchers who are using TRA to investigate the individual's behaviour (Davis, 1989). Also, TRA is useful theory to predict behaviours rather than outcome of behaviours (Yousafzai et al., 2010).

To resolve these limitations, Ajzen (1991) amended TRA introducing the construct of Perceived Behavioural Control (PBC), which extended the theory to become the Theory of Planned Behaviour (TPB), (See Figure 3.2).
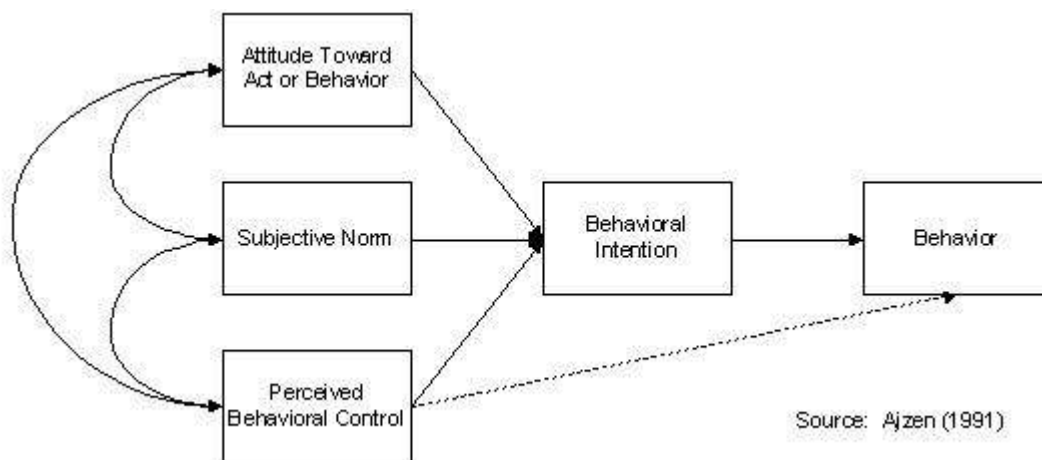
Figure 3.2: Theory of Planned Behaviour

Source: Ajzen (1991)

The PBC influences individual's intention, which is identified by individuals' perceptions of their ability to perform a given behaviour. PBC is influenced by two beliefs: control beliefs and perceived facilitation. Control beliefs are the availability of perceived skills and resources while perceived facilitation is an individual's assessment to achieve outcomes based on available resources.

Many studies used TPB to predict and explain behavioural intention regarding ICTs and e-commerce adoption. For example, Harrison et al. (1997) used TPB to investigate information technology adoption among decision makers in small businesses, finding that the decision process of technology adoption was strongly affected by subjective norms, attitude toward technology and perceived behavioural control. Riemenschneider and McKinney (2001) used TBP to understand the decision makers' behaviours toward e-commerce adoption in SMEs, identifying attitude, subjective norms and perceived behavioural control as significant predictors in differentiating between adopter and non-adopters.

Also, Nasco et al. (2008) used TPB in studying the impact of e-commerce on SMEs in developing countries, taking Chile as a case study. They found that attitude and subjective norms strongly significant constructs in measuring e-commence applications in SMEs while the perceived behavioural control construct was not. Table 3.7 Part 2 shows a summary of reviewed studies that used TPB to investigate factors that influence technology and e-commerce adoption by SMEs.

A recent study by Mirsha (2014) applying TPB to study user acceptance behaviour toward mobile commerce in India found that attitude and perceived behavioural control were significant predictors of individual's intention to adopt mobile commerce, while subjective norms has no significant effect. The TBP theory was thus found valid and useful for studying the adoption of different types of technology innovation. In fact, many studies found TPB to be more comprehensive and more powerful in predicting behaviours regarding technology adoption than TRA (Gokhan and Yilmaz, 2011; Cheung

et al., 1999; Venkatesh et al., 2003).

Nonetheless, TPB has some limitations in predicting individuals' behavioural intentions toward IT adoption. First, like TRA, the TBP still useful to predict individuals' behaviours rather than outcome of behaviours (Foxall, 1997). Second, TBP only added one predictor and there is continuing evidence that behaviour intention is not only determined by these antecedents, but other factors add a predictive power to TBP in explaining technology adoption (Werner, 2004; Davis, 1989).

3.2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) that was developed by Davis (1989) is originally adapted from the Theory of Reasoned Action (TRA) (Fishbein and Azjen, 1975). This model is used to determine and predict the factors influencing users in their acceptance/rejection of using technology applications. As shown in figure 3.3, TAM is similar to TRA, yet with slight differences in that Perceived Usefulness and Perceived Ease of Use have been added to TAM while Subjective Norms was excluded for being identified as insignificant for technology adoption (Davis, 1989).
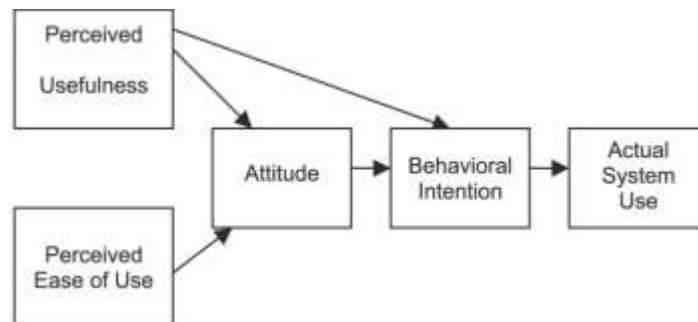
Figure 3.3: Technology Acceptance Model

Source: Davis (1989)

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This theory assumes that individual actual acceptance of technology is determined by behaviour intention to use that technology. Behavior intention (BI), in turn, is a function of attitude toward use technology and perceived usefulness. Attitude toward use technology (AT), in turn, is determined by perceived usefulness (PU) and perceived ease of use (PEOU). Davis (1989) referred attitude as a sum of two beliefs that individual holds about the use of particular technology. The first belief, perceived usefulness refers the degree of user's perception that utilizing technology will improve his/her job performance. The second belief, perceived ease of use refers to the degree of user's belief that utilizing technology will be free of mental effort.

Davis (1989) conducted study to test his original TAM on the acceptance of word-processor technology. He found, that perceived usefulness has a stronger significant effect on a person's intention to use system than that of perceived ease of use. He explained that if an individual's know that implementing a technological application will increase productivity and job performance, they are more likely to use system regardless of how this implemented system is difficult or easy to use. This should be considered not as an indication that perceived ease of use has no significance for the intention to use system, but that it has a less significant effect and therefore should not be ignored as a construct influencing users' decisions to use information systems applications.

However, TAM only focuses on individuals rather than the role of social and environmental factors that affect technology adoption. Therefore, this model was expanded to TAM2 that further emphasizes the important role of Subjective Norms and includes additional variables (Venkatesh and Davis, 2000).
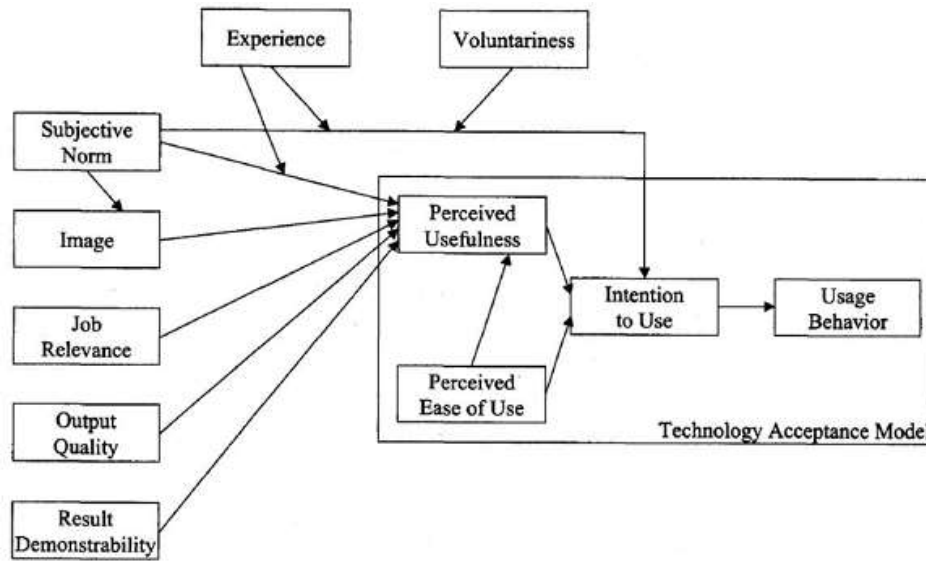
Figure 3.4**:** Technology Acceptance Model 2

Source: Venkatesh and Davis (2000)

As shown in Figure 3.4, TAM2 has additional antecedent variables for determining and explaining PU including social influence and cognitive instrumental processes. Social influence includes: Image; Subjective Norms and Voluntariness, while cognitive instrumental processes includes: Job Relevance; Output Quality and Demonstrability. In a longitudinal study, Venkatesh and Davis (2000) found TAM2 to be valid and strongly supported explaining 60% of the variance and that Social Influence and Cognitive Instrumental Processes were reliable with TAM2.

They proved that Subjective Norms has a positive significant effect on PU when used in a mandatory setting as opposed to its use in a voluntary setting. TAM is continually expanded by researchers. Venkatesh and Bala (2008), for example, expanded TAM2 by

adding antecedent variables to the PEOU, construct in a model called TAM3 (See Figure 3.5)
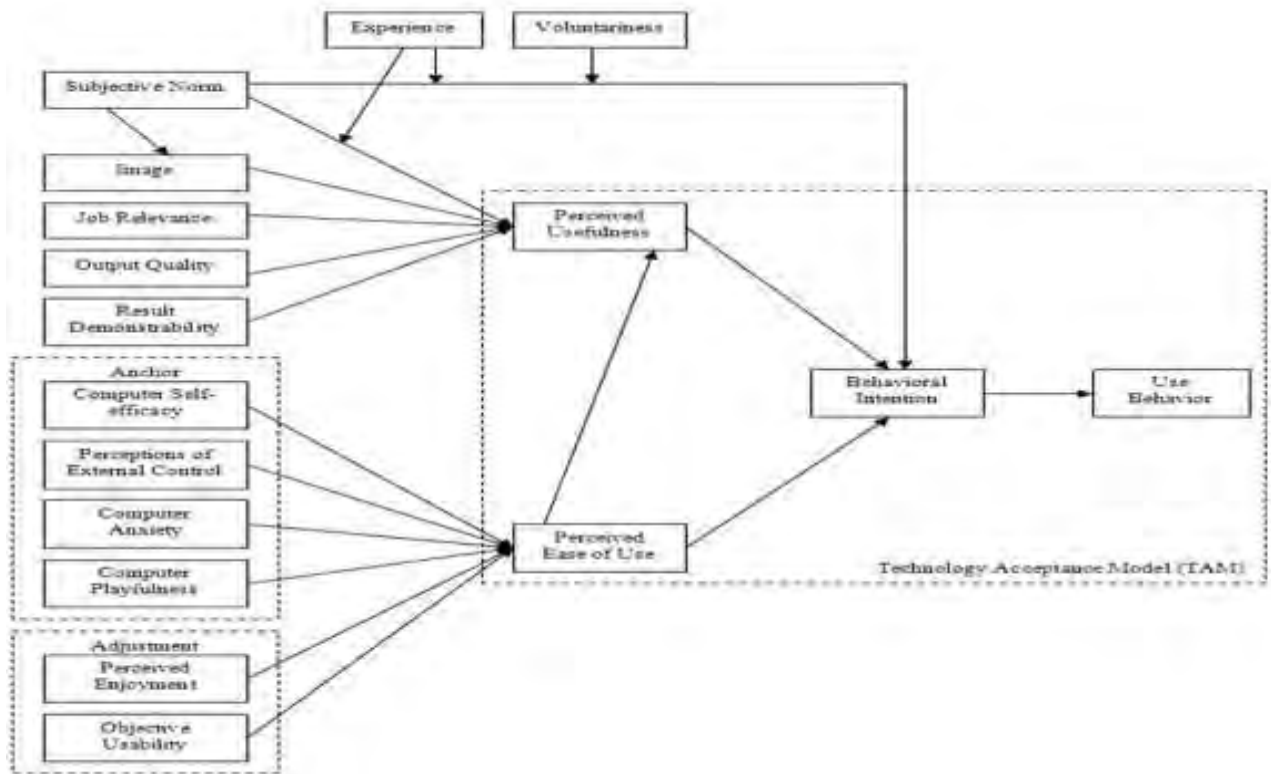
Figure 3. 5: Technology Acceptance Model 3

Source: Venkatesh and Bala (2008)

These antecedent variables to PEOU are divided into two groups, Anchors and Adjustment. The Anchors group includes: Computer Self-Efficiency; Perception of External Control; Computer Anxiety and Computer Playfulness, which determine the degree of individual beliefs toward computer usage. The Adjustment group includes: Perceived Enjoyment and Objective Usability, which reflect on beliefs about the degree of usability toward systems.

Although TAM has been extended and upgraded to TAM2 and TAM3, original TAM still valid and one of the most widely accepted models that explain individuals' technology adoption behaviour because of many reasons. First, TAM was found more predictive power and adequate explanation of technology acceptance and usage among individuals than TRA and TPB. Second, it has robust framework and strong valid measurement scale, which support its use with different aspects of information technology adoption (Szajna, 1994; Yousafzai et al., 2010).

For example, TAM has been used in explaining users' intentions to use online retailing (McKechnie et al, 2001), e-learning (Park, 2009; Al-Adwan et al., 2013), mobile banking (Munir et al., 2013), and personal computer (Taylor & Todd, 1995; Igbaria et al., 1995). TAM has also been extensively applied by studies of ICTs and e-commerce implementation in SMEs (Pavlou, 2003; Grandon and Pearson, 2004; Lin and Wu, 2004; McKechnie et al., 2006; Luo and Remus, 2006). The factors analysed , method applied , and main findings are presented in Table 3.7 Part 4.

TAM, however, has been criticized by many studies. One of its main identified limitations is self-reported use data, which is a subjective measure; thus it is not necessarily valid in determining the actual usage of technology (Keung et al., 2004; Yousafzai et al., 2007). For example, a longitudinal study by Keung et al., (2004) conducted on small companies to investigate the applicability of TAM in predicting actual usage of software called WebCOBRA. He found in its first phase that companies are more likely to adopt this software in business process. The second phase, involving the same respondents after one year, found that this technology was not applied. This

indicates that TAM was more relevant to measuring behavioural intention to use that technology than actual usage and that TAM will have different results when measuring past use, present use or future plans to use the technology.

Another limitation of TAM is its reliance in identifying the acceptance of technology on only two constructs (PU and PEOU) which is insufficient and needs to be more comprehensive and include more additional variables (Park et al., 2008; Lee et al., 2003, Looi, 2005). Moreover, TAM is only useful to study technology adoption at individual level rather than firm level, as it does not describe the factors related to the organisational level such as environmental and organisational factors (Oliveira et al., 2011; El-gohary, 2011).

3.2.3 Technology-Organisation-Environment (TOE)

The TOE model was developed by Tornatzky and Fleischer (1990). It consists of three contexts for identifying the factors that influence diffusion process within companies: technological, organisational, and environmental (see Figure 3.6).
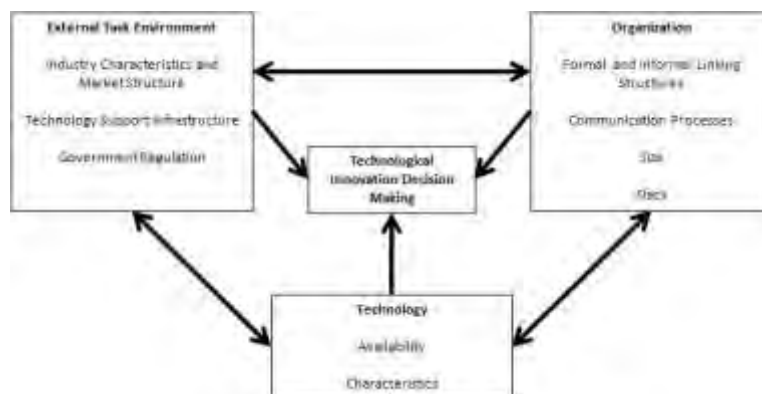
Figure 3.6: Technology-Organisation-Environment Framework

Source: Tornatzky and Fleischer (1990)

The technological context is considered an essential element for identifying technology adoption in organisation, whether the intention to use, current use or past use in SMEs. Moreover, it is important for organisation to know how to use technology in performing its business. Helfat (1997) argued that technology in organisation could be considered intangible resources and worthless when knowledge of how to use it is lacking. The technological context refers to the available technologies, whether external or internal by the organisation. Many researchers have investigated this context. For example, Zhu et al. (2002) and Salwani et al. (2009) used three identified technological factors, IT infrastructure technologies, IT employee expertise and knowledge of how to utilize technology in organisation.

The organisational context describes the internal resources available to organisation for technological adoption, including firm size, scope, technological readiness and employees' awareness, cost, management structure complexity, financial resources, centralization and formalization. The environmental context describes the atmosphere in which the organisation conducts its business, market structure, competitors, technology support infrastructure, customer pressure and government regulations (Ghobakhloo et al. 2011; Looi, 2005; Lippert and Govindarajulu, 2006; Tornatzky and Fleischer, 1990).

The TOE model is considered a solid theoretical basis for identifying these factors of e-commerce adoption in SMEs (Bao and Sun, 2010; Oliveira and Martins, 2010a). Therefore, TOE has been examined in different aspects of technology adoption. For example, it been examined in the adoption of electronic data interchange (EDI) by SMEs (Kuan and Chau 2001; Iacovou et al., 1995), radio frequency identification (RFID) (Lee and Shim, 2007), ERP system (Pan and Jang, 2008), customer relationship management

(CRM) (Chuchuen and Chanvarasuth, 2001), knowledge management (Alatawi et al., 2013), e-business (Zhu et al., 2003; Zhu and Kraemer, 2005) and e-commerce (Martins and Oliveira, 2009; Teo et al., 2006; Oliveira and Martins 2010a; Lee et al., 2009).

Several studies agreed that TOE is useful in examining organisations' adoption of technological innovation, particularly e-commerce adoption. Table 3.7 Part 1 presents a summary of reviewed studies that used TOE to investigate factors that influence e-commerce adoption and innovation by SMEs.

However, TOE has some limitations. The first main limitation is that it does not identify in depth the managerial factors where SMEs managers are considered the most critical decision makers in adopting technology (Hashim, 2007). As a result, many researchers argued in favour of expanding TOE by adding a fourth context which describes the managerial factors (Thong, 1999; Sarkar, 2008; Bao and Sun, 2010). Others examined managerial factors within organisational contexts on the basis that the success of technology adoption by organisation is relevant to decision makers (Aguila-Obra and Padilla-Meledez, 2006; Scupola, 2009; Alamro and Trawaneh, 2011).

In fact, the different models developed by these researchers agreed that managerial factors, including top management support and owner/manager's IT knowledge, have a significant effect on technology, particularly e-commerce adoption in SMEs. The second limitation is that TOE needs more constructs to have a better explanation of technology adoption. For example, Iacovou et al. (1995) developed a model based on TOE to study the factors that influence firms to adopt electronic data interchange.

This model consists of three factors: Perceived Benefits; Organisational Readiness and External Pressure (see Figure 3.7).
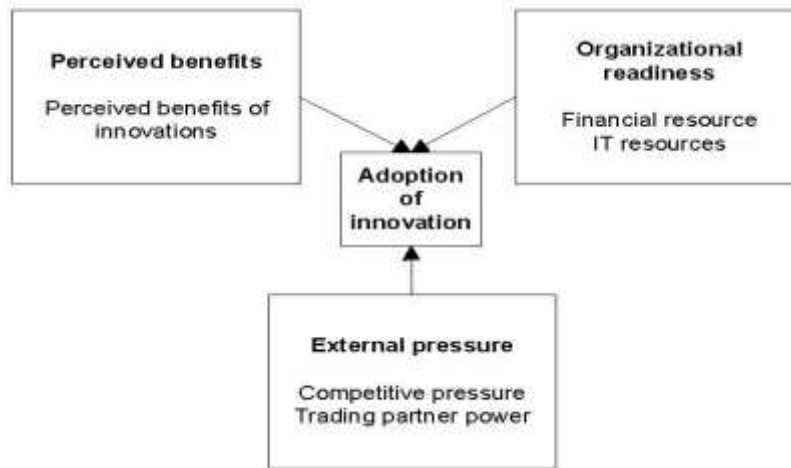
Figure 3.7: Iacovou et al. (1995) Model

Source: Iacovou et al. (1995)

The Iacovou et al. model (1995) differs from TOE in that its Organisational Readiness context is a combination of technological and organisational factors and that a trading partner power construct has been added to external environment and found an important factor in technology adoption. Also, perceived benefits were added into model as a new context to explain the potential benefits of implementing technology, as perceived by firms and found its significant.

3.2.4 Diffusion of Innovation Theory

The diffusion of innovation theory (DoI), that is also called the Rogers' Model (1962), is one of most popular theories on innovation adoption. Originally, the Rogers' Model is used in explaining the innovation adoption in rural sociology

discipline. This model has been extended and studied by many researchers across different disciplines, including education, medicine, industry and technology. The Rogers' model consists of four main elements relevant to the diffusion of innovation process: Innovation; Communication Channels; Time and Social System. See Figure 3.8.
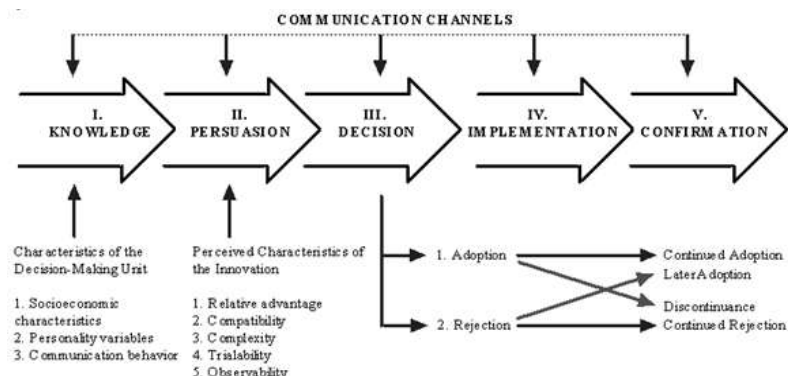
Figure 3.8: Model of Stages in the Innovation-Decision Process

Source: (Rogers, 2003)

Rogers (2003, p.12) defined innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption". The innovation element is determined by the rate of adoption theory. The rate of innovation is explained by five attributes: Relative Advantage; Compatibility; Complexity; Observability and Trialability.

Relative Advantage is defines as "the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers, 2003, p.229). Relative Advantage was found one of the strongest predictors of adoption of innovation (Rogers, 2003). Compatibility refers to "the degree to which the innovation is consistent with existing values, past experiences and needs of potential adopters" (Rogers, 2003, p.240).

Complexity is defined by Rogers (2003, p.257) as "the degree to which the innovation is difficult to understand and use". Trialability refers to "the degree to which the innovation can be experimented on a limited basis (Rogers, 2003, p.258), while Observability is "the degree of visibility of the new innovation results" (Rogers, 2003, p.258).

These five attributes of innovation have been broadly used in various disciplines such as sociology, political science, health, agriculture and information systems. In the technological context, relative advantage is measured by the perceived benefits obtained through adoption of ICTs and e-commerce such as reducing cost, reaching new customers, enhancing productivity, increasing profitability, gaining a competitive advantage, promoting products and expanding into new markets (Poorangi et al., 2013; Apulu and Latham, 2011; Scupola, 2001).

Compatibility entails that ICTs and e-commerce adoption are compatible with current traditional business operations and processes; ways of doing business by suppliers and customers and the existing values and mentality of the people in the company (Kamaroddin et al., 2009; Poorangi et al., 2013).

Complexity refers to the less likeliness of adopting technology if individuals find it difficult to use and understand and to the inadequate tools and lack of computers to support ICTs and e-commerce adoption.

Trialability provides an opportunity for individuals to experiment with technology innovation for a period of time which reduces their uncertainty toward new technology adoption (Weiss and Dale, 1998). It includes free trial of e-commerce application before making a decision to adopt it in organisation which involves having a sufficient period of

time to test this application and discover its true capabilities (Kamaroddin et al., 2008; Poorangi et al., 2013).

Observability, according to Rogers (1995), involves that observing the benefits other people obtain from adopting an innovation entails more likeliness of adopting that innovation by those 'observers'. The Internet has facilitated companies' visibility to customers, suppliers and competitors, displaying the benefits of adopting e-commerce. In addition, websites allow companies to show information about their products and corporate profiles around the clock to all potential customers and suppliers on the cyberspace (Limthongchai and Speece 2003; Poorangi et al., 2013).

The second element of innovation process is communication channels which are defined by Rogers (2003, p.18) as "the means by which messages get from one individual to another". This means that individual can share and exchange information to another by using different type of communication channels such as television, radio, telephone, and internet. Nowadays, a widespread of the internet has become a useful and cheapest way to communicate between individuals especially at different geographical area. Rogers (2003) argued that a communication channel is useful in producing effect on individuals' attitudes toward a new idea that leads to decide whether to adopt or reject that idea.

The third element is time which is defined by Rogers (2003, p.21) as "the length of time required to pass through the innovation-decision process". This decision occurs through a five step process the first of which is 'knowledge' where the individual starts to be aware and understand an innovation but still lacks information on how it works. The second step is 'persuasion' in which the individual becomes interested in the innovation and

searches for information about it. This is followed by 'decision', that is considered the most critical and complicated step, as it is here where the individual's gathered information and formed concept of the innovation and its activities lead to the decision either to adopt or disregard innovation. The fourth step is 'implementation', in which the individual utilizes the innovation and may identify its effectiveness which leads him/her to search for more information about it.

The last step is 'confirmation', as the individual evaluates the innovation and decides either to continue employing it or not. Moreover, Rogers (2003) involved time into the innovativeness theory, which implicates its classification based on the period of time. Rogers (2003, p.37) defines innovativeness as "the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system". Rogers (2003) classifies adopters in five categories:

1. *Innovators:* Rogers (2003) considers innovators as those who are able to adopt innovation regardless of uncertainly of the risk level at time of adoption. Usually, innovators have the highest financial resources and social class and are young.

2. *Early Adopters:* Those who are able to adopt an innovation. Early adopters have a higher leadership attitude than those of other categories, more financial recourses and education, and are younger than those of the late majority. They are more careful to make the decision of adopting an innovation than innovators.

3. *Early Majority:* Unlike the early adopters and innovators, this group takes more time than innovators and early adopters for making the decision to adopt an innovation and seldom hold position of opinion leadership.

4. *Late Majority:* The individuals here are highly cautious and hate to take the risk of adopting an innovation. In addition, individuals in late majority adopt an innovation after most others have already adopted it. They are of a low social class, lack financial recourses, and lower opinion leadership than above categories.

5. *Laggards:* This is the group of the conservative and last group of adopters of an innovation. They almost have no opinion leadership, have lowest financial resources, cannot tolerate the risk of adopting an innovation that may fail and have a little or no social class. They are classified as traditional and they take the decision to adopt an innovation based on the past and previous adopted innovation.

Social System is the last element of Rogers' model process, which is defined as "a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (Rogers, 2003, p.23). It includes individuals, organisations and informal groups as to identify diffusion, norms, and the function of opinion leaders.

Social System determines diffusion and how it affects the diffusion process. Norms are based on different behavioural attitudes in social system and is used to study how these attitudes affect diffusion. Rogers (2003) stated that amounts of influence on individuals are various. An opinion leader plays an important role in influencing other individuals' behaviours and attitudes either positively or negatively, which makes such leader a very crucial factor especially at the initial stage of adoption process.

The reviewed literature shows that the DoI theory, particularly the Attributes of Innovation elements, has been widely used as theoretical bases in many empirical studies addressing technological innovation adoption in SMEs (Tan and Eze, 2008; Limthongchai and Speece, 2003; Alam et al., 2008; Kendall et al., 2001; Kamaroddin et al., 2009; Hussin and Noor, 2005; Poorangi et al. , 2013). These studies examined the rate of innovation identifying potential relevance of factors such as relative advantage, compatibility, complexity, trialability and observability, in enhancing or inhibiting technology adoption by SMEs (see Table 3.7 Part 3).

The literature also shows that TAM is similar to DOI in some constructs, even if DOI is more comprehensive in evaluating behavioural intention of technology. This similarity can be attributed to the fact that the TAM's perceived usefulness construct is similar to relative advantage in DoI and that the perceived ease of use construct in tam is close to the complexity attribute in DoI (Pham et al., 2011; El-gohary, 2011; Lee et al., 2011; Karahanna et al., 1999). The DoI supremacy was confirmed by Plouffe et al. (2001), cited in Olatokun and Igbinedion (2009), who compared between DoI and TAM in predicting technology adoption of smart card readers by retailers, finding DoI stronger in explaining technology adoption than TAM, with 45% and 36.2% variance, respectively.

Therefore, many studies replaced the TAM constructs of perceived ease of use and persevered usefulness with DoI attributes in studying the individual's intention to use technology. They found that DoI attributes provided a significant analytical framework for predicting the intention to use of different types of technology. For example, DoI has been used in studying customers' intentions to use online stores (Chen et al., 2002;

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Zendehdel and Paim, 2012), in automatic teller machines (Olatokun and Igbinedion, 2009), internet banking (MD and Pearson, 2007; Tan and Teo, 2000) and e-learning (Yatigammana et al., 2014).

However, DoI received the criticism of many researchers who found that the diffusion variables are not sufficient by themselves to explain the organisational environment, as they focus solely on technological innovation. DoI, therefore, does not pay attention to environmental, organisational and cultural factors that determine how technology is adopted by organisations (Sparling et al., 2010; Perez et al., 2004; Lee and Cheung, 2004; Allan et al., 2003; Ordanini, 2006).

Ordanini (2006) argued that integrating DoI with other factors, such as environmental and organisational factors, is necessary in order to capture stronger predictors in the context of technology adoption. Furthermore, Perez et al. (2004) stated that DoI is not sufficient to explain adoption within organisational context, suggesting either to add additional factors or control variable into the original theory.

As a result, many researchers extended their researches by adding more constucts into DoI to overcome these limitations. Moreover, Kamaroddin et al. (2009) used DoI as a theoretical basis for measuring the perceptions of Malaysian SMEs regarding e-commence applications. They integrated within DoI two additional constructs, security and confidence, identifying their significant effect on Malaysian SMEs' adoption of e-commerce. Using DoI and introducing the ICTs security and ICTs cost constructs, Tan and Eze (2008) examined the factors of ICTs adoption by Malaysian SMEs, finding that

the DoI attributes along with security and cost, are significant factors that influence SMEs to adopt ICTs in their business.

3.2.5 Culture and Technology

There are many definitions of culture. For example, Hofstede (1984, p.24) defined culture as "the collective programming of the mind which distinguishes the members of one human group from another". Also, culture has been defined as "The integrated sum total of learned behavioural traits that are manifest and shared by members of society" (Hoebel, 1960, p. 168). Culture has been broadly taken into account in several fields of study such as information technology (Khushman et al., 2009), international marketing (Yoo et al., 2011), economic (Borker, 2013) and political sciences (Buff et al., 2008).

A review of literature addressing e-commerce adoption showed that the relation between culture and technology adoption at organisational level has been a subject of interest of recent studies of information systems. These studies identified cultural effects on technology adoption and usage behaviour (Cooper, 1994; Hasan and Ditsa, 1999; Yoon, 2009; Lee et al., 2013).

Hofstede (1991, p.237) defined organisational culture as "the collective programming of the mind, which characterizes the members of one organisation from others". Hofstede (1984) developed a theory to understand the cultural differences that became one of the most popular cultural theories in social science disciplines, particularly in investigating technology adoption among different cultures (Nakata and Sivakumar, 2001; Straub et al., 1997; Chen and McQueen, 2008).

Hofstede's theory assessed the national and regional cultural groups that affect the behaviour of societies and organisations (Hofstede, 1984). Developing over 100,000 questionnaires for over fifty countries, the Hofstede's framework used the most extensive cross-national database ever considered. Hofstede's theory consists of four dimensions of national and regional culture differences: Power Distance; Individualism/Collectivism, Masculinity/Femininity and Uncertainty Avoidance (Hofstede, 1984). Later, this theory has been expanded to include a fifth dimension: Long-Term Orientation (Hofstede, 2001), (see Figure 3.9).
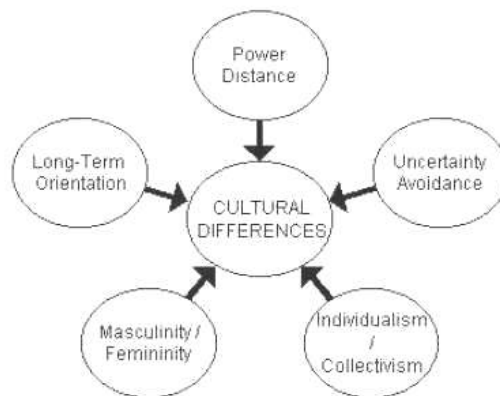
Figure 3.9: Hofstede's Cultural Dimensions

Source: Hofstede (2001)

According to Hofstede (2001, p.98), the Power Distance (PD) is defined as "the extent to which the less powerful members of organisations and institutions (like the family) accept and expect that power is distributed unequally". This bears on the inequities within participation levels in cultures in terms of obedience. Cultures with high score on PD are those where members of an organisation are not expected to participate in decision

making along with their superiors or be involved in managerial issues. Conversely, cultures with low power distance are those where employees in an organisation evidently appear not afraid of power, and managers are not paternalistic, which allows employees to express their opinions and views comfortably and participate in management and decision making.

Hofstede (2001, p.225) defines Individualism (IDV) as "pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family". Conversely, Collectivism is defined as "societies in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty". Therefore, in its essence, it is a dimension that revolves around the extent to which individuals are engaged within groups.

Hofstede (2001) stated that in countries with a high IDV score, the individuals prefer to address their goals by themselves, and people are mostly independent and prefer to assume responsibility individually. In collectivistic societies, on the other hand, individuals prefer to work in groups and foster commitment to the group members such as direct relationships with their immediate and extended family and other extended relationships. Loyalty and harmony are paramount in collectivistic cultures.

Uncertainty Avoidance (UA) is defined as "the extent to which a culture programs its members to feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknown, surprising, and different from usual. The basic problem involved is the degree to which a society tries to control the

uncontrollable" (Hofstede, 2001, p.145). This dimension is about the extent of people's ability to deal with unknown and uncertain events and the future. Cultures with a high score in UA prefer to minimize ambiguous events by following orders, abide by strict and clear rules and guidelines, and other ways of avoiding risk. But people from cultures with low score in UA are more tolerance of the unknown, unexpected and uncertain events, more willing to take risk, and able to accept different opinions and develop innovative ideas.

Hofstede (2001, p.297) defines the Masculinity/Femininity (MAS) dimension as follows: "masculinity pertains to societies in which social gender roles are clearly distinct (i.e., men are supposed to be assertive, tough, and focused on material success whereas women are supposed to be more modest, tender, and concerned with the quality of life); femininity pertains to societies in which social gender roles overlap (i.e., both men and women are supposed to be modest, tender, and concerned with the quality of life)". In cultures with high score in masculinity, people are more interested in wealth acquisition and are more assertive, and gender role are more distinct, whereas in a feminine culture, there is more gender-based equity in gender roles, modesty, care for others and more interest in the quality of life.

The last cultural diminution is long-term orientation (LTO). Hofstede (2001) added this dimension to the original four as to understand culture's time horizon. He defines it as "the extent to which a culture programs its members to accept delayed gratification of their material, social and emotional needs" (Hofstede, 2001, p.351). Societies of long-term orientation are persistent, practical, thrift and have a sense of shame, while those of

short–term orientation have more respect for tradition, personal steadiness and stability, preservation of one's face and tendency to interchange gifts and favours.

Hofstede measured each dimension starting from the lowest score (1) to the highest (120). Hofstede's scale and results have been initially validated against forty cross-national cultures (Hofstede, 1984). It was later expanded to include another 32 countries (Hofstede, 2001).

According to Hofstede results (see Figure 3.10), Jordan scored high (70) in PD, which indicates that Jordan's culture entertains a hierarchical order and is characterized by inequality. Also, the organisations employees in Jordan are expected to obey their superiors' instructions without argument. The results also showed that Jordan has low score (30) in IDV, emphasizing the collectivistic character of the society, people's preference to work within groups and importance of loyalty and harmony in this culture. Regarding the organisational level, the relationship between employees and employer in Jordan is based on moral terms such as family links, while the promotion and employment process are based on employee's in-group.

Moreover , the results showed that Jordan has high score (65) in uncertainty avoidance, which is indicative of a culture where unknown situations and risks are feared, precision and punctuality sought, innovation resisted and security required for motivating individuals. On the organisational level, employees have high stress and anxiety due to uncertainty about future including employment stability, which drives them to follow the organisation's rules to reduce these issues.

Also, Figure 3.10 shows that Jordan had a low score (45) in masculinity, indicating a country with a feminine society (Geert-Hofstede, n.d.). Hofstede stated that in Jordan "managers strive for consensus, people value equality, solidarity and quality in their working lives. Conflicts are resolved by compromise and negotiation. Incentives such as free time and flexibility are favoured. Focus is on well-being, and status is not shown. An effective manager is a supportive one, and decision making is achieved through involvement".

Finally, Jordan scores (35) in long-term orientation, which is indicative of its short-term orientation, where managers in Jordan are likely to be faithful to traditions, enthusiastic and impatient about achieving quick results and there is strong social pressure.

Figure 3.10: Hofstede's Cultural Dimensions in Jordan

Source: www.geert-hofstede.com/Jordan.html

The Hofstede's cultural dimensions were found a robust theory in explaining the effect of culture on the diffusion process of technology adoption in organisations. Thus, many studies used this theory either solely or integrated with other models to predict e-commerce adoption by cultures. For example, Hassan and Dista (1999) tested Hofstede's theory regarding technology adoption in three countries (in the Middle East, Australia and Africa) and found resistance to change and fear to be significant factors that inhibit managers in the Middle East from adopting technology in SMEs rather than Australia and Africa.

Also, Yoon (2009) conducted a study to predict the effect of national culture on consumer's acceptance of e-commence in China, finding that that UA and LTO dimensions are significantly related to intention to use online shopping. Straub et al. (1997) investigated the applicability of TAM in different cultures, including the U.S, Switzerland and Japan. They found that TAM was useful in USA and Switzerland but not in Japan culture has a higher degree of UA and PD. All these results confirm the significant effect of cultural differences on technology adoption.

Straub et al. (2001) investigated the effect of cultural factors on technology adoption in the Arab Region, concluding that the Arab culture leads to a slow diffusion process of technology adoption. Using TAM, Veigna and Floyd (2001) studied the impact of culture on the use of technology, finding that Hofstede's cultural dimensions had an important influence on e-commerce adoption, particularly in the PU construct.

Moreover, a study conducted by Kushman et al. (2009) to investigate the relationship between the Arab culture and e-business adoption found that this culture has a high

degree in PD, UA and MAS, and low degree in IDV. The findings revealed that all these cultural dimensions have a significant effect on e-business adoption.

Thatcher et al. (2006) examined the factors affecting e-commerce adoption among owners/mangers in electronic and textile companies in Taiwan, where cultural values were identified as important determinants of the e-commerce adoption decision. Table 3.7 Part 5, summarizes the studies that used Hofstede's cultural dimensions in studying technology adoption in SMEs.

Although Hofstede's Cultural Dimensions theory has been found widely applicable, it did not escape criticism for displaying a number of limitations. The first limitation is that the sample used in his study was IBM employees, who stand for members of a homogeneous corporate culture across different countries rather than heterogeneous cultures within a country (Shackleton and Ali, 1990).

The second limitation is that Hofstede's theory fails to capture the flexibility of cultural dimensions over time and its being influenced by technology and media. This made several researchers consider Hofstede's results outdated especially that his study was conducted in 1980 (Kirkman et al., 2006; Usunier and Lee, 2005). For example, Hofstede (1980) found that Arab cultures have a lower score in the Masculinity dimension than Western cultures, while Khasman et al. (2009) found that Arab cultures have a higher degree of Masculinity than Western Europe.

Finally, the cultural emphasis of Hofstede's is only on groups, excluding individual differences inside within the group (Yoo et al., 2002, cited in Collins et al. 2009). When applied on individuals it proved useful regarding e-commerce adoption in SMEs. For

example, Chen and McQeen (2008) applied Hofstede's cultural dimensions to investigate the growth of e-commerce adoption levels among Chinese owners/managers of SMEs in New Zealand, finding cultural values significant predictors of the SMEs' e-commerce growth process. Almoawi (2011) adopted Hofstede's cultural dimensions as a moderator in the TOE model to identify the factors of e-commerce adoption by SMEs in Saudi Arabia .The findings revealed that Hofstede's cultural dimensions has a moderate effect between TOE factors and e-commerce adoption.

3.3 Integrated Models and Theories

As discussed in the above section, many studies investigated technology innovation and its adoption. They observed, discussed and tested various theories and models related to technology adoption, particularly e-commerce adoption by users/organisations. The available literature presented the most common theories and models in technology innovation and adoption including: Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Technology-Organisation-Environment (TOE), Diffusion of Innovation (DOI) and Hofstede's Cultural Dimensions. It also shows that those models and theories have limitations. Table 3.1 below presents brief comments on technology adoption in these theories and models.

Theory/Model Name	Overview Comments on theories and models in technology adoption	Author(s)
Theory of Reasoned Action (TRA)	There is confusion in differentiating between attitude toward behaviour and subjective norm.	Cho and Agrusa (2006)
	It is a useful theory in predicting behaviors rather than the outcome of behaviors (Yousafzai et al., 2010).	Yousafzai et al. (2010)
	It does not explain the beliefs that are significant predictors of a particular behavior.	Davis (1989)
Theory of Planed Behavior (TPB)	It is a more comprehensive theory than TRA in explaining individual behavior of technology adoption; but it still has insufficient constructs in explaining technology adoption among individuals, and needs to add more factors to increase its predictive power.	Werner (2004)
	It is only useful to predict individuals' behaviours rather than the outcome of these behaviours.	Foxall (1997)
Technology Acceptance Model (TAM)	It has more predictive power and adequate explanation of technology acceptance and usage among individuals than TRA and TPB.	Yousafzai et al. (2010)
	It is only useful in predicting technology adoption at individual level rather than firm level.	Oliveira et al. (2011)
	It depends on self-reported data, which is not necessarily valid in determining the actual usage of technology.	Keung et al. (2004)
	It has only two factors; it needs to be more comprehensive and include additional variables.	Park et al. (2008), Lee et al. (2003)
Diffusion of Innovation (DoI)	DoI provides a significant analytical framework for predicting the intention to use of different types of technology	Zendehdel and Paim, 2012
	DoI is more comprehensive in evaluating behavioural intention of technology than TAM	Wijngaert et al. (2008), El-Gohary, 2011
	The constructs in DoI are insufficient to explain the organisational environment, as they focus solely on technological innovation.	Sparling et al. (2010), Cheung (2004), Allan et al (2003)

Theory/Model Name	Overview Comments on theories and models in technology adoption	Author(s)
Technology Organization Environment (TOE)	It is considered a solid theoretical basis for identifying factors of e-commerce adoption in SMEs.	Bao and Sun, (2010); Oliveira and Martins, (2010a)
	It does not identify in depth the managerial factors where SMEs managers are considered the most critical decision makers in adopting technology.	Thong, (1999); Sarkar (2008); Bao and Sun (2010)
	It needs more constructs as to better explain technology adoption in organizations.	Iacovou et al. (1995)
Hofstede's Cultural Dimensions	The original model was only conducted on IBM employees, who are members of a homogeneous corporate culture across different countries rather than heterogeneous cultures within a country.	Shackleton and Ali (1990)
	The results of Hofstede's Cultural Dimensions are considered outdated especially that his study was conducted in 1980; thus it needs to be replicated in different types of technology adoption.	Kirkman et al. (2006); Usunier and Lee (2005)
	Hofstede's Cultural Dimensions was only used to study national cultures and their influence on technology adoption, thus the variables of Hofstede's Cultural Dimensions need to be examined among individuals in same culture.	Ford et al. (2003)

Table 3.1: Summary of Main Comments on Theories and Models of Technology Adoption

The literature shows that those models and theories are independently insufficient in rendering explanations. According to Wymer and Regan (2005), no single model and theory dominate such explanations. Therefore, many studies suggested to integrate or add more constructs into models theories in order to overcome the limitations of these

theories and provide more comprehensive explanations of technology adoption. Table 3.7 Part 6 presents the reviewed the studies that used integrated models and theories that influence technology and e-commerce adoption by SMEs in both developed and developing countries.

According to Chooprayoon et al. (2007), suggested extending TAM by combining it with other theoretical models in order to become more useful for investigating technology adoption. Indeed, as shown in Table 3.7 Part 6 ,many empirical studies extended TAM by including additional constructs or integrating it with other models/theories to enhance its explanation of behavioural Intention to use a system (Grandon and Pearson, 2004; Awa et al., 2010; Riemenschneider et al., 2003; Abou-Shouk et al.(2012).

For Example, Grandon and Pearson (2004) used TAM, introducing additional constructs from TOE and Iacovou et al.(2005) model to identify the factors that affect the adoption e-commerce as perceived by decision makers in USA SMEs (Figure 3.11). This model was found valid and powerful in predicting e-commerce adoption by decision makers in SMEs.
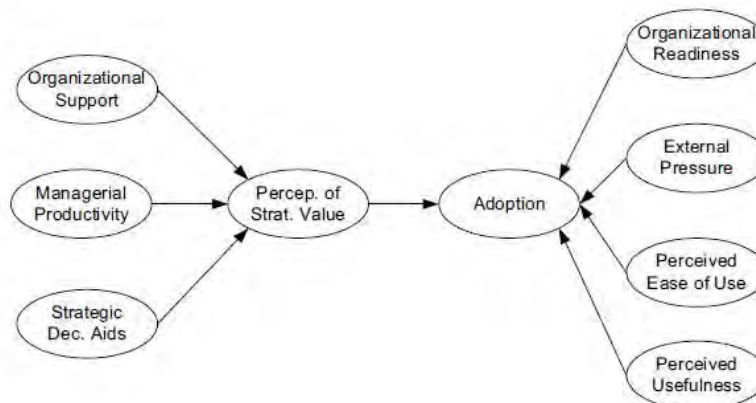
Figure 3.11: Grandon and Pearson s' Model

Source: Grandon and Pearson (2004)

Also, Many studies have suggested integrating TOE with DoI which introduced more strength in explaining technology adoption. As shown in Table 3.7 Part 6 ,various studies incorporated TOE and Diffusion of Innovation by Rogers (1995) within a theoretical model to determine the factors of technology adoption in organisation (Tan, 2010; Allan et al. , 2003; Forman, 2005; Ling, 2001; Zhu and Kraemer, 2005; Scupola, 2009; Oliveira et al. , 2010). These agreed that TOE is consistent with DoI which creates a better explanation of technological factors that influence organisations' adoption of technology.

Many, for instance, integrated DoI with TOE model to identify the factors that influence and inhibit technology adoption in SMEs (Allan et al., 2003; Forman, 2005; Ling, 2001; Zhu and Kraemer, 2005). Their findings confirmed that using both theories provided a robust explaination in technology adoption by organizations. This is because DoI is independently applicable to explain organizational and technological contexts and it is insufficient to explain environmental context, which TOE includes environmental context in explanation innovation adoption in organizations (Oliveira et al. , 2011).

Also, Table 3.7 Part 6 shows other studies integrated TOE with TAM to explain technology adoption such as SMEs' adoption of IT (Awa et al., 2010) and e-commerce SMEs (Awa and Ukoha, 2012).They found that the integration between TAM and TOE provide more comprehensive explanation of e-commerce adoption.

3.4 Previous Studies on E-commerce Innovation Adoption

The literature review shows that many researchers extended their researches by integrating several models in order to provide comprehensive view of technology adoption by SMEs. Table 3.7 presents a summary of the factors involved in technology and e-commerce adoption by organisations, as identified by the most popular studies. It shows the model/theory, object of analysis, type of industry, place of research and number of sampling, research method, explanatory variables and major findings.

It can be clearly found in this table, that a wide range of theoretical foundations has been provided including numerous variables that function as facilitators or inhibitors of technology adoption and use. It is noteworthy here the heterogeneity in describing these factors as well as the wide range of independent variables (Huang et al., 2004; Wymer and Regan, 2005; Al-Somali et al., 2011).

For example, the analysis conducted by Huy et al. (2012) is based on sixteen independent variables, while Kurnia et al. (2009) identified five independent variables to study e-commerce adoption in SMEs. It was also noted that even similar studies produced inconsistent findings. For example, Hussin and Noor (2005) and Lin and Wu (2004) found that Top Management Support was the most significant factor in SMEs' adoption of e-commerce , while Seyal et al. (2004) and Sparling et al. (2007) found that factor not statistically significant in SMEs' adoption of e-commence.

Moreover, it was found from Table 3.7 that many of prior studies used different terminology of describing same factor. For example , Many of prior studies have used different terms to describe the advantages of using technology such as "E-commerce

Benefits" (Alamro and Tarawneh, 2011; Seyal et al., 2005; Kurnia et al., 2009; Ifinedo, 2011, Relative advantage (Huy et al., 2012; Hung et al., 2011; Sparling et al., 2007; Ramdani and Kawalek, 2009; Tan et al.; 2008, Ghobakhloo et al.; 2011) , Perceived Usefulness (Azam and Quaddus, 2012; Yoon, 2009; Straub et al., 1997; Lin and Wu, 2004; Khan et al. , 2010).

In another manifestation of such inconsistency, as shown in Table 3.7, some studies sought to explain technology adoption through only addressing the barriers to that adoption, while others' concern was only directed to facilitators. For example, Heung (2003) investigated the barriers of e-commence adoption in travel agencies in China, while Abou-Shouk et al. (2012) considered the perceived benefits of e-commerce adoption in Egyptian travel agencies.

This wide range of identified variables affecting technology and e-commerce adoption in SMEs and the different significant predictors produced by studies can be attributed to two main reasons.

First, it is believed that different socio-cultural national environments lead to different rates of technology innovation diffusion in SMEs (Scupola, 2009). This was confirmed by Zhu et al. study (2006b) that used TOE as theoretical framework to identify factors affecting e-business adoption by SMEs in ten different countries. The findings revealed that technology readiness and environmental context have more significant role in SMEs' decision to adopt e-business in developing countries than in developed countries.

Also, Kartiwi (2006) found that factors influencing e-commerce adoption by SMEs in developing countries are different from adoption of e-commerce by SMEs in developed

countries. They suggested that reason of these differences between developed and developing countries are based on cultural differences between these countries.

Second, limited of studies focused on the different levels of e-commerce adoption in organisation, while the majority of studies focused e-commerce adoption as a dichotomous variable. However, it was found that different factors influence different levels of this adoption (Kurnia et al., 2009; Al-somali et al., 2009, Raymond, 2001, Hussein, 2009). Scupola (2009) even highlighted the need to focus on the different levels as dependent variable. She stated that "the rate of e-commerce adoption and diffusion among SMEs increases and consequently SMEs become more acquainted and sophisticated in incorporating e-commerce in their operations it can be expected that the drivers and inhibitors of e-commerce adoption and implementation change as a result" (p.4-5).

For example, Chen and McQueen (2008) have investigated the effects of Hofstede's cultural dimensions on the attitudes of owners/managers of Chinese SMEs in New Zealand toward e-commerce adoption level. They identified four levels of e-commerce adoption, starting in basic websites and reaching online payment website. They found that the different rates of Hofstede's cultural dimensions have different effect on the adoption of e-commerce levels. The findings revealed that SMEs at lower levels of e-commerce adoption are highly rated on individualism, uncertainty avoidance, and power distance, while SMEs at higher levels of e-commerce adoption have lower rate of individualism, uncertainty avoidance, and power distance.

Also, a study by Al-Somali et al. (2011), who adopted TOE model to identify the effect of different factors that may influence different levels of e-commerce adoption among Saudi Arabian SMEs. The findings supported their suggestions and found that different factors affect different levels of e-commerce adoption. The results showed that Organisational IT Readiness, Top Management Support, Regulatory Environment are significant factors in predicting e-commerce for both levels simple and advanced e-commerce adoption, while Customer Support and Strategic Orientation have significant influence only on the advanced level of e-commerce adoption.

The reviewed literature shows that various studies described different groups of factors influencing e-commerce adoption in SMEs. Grouping such factors is heterogeneous among these studies. For example, many studies have used three categories for the effective factors: technological, organizational and environmental contexts (Hao et al., 2010; Scupola, 2009; Seyal et al., 2005; Alamro and Tarawneh, 2011; Ghobakhloo et al., 2011; Ramdani and Kawalek, 2009; Scupola, 2003; Seyal et al., 2004; Kurnia et al., 2009; Hung et al., 2011; Sparling et al., 2007).

Other studies, such as Huy et al. (2012), Ching and Ellis (2004) and Hussein (2009), added an additional context, the managerial context. While Raymond (2001) developed four groups of categories, namely: the environmental context, marketing strategy, managerial context and characteristics of e-commerce. Kurnia et al. (2009) divided variables into four categories: organization readiness, national readiness, industrial readiness and environmental pressure.

A recent study by Abou-Shouk et al. (2012) used three categories to investigate the factors affecting Egyptian travel agencies' adoption of e-commerce. These categories include essential benefits, marketing and competition benefits and business internal efficiency benefits. Therefore, the reviewed literature shows that factors of e-commerce adoption are either related to categories of theoretical model or other categories developed independently by researchers based on the objectives of each study.

3.5 Studies of Factors Affecting E-commerce Adoption in SMEs

Based on above discussion , many factors has been identified to predict e-commerce and technology adoption. These factors were grouped in different contexts (see table 3.7) ,however this study concludes that most of these factors can be grouped into four main dimensions : technological factors, organizational factors, managerial and environmental factors. The following section discuses the factors affecting e-commerce adoption relevant to literature.

3.5.1 Technological Factors

The reviewed literature had presented a number of identified factors related to the technological context, (see Table 3.2). According to Ma et al. (2003) the decision to adopt technology in SMEs does not only depend on technological availability in the market, but also the knowledge of how to apply new technology properly as to meet their business needs. The technological factors identified in the literature include e-commerce benefits, information systems input, perceived benefits, task variety, e-commerce barriers, technology competence, cost, security, perceived ease of use, perceived

usefulness, risk, relative advantages, compatibility, trialability, complexity, observability, technology readiness, and technology integration.

Among these factors, several studies found that the most appropriate key factors explaining technological factors are the DoI theory explained by Attributes of Innovation proposed by Rogers (2003). They show that technological factors include relative advantage, compatibility, complexity, trialability and observability, as DoI provides more robust understanding of the technological factors that influence technology adoption (Oliveira et al., 2011).

As a result, these factors have been widely examined to determine their impact on technology and e-commerce adoption by SMEs. The literature shows inconsistent results for the same factor amongst different studies. For example, Limthongchai and Speece (2003) investigated e-commerce adoption by SMEs in Thailand using the innovation characteristics of DoI, introducing security as an additional construct. They found all DoI characteristics to be significant except trialability, while security had the least significant effect on e-commerce adoption. Alam et al. (2008) used a model similar to that of Limthongchai and Speece (2003) to study e-commerce adoption in Malaysian manufacturing sectors, finding that DoI factors are significant in predicting e-commerce adoption. Other studies identified different technological factors such as technological benefits (Teo et al., 2009; Seyal et al, 2004; Ifinedo, 2011; Scupola, 2003), e-commerce barriers (Alamoro and Tarawneh, 2011; Heung, 2003), task variety (Seyal et al., 2005), perceived ease of use and perceived usefulness (Luo and Remus, 2006; Lin and Wu, 2004; McKechnie et al, 2001). The following table shows a summary of technological factors identified in the reviewed literature.

Technological Factors	Author(s)
Relative Advantage	Scupola (2009); Ghobakhloo et al. (2011); Tan et al. (2008); Ramdani and Kawalek (2009); Limthongchai and Speece (2003); Hussin and Noor (2005); Almoawi (2011); Sparling et al. (2007); Hussein (2009); Hung et al. (2011); Huy et al. (2012)
Compatibility	Hung et al. (2011); Huy et al. (2012); Ghobakhloo et al. (2011); Hung et al. (2011); Tan et al. (2008); Ramdani and Kawalek (2009); Tan and Teo (2000); Limthongchai and Speece (2003); Hussin and Noor (2005); Hussein (2009); Sparling et al. (2007); Almoawi (2011)
Trialability	Tan et al. (2008); Ramdani and Kawalek (2009); Tan and Teo (2000); Limthongchai and Speece (2003); Hussin and Noor (2005); Hussein (2009)
Complexity	Huy et al. (2012); Limthongchai and Speece (2003); Almoawi (2011); Hussein (2009); Tan et al. (2008); Ramdani and Kawalek (2009); Hussin and Noor (2005)
Observability	Tan et al. (2008); Ramdani and Kawalek (2009); Limthongchai and Speece (2003); Hussin and Noor (2005); Hussein (2009)
Technology Readiness	Zhu et al. (2006b); Al-Somali et al. (2011)
Task Variety	Seyal et al. (2005); Seyal et al. (2004)
E-Commerce Barriers	Scupola (2009); Alamro and Tarawneh (2011)
Technology Competence	Zhu et al. (2003)
Perceived Ease of Use	Lin and Wu (2004); Straub et al.(1997) Luo and Remus (2006); McKechnie et al. (2001); Pavlou (2003); Grandon and Pearson (2004)
Perceived Usefulness	Pavlou (2003); Grandon and Pearson (2004); Lin and Wu (2004); Straub et al. (1997); Luo and Remus (2006); McKechnie et al. (2001)
Risk	Tan and Teo (2000); Hussein (2009); Hung et al. (2011); Huy et al. (2012)

Security	Limthongchai and Speece (2003); Hao et al. (2010); Tan et al. (2008); Limthongchai and Speece (2003)
Technological Factors	**Author(s)**
E-Commerce Benefits	Scupola (2009); Alamro and Tarawneh (2011)
Perceived Benefits	Raymond (2001); Teo et al. 2009; Seyal et al. (2004); Seyal et al. (2005); Ifinedo (2011)
Technology Integration	Zhu et al. (2006b)

Table 3.2: Summary of Technological Factors Identified in the Reviewed Literature

3.5.2 Organizational Factors

Table 3.3 below, shows a number of organizational factors associated with the adoption of technology. Several studies confirmed the importance of determining organizational factors in order to have successful adoption of new technology in the organization (Wymer and Regan, 2005; Raymond, 2001; Kurnia et al., 2009). Organizational factors refer to the organizational characteristics related to the decision to adopt a new technology (Lippert and Govindarajulu, 2006).

The reviewed literature shows that organizational factors include cost, firm size, IT readiness and availability, organizational culture, financial resources, Employees' IT knowledge, firm scope, organizational IT competence, strategic orientation, marketing capabilities, business category, centralization and formalization.

Many studies found the firm size to be one of the main key predictors of ICTs and e-commerce adoption by SMEs (Jeyaraj et al., 2006; Thong, 1999; Zhu et al., 2003; Ramadani an Kawalek, 2009). Employee's IT knowledge is another common organizational factor in the literature on technology adoption. According to Lippert and Govindarajulu (2006, p.152) Employee's IT knowledge is "the sum of technological expertise by all members of an organization and is reflected in the technological sophistication of their operations". This factor has been widely identified and considered as significant in predicting e-commerce adoption by SMEs (Scupola, 2009; Ramdani and Kawalek, 2009; Huy et al., 2012; Alam and Noor, 2009; Thong, 1999).

The cost factor was also found very significant in predicting technology and e-commerce adoption by SMEs. Different terms have been used in describing this factor. For example, many studies use financial barriers or cost (Ghobakhloo et al., 2011; Tan et al., 2008; Teo, et al., 2009) while others use financial benefits (Abou-Shouk et al., 2012) or financial resources (Ifinedo, 2011; Alamro and Tarawneh, 2011).

On the other hand, variability of factors was identified in the organizational context. For example, Sparling et al. (2007) proposed that organizational factors refer to firm size, technological readiness, and technological opportunism. Huy et al. (2012) identified factors in the organizational context to include employee's e-commerce knowledge, organizational readiness, firm strategic orientation, firm size, and firm globalization orientation. Other findings by Ramdani et al. (2009) identified the organizational factors that relate as top management support, organisational readiness, IS experience, firm size. However, the following section of this study discusses in details the managerial factors in different category.

Zhu et al. (2003) proposed TOE as a theoretical basis to study e-business adoption in European SMEs, suggesting that organizational factors to include firm scope and firm size. Similarly, Ifinedo (2011) used TOE to study e-commerce adoption in Canadian SMEs, suggesting different factors within the organizational context that include perceived benefits, organizational context includes management support and organizational IT competence. Other studies such as Hung et al. (2011) identified organizational factors to include centralization, formalization, percept of superiority and organisational scale industry. The following table shows a summary of organizational factors identified in the reviewed literature.

Organizational Factors	Author(s)
Cost	Tan et al. (2008); Ashrafi and Murtaza (2008); Harindranath et al. (2008); Heung (2003); Hoi et al. (2003); Migiro (2006) Macgregor and Vrazalic (2008); Idisemi et al. (2011)
Organizational Culture	Seyal et al. (2005)
Marketing Capabilities	Hussein (2009); Abou-Shouk et al. (2012)
Business Category	Hung et al. (2011)
Centralization	Hung et al. (2011)
Formalization.	Hung et al. (2011)
Firm Scope	Zhu et al. (2003) ; Zhu et al. (2006b); Sparling et al. 2007; Hung et al. (2011); Huy et al. (2012)
Firm Size	Hao et al. (2010); Zhu et al. (2003); Ramdani and Kawalek (2009); Almoawi (2011); Zhu et al. (2006b); Hussein (2009);

	Teo et al. (2009); Arano and Spong (2012); Hewitt et al. (2011); Salwani et al. (2009); Ramdani and Kawalek (2009); Zhu and Kraemer (2005); Sparling et al. (2007).
Organizational Factors	**Author(s)**
IT Readiness and Availability	Scupola (2003); Ramdani and Kawalek (2009); Grandon and Pearson (2004); Hussin and Noor (2005); Sparling et al. (2007); Kurnia et al. (2009); Huy et al. (2012)
Financial Resources	Alamro and Tarawneh (2011); Scupola (2003); Kurnia et al. (2009); Musawa and Wahab (2012); Iacovou et al. (1995) ; Bazini et al. (2011)
Organizational IT Competence	Ifinedo (2011)
Employees' IT Knowledge	Hussein (2009); Huy et al. (2012); Alam and Noor (2009); Mehrtens et al. (2001); Thong (1999); Mirchandani and Motwani (2003); Heng and Hou (2012)
Strategic Orientation	Grandon and Pearson (2004); Al-Somali et al. (2011); Huy et al. (2012); Abou-Shouk et al. (2012)

Table 3.3: Summary of Organizational Factors Identified in the Reviewed Literature

3.5.3 Managerial Factors

The third category addresses managerial factors that influence the adoption of technology in SMEs. Managerial factors relate to the member of employees who have significant authority to make the decision of adopting or not adopting e-commerce in their organization. These factors include top management support, manager's attitude toward technology adoption, managers' experience, CEO's characteristics, strategy management,

manger's IT knowledge, CEO's innovativeness, CEO's commitment to IT, managerial obstacles, strategic orientation, response to risk, manager's attitude toward change, motivation to use e-commerce, power distance, and uncertainty avoidance. The literature review shows that several studies have addressed manager's characteristics as a potential key determinant of technology adoption. According to Rogers (2003) individual's decision to adopt innovation relies mainly on knowledge about particular innovation.

Many studies found that manger's IT knowledge is a significant determinant of technology and e-commerce adoption by SMEs (Ifinedo, 2011; Al-Somali, 2011; Heung, 2003; Hao et al., 2010; Scupola, 2009). Other studies, such as those of Raymond (2001) and Ramdani and Kawalek (2009), who identified managers' experience , as well as Ghobakhloo et al. (2011) and Almoawi (2011) who identified CEO's innovativeness are similar to manger's IT knowledge in definition and finding it as potential significant factor in determining e-commerce adoption by SMEs.

The literature shows that there is a significant link between top management support and technology adoption. According to Al-Somali and Clegg (2011, p. 408) "Successful innovation adoption requires support from top management to integrate the innovation into business activities and processes. Broadly speaking e-commerce may be exacerbated by poor management commitment and support". Several studies found that top management support has an important influence on e-commerce adoption by SMEs (Ifinedo, 2011; Al-Somali, 2011; Heung, 2003; Hao et al., 2010; Scupola, 2009). Other studies such as that of Hussin and Noor (2005) identified CEO commitment to IT and found it as a potential significant factor in determining e-commerce adoption by SMEs.

Moreover, literature identified the characteristics of managers as barriers to adopt e-commerce. For example, Zhu et al. identified managerial obstacle that inhibit the adoption of e-commerce in SMEs. Similarly, other studies used response to risk (Hussein, 2009) and uncertainty avoidance (Chen and McQueen, 2008) founding them negatively correlated with adoption of technology in SMEs.

Rogers (2003) argued that innovation adoption is significantly correlated with the innovation decision process, particularly when an attitude of decision maker will be either negative or positive towards performing or rejecting innovation. Therefore, managers' attitudes play a crucial role in adopting or not adopting the new innovation. Many studies investigated the effect of manager's attitude towards e-commence adoption in SMEs. For example, Mpofu et al. (2009), Seyal & Rahman (2003) and To and Ngai (2007) found that e-commerce adoption in SMEs is positively and significantly driven by managers' attitude toward the use of information technology. The following table shows the summary of managerial factors that identified in the reviewed literature.

Managerial Factors	Author(s)
Top Management Support	Scupola (2009); Lin and Wu (2004); Alamro and Tarawneh (2011); Teo et al. (2009); Chong et al. (2009); Ramdani and Kawalek (2009); Al-Weshah and Al-Zubi (2012); Beatty et al. (2001); Shaharudin et al. (2011); Ifinedo (2011); Al-Somali et al. (2011); Hussein (2009); Seyal et al. (2004); Scupola (2009); Hao et al. (2010)
Manager's Attitude toward Technology Adoption	Almoawi (2011); Hussein (2009); Mpofu et al. (2009); Seyal and Rahman, (2003); To and Ngai (2007); Teo et al. (2009); Ramsey and McCole (2005); Huy et al. (2012);

	Thong (1999); Rashid and Al-Qirim (2001)
Motivation to Use E-Commerce	Seyal et al. (2005)
Managerial Factors	**Author(s)**
Uncertainty Avoidance	Leidner and Kayworth (2006); Yeung et al. (2003); Seyal and Rahman (2003); Al-Hujra et al. (2011); Lundgren and Walczuch (2003); Almowai (2011); Kollmann et al. (2009); Chen and McQueen (2008); Lundgren and Walczuch (2003); Gong 2009; Vatanasakdakul et al. (2004); Alnoor and Arif (2011); Bao and Sun; (2010)
Power Distance	Chen and McQueen (2008); Lundgren and Walczuch (2003); Yoon (2009); Almoawai (2011); Kollmann et al. (2009); Hasan and Ditsa (1999)
Managers' Experience	Raymond (2001)
CEO's Characteristics	Sparling et al. 2007
Manger's IT Knowledge	Ghobakhloo et al. (2011) Almoawi (2011) Huy et al. (2012)
CEO Commitment to IT	Hussin and Noor (2005)
CEO's Innovativeness	Almoawi (2011)
Managerial Obstacles	Zhu et al. (2006b)
Strategic Orientation	Al-Somali et al. (2011); Heung (2003); Huy et al. (2012); Grandon and Pearson (2004)
Response to Risk	Hussein (2009)

Table 3.4: Summary of Managerial Factors Identified in the Reviewed Literature

3.5.4 Environmental Factors

The literature shows that environmental factors play an important role in SMEs' adoption of technology. Environmental factors relate to the atmosphere surrounding the organization, supporting or inhibiting its decision to adopt technology. The factors identified in the reviewed literature include competitive pressure, partner or business pressure, customer pressure, government regulation, information intensity, competition intensity, external pressure, IS vendor support and pressure, regularly environment, national readiness, environmental uncertainty, government support, government policy, legal regulation, market scale, IT infrastructure, power of consumer and market scope.

Scupola (2009) argued that the most important environmental factor affecting e-commerce adoption by SMEs is customer pressure. Many studies found this factor to be significant in adopting e-commerce by SMEs. (Scupola, 2009; Molla and Licker, 2005b; Ifinedo, 2011; Al-Qirim, 2006). According to Plana et al. (2004), more than 30% of medium size enterprises in Chile that have adopted the Internet were driven by their suppliers' pressure.. Other factors influencing decision makers to adopt technology in their SMEs include the role of government such as government support, policy, regulations, government policy, and legal aspects. These factors have similar concepts in explaining technology adoption.

The role of market was also found to be a significant predictor of technology adoption by SMEs. The reviewed literature shows that this role includes market scope and significant changes in the market. Zhu et al. (2003, p.254) define market scope as "the horizontal

extent of a firm's operations", which means that e-commerce offers SMEs opportunity to expand their business in the global market. Ramdani and Kawalek (2009) stated that SMEs that have an opportunity to sell their products and serves to global market are more likely to adopt e-commerce. McFarlane et al. (2003 found that market scope is significant predictor to SMEs to adopt e-commerce.

The literature also asserted the importance of the competitive pressure factor in technology adoption by SMEs. Chanvarasuth (2010, p.745) argued "that the openness of an organization and competitive pressure are more important to receive innovations to be successful in their adoption of innovations". Many studies found competitive pressure to be an external predictor that influence SMEs to adopt e-commerce (Alamro and Tarawneh ,2011 ;Ghobakhloo et al. ,2011; Zhu et al., 2003; Scupola, 2003, Sparling et al. ,2007; Hung et al., 2011). The following table presents a summary of environmental factors identified in the reviewed literature.

Environmental Factors	Author(s)
Competitive Pressure	Alamro and Tarawneh (2011); Ghobakhloo et al. (2011); Zhu et al. (2003); Scupola (2003); Sparling et al. (2007); Hung et al. (2011); Abou-Shouk et al. (2012); Ramdani and Kawalek (2009); Huy et al. (2012)
Partner or Business Pressure	Ghobakhloo et al. (2011); Zhu et al. (2003); Scupola (2003); Raymond (2001); Heung (2003); Teo et al. (2009); Hung et al. (2011); Huy et al. (2012)
Customer Pressure	Alamro and Tarawneh (2011); Scupola (2003); Al-Somali et al. (2011); Hung et al. (2011); Huy et al. (2012); Abou-Shouk et al. (2012)

Market Scope	Alamro and Tarawneh (2011); Abou-Shouk et al.(2012); Ramdani and Kawalek (2009); Hussein (2009); Hung et al. (2011)
Environmental Factors	**Author(s)**
IT Infrastructure	Scupola (2009); Scupola (2003); Huy et al. (2012); Kollmann et al. (2009)
Legal Regulation	Hung et al. (2011); Hudhaif and Alkubeyyer (2011)
Government Policy	Hung et al. (2011); Huy et al. (2012)
Government Support	Tan and Teo (2000); Hung et al. (2011); Huy et al. (2012); Hunaiti et al. (2009); Scupola (2009); Saprikis and Vlachopoulou (2012); Hamid (2009); Gibbs et al. (2003); Thatcher et al. (2006); Seyal et al. 2004; Molla and Licker 2005; Al-Weshah and Al-Zubi (2012)
National Readiness	Al-Somali et al. (2011)
Environmental Uncertainty	Raymond (2001)
IS Vendor Support and Pressure	Ghobakhloo et al. (2011); Ramdani and Kawalek (2009); Lin and Wu (2004); Ifinedo (2011)
Information Intensity	Almoawi (2011)
Competition Intensity	Almoawi (2011); Zhu et al. (2006b)
External Pressure	Ifinedo (2011); Kurnia et al. (2009)
Regularly Environment	Zhu et al. (2006b); Al-Somali et al. (2011)

Table 3.5: Summary of Environmental Factors that Identified in the Reviewed Literature

3.6 Studies of Factors Affecting E-commerce Adoption in Travel agencies

Based on literature review, although many studies have been increasingly investigating e-commerce adoption in SMEs, there still lack of studies about e-commerce adoption in travel agencies in developed and developing countries, especially in Arab countries. As discussed earlier, e-commerce adoption has become very important for travel agencies to

survive in the global travel market; however, travel agencies' adoption of e-commerce still lags behind that of other SMEs sectors.

This shortcoming encouraged several studies to address the importance of this adoption and investigate the reasons of its slow progress. Buhalis and Jun (2011), for example, found that there are four main barriers restricting e-commerce adoption: limited strategic scope, insufficient ICTs expertise and understanding, low profit margin limiting investments and emphasis on human interaction with consumers. He also confirmed that travel agencies still have a limited access to the Internet due to high cost and insufficient telecommunication infrastructure. Limited financial resources are also responsible for many travel agencies' adoption of simple e-commerce applications such as developing basic websites presenting their travel products and offers without an online payment facility, showing price comparisons or inviting customers to move to travel suppliers for a direct purchase (Kaewkitipong, 2010).

Heung (2003) pointed out the barriers to adopt e-commerce in travel agencies in Hong Kong, focusing on the threats these agencies may encounter without implementing e-commerce and expecting that 20% of them will run out of business in the next three years. He found that slow e-commerce adoption by travel agencies can be attributed to concerns about the management support and partner participation. He also found that the cost of e-commerce implementation and lack of well-trained staff are significant factors of slow adoption.

Andreu et al. (2010) conducted a study to explore the effect of external pressure, including that of customers and industry, on e-commerce adoption by travel agencies in

Spain. They examined these pressures on different levels of e-commerce adoption, namely: e-communication and e-procurement, where the former is "the use of Internet technologies by the travel agency to interact with its suppliers for communication processes" (p.778) and the latter reflects more complex levels of e-commerce adoption that include integration in the business process such as online reservation. They found customers pressure to be a significant factor in adopting e-communication, while travel suppliers pressure significantly affects adopting e-procurement. They also found that travel agencies that have already adopted e-communication are more likely to adopt e-procurement due to the great benefits obtained and low risks identified through that initial e-communication adoption.

Abou-Shouk et al. (2012) investigated the facilitators that may influence the decision of managers of travel agencies in Egypt to adopt an advanced level of e-commerce, finding that marketing benefits, competitive benefits and business efficiency benefits have a significant effect on such a decision.

Vrana et al. (2006) investigated the current state of e-commerce adoption in Greek travel agencies and explored the decision makers' attitudes toward advanced levels of e-commerce applications, finding that the majority of agencies only use e-mail in their business, followed those who use simple website to present their product information, while a limited number have adopted a complete online business. They found that security and lack of interpersonal communication were the main barriers of e-commerce adoption.

Hussein (2009) investigated factors affecting e-commerce adoption by travel agencies in Egypt, looking at non-adopters who do not have website, adopters with only a simple website and sophisticated e-commerce adopters such as users of online inquires, online booking and online payment. The findings revealed that perceived risk, marketing capabilities and attitude toward risk are significant in differentiating between simple and sophisticated e-commerce adoption, whereas relative advantage, complexity, employees IT knowledge, marketing capabilities, top management support and attitude toward risk are significant for those travel agencies considering an initial adoption decision. I

nvestigating the different determinants of e-commerce adoption by travel agencies in Canada, Raymond (2001) who developed a comprehensive model based on TOE and DOI to identify the factors that influence the levels of e-commerce adoption by travel agencies, showed that partner support and environmental uncertainty are significant predictors that influence owner/managers to adopt low and medium level of websites, while the firm's distribution, communication strategy, type of ownership, nature of business, perceived advantages and technology attributes are significant for adopting an advanced level of websites.

Moreover, studying the factors affecting travellers' intention to use travel agencies websites for buying their travel products, Luo and Remus (2006) found that perceived usefulness had a significant effect on travellers' behavioural intention to use travel agencies online, whereas perceived ease of use had an indirect significant effect. Therefore, improving travel agency's website usability and access as well as the website interface ease of use will influence customers to buy travel products through travel agencies' websites.

Based on the above discussions, it is clear the variation of variables, conceptualizing and finding among researchers regarding to e-commerce adoption in SMEs. Also, the reviewed literature showed that there have been many studies investigating and predicting e-commerce adoption by SMEs in developing and developed countries. However, there is still a need to further investigate and understand the factors affecting e-commerce adoption by SMEs particularly travel agencies in developing countries, including Arab countries like Jordan. Moreover, there still a need for a holistic views that addresses the factors affecting different levels of e-commence adoption.

The results of prior studies in both developed and developing countries are therefore important for the purpose of this study to develop a comprehensive conceptual framework inclusive of the factors affecting e-commerce adoption in travel agencies in Jordan. The following chapter presents the conceptual framework proposed by this study.

3.7 Maturity Models of E-commerce

Along with the internet revolution in the 1990s the term 'e-commerce' emerged and has been rapidly and increasingly diffused among individuals and organizations. A number of studies investigated different aspects of e-commerce adoption focusing on the individual and organizational level. However, the factors affecting e-commerce adoption in organizations are different from those affecting individuals' adoption of e-commerce in terms of the progression of e-commerce maturity (Ghachem, 2006). E-commerce maturity model is defined as "stages from an initial state to maturity to help organizations assess as-is situations, to guide improvement initiatives, and to control progress and the sophistication of eCommerce use" (Alghamidi et al., 2014, p.40). Therefore, e-commerce maturity model relates to sequential levels of e-commerce adoption.

SMEs are therefore different in terms of rating and assessment the maturity level of e-commerce. According to Janom et al. (2014), SMEs must be aware of the current state of e-commerce and aware of the right strategy they currently used in order to achieve their goals. However, many challenges are facing SMEs that inhibit them to attain the right level of e-commerce maturity. For example, risk and lack of knowledge significantly differentiate non-adopters with no website presence from adopters with website activities.

The use of e-commerce maturity model is very important in order to have holistic explanation of the factors that may affect different levels of e-commerce maturity. According to Zandi (2013), the use of maturity e-commerce model allows SMEs to evaluate and determine the level of e-commerce that they currently use and compare it with the levels of maturity described in the model. Morias et al (2012), suggested using e-commerce maturity models in SMEs in order to have a comprehensive explanation for decision makers in planning, deciding and implementing the suitable level of e-commerce that meets their SMEs Needs. This can be done by identifying the factors associated with the level of e-commerce maturity model.

Several maturity models of e-commerce have been developed as to identify the sequential levels of e-commerce in organizations such as those developed by Boisvert (2002), Daniel et al. (2002), PricewaterhouseCoopers (1999), Rao et al. (2003), Lefebvrea et al. (2005), and Molla and Licker (2004). Boisvert (2002) points out three levels of internet adoption in organisations. In the first level, a basic website is built with one-way communication presenting only information and the organisation's promotional activities.

The second level relates to relational and transactional activities which allow organisations to gain and analyse information from their partners, customers and suppliers through their website. Moreover, it allows organisations to sell their products and services online. The third level presents full online business where the internet is fully integrated into the organisation's processes.

Rayport and Jaworski (2002) proposed a four-stage model of e-commerce adoption in organisations. The first stage is called broadcast, which enables the organisation to show its information, products and services to customers through a static website. Interact is the second stage, encompassing a dynamic website that allows interaction with customers through e-mail, feedback and survey. The third stage is called transact that includes online ordering and payment transactions. Then, the internet is used to provide inter-organisational activities and online interaction with their trading partners, forming the fourth stage which is called Collaborate.

Rao et al. (2003) also developed a similar e-commerce stage growth model, proposing four stages. Presence is the first stage; it is the initial step where the organisation adopts e-commerce. At this stage the company shows its information and advertisements and its products on a static website with only one-way communication using e-mail. The second stage is called portal that allows customers and suppliers to communicate with company's website to order products, giving online feedback, and inventory search without online payment transaction. Transaction Integration is the third stage that is similar to the Portal stage but with ability to support financial transactions. At this stage, customers can order and pay online for products and services. Moreover, online auctions are also supported in

this stage. The fourth level includes a complete integration of business processes and high-level collaboration between customers and suppliers with high-level online business management integration, such as supply chain management, and CRM.

Moreover, Daniel et al. (2002) and PricewaterhouseCoopers (1999) proposed a similar model consisting of four levels of e-commerce adoption in SMEs, where the first level presents basic internet tools using only e-mail to communicate with customers and suppliers with no website development. The second level presents information on company's products and services through a basic website with no advanced capabilities. The third level is similar to the second level but the company has more advanced capabilities, such as online orders, the provision of customer services and online communications with suppliers through its website. In the final level, the company has full online business integration, such as managing its inventory, receiving online payments and providing post-sale services.

Lefebvrea et al. (2005) proposed six stages of e-commerce progression in SMEs to differentiate non-adopters from adopters. The first two stages are specific to non-adopters, where stage 00 refers to firms that have no interest in adopting any e-commerce activities in their business, whereas stage 0 refers to firms that have not yet adopted any of e-commerce activities but have the intention to do so within the next twelve months. E-commerce adoption is classified in four stages. The first stage is called electronic information search and content creation where adopters use basic e-commerce activities and advertise the company's products and services using a digital format. Electronic transactions are the second stage, where the company can buy and sell products and

services using electronic catalogues. The third stage is more complex and includes online auctions, as suppliers and customers are able to negotiate contracts online with company such as volumes and prices and the company can accept electronic payments from its customers. Stage four which is called electronic collaboration includes full e-commerce business activities, such as software integration into management information systems and supports e-collaboration with customers and suppliers.

Molla and licker (2004), proposed six different levels to access e-commerce maturity by SMEs in developing countries. Stage 1 refers to SMEs that have not yet connected with the internet, with no e-mail. In stage 2, SMEs are connected with the Internet with only e-mail for business communications and activities. In stage 3, SMEs that have simple website that presents their information online with one-way communication. In stage 4, SMEs have dynamic website enabling them to provide more detailed information about their products and services by having online catalogue. At this stage, potential customers and suppliers can use the online catalogue to make offers and make online inquiries, but with no online payment facility. In stage 5, SMEs are able to sell their products and services to potential customers and suppliers through their own website, but the orders are handled manually. In stage 6, SMEs have an advanced website including internal and external business activates and other back office system such as CRM, ERP, and accounting system. Table 3.6 below shows summary of the e-commerce maturity models.

	Boisvert Model (2002)	Daniel et al. Model (2002)	Rayport and Jaworski Model (2002)	Rao et al. (2003)	Pricewaterhouse Coopers (1999) Model	Molla and Licker (2004) Model	Lefebvre a et al. (2005) Model
Number of Stages	3	4	4	4	4	6	6
Description							
No adoption	N/A	N/A	N/A	N/A	N/A	√	√
No adoption but, Intention to adopt in near future	N/A	N/A	N/A	N/A	N/A	N/A	√
Internet access, no website	N/A	√	N/A	N/A	√	√	N/A
Basic website	√	√	√	√	√	√	√
Interactive website, no e-payment	N/A	N/A	√	√	N/A	√	√
Online store	√	√	√	√	√	√	√
Online business Interaction	√	√	√	√	√	√	√

Table 3.6: The most cited Maturity of e-commerce model in the reviewed literature

Based on Table 3.6, different sequential levels of e-commerce adoption have been identified in SMEs. It was found that SMEs start with initial and simple adoption of e-commerce such as e-mail and simple website for communication with their customers and suppliers, and then proceed to more sophisticated adoption including high-level interaction between customers and suppliers such as online payment, electronic resource planning and customer relationship management.

Also, it shows that the main objective of maturity is helping organizations to identify the current state of e-commerce adoption, the level of e-commerce they want, and which factors are needed to overcome in order to reach a mature e-commerce status.

Also, Table 3.6 shows numerous e-commerce maturity models developed to describe different levels of e-commerce adoption by SMEs. However, describing these levels was inconsistent among these models. For example, Danial et al.'s (2002) model described four stages of e-commerce beginning from internet access then moving to basic website, online store and full online business activities. This model overlooked non-adopters with no internet connection, and medium level of e-commerce adoption including two-way communication, while Lefebvrea et al.'s (2005) model proposed six levels of e-commerce adoption, beginning in describing two levels of e-commerce non-adopters, followed by basic website, interactive website, online store and online business interaction. However, Lefebvrea et al.'s (2005) model did not explain basic e-commerce adopter who has internet access with only e-mail for business communications.

According to Kurnia et al (2009), the different conceptualizing of e-commerce adoption among studies leads to inconsistent results and conclusion among them regarding the factors affecting different stages of e-commerce. For example, many studies only focused on the factors affecting e-commerce in SMEs as adopters and non-adopters (Teo and Tan, 1998; Teo and Ranganathan, 2004; Ramsey and McCole, 2005; Tan et al., 2007; Andreu et al., 2010), while others examined the factors affecting different levels of e-commerce adoption within SMEs (Chen and McQueen, 2008; Senarathna and Wickramasuriya, 2011; Raymond, 2001). However, the e-commerce maturity levels were described

inconsistently in these studies. For example, Raymond (2001) used e-commerce maturity models consisting of three levels: informational, transactional and strategic; while Chen and McQueen (2008) identified four levels: messaging, online marketing, online ordering and online transactions.

Based on above discussion, it can be clearly concluded that e-commerce adoption is considered a multi-level phenomenon rather than the dichotomy of adopter vs. non-adopter. Also, the reviewed literature shows that the determinants of e-commerce adoption can be different based on the level of adoption being considered. Therefore it is very important to consider sequential levels of e-commerce when conducting study of e-commerce adoption by SMEs.

3.8 Limitations and Gap in literature

As clearly presented in Tables 3.3, 3.4, 3.5 and 3.7, a large number of potential factors has been identified in order to explain e-commerce and technology adoption by SMEs in both developed and developing countries. Most of these studies belong to three groups of factors of e-commerce adoption by SMEs, namely: technological factors, organizational and environmental factors. It was found from reviewed literature that few prior studies (see Table 3.7) have identified managerial factors in depth in one grouping context, while most prior studies identified managerial factors within the organizational context as one or two factors which may not present comprehensive explanation of technology adoption by SMEs where managers are considered the most critical decision makers in adopting technology.

Also, the reviewed literature shows that Hofstede's Cultural Dimensions has a vital role in explaining technology adoption. Yet, there is a general lack of studies on cultural factors of ICTs and e-commerce adoption as a limited number of studies focused on the effects of these factors on the levels of e-commerce adoption. Moreover, the reviewed literature showed that a variety of models and theories were applied to study e-commerce and technology adoption by SMEs. It is worth mentioning that none of these models and theories has provided compatible explanation of e-commerce and technology adoption by SMEs. Thus, it is necessary to develop a comprehensive framework in order to have a best explanation of e-commerce adoption by SMEs.

Also, the findings of these studies are inconsistent and confusing because due to the following reasons. First, most prior studies of e-commerce adoption focused on dichotomous variables presenting adoption versus non-adoption, while limited studies focused on factors affecting different levels of e-commerce adoption which explainations for SMEs maturity level for SMEs.

Second, the terminology of defining the independent variables of these studies is inconsistent. Third, wide range of independent variables has been suggested and identified by prior studies, but there is no clear evidence in explaining the reason of choosing certain variables rather than others.

Therefore, determining the important factors and consolidating the factors that have similar definition to avoid overlapping and considering e-commerce adoption as multi-levels to explain e-commerce adoption is still controversial among relevant literature on

e-commerce and technology adoption which is necessary to address in order to have a comprehensive view of e-commerce adoption by SMEs.

Finally, most prior studies in technology and e-commerce adoption by SMEs have been conducted in developed countries, while limited studies in developing countries were undertaken to date, and even fewer in Arab countries such as Jordan. Travel agencies as an example of SMEs are considered the most critically-threatened type of SME facing changes in the travel market structure caused by e-commerce adoption. Therefore, investigating e-commerce adoption by travel agencies in developing countries such as Jordan is regarded an emerging area of study and needs to be addressed in the literature of e-commerce context.

Therefore, the current study addresses these limitations and fill the gap by developing a comprehensive framework that includes that most significant potential factors that may influence decision makers on different levels of e-commerce adoption in order to improve the understanding of e-commerce adoption and maturity of Jordanian travel agencies as an example of developing countries. The following chapter presents the conceptual framework proposed by this study.

3.9 Conclusion

This chapter reviewed the background, strengths and weaknesses of most dominant theories and models in technology adoption. It also explored the most common e-commerce maturity levels, starting with simple e-commerce adoption moving to more advanced levels. Finally, the chapter addressed the factors identified by prior studies

through applying the different theories and models relevant to technology adoption. It concluded by addressing the knowledge gaps that emerged in the reviewed literature as a first step to develop the initial conceptual framework that will be presented in the next chapter.

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 1	TOE	E-commerce	SMEs	China / 156	Survey Questionnaire	IS Input, Intended IS Budget, Top Management, Strategy Management, Firm Size, Web Functionality, Security	IS Input, Intended IS Budget, Top Management Support, Security and Firm Size having a significant effect on e-commerce adoption while Strategy Management and Web Functionality are not significant in e-commerce adoption in SMEs.	Hao et al. (2010)
	TOE	E-commerce	SMEs	Australia and Denmark / 8	Interviews	**Organisational Context** (CEOs Characteristics and Top Management Support, Employees' IS Knowledge and Attitude, Resource Constraints), **External Environment** (Role of Government, Technology Support Infrastructure), **Technological Context** (E-commerce Relative Advantages, Barriers and Benefits, E-commerce-Related Technologies, Competitive Pressure, Consumer Pressure)	The results showed that CEOs Characteristics and Top Management Support, Employees' IS Knowledge, Customer Pressure and quality of ICT consulting services and Barriers and Benefits of technology are significant predictors for both countries. Also, the results showed that government role is a significant predictor of adopting e-commerce by Australian SMEs while it was found insignificant in Danish SMEs.	Scupola (2009)
	TOE	EDI	SMEs	Brunei /100	Survey Questionnaire	**Organisational Factors** (Organisational Culture, Management Support, Motivation to Use), **Environmental Factors** (Government Support), **Technological Factors** (Perceived Benefits, Task Variety)	Top Management Support and government support have a significant effect on adopting EDI in SMEs while Organisational Culture has no effect.	Seyal et al. (2005)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 1	TOE	E-commerce	SMEs	Jordan /41	Interviews	**Organisational Context** (Financial Resources, Top Management Support, Rapid Political Change, Changing nature of workforce, Increased importance of ethical and legal issues ,Increased social responsibility of organisations), **Technological context**(E-commerce Benefits, E-commerce Barriers, Increase innovations and new technologies , Rapid decline in technology cost vs. performance ratio), **External Environment** (Strong Competition, Increased Power of Consumer, Significant Change in markets , Global economy , Regional trade agreements)	Client Pressure, Availability of ICT, CEOs and Employees' Knowledge are significant factors in adopting e-commence, while Government Support has no significant effect.	Alamro and Tarawneh (2011)
	TOE	E-commerce	Firms	Iran/1237	Survey Questionnaire	**Technological context** (Perceived Relative Advantages, Perceived Compatibility, Cost), **Organisational Context** (Information Intensity, CEO's Knowledge, CEO's Innovativeness, Business Size), **Environmental context** (Competition, Buyer/Supplier Pressure, Support from Technology Vendors)	Perceived Relative Advantages, Perceived Compatibility, CEO's Innovativeness, Competition, Buyer/Supplier Pressure and Support from Technology Vendors are significant factors that affect adopting e-commerce in SMEs, while other factors were found insignificant.	Ghobakhl oo et al. (2011)

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	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 1	TOE	E-commerce	SMEs	Saudi Arabia /400	Survey Questionnaire	**Organisational Context** (Firm Size, Manager's Attitude, Manager's Innovativeness, Owner's Knowledge), **Technology context** (Relative Advantages, Compatibility, Complexity) **Environmental Context** (Information Intensity, Competition Intensity)	Firm Size, Manager's Attitude, Information Intensity, and Competition Intensity, while Manager's Knowledge and Relative Advantages are significant predictors of e-commerce adoption.	Almoawi and Mahmood (2011)
	TOE	E-business	SMEs	Canada/214	Survey Questionnaire	**Technological Context** (Perceived Benefits) , **Organisational Context** (Management Support, Organisational IT Competence) **Environmental Context (**External Pressure, IS Vendor support and Pressure ,Financial Resources Availability) , **Control Variables** (Firm Size: Revenue , Firm Size: Workplace, Firm Age, Industry Sector)	Perceived Benefits, Management Support and External Pressure were found significant predictors of adopting e-business, while other independent variables including Control Variables were found insignificant.	Ifinedo (2011)
	TOE	E-business	Firms	Europe /3100	Survey Questionnaire	Technology Competence, Firm Scope, Firm Size, Consumer Readiness, Competitive Pressure, Lack of Trading Partner Readiness	Technology Competence, Firm Technology Competence, Scope, Competitive Pressure and Firm Size are significant as e-business adoption facilitators, while Lack of Trading Partner Readiness is a significant inhibitor.	Zhu et al.(2003)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 1	TOE	E-business	Firms	Brazil, China, Denmark, France, Germany, Japan, Mexico, Singapore, Taiwan, United States) /1857	Survey questionnaire	**Technological Context (**Technology Readiness, Technology Integration), **Organisational Context (**Firm size, Global Scope, Managerial Obstacles), **Environmental Context (**Competition Intensity, Regulatory Environment)	Technology Readiness was the most significant factor of adopting e-business in developing countries but less significant in developed countries. However, the Technology Integration factor affected e-business adoption in developed country more than developing countries. Firm Size has a negative effect on the e-business routinization stage. Competition has a positive effect on adopting e-business in the initiation and adoption stages but a negative effect in the routinization stage. The environmental context affects e-business adoption in developing countries more than developed ones.	Zhu et al. (2006b)
	TOE	E-procurement	SMEs	Singapore/ 147	Survey	**Technological Factors** (Perceived Direct Benefits, Perceived Indirect Benefits, Perceived Costs),**Organisational Factors (** Firm Size, Top Management Support, Information Sharing Culture), **Environmental Factor(** Business Partner Influence)	Firm Size, Top Management Support, Perceived Indirect Benefits and Business Partner Influence are significant predictors in differentiating between adopters and non-adopter of e-procurement.	Teo et al. 2009

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 1	TOE	E-commerce Technologies	SMEs	Malaysia/125	Survey	**Organisation readiness** (Perceived Benefits, Organisation Resources and Governance), **Industrial readiness** (Industry Structure Standards), **National Readiness** (Perceived Supporting Services), **Environmental Pressure**	The results showed that Perceived Environmental Pressure has different influences on the adoption of different EC technologies. The results also showed that Perceived Benefits, Perceived Organisation Resources and Governance have significant influences n adopting e-mail and Internet in SMEs, while Perceived Supporting Service, Perceived Organisation Resources and Governance and Perceived Environmental Pressure significantly influence the adoption of barcode.	Kurnia et al. (2009)
	TOE	E-commerce	SMEs	Saudi Arabia /450	Survey	**Technological Context (**Organisational IT Readiness), **Organisational Context** (Top Management Support, Strategic Orientation), **Environmental Context (**Customer Pressure, Regulatory Environment, National Readiness)	The results showed that Organisational IT Readiness, Top Management Support, Regulatory Environment are significant factors in predicting e-commerce preliminary adoption and utilization, while Customer Support and Strategic Orientation have significant influence only on the utilisation of e-commerce.	Al-Somali et al. (2011)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 2	TPB	E-commerce	SMEs	Chile/212	Survey Questionnaire	Attitude, Subjective Norms, Perceived Behavioural Control	Attitude and Subjective Norms are positively significant to predict intention to adopt e-commerce, while Perceived Behavioural Control has no significant effect.	Nasco et al. (2008)
	TPB	E-commerce	SMEs	Chile/30	Survey Questionnaire	Attitude, Perceived Behavioural Control, Subjective Norms	The study proved that TPB is useful in predicting managerial intention to adopt e-commerce by SMEs. It also found a significant relationship between Managers' Behaviour and their beliefs. Consequently, e-commerce intervention affects managers' beliefs, which in turn leads to change their behaviours.	Grandon and Mykytyn, Jr. (2004)
	TPB	IT	SMEs	USA/162	Survey Questionnaire	Subjective Norms (Social Expectation),Perceived Positive and Negative IT Usage, Perceived Control	Individual and Firm Executive Characteristics Social Factor are significant factors in adopting IT by SMEs.	Harrison et al. (1997)
	TPB	E-commerce	SMEs	Chile /212	Survey Questionnaire	Attitudes, Subjective Norms, Perceived Behavioural Controls	Subjective Norms and Attitude constructs are positively significant in predicting intentions, while Perceived Behavioural Control is insignificant	Nasco et al. (2008)
	TPB	E-commerce	SMEs	USA/184	Survey	Behavioural Beliefs, Normative Beliefs, Control Beliefs	It was found that Behavioural Beliefs and Control Beliefs were significant in differentiating between adopters and non-adopter of e-commerce.	Riemensh neider and McKinney (2001)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 3	DoI	Internet-based ICTs	SMEs	Malaysia/406	Survey Questionnaire	Relative Advantages, Compatibility, Complexity, Trialability, Observability, ICT Security , ICT Cost , ICT benefits and Barriers .	Relative Advantages, Compatibility, Complexity, Observability and Security are the most significant factors in adopting e-commerce, while Trialability and ICT Cost are less significant.	Tan et al. (2008)
	DoI	E-commerce	SMEs	Thailand/ 400	Survey Questionnaire	Relative Advantages, Compatibility, Complexity, Trialability, Observability, Security and Confidentially	All factors were significant predictors of e-commerce adoption in SMEs except trialability ,which is found insignificant.	Limthongc hai and Speece (2003)
	DOI	E-commerce	Manufacture Sectors	Malaysia/194	Survey Questionnaire	Relative Advantages, Compatibility, Complexity, Trialability, Observability, Security and Confidentially	All DOI factors except Trialability were found significant predictors of adopting e-commerce.	Alam et al. (2008)
	DoI	E-commerce	Manufacturing Sectors	Malaysia/107	Survey Questionnaire	Relative Advantages, Compatibility, Complexity, Trialability, Observability, CEO Commitment to IT, Organisational Readiness	The study found that DOI attributes have a significant effect on e-commerce adoption decision by owners/managers and that CEO Commitment to IT is a major factor of e-commerce adoption decision.	Hussin and Noor,2005

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 4	TAM	e-commerce	Travel agents	USA/ 54	Survey Questionnaire	Perceived usefulness, Perceived ease of use	Perceived usefulness was significant determinant of behavioural intention to use the travel website , while Perceived ease of use did not have a direct impact on behavioural intention, but , it indirectly affects perceived usefulness and behavioural intention .	Luo and Remus, 2006
	TAM	e-commerce	Financial services	UK/300	Interviews	Perceived Usefulness, Perceived Ease of Use, Attitude Towards using the Internet , Usage of the Internet as a Distribution Channel for Financial services.	Perceived Ease of Use, Attitude Towards using the Internet were significant predictors to explain Usage of the Internet as a Distribution Channel for Financial services, while Perceived Usefulness was less significant predictor	McKechnie et al, 2001
	TAM	IT	SMEs	Taiwan/196	Survey Questionnaire	Perceived Usefulness, Perceived Ease of Use, Internal User Computing Support, Internal Computing Training, Management Support, External Computing Support, External Computing Training	Management Support was found the most significant factor influencing end user computing in SMEs. Perceived Usefulness has more effect on system usage by end user than Ease of Use.	Lin and Wu (2004)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 5	Hofstede's Theory	E-commerce	SMEs	Chinese SMEs in New Zealand /14	Interviews and Case Study	Power Distance, Uncertainty Avoidance, Individualism/Collectivism	Managers/owners who have lower Uncertainty Avoidance are more likely to adopt a higher level of e-commerce in their organisations while firms with low Individualism rate have a higher growth of ecommerce levels. There is a positive significant relationship between Power Distance and Owner/Managers' Attitude toward e-commerce adoption.	Chen and McQueen (2008)
	Hofstede's Theory	Technology	Airline Industry	USA, Japan, Switzerland/99, 142,152.	Survey Questionnaire	Perceived Usefulness, Perceived Ease of Use, Power Distance, Uncertainty Avoidance, Individualism, Masculinity	The results showed that TAM could be applied to test technology usage behaviour in USA and Switzerland, while Japan is not. Also PEOU has less significant effect than PU in technology adoption in all three countries.	Straub et al.(1997)
	Hofstede's Theory	E-commerce	Online consumer	China/ 270	Survey	Perceived Usefulness, Perceived Ease of Use, Trust, Power Distance, Uncertainty Avoidance, Individualism, Masculinity, Long-Term Orientation	The results showed that Perceived Usefulness, Perceived Ease of Use and Trust are important factors that influence Intention to Use E-commerce by Chinese customers. Also, the result found that Uncertainty Avoidance, Long-Term Orientation and Masculinity had a moderate effect on the relationship between Perceived Usefulness, Perceived Ease of Use, and Intention to Use E-commerce.	Yoon (2009)
	Hofstede's Theory	Internet-based Digital Technology	SMEs	Bangladesh /523	Survey	Perceived Usefulness, Perceived Ease of Use, Normative Pressure, Coercive Pressure, Power Distance, Uncertainty Avoidance, Individualism, Masculinity, Long-Term Orientation	Perceived Usefulness, Perceived Ease of Use, Normative Pressure, Coercive Pressure and Power Distance are significant predictors to adopt Internet based digital technology.	Azam and Quaddus (2012)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 6	TOE+DOI	E-commerce	SMEs	Southern Italy / 7	Interviews	Financial Resources, Technological Resources, Employee's IS Knowledge, Company Size, Innovation Champion, External Pressure, Role of Government, Technology Support Infrastructure, Competitive Pressure, Buyer Pressure, Supplier Pressure, E-commerce Barriers, E-commerce Benefits and related technology	Innovation Champion, Employee's IS Knowledge, External Pressure from Buyer and Supplier, Competitive Pressure, Role of Government, E-commerce Barriers and Benefits have significant influence on e-commerce adoption in SMEs.	Scupola (2003)
	TOE +DOI	Enterprise Systems	SMEs	England/102	Interviews	**Technological context** (Relative Advantages, Compatibility, Complexity, Trialability, Observability),**Organisational context** (Top Management Support, Organisational Readiness, IS Experience, Firm Size), **Environmental context** (Industry Market Scope, Competitive Pressure , External IS Support)	Industry Market Scope, Competitive Pressure, External IS Support, Relative Advantages Construct, Top Management Support and Firm Size are significant predictors of adopting Enterprise Systems.	Ramdani and Kawalek (2009)
	TPB+DOI	E-bank	Banks		Survey Questionnaire	Attitude toward behaviour, Behavioural Control, Subjective Norms, Relative Advantages, Compatibility, Trialability and Risk	Attitudinal and Perceived Behavioural Control factors are the most significant in adopt e-banking rather than social factors. The DOI constructs have a significant effect on intention to implement Internet banking.	Tan and Teo (2000)

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	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 6	TOE+Hofstede's Theory	E-commerce	SMEs	Saudi Arabia /400	Survey Questionnaire	**Organisational Context** (Firm Size, Owner's Attitude, Owner's Innovativeness, Owner's Technological Knowledge), **Technology context** (Relative Advantages, Compatibility, Complexity) **Environmental** Context (Information Intensity, Competition Intensity), **Cultural Context** (Power Distance, Uncertainty Avoidance, Individualism/Collectivism , Masculinity/Femininity)	The research results showed that Power Distance and Masculinity had a moderating effect on e-commerce adoption while Uncertainty Avoidance and Individualism had no significant moderating effect. In addition, Firm Size, Information Intensity and Competition Intensity had a significant relationship with e-commerce adoption among SMEs in Saudi Arabia.	Almoawi (2011)
	TOE+DOI	E-commerce	Travel Agencies	Egypt/160	Survey + Interviews	**Innovation Attributes** (Relative Advantages, Compatibility, Observability, Trialability, Complexity, Perceived Risk), **Firm Resources** (Firm Size, Employees' IT Knowledge, Marketing Capabilities, Organisational Learning, Market Orientation), **Individual Factors(** Top Management Support, Attitude toward Change, Response to Risk)	Relative Advantages, Complexity, Employees' IT Knowledge, Marketing Capabilities, Organisational Learning, Attitude toward Change and Response to Risk were significant predictors to differentiate adopters from non-adopters. The results also found that Perceived Risk, Marketing Capabilities and Response to Risk are significant predictors to differentiate simple adopters from sophisticated adopters.	Hussein (2009)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 6	TOE+DOI	E-commerce	Travel Agency	Canada /410	Survey	**Environmental Context (**Partner Influence, Environmental Uncertainty),**Marketing Strategy**(Price, Distribution, Customer Relations) ,**Managerial Context** (Owner/Manager's Experience, Educational Level),Organisational Context(Type of Ownership, Nature of Business), **Characteristics of E-commerce** (Perceived Advantages, Technology Attributes)	Partner Influence and Environmental Uncertainty are significant predictors of adopting website at the informational and transactional levels and insignificant predictors of implementing a website at the strategic level. The results also show that Firm's Distribution, Communication Strategy, Type of Ownership, Nature of Business, Perceived Advantages, Technology Attributes are significant to adopting higher level of website (website strategic level) rather than lower level of website implementation (website informational and transactional level). Also, the results showed that Managerial Context including Owner/Manager's Experience and Educational Level are not associated with website implementation levels.	Raymond (2001)
	DOI+TOE	E-commerce	Travel Agencies	Taiwan/122	Survey	**Innovation attributes** (Compatibility, Relative Advantages, Relative Risk) **Organisation** (Centralization, Formalization, Percept of Superiority, Organisation Scale Industry), **Environment (**Government Policy, Legal Regulation, Competition Intensity, Market Scale, Popularity of Internet User, Customers Pressure, Supplier Pressure, Security, Website Transmission Correctness, Website Transmission Speed, Website Maintenance	Compatibility, Centralization, Organisational Scale and Correctness of Website Transmission were significant predictors in differentiating between adopters and non-adopters.	Hung et al. (2011)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 6		E-commerce	Travel Agencies	China/103	Survey	Management Support, Technical Issues, Knowledge of E-commerce, Partner's Participations	Management Support and Partner's Participations are significant predictors of adopting e-commerce.	Heung (2003)
	TOE+DOI	E-commerce	SMEs	Vietnam/ 926	Survey	**Organisational Characteristics** (Employee's E-commerce Knowledge, Organisational Readiness, Firm's Strategic Orientation, Firm Size, Firm's Globalization Orientation), **Characteristics of Managers**(Managerial Attitudes towards Innovation, Manager's Relative IT Knowledge), **Environmental Factors** (Competitive Pressure, Industry Associations' Support, Governmental Policy, IT Infrastructure, Buyers/Suppliers Pressure), **Characteristics of Innovation** (Compatibility, Complexity, Relative Advantages, Risk	The results showed that Employee's E-commerce Knowledge, Organisational Readiness, Firm Size, Managerial Attitudes towards Innovation, Industry Associations' Support, Competitive Pressure, Government Support, Compatibility, Complexity and Risk are significant predictors in differentiating between adopters and non-adopters of e-commerce.	Huy et al. (2012)
	TOE+ Hofstede's Theory	E-commerce	SMEs	Pakistan/54	Survey Questionnaire	**Technological Factors** (Perceived Benefits, Task Variety), **Organisational Factors** (Organisational Culture, Management Support, Motivation to Use e-Commerce) **Environmental Factors** (Government Support)	Perceived Benefits, Task Variety, Organisational Culture and Government Support are significant predictors of e-commerce adoption.	Seyal et al. (2004)

	Model / Theory	Object of Analysis	Type of Industry	Place of Research/ Number of Sampling	Research Methods	Explanatory Variables	Major Findings	Author(s)
Part 6	TAM +DOI+TOE	E-commerce	Travel Agencies	Egypt /210	Survey	**Essential Benefits** (Sales, Revenue and Profits Growth, Support Effective Reintermediation, Attracting New Services/ Investment , Enable and Facilitate Collaboration), **Marketing and Competition Benefits (**Customizing Services to Customer Needs, Improve Customer Satisfaction, Increase Competitive Advantages, Establish Reputation in the Global Markets, Improve Distribution Channels), **Business Internal Efficiency Benefits** (Effective partnerships, Improve Accountability, Enhance Staff Satisfaction, Easiness of Carrying Out Transactions, Improve Internal Knowledge Flow and Sharing, Provide Support for Strategic Decisions)	Profit Growth, Investment, Collaboration, Reintermediation, Improved Knowledge and Transactions Management, Effective Partnership Building, Better Accountability, and Increased Staff Satisfaction, Competitive Advantages, Access to Global Markets are Significant Predictors that influence decision makers to adopt advanced level of e-commerce rather than low level of e-commerce in travel agencies.	Abou-Shouk et al.(2012)
	TAM+TOE+ Iacovou et al.(2005)	E-commerce	SMEs	USA/100 SMEs	Survey Questionnaire	Organisational Readiness, External Pressure, Perceived Ease of Use, Perceived Usefulness, Organisational Support, Managerial Productivity, Strategic Value	Strategic Value, Organisational Support and Managerial Productivity are the most significant factoring influencing manager's attitude to adopt e-commerce.	Grandon and Pearson (2004)

Table 3.7: Previous models and frameworks used to examine ICTs and e-commerce adoption in organisation

Chapter Four

Hypotheses and Conceptual Framework

4.1 Introduction

The previous chapter presented the literature review of the technology and e-commerce adoption by SMEs in both developed and developing countries and showed the most dominant theories and frameworks that used in technology and e-commerce adoption studies. Also, it discussed the most frequently and dominant models that used to evaluate the level of e-commerce maturity in SMEs. As a result , limitations and gap of literature was identified.

This chapter contribute to first research objective by developing a comprehensive conceptual framework to understand the factors that affect decision makers in Jordanian travel agencies in their decisions on levels of e-commerce adoption.

4.2 The Proposed Conceptual Framework

In the previous chapter the extensive literature review showed the relevant theories and models on the adoption and use of technology and e-commerce and the maturity models' relevance to e-commerce adoption by SMEs. Through reviewing that literature the current research found that a wide range of models were applied as theoretical bases, and a large number of variables were identified as facilitators or inhibitors of adopting and using technology and e-commerce by SMEs. The existing literature also shows a number of overlapping and inconsistencies in the identification of variables which creates complication for many studies in determining the appropriate variables and grouping these variables.

Therefore, the main aim of the current research is to overcome the limitations and fill the gap in the literature presented in chapter three by developing a framework that provides a comprehensive explanation of e-commerce adoption as to guide this study. The proposed framework is developed based on the Wymer and Regan's (2005) criteria.

First, all factors are identified and listed based on the literature reviewed in this study (see Table 3.7). As shown in the table below, 58 independent variables were suggested by the literature reviewed.

Factors	Description	Author(s)
Technological Factors		
Relative Advantage	Increases profits; improves productivity; enhances efficiency; improves customer satisfaction and services; enhances communication with trade partners and enhance company's image	Oluyinka et al. (2014); Shanker (2008)
Compatibility	E-commerce is compatible with company's current software and hardware; technology is compatible with current business operations/processes	Kamaroddin et al.(2009); Scupola (2001)
Trialability	Ability to have a free trial before making decision to adopt e-commerce	Tan et al. (2008)
Complexity	Technology applications are too complicated to understand and use, and lack of appropriate tools to support e-commerce applications	Shanker (2008); Kamaroddin et al. (2009)
Observability	The extent to which technology adoption results are seen by others	Kamaroddin et al.(2009)
Technology Readiness	Technology infrastructure, IT knowledge, and available IT resources	Al-Somali et al. (2011)
Task Variety	Diverse tasks at job can be performed through using technology	Seyal et al. (2004)
E-commerce Barriers	Low level of IT Knowledge of the employees; lack of understanding of new technology, lack of innovativeness of the CEO, lack of managerial time, lack of customers readiness; lack of trust in banks' supporting electronic transactions	Alamro and Tarawneh (2011)

Factors	Description	Author(s)
Technological Factors		
Technology Competence	Level of IT knowledge among members in the organization	Zhu et al. (2003)
Perceived Ease of Use	Degree of user's perception that utilizing technology will improve his/her job performance	Davis (1989)
Perceived Usefulness	Degree of user's belief that utilizing technology will be free of mental effort	Davis (1989)
Risk	Uncertain situations and insecurities are normally associated with e-commerce adoption	Hussein (2009); Hung et al. (2012)
Security	Lack of confidence about the security of e-commerce transactions by organization	Kamaroddin et al. (2009); Hung et al. (2011)
E-Commerce Benefits	Decreased cost, reduction of administrative burden, increased efficiency, improvement in communication. Fast access to information, effective advertising, improved customer service, improvement of company's image. Increased company visibility and contribution to internationalization	Scupola (2009); Alamro and Tarawneh (2011)
Perceived Benefits	A set of anticipated advantages that innovation can provide to the organization	Seyal et al. (2004)
Technology Integration	E-commerce implementation is compatible with current business processes in organization	Zhu et al. (2006b)
Organizational Factors		
Cost/Financial Barriers	The financial expenses that is required to adopt technology.	Wymer and Regan (2005)
Organizational Culture	Interactions among individuals in the organizational social system, which include clan, adhocracy, market and hierarchy	Seyal et al. (2005)
Centralization	Degree to which power and control in a system are concentrated in the hands of relatively few individuals	Rogers (2003)
Formalization	Degree to which an organization emphasizes its members' following rules and procedures	Rogers (2003)
Firm Scope	E-commerce offers SMEs opportunity to expand their business in the global market	Zhu et al.(2003)
Firm Size	Firm size refers to number of employees in SMEs	Hao et al. (2010)

Organizational Factors		
IT Readiness and Availability	Availability of the organisational resources needed for adoption	Iacovou et al. (1995)
Financial Resources	Availability of capital to carry e-commerce activity without any financial burden	Kurnia et al. (2009)
Organizational IT Competence	Level of technical expertise available to the organization	Ifinedo (2011)
Strategic Orientation	Philosophy of firms and how firms should interact with external environments to conduct business through a deeply rooted set of values and beliefs	Al-Somali et al. (2011)
Employees' IT Knowledge	Extent to which employee IT knowledge is perceived through practice and training	Huy et al. (2012)
Managerial Factors		
Top Management Support	Managers' perception toward the role of IT adoption in business activities in their organisation	Masrek et al. (2008)
Manager's Attitude toward Technology Adoption	Degree of feeling or mental issue -whether positive of negative- which influences managers in adopting or not adopting technology	Seyal et al. (2004)
Motivation to Use E-commerce	Performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself such as improved job performance and business gains	Seyal et al. (2006)
Uncertainty Avoidance	Extent of individual's ability to tolerate unstructured and ambiguous situations	Chen and McQueen (2008)
Power Distance	Extent to which a relationship between managers and employees produce decisions within firms	Chen and McQueen (2008)
CEO's Characteristics	Refers to whether the owner involved in the choice of computers and information technology had received formal computer training and used computers frequently and owner's highest education level	Sparling et al. (2007)
Manger's IT Knowledge	IT knowledge and skills of decision makers that can influence the adoption of technology	Almoawi (2011)
CEO Commitment to IT	Extent of manager's commitment to provide the resources required to adopt technology	Hussin and Noor (2005)

Managerial Factors		
Response to Risk	Attitude toward risks associated with the adoption of an innovation	Hussein (2009)
CEO's Innovativeness	Extent of CEO's enthusiasm in the adoption of a new innovation	Hameed and Counsell (2012)
Environmental Factors		
Competitive Pressure	Level of e-commerce capability in the firm's industry as compared to its rivals	Shaharudin et al. (2011)
Partner or Business Pressure	Power of the chosen trading partner which has already adopted e-commerce	Shaharudin et al. (2011)
Customer Pressure	Pressure from customer to adopt a particular innovation	Ifinedo (2011)
Market Scope	Horizontal extent of a firm's operations	Zhu et al. (2003)
IT Infrastructure	Diversity of computerized technologies that include hardware, software and computer networks, in order to create, access, store, transmit and manipulate information	Apulu and Latham (2009c)
Legal Regulation	Refer to laws and regulation govern e-commerce activities	Kapurubandara (2007)
Government Policy	Government's funding of adoption initiatives	Hung et al. (2011)
Government Support	Government policies and initiatives to promote IT adoption and use	Hameed and Counsell (2012)
National Readiness	Infrastructures of IT, transportation and industry to support e-commerce applications	Al-Somali et al. (2011)
Environmental Uncertainty	External changes in interest rates, reliability of supply and competitive intensity	Raymond (2001)
IS Vendor Support and Pressure	Available support by ICT vendors to SMEs	Tan (2010)
Information Intensity	Company's ability to have access to reliable, relevant and accurate information. The importance to have a quick access to information at any time	Ghobakhloo et al. (2011)
Competition Intensity	Level of industrial concentration, price intensity, demand uncertainty, and communication openness	Hung et al. (2011)
External Pressure	Pressure from trading partners and customers to adopt a particular innovation	Hameed and Counsell (2012)

Table 4.1: Summary of Identified Factors of E-commerce and IT Adoption in SMEs

The second criterion is to reduce variables that have similar definition and consolidate them into one variable. Table 4.1 shows that many of the identified variables have similar concepts.

The reviewed literature in Chapter Three shows that DoI model provided a significant analytical framework for predicting the intention to use different types of technology more than TPB and TAM. The reviewed literature also shows that TAM and DoI have shared common constructs and a concept while the latter is more comprehensive model in explaining technology adoption (Looi, 2005). DoI theory has five constructs in explaining technology adoption: relative advantage, complexity, trialability, compatibility and observability. The relative advantage and complexity constructs in DOI are similar to PU and PEOU constructs in TAM, respectively (El-Gohary, 2011; Karahanna et al., 1999; Pham et al., 2011).

As clearly shown in Table 4.1, relative advantage construct in DOI is similar to information systems input, task variety, technology competence, perceived usefulness, e-commerce benefits and perceived benefits. Also, the complexity construct is similar to e-commerce barriers and perceived ease of use despite the different terminology. Table 4.1 shows that the compatibility construct is similar to technology integration. Finally, security and risk are similar variables.

As a result, the identified variables in technological context are consolidated into seven variables: relative advantage, complexity, trialability, compatibility, observability, risk and technology readiness.

Regarding the organizational factors, Table 4.1 shows that the constructs cost, financial barriers and financial resources are similar variables. Also similar are IT readiness and availability and organizational IT competence. Moreover, the organizational culture has the same description of centralization variable. Finally, marketing capability and firm scope are similar variables. Therefore, the identified variables are consolidated into nine variables: financial barriers, employees' IT knowledge, organizational culture, marketing capabilities, business category, formalization, firm size, business category and strategic orientation.

Table 4.1 shows that many of the identified variables in the managerial context are similar in description. It was found that the variables top management support, motivation to use e-commerce and CEO commitment to IT have the same concepts despite the different terminology. Also, manager's attitude toward technology adoption and CEO's innovativeness are similar in definition. Moreover, CEO's characteristics and manger's IT knowledge are similar in terms of description. Finally, response to risk and uncertainty avoidance have similar concept.

Therefore, the identified variables are consolidated into five variables: top management support, manager's attitude toward technology adoption, manger's IT knowledge, power distance and uncertainty avoidance.

Regarding the environmental context, Table 4.1 shows that the description of government support variable covers the definition of IT infrastructure, legal regulation and government policy.

Competitive pressure is similar to competition intensity and environmental uncertainty variables. Moreover, Table 4.1 shows that partner or business pressure and customer pressure have more distinct definition than that of external pressure. Therefore, the identified variables are consolidated into eight variables: government support, competitive pressure, partner or business pressure and customer pressure, market scope, national readiness, IS vendor support and pressure, and information intensity.

It can be clearly noticed from Table 4.2 that there is number of similar factors identified in different contexts. It shows that the organizational culture variable which is identified within organizational context is similar to power distance that is identified in the managerial context. Also, uncertainty avoidance that is identified in the managerial context is similar to formalization and risk variables which are identified in the organizational and technological contexts, respectively. However, most studies on e-commerce adoption by SMEs the aforementioned factors were identified within managerial context; thus power distance and uncertainty are chosen in the current study.

Moreover, marketing capabilities variable in the organizational context is similar to the marketing scope variable in environmental factors; thus marketing scope is chosen in the current study. As a result, the identified variables in the literature consolidated into 25 factors as shown in Table 4.2 below.

	Consolidated Factors
Technological Factor	Relative advantage
	Complexity
	Trialability
	Compatibility
	Observability
	Technology readiness
Organizational Factors	Employees' IT knowledge
	Business category
	Financial barriers
	Firm size
	Business category
	Strategic orientation
Managerial Factors	Manager's attitude toward technology adoption
	Manger's IT knowledge
	Power distance
	Uncertainty avoidance
	Top management support
Environmental Factors	Government support
	Competitive pressure
	Partner or supplier pressure
	Customer pressure
	Market scope
	IS Vendor Support and Pressure
	Information Intensity
	National readiness

Table 4.2: Summary of Consolidated Factors in the Reviewed Literature

The third criterion is to identity the most frequent and significant variable relevance to the current study.

The reviewed literature shows that TOE model is a solid and useful model in studying several aspects of IT adoption, particularly the adoption of e-commerce in SMEs. However, TOE model overlooked some external and internal factors (Alzougool and Kurnia, 2008). Therefore, many studies have added more contracts into the model to

overcome these limitations (Ifinedo, 2011; Al-Somali et al., 2011, Teo et al., 2009, Kurnia et al., 2009). For example, the reviewed literature shows that many studies have integrated DoI with TOE and found its consistency and better explanation of technology adoption for many reasons. First, both theories describe the external and internal characteristics of the organisation. In addition, both theories focus on the technological context of new IT diffusion (Zhu et al., 2006b). Second, the combination between TOE and the DoI forms the most popular and comprehensive theory in describing the adoption of a new technology.

According to Hsu et al. (2006), the TOE framework, combined with DOI theory, is more capable of describing intra-firm innovation. Ukoha et al. (2011) argued that the integration of TOE and DoI theories makes a larger number of constructs and thus richer and more powerful theoretical bases in describing the technological factors. Many studies combined DoI with TOE and found it better to explain e-commerce adoption decisions in SMEs (See Table 3.7 part 4). Therefore, the proposed framework will combine TOE and the attributes of innovation from DOI.

Moreover, TOE has an additional important context, the environmental context which describes the atmosphere-relevant factors that influence or inhibit the organisation in adopting IT (Oliveira and Martins, 2010a; Ghobakhloo et al. 2011). Also the reviewed literature shows that the organisational and environmental contexts manifest an important context influencing SMEs adoption of ICTs and e-commerce.

Also, the literature review shows that these contexts have been refined and extended this framework which was originally developed by Tornatzky and Fleischer (1990), in order

to make the model more comprehensive in describing these internal and external factors and their effect on ICTs and e-commerce adoption among SMEs.

In this study, the most frequently cited factors are considered regarding to these contexts. The organisational factors that are considered and more relevant to this research are: firm size, financial barriers, and employees IT knowledge , while the environmental factors that are considered in literature and relate to this study are : competitive pressure, supplier/partner pressure, customer pressure and government Support (See Table 4.3).

Surprisingly, a limited number of studies examined in depth the managerial factors of e-commerce adoption in SMEs, although owners/managers' characteristics have played an important role in e-commerce adoption by SMEs (Huy et al., 2012; To and Ngai, 2007; Scupola, 2009; Ifinedo, 2011). Also, Hashim (2007) argued that although TOE model is robust tool to predict technology adoption in organisation, TOE does not sufficiently identify managerial factors where managers are considered the most critical decision makers in adopting technology in SMEs.

The literature review of this study found that top management support and manager's attitude toward e-commerce adoption were the identical and determinant factors that influence e-commerce adoption in SMEs. Therefore, these factors will be included in the proposed framework.

Also, the literature review of this study found that cultural variables have an important effect on IT adoption and diffusion of new technology. According to Straub et al. (1997), there is a reason to believe that there are connections between culture and the use of creation information technology. In addition, literature showed that Hofstede's cultural

dimensions has been widely used to investigate cross-cultural technology adoption, proving that different countries have different cultural variables leading to different perceptions on e-commerce adoption. Although Hofstede's cultural dimensions confirmed its applicability in studying technology adoption across cultures, it has not been frequently applied in developing theory or integrated with other information systems' theories.

According to Ford et al.'s (2003, p.1) view of Hofstede's cultural dimensions: "most research is focused on issues related to IS management and to IS, while issues related to IS development and operations and to IS usage remain relatively unexamined". Moreover, Hofstede's cultural dimensions was found useful in studying the differences between cultures within the same country rather than different countries (Chen and McQueen, 2008; Almoawi, 2011).

Also, Ford et al. (2003) stated that limited studies applied Hofstede's cultural variables to examine the individual/managerial characteristics with respect to e-commerce adoption among SMEs, although Hofstede's cultural dimensions was found useful in studying the managerial aspects of technology adoption , thus, the power distance and uncertainty avoidance dimensions will be included within managerial factors in the proposed conceptual framework .

Attribute of Innovation	Source
✓ Relative Advantage	Seyal et al. (2005) ,Ghobakhloo et al. (2011) ,Tan et al. (2008) ,Ramdani and Kawalek (2009),Limthongchai and Speece (2003) ,Hussin and Noor (2005) ,Ifinedo (2011) ,Hussein (2009) ,Poorangi et al. (2013), Tan and Eze (2008) Alam et al. (2008), Grandon and Pearson (2003) , Sanzogni, (2010), Teo et al. (2009)
✓ Compatibility	Ghobakhloo et al. (2011) ,Tan et al. (2008), Limthongchai and Speece (2003) ,Hussin and Noor (2005) ,Tan and Eze (2008) ,Tan and Teo (2000), Alam et al. (2008), Kamaroddin et al. (2009), Garndon and Peace (2003) ,Beatty et al. (2001), Adewale et al. (2013)
✓ Complexity	Tan et al. (2008) ,Limthongchai and Speece (2003), Hussein (2009) ,Tan and Eze (2008), Alam et al (2008), Hussin and Noor (2005), Araste et al. (2013), Gardon and Pearson (2004), Lin and Wu (2004), Awa et al. (2010)
✓ Trialability	Hussin and Noor (2005) ,Poorangi et al. (2013) Tan and Teo (2000) Limthongchai and Speece (2003), Kamarodin et al. (2009), Hussain et al. (2008)
✓ Observability	Limthongchai and Speece (2003) ,Hussin and Noor (2005) , Poorangi et al. (2013), Tan et al. (2008), Tan and Eze (2008), Alam et al. (2008)
Organizational Factors	**Source**
✓ Financial Barriers	Ghobakhloo et al. (2011), Ifinedo (2011), Alzougool and Kurnia (2008), Ashrafi, and Murtaza (2008), Harindranath et al. (2008), Heung (2003), Hoi et al., (2003), Migiro (2006), Macgregor and Vrazalic (2008), Idisemi et al. (2011), Sutanonpaiboon and Pearson (2008), Heung (2003), Buhalis and Deimezi, (2003), Musawa and Wahab (2012)
✓ Employees' IT Knowledge	Alamro and Tarawneh (2011) Wang and Hou (2012), Alam and Noor (2009), Arendt (2008), Huy et al., (2012), Scupola (2009), Alam and Noor (2009), Mehrtens et al. (2001), Thong (1999), Mirchandani and Motwani (2003), Heng and Hou (2012), Hussein (2009)
✓ Firm Size	Hao et al. (2010) ,Zhu et al.(2003) ,Arano and Spong, (2012), Hewitt et al. (2011), Salwani et al. (2009) Ramdani and Kawalek (2009), Zhu and Kraemer, (2002), Zhu et al. (2003), Hussein (2009)

Managerial Factors	Source
✓ Top Management Support	Hao et al. (2010) ,Scupola (2009) ,Ifinedo (2011) Al-Somali et al. (2011) ,Teo et al. (2009), Chong et al. (2009), Ramdani et al. (2009), Al-Weshah and Al-Zubi (2012), Beatty et al. (2001), Shaharudin et al., (2011), Kim (2004), Hussein (2009).
✓ Attitude toward e-commerce applications	Mpofu et al. (2009) ,Seyal and Rahman (2003) ,To and Ngai (2007), Teo et al. (2009), Ramsey and McCole (2005), Huy et al. (2012) Thong (1999), Rashid and Al-Qirim (2001)
✓ Power Distance	Lundgren and Walczuch, 2003; Yoon, 2009; Chen and McQueen, 2008; Almoawai, 2011; Kollmann et al. ,2009; Hasan and Ditsa, 1999.
✓ Uncertainty Avoidance	Hao et al. (2010) ,Tan et al. (2008) ,Leidner and Kayworth (2006), Yeung et al. (2003), Seyal and Rahman (2003), Al-Hujra et al (2011), Lundgren and Walczuch (2003), Almowai (2011), Kollmann et al., (2009), Chen and McQueen (2008), Lundgren and Walczuch (2003), Gong (2009), Vatanasakdakul et al., (2004), Alnoor and Arif (2011) ,Bao and Sun (2010)
Environmental Factors	Source
✓ Competitive Pressure	Ramdani and Kawalek (2009) ,Zhu et al. (2003), Jeyaraj et al. (2006), Olatokun (2010), Sarosa and Zowghi (2003), Mpofu et al. (2009), Alamro and Tarawneh (2011), Almoawi and Mahmood (2011), Lee and Cheung (2004), Iacovou et al. (2005), Ghobakhloo et al. (2011), Raymond (2001) ,To and Ngai (2007), Looi (2005), Sandy and Graham (2008).
✓ Supplier/Partner Pressure	Lin and Lin (2008), Riemenschneider et al. (2003), Ghobakhloo et al. (2011),Jaidee and Beaumont (2003), Scupola (2003), Heck and Ribbers (1999), Mehrtens et al. (2001), Molla and Licker (2005) Ifinedo (2011), Al-Qirim (2007) ,Raymond (2001)
✓ Customers Pressure	Grandon and Pearson (2003)Ghobakhloo et al. (2011), Teo et al. (2003) Al-Somali et al. (2011), Scupola (2009) ,Alamro and Tarawneh, (2011), Scupola (2009), Abdul Hameed and Counsell (2012)
✓ Government Support	Hung et al. (2011), Tan and Teo (2000),Huy et al., (2012), Hunaiti et al. (2009), Scupola (2009), Saprikis and Vlachopoulou (2012), Hamid (2009), Gibbs et al., (2003), Thatcher et al. (2006), Seyal et al. (2004) Molla and Licker (2005), Al-Weshah and Al-Zubi, 2012.

Table 4.3: The Most frequently cited and significant factors in the literature of e-commerce adoption by SMEs.

Finally, many studies investigated the different factors associated with adoption and non-adoption of e-commerce in SMEs (Ramsey and McCole, 2005; Tan et al., 2007; Tan and Teo, 1998; Teo and Ranganathan, 2004; Sutanonpaiboon and Pearson 2008). However, limited ones examined the factors affecting the different levels of e-commerce adoption within SMEs, (Chen and McQueen, 2008; Abou-Shouk et al, 2012; Senarathna and Wickramasuriya, 2011; Rania, 2011; Raymond, 2001).

As mentioned in Section 3.6 of Chapter Three, several studies identified the concept of e-commerce adoption levels in SMEs (Spencer et al., 2012; Boisvert, 2002; Rao et al., 2003; Duncombe et al., 2005; Lefebvrea et al., 2005; Daniel et al., 2002; Rayport and Jaworski, 2002; Spencer et al., 2012). However, the e-commerce maturity levels were described inconsistently among these studies.

Among these e-commerce maturity models, this study adopted Molla and Licker's (2005) e-commerce maturity model to identify the organizational level of e-commerce. As shown in Table 3.6, Molla and Licker's (2005) e-commerce maturity model consists of six levels of e-commerce adoption starting from no adoption, then moving through internet connection with e-mail, static website, interactive website, online store, and full e-business activities. This model was chosen because for several reasons. First, the model was developed on the basis of most cited e-commerce maturity models and it overcomes the limitations of these models. Secondly, the model was found most validated in evaluating actual and planned adoption of e-commerce in SMEs (AlGhamdi et al., 2014). Finally, Molla and Licker's (2005) e-commerce maturity model is more relevant in

evaluating e-commerce adoption levels in developing countries. The figure below (4.1) shows the proposed conceptual framework.
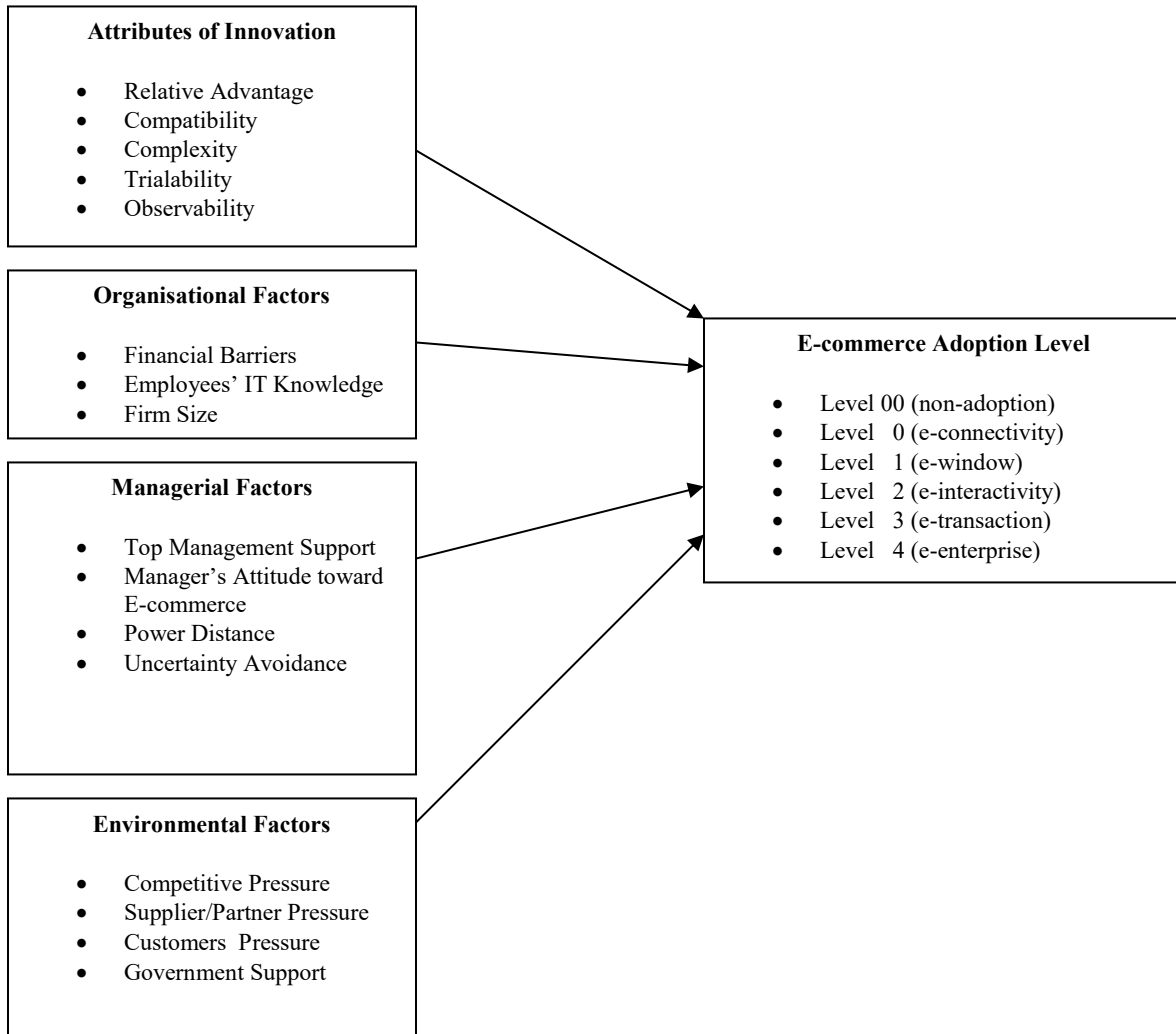
Figure 4.1: The proposed conceptual framework for adoption of e-commerce in Jordanian travel agencies

4.3 Hypotheses and Relationship to Research Development

As shown in Figure 4.1, the proposed conceptual framework consists of two segments. The first (on the left side of the proposed model) represents the independent variables, which are classified into four categories. The first category is attribution of innovation, which will be used in examining the technological factors and their relation to the level of e-commerce adoption. The second category is organisational factors, which show the organisation's internal factors and their relations to e-commerce adoption level The third category is managerial factors, which present the characteristics of managers and their associations with e-ecommerce adoption level. The fourth category is environmental factors, or the external factors surrounding the organisation and their effects on e-commerce adoption level.

The second segment (on the right side of the proposed conceptual framework) represents the dependent variables, consisting of six levels: non-adoption, e-connectivity, e-window, e-interactivity, e-transaction and e-enterprise. This proposed model will be tested with Jordanian travel agencies' owners/managers as to embark on the right model and validate it in order to achieve a better understanding of the factors affecting the levels of e-commerce adoption among Jordanian travel agencies. Thus, it is important to develop hypotheses for these constructs and their relationships to the adoption level of e-commerce. The following sections discuss each of the factors and the proposed hypotheses of this study.

4.3.1 Attributes of Innovation

As mentioned above, the attributes of innovation theory consists of five characteristics: relative advantage, compatibility, complexity, trialability and observability. These factors will be used to examine the technological characteristics as determinants of the e-commerce adoption level among decision makers in Jordanian travel agencies. The research hypotheses for these factors will be discussed in the following section.

4.3.1.1 Relative Advantages

Rogers (2003, p.229) defined relative advantages as "the degree to which an innovation is perceived as being better than the idea it supersedes", meaning the extent of benefits that can be obtained through adopting a new idea compared to the benefits of the current idea. Relative Advantages is a significant factor in identifying adoption of an innovation (Tronatzky and Klien, 1982; Rogers, 1995). This study highlights the technological benefits that influence Jordanian travel agencies managers' decisions on adopting or dismissing e-commerce.

In the technological context, relative advantages includes increasing profits, improving productivity, reducing cost and time, enhancing efficiency, increasing competitiveness, improving customer satisfaction and services and enhancing communication with trade partners. (Oluyinka et al. ,2014, Shanker , 2008; Ma et al., 2003; Ashrafi and Murtaza, 2008; Apulu, 2011). Studies, particularly of ICTs and e-commerce, agreed that relative advantages has a positive significant effect on innovation adoption (Poorangi et al.,2013; Ghobakhloo et al., 2011; Tan and Eze, 2008; Ramdani and Kawalek, 2009; Tan and Teo, 2000; Limthongchai and Speece, 2003; Alam et al., 2008; Hussin and Noor, 2005; Grandon and Pearson, 2003; Looi, 2004).

Ghobakhloo et al. (2011) and Tan and Eze (2008) found that relative advantages as the most significant factor in positively affecting e-commerce adoption in SMEs. Several studies focusing on web adoption found that relative advantages is positive and significant in differentiating between adoption and non-adoption in SMEs (Aziz and Jamali, 2013; Sparling et al., 2007; Sanzogni, 2010; Teo et al., 2009).

Other studies, however, found relative advantages insignificant in affecting e-commerce adoption in SMEs as their owners/managers lack sufficient awareness of the perceived benefits of e-commerce adoption in SMEs (Almoawi and Mahmood, 2011; El-Gohary, 2011; Seyal and Rahman, 2003). This study shall be in line with Roger's and most recent studies that identified a positive relationship between relative advantages and e-commerce adoption. Hence, the following hypothesis is presented:

H1: There is a positive and significant relationship between relative advantages and the adoption level of e-commerce.

4.3.1.2 Compatibility

Rogers (2003, p.240) defined compatibility as: "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters". Therefore, an innovation is more positively significant for adoption by individuals if it is compatible and consistent with individual's work, firm objectives and needs, previous experience and current technology infrastructure (Tornatzky and Klein, 1982; Rogers, 2003).

Compatibility in the context of ICTs and e-commerce adoption indicates the extent to which the adoption of innovation level and consistent technology is needed (Beatty et al., 2001). The manager's compatibility with respect to technological innovation has a vital role in e-commerce adoption by SMEs. This means that the manager is supposed to know if the new technology to be implemented will meet the firm's goals and internal operation. Several studies found a significant positive relationship between compatibility and ICTs/e-commerce adoption in SMEs (Ghobakhloo et al., 2011; Tan and Eze, 2008; Ramdani and Kawalek, 2007; Tan and Teo, 2000; Limithongchai and Speece, 2003; Alam et al., 2008; Kamaroddin et al., 2009; Garndon and Peace, 2003; Beatty et al., 2001; Adewale et al., 2013; Mndzebele, 2013).

However, the outcomes of these studies regarding compatibility's effect on e-commerce adoption are inconsistence. For example, some, such as Limithongchai and Speece's (2003) and Alam et al.'s (2008), found that compatibility is the most positively significant factor in e-commerce adoption by SMEs.

Moreover, an empirical study by Hung et al. (2011) found that compatibility has more positive significant effect on ecommerce adoption in Taiwan travel agencies than relative advantage and perceived risk. Azam and Quaddus (2009), however, found that compatibility has a positively significant effect, that is yet less of a predictor regarding e-commerce adoption in SMEs than other constructs of attribution of innovation. Conversely, other studies found that compatibility has no significant effect on e-commerce adoption (Almoawi and Mahmood, 2011; Sultan & Chan, 2000; Al-Somali, 2011; Al-Qirim, 2006). These conflicting results can be attributed to differences in time,

place, SMEs type and methods of data collection. As for this study, it will be in line with most previous studies, specifically Hung et al.'s (2011) that found a positively significant relationship between compatibility and e-commerce adoption in Taiwan travel agencies. Hence, the following hypothesis is presented:

H2: There is a positive and significant relationship between compatibility and the adoption level of e-commerce.

4.3.1.3 Complexity

Complexity is defined as "the degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers, 2003, p.257). In the technological context, complexity means that individuals are less likely to adopt an innovation if they find technology applications difficult to use and understand (Teo, 2003). Moreover, complexity affects individuals' decision to adopt a new technology, which indicates that more complex technology leads to more uncertainty and sense of risk involved in such adoption (Premkumar and Roberts, 1999). Conversely, if IT applications are easy to use, their adoption would become more likely.

Many previous researchers examined the construct's perceived ease of use as defined by Davis et al. (1989) with respect to e-commerce adoption in SMEs, and agreed that more ease of use of e-commerce and technology applications involves greater likelihood to adopt the innovation (Araste et al., 2013; Gardon and Pearson, 2004; Lin and Wu, 2004; Awa et al., 2010; Riemenschneider et al., 2003).

Several studies tested the construct's complexity regarding e-commerce resources and technical competencies. These resources include sufficient computer systems and information technology infrastructure to support e-commerce activities, adequate training, skills and knowledge to facilitate e-commerce installation, maintenance and usage (Scupola, 2001; Kamaroddin et al., 2009).

However, other prior studies found a negative relationship between complexity and e-commerce adoption. (Tan and Eze, 2008; Limthongchai and Speece, 2003; Alam et al, 2008; Hussin and Noor, 2005). Only a limited studies found that complexity has no significant relationship with e-commerce adoption in SMEs (Almoawi and Mahmood, 2011; Sultan and Chan, 2000; Poorangi et al., 2013). Based on the aforementioned and in line with Rogers's model, the following hypothesis is presented:

H3: There is a negative relationship between complexity and the adoption level of e-commerce.

4.3.1.4 Trialability

Trialability means "the degree to which an innovation may be experimented with on a limited basis" (Rogers, 2003, p.258). Rogers found that individuals allowed to experiment with an innovation for a period of time are more likely to adopt the innovation because trialability allowed decreasing uncertainty.

In the e-commerce context, trialability provides potential adopters with opportunity to reduce their uncertainty about new e-commerce applications and learn to use new technological applications as to become more comfortable with them and thus more likely to adopt them (Tan and Teo, 2000; Weiss and Dale, 1998, cited in Limthongchai

and Speece, 2003). Azam and Quaddus (2009), Alam et al. (2009) and Kendall et al. (2001) found that trialability has no significant effect on e-commerce adoption by SMEs in Bangladesh, Malaysia and Singapore, respectively. Azam and Quaddus (2009) justified the insignificance of trialability in Bangladesh SMEs by waiving taxes on computers since 1998 which led to lower prices of computer hardware and software that most of SMEs started using computer and connecting to the Internet in their business which minimized the role of trialability. In addition, online transactions are common in Bangladesh and used by SMEs.

However, other studies found that trialability has a significant effect in adopting e-commence in SMEs (Poorangi et al., 2013; Tan and Teo, 2000; Limthongchai and Speece, 2003; Kamarodin et al., 2009; Hussain et al., 2008). These studies confirmed that trialability affords SMEs the opportunity to assess the usages of new ICTs and e-commerce in their business activities, which reduces uncertainty about using new technology and allows discovering the characteristics of ICTs and e-commerce adoption. Consequently, potential adopters will be more familiar with the usage of ICTs and e-commerce in their business which supports their decision to adopt ICTs and e-commerce. Hence, the following hypothesis is presented:

H4: There is a positive and significant relationship between trialability and the adoption level of e-commerce.

4.3.1.5 Observability

Observability is defined by Rogers (2003, p.258) as "the degree to which the results of an innovation are visible to others". This means that individuals able to see the results of others' adoption of an innovation will affect their own decisions to adopt or dismiss the innovation. Rogers (2003) found that if individuals are able to see the benefits of an innovation, they would be more likely to adopt it. In the context of ICTs and e-commerce, observability provides individuals a great opportunity to adopt ICTs and e-commerce in their organisation. According to Chong (2006), if SMEs observe the benefits obtained from e-commerce adoption by competitors, they will develop more willingness to adopt it.

Since the Internet revolution, e-commerce has enhanced companies' observability and visibility to customers, suppliers and competitors. A website allows companies to present information about their products and profiles around the clock to potential customers and suppliers (Blackwood,1997, cited in Limthongchai and Speece, 2003). Some researches argued that the observability attribute has an insignificant effect on SMEs' willingness to adopt ICTs and e-commence (Kendall et al, 200; Ramdani and Kawalek, 2009), while others found a significant positive relationship between observability and e-commerce adoption (Poorangi et al., 2013; Tan et al., 2009; Limithongchai and Speece, 2003; Hussin and Noor, 2005; Tan and Eze, 2008; Alam et al., 2008). These researchers suggested that observability gives adopters the opportunity to observe the benefits and positive results of e-commerce adoption by other SMEs.

According to Rogers (2003), observability is an important factor that is positively significant for adopting an innovation by individuals. Hence, the following hypothesis is presented:

H5: There is a positive and significant relationship between observability and the adoption level of e-commerce.

4.3.2 Organisational Factors

Based on literature review of this study , the organisational factors of this study refers to the availability and use of the internal resources in terms of technology adoption . The organisational factors that are of concern to this research are firm size, financial barriers, and employees IT knowledge. The following sections present each factor and formulates the relevant hypothesis.

4.3.2.1 Firm Size

Firm size is considered one of the main key predictors of ICTs and e-commerce adoption and diffusion (Jeyaraj et al., 2006). Prior studies have found that large companies are more likely to adopt ICTs and e-commerce than smaller ones, as the former have greater financial resources, knowledge and experience, and ability to tolerate failing implementations of ICTs and e-commerce than smaller firms (Tornatzsky & Fleischer, 1990; Iacovou et al., 1995; Levenburg et al., 2006; Thong, 1999).

The literature review in this study indicates no agreement on measurement of firm size, defining firm size in different aspects such as available resources, assets, annual sales, human capital and number of employees (Zhu and Kraemer, 2005; Khan et al., 2010). In the context of IT adoption in SMEs, most studies suggest that size is defined according to

the number of employees and is considered an important factor affecting ICTs adoption. They found that larger firms with larger numbers of employees are more likely to adopt ICTs and e-commerce (Arano and Spong, 2012; Hewitt et al., 2011; Salwani et al. 2009; Ramdani and Kawalek, 2009; Zhu and Kraemer, 2005).

According to OECD (1999) cited in Awa et al. (2010), larger firms are faster to uptake e-commerce than smaller ones. OECD (1999) cited in Awa et al. (2010) investigated the situation in Australia, Denmark, Finland, Japan and Netherland, concluding that 80-86% of larger firms in these countries had adopted e-commerce, while only 19-57% of smaller firms there were adopters. Hussein (2009) found that firm size has a significant effect on travel agencies in Egypt while Salwani et al. (2009) found that firm size in tourism sectors has no significant effect on e-commerce adoption in Malaysia. Therefore, the effect of firm size varies in the different studies based on the study's nature and context.

In Addition, Tan et al. (2010) conducted a study in Malaysia to examine the Internet and ICTs adoption among manufacturing and services SMEs, concluding that services sectors as category of SMEs are more willing to adopt e-commerce than manufacturing SMEs and that the willingness of SMEs in manufacturing and services firms to adopt e-commerce is greater than that of micro-size firms in the same line of business. Some other studies measured firm size in terms of available assets, finance and annual revenues as to examine the effects of size on IT adoption (Henderson et al., 2000; Teo and Ranganathan, 2004;Teo et al., 2009; Huy et al., 2012). Henderson et al. (2000) measured firm size by company's annual sales and found that larger firms that have greater annual sales are more likely to adopt ICTs and e-commerce than smaller ones. Thus, it can be clearly seen that firm size significantly affects the decision to adopt ICTs and e-

commerce according to all measurement types used. In this research, firm size will be measured by the number of employees in Jordanian travel agencies. Hence, the following hypothesis is presented:

H6: There is a positive and significant relationship between travel agency size and the adoption level of e-commerce.

4.3.2.2 Financial Barriers

Kurnia et al. (2009, p.3) defined financial resources in terms of organisation's financial e-readiness that is "the availability of capital to carry EC activity without any financial burden". According to Welsh and White's study (1981), cited in Ghobakhloo et al. (2011), small businesses have generally limited resources specifically financial. In addition, studies in information technology found that financial resources are the main characteristics differentiating between small business and larger ones (Thong ,1999; Ifinedo, 2011).

This factor has been described in different terms and from different perspectives by various researchers, many of whom referred this factor to financial resources, while others described it in terms cost. According to Alzougool and Kurnia (2008, p.43-44), "when the cost factor is expressed as 'adoption cost', it is considered as a barrier, but when it is expressed as 'financial commitment', it is considered as a driver. When the 'financial resource' term is used, it is considered a neutral factor (neither a driver nor an inhibitor".

For example, financial resources have been identified by many studies as positively and significantly relevant to SMEs' adoption of ICTs and e-commerce (Musawa and Wahab, 2012; Iacovou et al., 1995; Alamro and Tarawneh,2011; Scupola ,2009; Bazini et al.,

2011), while 'cost' or 'barriers' were identified by other researchers as a factor negatively relevant to ICTs and e-commerce adoption in SMEs (Ashrafi and Murtaza, 2008; Harindranath et al., 2008; Heung, 2003; Hoi et al., 2003; Migiro, 2006; Macgregor and Vrazalic, 2008; Idisemi et al., 2011).

However, few studies showed that 'cost' and 'financial resources' are insignificant to the adoption of ICTs and e-commerce in SMEs.(Tan and Eze, 2008; Ghobakhloo et al., 2011; Al-Qirim, 2006). Ramsey and McCole (2005) sought to identify and compare the factors that influence and inhibit adopters and non-adopters of e-commerce in New Zealand services firms, concluding that a financial resource is insignificant in differentiating between adopters and non-adopters. However, a later study by Sutanonpaiboon and Pearson (2008) found that, for both adopters and non-adopters in Thailand SMEs, financial resources have a significant effect on e-commerce adoption, with more significance to adopters.

'Cost' and 'financial barriers' were considered major factors in adopting ICTs and e-commerce in tourism. Heung (2003) investigated barriers to adopting e-commerce in Hong Kong travel agencies, identifying the cost of e-commerce implementation as the most significant inhibitor among the 15 barriers in his study. This finding is consistent with a study by Buhalis and Deimezi (2003) that identified lack of financial resources as a major obstacle to implement ICTs and e-commerce in Greek tourism industry. A recent study by Musawa and Wahab (2012) found that financial resources is the most significant factor in adopting EDI by Nigerian SMEs rather than other factors such as technological

and internal pressures. Based on most previous researches outcomes, the following hypothesis is presented:

H7: There is a negative relationship between financial barriers and the adoption level of e-commerce.

4.3.2.3 Employees' IT Knowledge

IT knowledge by employees is considered an important factor whether as a booster or barrier to ICTs and e-commerce adoption in SMEs (Wang and Hou, 2012). Individuals' IT knowledge is obtained through practice and training. According to Guimaraes and Igbaria (1997), cited in Sabherwal et al. (2006, p.4), a user's experience in IT indicates "the duration or level of an individual's prior use of computers and ISs in general". In addition, IT training is a very important tool to increase user's IT knowledge that is obtained through school, vendors and self-study (Sabherwal et al., 2006).

Therefore, many changes are needed in employees' knowledge as to use information and traditional work when technology is being adopted in their organisation (Chanvarasuth, 2010). According to Chanvarasuth (2010, p.743) the "employees' learning capacity is also essential in terms of self-efficacy to understand business by IT and understand IT by business". Alam and Noor (2009) found employee's ITs knowledge and skills important in encouraging organisations to adopt e-commerce. A study by Arendt (2008) found that the reason of an early stage adoption of e-commerce in most SMEs in Nigeria was owners/managers' unwillingness to invest in training their staff and improving their qualifications which in turn encourages staff to leave for other firms offering better remuneration and benefits.

Most of prior studies found that IT and e-commerce knowledge among employees is a significant factor in ICTs and e-commerce adoption in SMEs (Huy et al., 2012; Scupola, 2009; Alam and Noor, 2009; Mehrtens et al., 2001; Thong, 1999; Mirchandani and Motwani, 2003; Heng and Hou, 2012).

However, Sarosa and Underwood (2005), cited in Alzougool and Kurnia (2008), found that employee's knowledge of IT and e-commerce is insignificant in adopting ICTs and e-commerce in Indonesian SMEs. Hussein (2009) found that there is a significant relationship between employee's IT knowledge and the level of e-commerce adoption in travel agencies of Egypt. A study by Heng and Hou (2012) found that employee' IT Knowledge is a vital factor influencing travel agencies' to adopt ICTs and e-commerce, an outcome that supports most previous studies. Hence, the following hypothesis is presented:

H8: There is a positive and significant relationship between employees' IT knowledge and the adoption level of e-commerce.

4.3.3 Managerial Factors

Based on the literature review in this study, owners/managers have a significant authority to make the decision of adopting or not adopting e-commerce in their organisations. According to Awa et al. (2010), different factors for decision makers have a significant effect on e-commerce adoption in SMEs. They also stressed that firms' decisions to adopt e-commerce are based on of decision makers' perceptions and behaviours. In this study, managerial factors will be tested according to four managerial characteristics: top management support, power distance, uncertainly avoidance and managers' attitude

toward e-commerce adoption. The following section presents each factor and formulates the relevant hypothesis.

4.3.3.1 Top Management Support

Aghaunor et al. (2006, p.8) defined top management support in the context of e-commerce as: "top management consists of individuals with power and authority to make strategic decisions; thus they can develop a clear-cut ecommerce vision and strategy while at the same time sending signals to different parts of the organisation about the importance of ecommerce". Masrek et al. (2008) refers to top management support in the context of technology as the perception of manager toward the role of IT adoption in business activities in their organisation.

Top management support has been considered an important factor in e-commerce adoption in SMEs. Teo et al. (2009) stated that top management support is necessary to overcome the obstacles that face an organisation in adopting new technology. Moreover, Gover (1993), cited in Sarker (2008), confirmed that the adoption of information technology will be facilitated by top management support. In addition, Chong et al. (2009) argued that the possibility to adopt e-commerce in organisation will be higher when financial and technical resources are supported by top management. Ramdani et al. (2009) found that top management support is the most significant factor to adopt electronic enterprise systems in SMEs. Al-Weshah and Al-Zubi (2012) found that top management support has an important influence on e-commerce adoption among Jordanian communications sectors. This is also consistent with many other studies of e-

commerce adoption in SMEs (Beatty et al., 2001; Shaharudin et al., 2011; Ifinedo, 2011; Al-Somali, 2011).

Interestingly, Mirchandani and Mowarni (2001) and Teo and Ranganathan (2004) found that top management support is more significant for adopters of e-commerce than non-adopters. This finding is confirmed by Al-Somali et al. (2011) who found that top management support is a crucial factor in differentiating between adopters and non-adopters of e-commerce in Saudi's SMEs. Kim (2004) conducted a study to identify the barriers and solutions related to e-commerce in Korean small-medium tourism enterprises (SMTEs), finding top management support an important factor in e-commerce adoption. In addition, Hussein (2009) found a positively significant relationship between top management support and the level of e-commerce adoption in Egypt travel agencies. Hence, the following hypothesis is presented:

H9: There is a positive and significant relationship between top management support and the adoption level of e-commerce.

4.3.3.2 Power Distance

As described in the previous chapter, power distance means the degree of power distribution in organisations and cultures. In the organisational context, power distance means the extent to which a relationship between managers and employees produce decisions within firms. According to Hofstede (1991), the manager who delegates authority and freedom to his employees, in all levels within the organisation, as to make decisions and solve problems without permission from superiors provides for a low power distance. While a high power distance involves a manager acting as a commander

and a division of power that is based on hierarchal order, where employees have less or even no authority to make decisions in the organisation.

According to Filley et al. (1971), cited in Awa et al. (2010, p.13), "group heterofeneity and performance correlate on accounts that routine problem solving is best handled by a homogeneous group, and ill-defined, novel problem solving is best handled by heterogeneous group, where diversity of opinions, knowledge, and backgrounds allow for a thorough airing and assessment of alternatives". Therefore, it is important to share information among superiors and employees, as this leads to a better decision toward problem solving and other critical business issues in the organisation.

Many empirical studies examined the role of power distance factor in information technology adoption. For example, Lundgren and Walczuch (2003) examined the effect of power distance on consumer trust in e-retailing websites in different countries, concluding that buyers in low power distance societies have more trust to buy online than buyers in high power distance societies. Yoon (2009) agreed that buyers in cultures which have low power distance are more influenced to buy online compared to buyers in high power distance cultures. Chen and McQueen (2008) found e-commerce adoption and growth to be directly influenced by Chinese SMEs managers in New Zealand who advocate a high power distance.

Moreover, Almoawai (2011) found that power distance has a slightly significant moderating effect on e-commerce adoption in Saudi SMEs. The results of another study by Kollmann et al. (2009) showed that countries with high power distance have significantly moderated the relationship between organisational readiness and e-business

adoption. However, Hasan and Ditsa (1999) found that there is a negative relationship between power distance and e-commerce adoption, indicating that firms which have a low power distance are more likely to implement and adopt technology, because employees, especially IT staff, have better opportunity to convince and advise their superiors. Hence, the following hypothesis is presented:

H10: There is a negative relationship between power distance and the adoption level of e-commerce.

4.3.3.3 Uncertainty Avoidance

Uncertainty avoidance indicates individuals and societies ability to tolerate unstructured and ambiguous situations. According to Hofstede (1991), uncertainty avoidance refers to cultures or individuals who have a high score in uncertainty avoidance and more anxiety and fear of unknown events and situations. On the other hand, cultures or individuals who score low uncertainly avoidance are able to take risks and less reluctant to accept changes.

Hofstede (1994) measured the uncertainty avoidance factor by the extent to which employees and managers feel anxious towards adopting new ideas in their work and prefer to follow rules. According to Leidner and Kayworth (2006, p.366), "IT is inherently risky, those less comfortable with uncertainty will be less likely to adopt and use new technologies". Therefore, taking risks or reluctance to change are crucial factors particularly when managers decide to adopt a new technology in their organisations (Yeung et al., 2003; Seyal and Rahman, 2003).

Many studies examined the effects of uncertainty avoidance on IT adoption (Al-Hujra et al, 2011; Lundgren and Walczuch, 2003; Almowai, 2011; Kollmann et al., 2009; Chen and McQueen, 2008; Gong, 2009; Vatanasakdakul et al., 2004; Al-Noor and Arif, 2011). Seyal & Rahman (2003) found that SMEs have characteristics that are different from large enterprises due to the former's small management teams and customary reluctance to take risks and avoidance to implement sophisticated systems in their firms, which makes them slower in IT adoption than larger one and more inclined to adopt lower levels.

Vatanasakdakul et al. (2004) also found that individuals in Thailand have a high degree of resistance to change which hinders their adoption of e-commerce. These results confirm Hofstede's theory that individuals with high uncertainty avoidance are slower to adopt new innovations than those with lower score in uncertainty avoidance.

Chen and McQueen (2008), in their study of the factors affecting e-commerce growth stages in Chinese firms in New Zealand found that managers of SMEs at lower stages of e-commerce adoption have higher scores in uncertainty avoidance compared with managers of SMEs at higher stages of e-commerce adoption who have lower scores in uncertainty avoidance. They also found that managers with lower scores in uncertainty avoidance are willing to adopt higher stages of e-commerce in their organisations.

Also, Al-Noor and Arif (2011) confirmed that uncertainty has a direct negatively significant effect on e-commerce adoption in Bangladesh SMEs. However, Kollmann et al. (2009) found that organisations with high scores of uncertainty avoidance force managers to make a decision to adopt technology to avoid missing opportunities.

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Almowai (2011) found that uncertainty avoidance has no significant moderating effect between technology and e-commerce adoption in Saudi Arabia SMEs.

Bao and Sun (2010) found that managers in early adopters are more likely to take the risk of adopting e-commerce than late adopters because when the organisation transforms its traditional operation to e-commerce, it faces many uncertainties such as technologies, financial recourses and their partners and suppliers.

Lockett and Littler (1997) investigated factors associated with technological innovation in Banking sectors in the UK. They found that risk factor such security concerns is an important factor that inhibit to the adoption of technology. Apparently, studies reached different results indicating either significant or insignificant relationship between uncertainty avoidance and e-commerce adoption in SMEs. This study is in line with Chen and McQueen's (2008) study. Hence, the following hypothesis is presented:

H11: There is a negative relationship between uncertainty avoidance and the adoption level of e-commerce.

4.3.3.4 Manager's Attitude toward E-commerce Applications

Applications Social psychologists defined the term "attitude" in different ways but all leading to the same concept. According to Fishbein and Ajzen (1975, p.6), attitude is "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object". According to Roger (2003), attitude is a predisposition to action. Gibson et al. (2000) also agreed that attitude is the degree of feeling or mental issue whether positive of negative which influences individual's behaviours and intentions toward objects, events and situations.

Moreover, adoption the of new innovation usually interferes with the current systems and usual procedure in organisation, which creates hesitation among organisation members to adopt that innovation. Therefore, managers' attitudes play a crucial role in adopting or not adopting the new innovation.According to To and Ngai (2007, p.31), "favorable or unfavorable managerial attitudes or evaluations about adopting innovations become one of the major factors which determine whether enterprises will adopt possible innovations".

Many studies investigated the effect of manager's attitude towards e-commence adoption in SMEs. For example, Mpofu et al. (2009), Seyal & Rahman (2003) and To and Ngai (2007) found that e-commerce adoption in SMEs is positively and significantly driven by managers' attitude toward the use of information technology.

Moreover, Teo et al. (2009) found that managers' attitude toward using e-commerce and technology applications was greatly significant in differentiating between adopters and non-adopters of e-commerce in SMEs. Also, Ramsey and McCole (2005) found that managers' negative attitude toward e-commerce applications is a main reason of slower e-commerce adoption in New Zealand SMEs. On the other hand, some studies found that managers' attitude toward using e-commerce applications has weak or insignificant relationship with e-commerce adoption in SMEs (Abdul Hameed and Counsell, 2012; Seyal and Rahim, 2006; Chau and Jim, 2002). However, this study will be in line with most previous studies. Hence, the following hypothesis is presented:

H12: There is a positive and significant relationship between manager's attitude toward using e-commerce applications and e-commerce adoption level.

4.3.4 Environmental Factors

As mentioned in the reviewed literature, environmental factors play a significant role in SMEs adoption of e-commerce. Lippert & Govindarajulu (2006, p.148) described the environmental context of e-commerce adoption: "The environmental context represents the setting in which the firm conducts business, and influenced by the industry itself, its competitors, the firm's ability to access resources supplied by others, and interactions with the government". In this study, four variables of environmental factors are considered: competitive pressure, supplier pressure, customer pressure and government support.

4.3.4.1 Competitive Pressure

Competitive pressure is defined as "the level of e-commerce capability in the firm industry as compared to its rivals", Shaharudin et al. (2011, p.3651). Many studies confirmed that a competitive pressure is the best external predictor of e-commerce adoption in SMEs (Zhu et al., 2003; Jeyaraj et al., 2006; Olatokun, 2010).

Sarosa and Zowghi (2003) found that SMEs are influenced to adopt e-commerce by competitors that have already implemented e-commerce in their business as to keep up with business changes and avoid being left behind those competitors. Porter and Miller (1985) found that companies' use of information technology enables them to outperform their competitors. Saunders and Hart (1993) assert that the level of IT capability by an organisation is positively affected by its competitors. Therefore, the probability of SMEs adoption of IT is significantly dependent on their competitors as to remain in a competitive position with them.

Many studies showed a significant relationship between competitive pressure and e-commerce adoption (Mpofu et al., 2009; Alamro and Tarawneh, 2011; Zhu et al., 2003; Almoawi and Mahmood, 2011; Lee and Cheung, 2004; Zu et al., 2006; Iacovou et al., 2005; Ghobakhloo et al., 2011; Raymond, 2001 ;To and Ngai, 2007).

Moreover, many studies have identified competitive pressure as the most significant factor in e-commerce adoption by SMEs (Looi, 2005; Sandy and Graham, 2008). Zhu et al. (2006) conducted a study to investigate the factors affecting e-business adoption in SMEs in developed and developing countries. They found that competitive pressure has a significant positive effect particularly in initiation and adoption stage in SMEs.

On the other hand, Scupola (2009), Thong (1999) and Alamro and Tarawneh (2011) found that competitive pressure is not a very significant factor in e-commerce adoption by SMEs. Huy et al. (2012) found that competitive pressure is positive and significant in differentiating between SMEs adopters and non-adopters of e-commerce. Based on the aforementioned discussion, the following hypothesis is presented:

H13: There is a positive and significant relationship between competitive pressure and the adoption level of e-commerce.

4.3.4.2 Supplier/Business Partner Pressure

In the context of e-commerce adoption, the supplier pressure is defined as "the power of the chosen trading partner which has already adopted the e-commerce" (Shaharudin et al. ,2011, p.3651). The supplier or business partner pressure places a major effect on SMEs adoption of e-commerce (Lin and Lin, 2008). According to Plana et al. (2004), more than

30% of medium size enterprises in Chile that have adopted the Internet were driven by their suppliers' pressure. In addition, supplier pressure was found a major factor in predicting SMEs adoption of e-commerce. This is attributed to SMEs' wish to keep their business relationship with suppliers or partners that have already adopted e-commerce through better communication and becoming part of their network. (Riemenschneider et al., 2003; Ghobakhloo et al., 2011; Jaidee and Beaumont, 2003).

Previous studies have found that supplier or partner pressure has a positive effect on adopting e-commerce (Scupola, 2003; Heck and Ribbers, 1999; Mehrtens et al., 2001; Molla and Licker, 2005b; Ifinedo, 2011; Al-Qirim, 2006). Other studies, however, found that this factor has no significant effect on e-commerce adoption (Alamro and Tarawneh, 2011; Scupola, 2009; Chau and Hui, 2001). A study by Oliveira and Martins (2010b) found that partner pressure is a dominant factor of e-commerce adoption in organisations. Hence, the following hypothesis is presented:

 H14: There is a positive and significant relationship between supplier/partner pressure and the adoption level of e-commerce.

4.3.4.3 Customer Pressure

Pavlou and El Sawy (2006) argued that the information system movement and changes in firms are mainly caused by customers. Customer pressure for e-commerce adoption is mainly considered as an important factor (Iacovou et al., 1995). Many studies showed that customer pressure has a significant effect on SMEs adoption of e-commerce (Grandon and Pearson, 2003; Harrison et al. 1997; Ghobakhloo et al., 2011; Teo et al., 2003).

Kula and Tatoglu (2003), cited in Ifinedo (2011, p.8), argued that "most SMEs innovate only when they come under pressure from their clients". While very few studies found that customer pressure was insignificant (Sparling et al., 2007). Al-Somali et al. (2011) found that customer pressure is significant in differentiating between adopters and non-adopters of e-commerce in Saudi SMEs.

Also, a study by Alamro and Tarawneh (2011), investigating the factors affecting e-commerce adoption in Jordan SMEs and clarifying responses to these factors, found that customer pressure is the most significant driver of e-commerce adoption by Jordanian SMEs. Hence, the following hypothesis is presented:

H15: There is a positive and significant relationship between customer pressure and the adoption level of e-commerce.

4.3.4.4 Government Support

Many studies have investigated the role of government support in affecting SMEs' decision to adopt information technology, particularly e-commerce. (Tan and Teo, 2000; Hung et al., 2011; Huy et al., 2012; Hunaiti et al., 2009; Scupola, 2009). In the reviewed literature, government support in the context of information technology was manifested in three different ways: policies and legislations, funding and IT infrastructure (Saprikis and Vlachopoulou, 2012; Hamid, 2009; Gibbs et al., 2003).

Many studies confirmed that governmental factors have positive effects on SMEs adoption of e-commerce (Thatcher et al., 2006, Seyal et al., 2004; Molla and Licker, 2005). For example, Gibbs et al. (2003) found liberalization of telecommunication and trade to have the greatest influence on SMEs adoption of e-commerce by making access

to the Internet more affordable, while e-commerce legislations did not have a significant impact. However, Hunaiti et al. (2009) who examined the barriers facing e-commerce growth in Libya suggested absence of e-commerce legislations there as one of the main barriers to e-commerce adoption by Libyan SMEs.

In terms of government funding, Thatcher et al. (2006) found lunching training and educational programme and promoting e-commerce within SMEs to have a great effect on technology adoption in SMEs. Wang (1999) found that establishing relevant ICT infrastructure allows IT adoption in Thailand SMEs. Tan and Eze (2008) found that government support had a positive effect on ICT adoption in Malaysian SMEs. However, they suggested that the government should optimize its support to promote ICT particularly e-commerce adoption in SMEs, establish a good IT infrastructure and facilitate loans to Malaysian SMEs to encourage them adopt ICT.

Alamro and Tarawneh (2011), on the other hand, found that the government role has no significant effect on Jordanian adoption of SMEs. Yet this finding is inconsistent with Al-Weshah and Al-Zubi (2012) who investigated the inhibitors and drivers that influence e-business growth in Jordanian SMEs, suggesting that government should develop new strategies to increase SMEs adoption of e-business. The government should also develop advanced ICT infrastructure and enhance e-business awareness among SMEs.

Another study by Scupola (2009) examined factors influencing e-commerce adoption in Australia and Denmark SMEs, finding that the government's role in Danish SMEs was insignificant as opposed to the government's role in Australian SMEs that was indirectly significant. The above indicates no agreement on significance/insignificance on

government support's effect on e-commerce adoption. However, based on most studies identified by in this research, it is assumed that government's support influences SMEs to adopt e-commerce. Hence, the following hypothesis is presented:

H16: There is a positive and significant relationship between government support and the adoption level of e-commerce.

4.3 Conclusion

This chapter presented the developed conceptual framework of e-commerce adoption level in travel agencies of Jordan, which meets the first objective of this study. This developed framework is an integration of the Diffusion of Innovation theory by Roger (1991), Technology-Organisation-Environment model by Tornatzky & Fleisher (1990) and the inclusion of managerial factors such as top management support, power distance and uncertainty avoidance, manager's attitude toward e-commerce adoption This comprehensive framework may offer a richer theoretical bases and much better understanding of the factors that facilitate or inhibit Jordanian travel agencies adoption of e-commerce. The chapter also offered a set of hypotheses for examining these factors' significance/insignificance in affecting the level of ICTs and e-commerce adoption by travel agencies. Table (4.4) shows a summary of developed hypothesis in this research.

Research Hypothesis	Expected Relationship Effect
H1: There is a positive and significant relationship between relative advantages and the adoption level of e-commerce.	(+)
H2: There is a positive and significant relationship between compatibility and the adoption level of e-commerce..	(+)
H3: There is a negative relationship between complexity and the adoption level of e-commerce.	(-)
H4: There is a positive and significant relationship between trialability and the adoption level of e-commerce.	(+)
H5: There is a positive and significant relationship between observability and the adoption level of e-commerce.	(+)
H6: There is a positive and significant relationship between travel agency size and the adoption level of e-commerce.	(+)
H7: There is a negative relationship between financial barriers and the adoption level of e-commerce.	(-)
H8: There is a positive and significant relationship between employees' IT knowledge and the adoption level of e-commerce.	(+)
H9: There is a positive and significant relationship between top management support and the adoption level of e-commerce.	(+)
H10: There is a negative relationship between power distance and the adoption level of e-commerce.	(-)
H11: There is a negative relationship between uncertainty avoidance and the adoption level of e-commerce.	(-)

H12: There is a positive and significant relationship between manager's attitude toward using e-commerce applications and e-commerce adoption level.	*(+)*
H13: There is a positive and significant relationship between competitive pressure and the adoption level of e-commerce.	*(+)*
H14: There is a positive and significant relationship between supplier/partner pressure and the adoption level of e-commerce.	*(+)*
H15: There is a positive and significant relationship between customer pressure and the adoption level of e-commerce.	*(+)*
H16: There is a positive and significant relationship between government support and the adoption level of e-commerce.	*(+)*

Table 4. 4: Summary of Hypotheses and Expected Relationships

Chapter Five

Research Methodology

5.1 Introduction

The aim of this chapter is to present the research methodology and design. It starts by discussing the research design, approaches, methods and time horizon, followed by explaining the sample design, data collection process, target population and ethical considerations adopted in this study. Also presented is the operationalisation of the constructs for both dependent and independent variables. This is followed by discussion of the questionnaire design and the measurement scales. Then, the pilot study, response rate and non-response bias were presented. Finally, reliability and validity were discussed as well as the appropriate methods adopted to assess them.

5.2 The Research Methodology

Selecting the appropriate research methodology is important to produce a clear connection with the research problem and reliable results. Many studies argue that there is no ideal research methodology, as this depends on the research nature, questions, objectives and hypotheses. The methodology is also dependent on the available resources and skills the researcher has for conducting the study (Hair et al., 2006; Saunders et al., 2012).

The objective of this study is to investigate e-commerce adoption, the current e-commerce adoption level in travel agencies in Jordan, factors associated with the adoption level and its impact on business operation in Jordanian travel agencies. The study starts addressing the research problem by making an extensive review of studies related to technology and e-commerce adoption, and tourism and technology, presented in Chapter Two and Chapter Three. The research then moves to develop the conceptual framework that consists of four dimensions each including several factors aiming to

understand the interactive process involving these factors and their relationship to e-commerce adoption level among travel agencies and it could help to answer the research questions.

This study is of an explanatory nature as it seeks to investigate the relationships between variables in order to generate an explanatory knowledge. It explores evidences of cause and effect relationships between different components, known as dependent and independent variables (Draper, 2004).

The proposed conceptual framework of this study draws on integration of TOE, DOI and Hofstede's Cultural Dimensions. Then, hypotheses were formulated to be tested and guide the study. Therefore, the explanatory approach of the research satisfies the requirements of deductive reasoning that is based on the existing theory. Then the concepts in the developed hypotheses are operationalised as to be measured through observations, followed by testing the operational hypotheses which leads to confirm or reject these hypotheses and embark on a conclusion (Greener, 2008).

Neuman (2003) emphasizes that the deductive approach is appropriate for the quantitative method of data collection, as it tends to test theory and explain the casual relationships between variables rather than developing a theory, which is rather more appropriate to the qualitative method. Moreover, Creswell (2012) argues that in quantitative research, a detailed plan is required prior to collecting and analysing data because the variables are measured and the hypotheses are developed and remain fixed throughout the study. Therefore, the quantitative method is appropriate for data collection and analysis in this study.

Easterby-Smith et al. (2008) suggest that selecting the appropriate research method is very important as it guides researchers to choose the suitable research strategy for collecting and analysing data. In information systems studies, there is a wide range of research strategies that could be employed such as experiments, surveys, case studies, theorem proof, forecasting, simulation, reviews, action research, futures research and role/game playing (Galliers, 1992). However, the most predominantly strategies used for empirical information systems studies use survey, experiments, case studies and interviews (Mingers, 2001).

Choudrie and Dwivedi (2005) extended Mingers study (2001), reviewing the methods used by prior studies in technology adoption and found that surveys and case studies methods have been predominantly used in technology adoption by users and organisations than experiments and interviews methods.

In this study, the survey approach was adopted as the collecting data method for the following reasons. First, the nature of this study requires a large sample of travel agencies in order to have reliable results. It was found through sample frame that the large number of travel agencies in Jordan is located in thirteen cities in Jordan, which makes the survey approach the most suitable. According to (Ditsa, 2004), survey is the most appropriate approach to collect a large amount of data, as it increases the study's validity and generalizibility. Second, due to time and cost constraints, survey is the most feasible and economical method in collecting a large amount of data in short time. Third, survey approach was found the most effective method to study technology acceptance and diffusion and innovation technology adoption in organisation (Williams et al., 2009).

Also, Ditsa (2004) found survey to be the most appropriate method in information systems research, particularly for examining individual and organisational variables relevant to technology adoption, and it was considered essential for the success of the research. He added that survey results provide strong statistical input for the study because they provide relatively strong tools to examine the relationships between dependent and independent variables.

The survey approach can be carried out through different methods such as telephone interviews, postal questionnaires, personal interviews and internet survey (Saunders et al., 2012; Gable, 1994). Table 5.1 shows the comparison between different survey methods

	Telephone interview	Personal Interview	Mail survey	Internet survey
Cost	Medium	High	Low	Very Low
Response rate	Medium	High	Medium	Very low
Amount of Sample	Medium	Low	Large	Large
Survey Length	Up to 30 minutes	Up to 2 hours	Up to 20 minutes	Up to 20 minutes
Training	Required	Required	Not required	Not required
Respondents' feeling of privacy	uncomfortable	Less comfortable	comfortable	comfortable
Missing data	Low	Low	Medium	Medium
Reaching respondents	Easy	Difficult	Medium	Easy
Interviewer Bias	Yes	Yes	No	No
Geographical Coverage	Easy	Difficult	Easy	Very Easy

Table 5.1: Survey research methods

Source : Saunders et al., 2012; Gable, 1994; Jackson ,2011; Ditsa 2004

In this study , mail survey through hand delivered was chosen as a method for data collection because of the following reasons. First, the mail survey is considered the most

appropriate method to collect original data from large amount of samples, particularly when samples are widely distributed geographically, in addition to being considered the most suitable method for describing samples (Babbie, 2010).

Second, mail survey is considered an economical way to collect data from large populations unlike other methods such as telephone or face-to-face interviews (Dista, 2004; Jackson, 2011; Wrenn et al., 2006). Third, the nature of participants in this study, being travel agencies owners/mangers, expected to be always busy and very difficult to be interviewed personally or by telephone, which consumes time and cost.

Finally, although internet survey is considered the most effective, inexpensive and fastest method of collecting data, internet users are less likely to participate in internet surveys which leads to a very low response in addition to having a limited screening capability in reaching participants as participants are supposed to have a valid e-mail address (Jackson, 2011). The current study focuses on all different levels of e-commerce adoption starting from non-adoption until mature e-commerce adoption; thus online survey is considered a challenge in reaching non-adopters of e-commerce who do not have an e-mail address.

Mail survey enables them to answer self-administrated questionnaires freely, adequately and at their own convenience (Dista, 2004; Taylor-Powell and Hermann, 2000; Babbie, 2010). Fourth, mail survey was found appropriate to provide accurate description of individuals' attitudes, behaviours toward technology adoption (Dista, 2004). Finally, there is no interviewer bias in self-administrated mail questionnaires which adds more accuracy to the outputs.

Saunders et al. (2012) argue that time horizon should be considered after determining the research strategy, as it plays an important role in conducting the research. Time horizon is classified into two options, cross-sectional and longitudinal studies. In a cross-sectional study, data analysis is conducted at one specific time while in longitudinal study data is collected and analysed from the same sample over a long period of time.

This study is cross-sectional in nature, as it aims to identify the factors that influence the adoption level of e-commerce in travel agencies at a particular time rather than observe the changes in those factors over time. Moreover, the study has time and cost limitations, which are not commonly a problem in cross-sectional studies (Babbie, 2010, Penny et al., 2000; Saunders et al. 2012). The following sections describe the process of developing and implementing the survey questionnaire of this study.

5.3 Sampling Design

It is almost impossible or even unfeasible to study and collect the data from every possible member in a given population, which is called a census. Sample is a technique that allows researchers to collect data from subset of population that is representative of the larger population. There is a five step sequences for sampling design: target population, sample frame, sample method, sample unit and finally sample size (Saunders et al., 2012).

5.3.1 Target Population

Target population is defined as "a group of individuals (or group of organisations) with some common defining characteristic that researcher can identify study". Creswell (2012, p.142). He argues that the study should identify what group to study, which is therefore

termed as target population. The study will then choose a subset (sample) of the target population representative of the whole population. The target population of this study is owners/managers of travel agencies in Jordan.

5.3.2 Sample Frame

Sample frame is defined as "a listing of the members of the target population that can be used to create and/or draw the sample" (Bruce et al., 2002, p.161). The purpose of sampling design is to select from the target population particular participants to be surveyed. The sample frame is commonly obtained through the yellow pages, telephone directory, the Internet, government or any other trusted resources related to the target population of the research. The sample frame is considered a crucial part in sampling design as it has reflections on the cost and quality of the survey.

The sample frame of this study targets Jordanian travel agencies. Therefore, Jordan Society of Tourism and Travel Agents (JSTA) was used as the sample frame of this study, as JSTA stands as "the representative body of the travel and tourism industry in Jordan, forming the only association of travel agents in the Hashemite Kingdom of Jordan" (JSTA, 2012). JSTA's directory lists all travel agencies in Jordan, including type, address, telephone numbers and e-mail if applicable (see Appendix A-1). The directory shows there are 631 travel agencies distributed in 13 cities. The JSTA database shows that the majority (82%) of travel agencies in Jordan are Type B, followed by Types A and Type C, constituting about 13% and 5%, respectively.

For this study, travel agencies of all three types are the sample frame while the target population is owners/mangers of Jordanian travel agencies. It was also found in JSTA's

list that 128 travel agencies are organizers of religious tours, namely Hajj and Umrah tours, which entails dealing with one country, 'Saudi Arabia. As this kind of agencies has characteristics different from ordinary agencies, they were excluded from the survey.

Another 81 travel agencies were also excluded from the survey because they have branches or affiliations with other travel agencies and are managed by one decision maker. Finally, 9 more agencies were excluded because they only offer worldwide shipments. Therefore, the total number of the sample unit considered as the target population for this study was 413 travel agencies.

In addition, it was important to ensure that the information provided by JSTA was accurate and complete (Saunders et al., 2012). For that purpose, the travel agencies list offered by the Jordanian Ministry of Tourism & Antiquities was checked for verification.

5.3.3 Sample Method

The sampling method is used to identify the unit of analysis and the way to obtain information from the target sample (Bruce et al., 2002; Saunders et al., 2012). This method was also used to reduce any possible errors in the sampling process (Davis, 2004). The sampling method is of two types, probability and non-probability sampling. In the probability sampling, each individual of the population has an equal possibility of being selected from the desired sample. There are four main methods of probability sampling: simple random sampling, systematic sampling, stratified sampling and cluster sampling (Saunders et al., 2012; Bruce et al., 2002).

As for the non-probability sampling, it is "any sampling techniques that do not involve the selection of sample elements by chance" (Bruce, 2002, p.165). Non-probability sampling, therefore, does not include in its sample any probability or random selection, which differentiates it from probability sampling. According to Saunders et al. (2012), there are four main methods of non-probability sampling: convenience sampling, snowball sampling, judgment sampling and quota sampling.

Selecting the sampling method, according to Hair et al. (2006), depends on the nature of study, availability of samples and time and financial resources. In this study, probability sampling was selected for certain reasons. First, as this study aims to generalize the findings derived from a sample that is representative of the population, probability sampling is preferred because it provides more accurate and generalizibility than non-probability sampling. Second, with the support of the Jordan Tourism Board in collecting data, all samples are available to participate in the survey. Finally, this research has time and budget constraints (Sharma, 2008; Hair et al, 2006).

Regarding the method used, the simple random method was selected to represent the whole target population, being the Jordanian travel agencies. The heterogeneity of this population makes the simple random method the most appropriate option for selecting samples in this study (Saunders et al., 2012). Online random generator 'www.random.org' was used as a technique to obtain the required sample size that is representative of the population (Sharma, 2008).

5.3.4 Sampling Unit

Dodge (2003, p.360) defined the sampling unit as "one of the units into which an aggregate is divided or regarded as divided for the purpose of sampling, each unit being regarded as individual and indivisible when the selection is made". Therefore, it is essential to identify the sampling unit, as the data will be collected from that 'identified' sampling unit in order to allocate the research problem (Davis, 2004). In this study, managers/owners of travel agencies were identified as the sample unit. As described in literature reviewed in this study, owners/mangers of travel agencies are the key persons who make the decision to adopt or dismiss ICTs and ecommerce in SMEs.

5.3.5 Sample Size

Determining the appropriate sample size is very important in any empirical research, as inadequate sample size or even too large size may affect the quality of the research (Bartlett et al., 2001). Many researchers, however, suggested that the larger the sample size the less probable to produce errors in generalizing findings to the population; and a larger size is more likely to be normally distributed when analysing the resultant data (Creswell, 2012; Saunders et al., 2012). Therefore, the sample size was based on this study's criterion and the accuracy sought.

Many formulas have been used to determine the appropriate sample size based on many factors such as population size, margin error and confidence level. Krejcie & Morgan (1970) suggested a formula (shown in Figure 5.1) that has been widely used in information technology studies to guide determining the sample size, particularly in survey research (Bartlett et al., 2001).

$$s = X^2 NP(1-P) \div d^2(N-1) + X^2 P(1-P).$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05).

Figure 5.1: Formula to estimate the sample size of a given population

Source : Krejcie & Morgan (1970)

As discussed in Section 5.3.2 of this chapter, the total number of target population was 413 travel agencies. According to the Krejcie & Morgan's (1970) criterion, the adequate sample size for this level is 201. However, many studies suggested different criteria for the minimum sample size. For example, Bryman and Cramer (1997) suggested as a rule of thumb that the minimum sample size is 5 respondents per independent variable, while Vittinghoff and McCulloch (2006) suggested 10 respondents per predictor variable. Upon that, any sample size between 100 and 200 is sufficient for conducting statistical analysis and generalizing the results.

5.4 Questionnaire Development

Self-administrated mail survey using questionnaire was identified as appropriate for this study due to its low cost, ability to collect large amount of samples, and more convenience to participants when describing their attitudes, beliefs and behaviours toward the desired subject, specifically technology adoption. Two types of questions can be used in questionnaire, open-ended and closed-ended questions (Ditsa, 2004). This

research employed close-ended, self-administrated questionnaire, as the target participants are owners/managers of travel agencies, usually considered busy and hard to be interviewed in person.

Moreover, the answers of closed-ended questions can be transferred directly into computerized database, as they are much easier to be tabulated, coded and analysed in computer system. Finally, closed-ended questions are more flexible and easy in obtaining sensitive answers than open-ended questions (Ditsa, 2004; Bruce et al., 2002).

The developed questionnaire was adapted from the literature review and from the proposed conceptual framework of this study. It consists of three parts. The first part includes general information of travel agency and participants. The questions here revolve around agency's age and type and the level of respondent's education. The second part concerns the current level of e-commerce implemented by the agency, while the third part addresses the factors that may affect managers' decision on the adoption level of e-commerce. Questions of the third part are related to attributes of innovations, organisational factors, managerial factors and environmental factors. The following section discusses in more details the operationalisation of constructs in the questionnaire.

5.5 Operationalisation of Constructs

Ary et al. (2002, p.36) defines operationalisation as "ascribes meaning to a construct by specifying operations that researchers must perform to measure or manipulate the construct". It helps to create a best definition of constructs to be measured in the study. Ary et al. (2002) stated that researchers should identify variables from a variety of resources that represent the best description to approach the research problem. They

added that the operationalisation of constructs helps researchers to minimize the gap between the theoretical and the observable. In this research, each variable was identified from the literature review, where the independent variables were identified by 'attributes of innovation, organisational factors, managerial factors and environmental factors' while dependent variables were identified by 'e-commerce adoption level'. These variables should be defined in a meaningful and measurable manner. For this reason, these variables are translated through operationalisation.

Creswell (2012) stated that it is much better, faster and easier to borrow constructs if they are already measured by previous studies. Appendix C-1 shows the concepts and operational definition and measurement for each construct and the source of each defined construct.

5.6 Questionnaire Design and Measurement

Measuring and designing questionnaire is very important and the researcher must be careful when designing, composing and revising the questionnaire questions and layout; and a pilot testing must be conducted to ensure that the developed questionnaire has the appropriate format and the participants can easily understand the topic and questions (Bruce et al., 2002). Saunders et al. (2012) stated that a well-designed questionnaire leads to maximizing the response rate and the validity and reliability of the collected data. The questionnaire in this study consists of three parts including 21 questions. The questions content, length and clarity are the main factors that affect the response rate.

Therefore, all questions of the survey were carefully designed and revised in order to increase the response rate. A cover letter was attached to questionnaire describing the purpose of the study and including contact details for both the researcher and the university. The questionnaire also explained that all data and company information to be provided by participants shall be confidential and only used for the purpose of this study.

In addition, the questionnaire was supported with an official letter from the Jordan Tourism Board to add more credibility to its purpose. Descriptions were provided at the header of each part of the questionnaire to ensure obtaining as accurate answers from the participants as possible. On the last page of the questionnaire, the respondents were thanked for their contribution to the study and asked to make any further comments they may have. In addition, the respondents had the option to request a copy of the study's results.

As the participants were owners/managers of travel agencies, a suitable technique was employed to draw the needed data through the questionnaire. Part 1 (Q1 to Q4) of the questionnaire was designed to capture the demographic profile of respondents such as travel agency's age and type and the respondent's age and educational level. Part 2 (Q5) addressed dependent variable, including a question about the current level of e-commerce adoption in the agency. The questions in parts 1 and 2 were measured by nominal scale to classify and categorize the observed data using the multichotomous questions type. Part 3 (Q6–Q21) addressed independent variables, questions about attributes of innovation, organisational factors, managerial factors and environmental factors. Part 3 used interval scale questions represented by the five-point Likert scale

questions with score 1 (being strongly disagree) to score 5 (being strongly agree), except Q12 about travel agency's size, which was measured by nominal scale using the multichotomous questions type to identify the number of employees currently working in the agency.

The five-point Likert scale was implemented to measure the independent variables for many reasons. First, this scale is suitable for measuring dissimilarity in attitudes and perceptions among individuals (Sekaran, 2003). Second, it is believed that this scale is the most common questioning format to obtain opinion data (Saunders et al, 2012). Third, this scale is considered easy and fast for understanding and answering question by respondents. Finally, the answers of the Likert scale can be easily coded and managed in many statistical techniques (Malhotra, 2010).

The questions included in the questionnaire were originally written in English language and the survey took place in Jordan where the official language is Arabic. Therefore, it was very important to have an accurate translation of the questions to make them understandable to the respondents (Saunders et al., 2012). The researcher carefully followed the translation method of questionnaires as suggested by Usunier (1998), cited in Saunders et al. (2012, p.383, 385), who suggested that when translating the questionnaire the researcher should pay attention to the following:

1. Lexical Meaning: The precise meaning of individual words.

2. Idiomatic Meaning: The meanings of a group of words as natural to a native speaker and not deducible from those of the individual words.

3. Experiential Meaning: The equivalence of meanings of words and sentences for people in their everyday experiences.

4. Grammar and Syntax: The correct use of language, including the ordering of words and phrases to create well-formed sentences.

Usunier (1998) also suggested a parallel translation technique to ensure an accurately-worded translation of the questionnaire. The translated questionnaire was independently reviewed by two linguistic experts, both specialized in English to Arabic translation. That was followed by comparing the two revised versions to ensure the accuracy and clarity of the translation equivalence including syntax and grammar. Feedback and comments were considered and updated into the final Arabic version. Appendices A-2 and A-3 show the Arabic translation and English original of the questionnaire, respectively.

The layout of questionnaire is very important to maximize the number of willing respondents (Saunders et al., 2012). Therefore, the questionnaire layout was designed to make reading the questions by respondents easy. In addition, a colour text and template were designed to be attractive and encourage the respondents to fill the questionnaire. As a lengthy questionnaire may negatively affect response rate, it was designed to take no more than twenty minutes for completion.

5.7 Ethical Considerations in current Study

Ethics in research should be evidently present which entails the necessity of understanding the fundamentality of an ethical research and its influence before conducting the study particularly if it involves communications such as a survey with respondents like companies or participants (Polonsky and Waller, 2005).

The researcher should also be careful during communication with respondents not to offend them unintentionally, either psychologically, financially, socially or otherwise. The researcher followed several agreed ethical research standards to avoid offending respondents as well as to protect researcher, supervisor and institution against any future legal issues that may be claimed by respondents.

All research activities conducted in Cardiff Metropolitan University must be submitted directly to the School Ethics Committee within the school framework. This study followed the Business School Framework for ethics approval after which the application was submitted to School Ethics Committee at Cardiff Metropolitan University and approval was issued for the research study. Pursuing the Business School Framework for ethics approval, the cover letter of the questionnaire explained the purpose of study and assured that respondents are not to be harmed physically, socially and psychologically.

The study also ensured avoiding any actions that may negatively affect other researchers. Also included in the cover letter, the confidentially and anonymity of the respondents and a clear statement that they have right to withdraw their participations at any time. Finally, the participants had the choice to obtain the results of the study if they wish and were asked to fill their contact details including e-mails and fax.

5.8 Pilot Study

Pilot study is considered an important technique as it increases success of the study and improves the efficiency and accuracy of the data collected and the meaningfulness of the results. In addition, a pilot test helps to assess the validity of questionnaire's questions and reliability of the data collected (Saunders, 2012). Moreover, it provides the

researcher with early warning signs of any weaknesses of the proposed research such as the inappropriateness of methods or tools used.

Bell et al. (2013) suggest conducting a pilot study over small numbers of target respondents to provide feedback on the level of questions difficulty and instructions clarity, time needed and any other comments the respondents may have, which would improve the questionnaire. Previous studies do not agree on the minimum number of participants that should be involved in a pilot study. For example, Baker (1994) argued that 10-20% of the research sample size is sufficient number for a pilot study, while Fink (2003b) cited in Saunders et al. (2012) suggested a minimum of ten respondents.

For this research, fifteen travel agents were asked to be involved in completing a pilot questionnaire. They were informed it was a trial version of the questionnaire and asked to be critical, give notes on any unclear question and/or wording and mention their opinions about the layout of questionnaire, completion time and any comments and suggestions for improving the questionnaire. Only eleven respondents agreed to participate in the survey and give their comments and suggestions.

The pilot led to further amendments in a number of questions wording, the layout and the questionnaire length. In addressing wording and clarity, some questions were reworded and made more clear and understandable by participants. For example, most of participants did not understand the word "subordinates" in its Arabic translation as "المتبعين"which has a different denotation from the original English. Therefore, it was replaced with the Arabic equivalent of "employees" "الموظفين". Secondly, as participants were not familiar with the term e-commence, it was clarified in the cover letter.

Regarding the layout, the font size used that had been in the pilot questionnaire 10 of Times New Roman type was changed in the final version to 12 of the same type to make it more legible.

Regarding the questionnaire length, the participants took 15-20 minutes to complete it; most suggested reducing the number of pages, initially being 17 single pages. Upon that, the questionnaire was redesigned and printed into duplex A4 format totalling 6 pages. Based on the pilot study outcomes and feedback and changes made accordingly, the final version of questionnaire was produced as shown in Appendix A-3 and collecting data from participants was ready using that version.

5.9 Administering the Questionnaire

Data collection started in June 2013 continuing for five months. This period included distribution and collection of the questionnaires from target samples and follow-up. Personal delivery and collection were used for data collection, as the postal system in Jordan is not reliable enough and property numbering unclear. Although personal delivery and collection is more expensive in data collection than the postal system, it has many advantages such as saving time, needlessness for follow-up and increased response rate (Saunders et al., 2012).

Three hundred travel agents in Jordan were contacted and asked to participate in the survey, Two hundred seventy one of whom agreed to participate. Refusals to participate were explained by lack of interest in the study, being too busy to complete the survey or unwillingness to provide any sensitive information about agency, although it was explained that all provided data will be confidential and used only for the research.

In addition to the researcher, four persons were involved in delivering and collecting questionnaire forms due to the considerable number of travel agents involved and their distribution in different geographical areas.

The questionnaire forms were personally delivered to each owner/manager of travel agencies during which the purpose of study was explained and the confidentiality and anonymity of the information to be provided emphasized. The forms were filled independently by respondents without any interference by the data collection team.

The total numbers of collected questionnaire forms were 247 out of 271. Forty one of the returned forms were discarded for not being useful for analysis for several reasons. First, thirteen forms included many questions left blank and many items with missing answers. Second, eight forms were filled by inappropriate people due to a busy manager transferring it to an employee. Third, twenty forms were found outliers, which are considered unusable for analysis. Therefore, the total number of useful questionnaires for this study was 206.

5.10 Response Rate

McCarty (2003, p.396) stated that "Response rates were originally intended as a measure of the extent to which the data represent the responses of the entire population, that is, as an indicator of nonresponse bias". Saunders et al. (2012) said that obtaining a highly representative sample from population increases the accuracy and quality of the research. There are many equations to calculate the response rate. According to Shih and Fan (2007) response rate calculation should be standardized in order to make compression across different studies. Therefore, this study adopted the RR5 formula of the American

Association for Public Opinion Research (2006) to calculate the response rate as seen in Figure 5.2.

$$RR5 = \frac{I}{(I+P)+(R+NC+O)}$$

Figure 5.2: Response Rate Formula
Source: American Association for Public Opinion Research (2006)

Where RR5 is the minimum response rate, (I) is the number of completed surveys, (P) is the number of partial surveys, (R) is the number of refusals and break-offs, (NC) is the number of non-contacts and (O) is others. In this study, 206 were the completed forms (I), 41 were the partial survey completions not useful for analysis (P), 29 were the refusals to participate in this study (R) and 24 were those who agreed to participate but later on did not participate (O). All participants were reached and contacted regarding participation in this study (NC). Thus, the response rate was 68.6% [206/((206+41)+(29+0+24))]. Table 5.2 shows a summary of number of responses and response rate statistic.

Total sample size	300
Total number of agreements to participate	271
Total number of respondents	247
Total number of surveys found not useful for analysis	41
Total number of surveys found useful for analysis	206
Total number of refusals to participate	29
Total number of participants who did not complete and return the survey	24
Response rate	68.6%

Table 5.2: Summary of responses numbers and responses rate statistic

According to Baruch (1999), cited in Saunders et al. (2012), a response rate of 35% is acceptable for most of academic studies in managements and organisation's representative. The response rate in this study is higher than other similar studies in developing countries, particularly Arab countries. For example, Al-Somali and Clegg (2011) used the same method in data collection from 450 owners/managers of SMEs in Saudi Arabia, receiving only 202 usable forms, thus scoring 44.88% response rate.

Al-Hudhaif and Alkubeyyer (2011) distributed 200 questionnaire forms for studying the factors affecting e-commerce adoption in Saudi SMEs, obtaining 46% response rate. In Sri Lanka, seeking to study the barriers of e-commerce adoption by SMEs, Kapurubandara and Lawson (2007) only obtained 19% response rate of the 625 respondents who were owners/managers of SMEs. In Malaysia, Tan et al. (2009) studied the factors affecting e-commerce adoption level, receiving only 27% useable forms. Therefore, the 68.6% response rate obtained for this study is quite acceptable and reasonable.

5.11 Non-Response Bias

Vogt and Johnson (2011, p.256) defined non-response bias as: "The kind of bias that occurs when some subjects choose not to respond to particular questions and when the non-responders are different in some way from those who do respond". Malhotra and Birks (2000) argued that there is a negative relationship between response rate and non-response rate. Upon that, a high response rate indicates a low rate of non-response bias.

However, response rate is not always an essential or sufficient indicator of non-response bias. Examining non-response bias is very important to research in terms of study results

validity. There are two forms of non-response bias. The first is 'item non-response' which occurs when the respondents fail to answer some questions in the survey, while the second, 'unit non-response', occurs when the respondents fail to answer the survey for many reasons such as refusal to participate, having been not contacted or inability to respond (Saunders et al. (2012).

Non-respondents can be different from respondents in terms of demographic profiles such as age, experience, educational level, income, gender, race and region. Gall et al. (2003) suggest that non-response bias must be investigated when the response rate is less than 80%. Having a response rate of 68.6% in this study made a non-response bias investigation necessary prior to data analysis as to ensure the study's validity, quality and generalizability. Chapter Six discusses in details the assessment of non-response bias of the study.

5.12 Data Quality

It is essential to verify the quality of collected data prior to data analysis and findings generalization in order to ensure data consistency and accurate measuring of the survey concept as what is intended to measure. Reliability and validity are the two quality criteria taken into consideration. The following sections present explanation of each criterion and how it was measured in this study.

5.12.1 Reliability

Reliability is defined as "the extent to which an experiment, test, or any measurement procedure yields the same results on repeated trial" (Carmines and Zeller, 1979, p.11).

This means that the measurement scale from an instrument is stable and consistent across time. Examining reliability is very important to ensure high score of stability and consistency of the research and avoid any errors of measurement (Golafshani, 2003).

In this study, Cronbach's alpha technique was applied to check data reliability, as this is considered the most common practice in measuring the homogeneity of scale based on multiple-items scale of the construct which was used in this research (Cresswell, 2012; Tavakol and Dennick, 2011). The composite reliability method was also employed in this his study in order to verify the reliability of the constructs. The following chapter discusses in details the assessment of reliability.

5.12.2 Validity

Validity means "the extent to which any measuring instrument measures what is intended to measure" (Carmines and Zeller, 1979, p.17). This means that a validly test is used to determine if the instrument truly reflects what it is intended to measure. The test also confirms the research quality. In this study, the validity was checked by examining the content validity and construct validity.

Content validity is defined as "the degree to which set of items, taken together, constitute an adequate operational definition of a construct" (Polit and Beck, 2006, p.490). The content validity was attained through extensive literature review relating to e-commerce adoption, and all constructs in the questionnaire were measured through operationalisation that was adopted from previous studies. Secondly, parallel translation was used to translate the questionnaire into Arabic prior to the pilot test in order to make sure that the questionnaire constructs were accurately and meaningfully translated. Also,

a pilot study was conducted and feedback on the questionnaire obtained from participants, leading to some changes in questions wording and layout of the questionnaire.

Construct validity, which concerns the degree to which and how well the instrument measures a theoretical construct, includes two subtypes, discriminate and convergent validity. Convergent validity is established when two or more instruments measuring the same concept are positively correlated, while discriminate validity is used when two or more instruments measuring different concepts are of low correlation (Saunder et al., 2008). In this study, the two subtypes of construct validity have been assessed through factor analysis, which will be further discussed in Chapter Six.

5.13 Chapter Summary

This chapter presented the research design approach and research methods relevant to information systems researches. The chapter then presented and justified the research methodology which corresponds to the nature of this study. The research design is of an exploratory nature accompanied by the deductive approach, which in turn is tied with quantitative method of data collection in order to test the hypothesis derived from the study's conceptual framework.

The research strategy and sampling issues are then presented followed by a discussion of the operationalisation of constructs and measurement scale of this study. The study also adopted personal delivery and collection of survey and used self-administrated questionnaires to obtain data from a large number of owners/managers of Jordanian travel agencies.

Moreover, the ethical considerations and time horizon with respect to data collection were presented. Finally, the pilot study, response rate, non-response bias and validity and reliability were discussed and established. The next chapter will present the method used for data analysis as well as the results of the hypotheses testing.

Chapter Six

Data Analysis

6.1 Introduction

The previous chapter outlined the methodology used for this study. The questionnaire was developed based on the conceptual framework in Chapter 4. This chapter addresses in details the statistical procedures and presents the results of data analysis obtained through the researcher's survey. This chapter opens with the pre-analysis process that explains the data preparation, coding, cleaning and screening.

Then, it moves to evaluate non-response bias, followed by addressing and explaining the outliers. Next, multicollinearity was monitored and examined and a normality test was performed and discussed. The chapter then moves to the reliability and validity of the research variables, starting with initial reliability in order to measure the internal consistency of the items. An exploratory factor analysis was then conducted to evaluate the validity of the retained items of reliability. Next, the retained items that resulted from exploratory factor analysis were evaluated for internal consistency to insure their reliability.

The narrative analysis of demographic profile that includes respondents' profile, companies' profile and e-commerce information is then presented, followed by an analysis of the research constructs and an independent t-test to examine the difference between the different levels of e-commerce adoption to the businesses of travel agencies. Finally, an inferential statistical technique using multinomial regression analysis was applied to test the hypotheses presented in the research model. For the purpose of this study, the Statistical Package for Social since (SPSS) software version 20.0 was chosen.

6.2 Data Preparation and Collection Process

The data collection process faced many challenges. As discussed in earlier chapters, many of the target respondents were unwilling to participate in the survey due to time constraints, lack of interest, unwillingness to provide 'sensitive' information about their travel agencies. This resulted in obtaining only 247 completed questionnaire forms out of the 300 distributed. Each collected form was reviewed for completeness necessary to the analysis. After data cleaning and screening a total of 206 of the completed forms were found useable for analysis, resulting in 68.6% response rate. The following section discusses pre-analysis data processing.

6.3 Pre-analysis Data Processing

After completion of data collection, it was very important to have them examined through conversion into a form suitable for data analysis to ensure their integrity, significance, accuracy and representability.

6.3.1 Data Coding

Coding refers to "the process of assigning numerals or other symbols to answers so that responses can be put into a limited number of categories or classes" (Kothari, 2004, p.123). This means that each category of answers in the questionnaire will be allocated a specific code that will help the researcher transfer it into a form identifiable by computer and make subsequent analysis easier (Saunders et al. 2012). In this study, the continuous response scale (questions 6-12 and 13-21) used a pre-coded technique by allocating numbers for each question, with No. 1 meaning 'strongly disagree' and No. 5 'strongly agree', which facilitated respondents task. The questions 1-5 and 12 were entered into

the coding scheme prior to being entered into the computer software. The collected data were entered into SPSS and the codes were labelled for each variable as to illustrate the meaning of codes.

6.3.2 Data Cleaning and Screening

Data cleaning and screening was conducted in this study before any further statistical analyses to ensure that the entered data are free of any coding error or missing data or any inappropriate responses. This process was very important to ensure that the entered data includes only accurate values that are essential for examining the casual theory. Descriptive statistics, and frequency tables were employed using SPSS to identify the missing data in range values and inconsistent responses (Saunders et al, 2012; Paul, 2005).

Missing data must be considered in order to decide how to deal with it. According to Dong and Peng (2013) the missing data can be at two levels: Unit level and item level. Unit level refers to respondents who fail to take or entirely refuse the survey, while item level refers to those who return the survey with incomplete answers. Item level occurs for two main reasons. First, the respondent may fail to answer part(s) of the questionnaire in case of lack of information, unwillingness to answer some 'sensitive' questions or missing to answer some questions. Second, the respondent may not have time to finish answering the questionnaire (Saunders et al., 2012).

Also , Saunders et al.(2012) defined three patterns of missingness : Missing Completely At Random (MCAR), Missing At Random (MAR) and Missing Not At Random (NMAR). MCAR occurs when the missing values for a variable are not correlated with

that variable itself or any other variable of interest. As for MAR, it occurs when the missing values for a variable are not correlated with that variable itself but with other variables. In NMAR, the missing values for a variable are correlated with that variable itself and with other variables. Therefore, it was essential for this study to address the missing data problem to avoid embarking on false findings, compromised internal validity leading to loss of statistical power and external invalidity when research results are to be generalized.

There are different approaches to address the missing data such as list-wise deletion, pair-wise deletion, mean substitution, estimation of conditional means, imputation using the expectation maximization algorithm (EM), multiple imputation and regression-based imputation (Dong and Peng 2013; Paul, 2005; Schlomer, 2010).

In this study, the percentage of missing data was identified before conducting further statistical inferences. Out of the 247 responses, 40 had missing data ranging between 0.05% and 34% of the survey. In average, this accounts for approximately 16% of all responses. Excluding such forms was considered inappropriate for this research because it reduces the samples size which in turn affects the generalizability of data findings. Although, there was no agreement in related literature about the acceptable percentage of missing data, many studies agree that 10% is considered acceptable (Bennett, 2001; Schlomer et al., 2010).

Therefore, 13 forms were excluded for exceeding the 10% of missing data while 27 were retained due to not exceeding that percentage. Table 6.1 shows the percentage of missing data for the item(s) in each question in the survey.

Question Number	Construct Name	Item Number	Number of Answers	Missing Count	%	Question Number	Construct Name	Item Number	Number of Answers	Missing Count	%
6	Relative Advantage	RA1	232	2	0.9	12	Employees' IT Knowledge	IT_KNO_EMP1	232	2	0.9
		RA4	233	1	0.5						
		RA6	233	1	0.5	13	Power Distance	PD1	233	1	0.5
		RA7	233	1	0.5			PD3	233	1	0.5
		RA8	233	1	0.5			PD4	233	1	0.5
		RA10	233	1	0.5			PD5	233	1	0.5
7	Compatibility	COMP3	232	2	0.9			PD6	232	2	0.9
								PD7	233	1	0.5
		COMP4	233	1	0.5	14	Uncertainty Avoidance	UA1	233	1	0.5
		COMP6	232	2	0.9			UA2	233	1	0.5
8	Complexity	COMPX	233	1	0.5			UA3	233	1	0.5
9	Trialability	TRIAL1	231	3	1.4	15	Top Management Support	MGMTSUP2	232	2	0.9
		TRIAL2	231	3	1.4						
		TRIAL3	233	1	0.5						
		TRIAL4	233	1	0.5	16	Manager's Attitude toward E-commerce	ATTD3	232	2	0.9
		TRIAL5	233	1	0.5			ATTD4	233	1	0.5
		TRIAL6	233	1	0.5			ATTD5	233	1	0.5
10	Observability	OBSRV2	233	1	0.5	18	Competitive Pressure	COMPTITVE4	233	1	0.5
		OBSRV3	231	3	1.4	19	Supplier/ Partner Pressure	BUSS_PRSHR1	233	1	0.5
		OBSRV2	233	1	0.5						
11	Financial Barriers	FINANCE2	233	1	0.5						
		FINANCE3	225	9	4.1	20	Customer Pressure	CUSTMR_PRSHR1	232	2	0.9
		FINANCE4	233	1	0.5			CUSTMR_PRSHR2	233	1	0.5
21	Government Support	GOV_SUPP1	232	2	0.9	3	Age	None	229	5	2.3
		GOV_SUPP2	233	1	0.5						
		GOV_SUPP3	227	7	3.2						
		GOV_SUPP4	229	5	2.3						
		GOV_SUPP5	231	3	1.4						
		GOV_SUPP6	227	7	3.2						
		GOV_SUPP7	231	3	1.4						

Table 6.1:Missing data

Leah et al. (2007, p.1) argue that "trying to avoid the deletion of a case because of a missing data point can be conducted, but implementing a naïve missing data method can result in distorted estimates and incorrect conclusions". Therefore, identifying the pattern of missing data is a necessity decide an appropriate approach to replace the missing data.

Little (1998) used the statistical test based chi-square to determine whether values are 'missing completely at random'. Little's MCAR assumes the missing data of null hypothesis is MCAR and the P value >= .05; otherwise it may be MAR or MANR. The results of this study show that Little's MCAR Chi-Square = 1977.475, DF = 1989 with P value = .568, which confirms that the missing data is MCAR.

As a result , Expectation Maximization method (EM) was applied to replace the missing data values because of the following reasons. First , the EM method uses a recursive process with two steps to impute the missing data, the expectation step and the maximization step. In the expectation step, the missing and non-missing values are identified using parameters (including means, variance and covariance) then the missing values are substituted by their predicted scores using regression methods. In the maximization step, the predicted scores of the missing values are computed by the maximum likelihood function to obtain new values for parameters. This process is iterated with the expectation step until convergence is attained. Secondly, the EM provides an efficient and unbiased estimate of parameter particularly when the type of missing data is MACR, which makes it useful for conducting the exploratory factor analysis and internal consistency procedure (Schlomer 2010; Paul, 2005; Bennett, 2001).

6.3.3 Assessing Non-response Bias

As discussed in Chapter five , the non-response bias is important to be addressed especially that the response rate in this study was 68.6%. This bias occurs when respondents in the sample refuse to participate in the survey due to certain characteristics they may have. The existence of non-response bias is prone to result in a major problem in the study because it would generate bias in the sample which undermines its validity and quality (Linder et al., 2001; Ygge and Arnetz, 2004).

Non-response bias was evaluated by comparing the responses of early and late respondents. Lindner et al. (2001) suggested that the early and late comparison respondents' is the most widely useful method in quantitative research to identify non-response bias. They argue that if there are no significant differences between early and late respondents, the study results can be generalized to the population.

This study considered the first 40 responses as early responses because they responded fast without any further efforts by the researcher, while the last 40 responses are considered late responses due to efforts exerted to obtain them. Independent t-test was used to compare early and late respondents. The results are presented in appendix (B-1) showing that (p>0.05) in all variables, which indicates that there were no significant differences between early and late respondents.

6.3.4 Outliers

Tabachnick and Fidell (2013, p.72) defined outliers as "A case with such an extreme value on one variable (a univariate outlier) or such a strange combination of scores on two or more variables (a multivariate outlier) that it distorts statistics". Therefore, the

outlier can lead to incorrect effect on the statistical analysis, reducing the statistical power of the study in different ways such as increasing error variance.

Tabachnick and Fidell (2013) presented four main reasons for outliers' occurrence. First ,it occurs from incorrect data entry .Second ,it occurs from including and considering missing data as actual data. The third reason is when the sample is not representative of the concerned population, i.e. a sampling error. Finally, an outlier occurs when including values of a variable are out of the range of normal distribution. In this study, the first, second and third types of outliers were treated and corrected as discussed earlier in this chapter; whereas the fourth type will be treated by detecting univariate and multivariate outliers, as discussed later in this section. Tabachnick and Fidell (2013) stated that univariate and multivariate outliers can be present among dichotomous and continuous variables.

In this study, all relevant variables are measured by continuous variable questions using the 5-point Likert scale, which necessitates examining univariate and multivariate outliers. Tabachnick and Fidell (2013) recommended examining univariate outlier by either statistical criteria through calculating the standard score (z score) for each variable or by visual inspection using graphical method such as histograms and box plots. This study examined univariate outlier by converting each data variables to z score.

Tabachnick and Fidell (2013) suggested that potential outliers appear if the absolute data values of z score are greater than ±3.29. The results showed in Appendix B-2 that 16 cases were beyond z score with most extreme positive value of z score being 4.503 and most extreme negative value of z score being -5.284. Out of the 16 cases, 7 were found

with all questions answered similarly to all 1's or 5's in Likert scale. After further investigation, the decision was made to exclude all 16 cases from data analysis.

Next, the detection was continued to examine multivariate outliers. Tabachnick and Fidell (2013) argue that multivariate outliers must be conducted after examining univariate outliers to verify that univariate outliers may become multivariate outliers when two or more variables are combined. Tabachnick and Fidell (2013, p.74) stated that "Mahalanobis distance is one measure of that multivariate distance and it can be evaluated for each case using the X^2 distribution". On such basis, each case of respondents within this study will be examined for multivariate outliers by calculating Mahalanobis distance of X^2 for probability less than 0.001 ($p<0.001$).

The results presented in Table 6.2 show that only 4 cases were identified as multivariate outliers with $p<0.001$. It was thus decided to remove these cases from data analysis. Consequently, 20 outlier cases were deleted, leaving 206 considered usable in the analysis.

Case Number	Mahalanobis Distance X^2	P value
42	43.58	P =0.0007
59	41.50	P=0.0003
33	39.44	P=0.0001
68	38.45	P=0.0001

Table 6.2: Multivariate outliers with mahalanobis distance

6.3.5 Normality Test

Normality assessment is an important prerequisite for any further analysis particularly in the multivariate analysis that was conducted in this study. According to Field (2009, p.134) "normality assumes that the independent variables and the sampling distribution is normally distributed". This means assuming that all values in each item of the individual variables are normally distributed.

Normality test is important in any study that conducts regression analysis. Non-normality will severely reduce the statistical power of the study. In addition, it undermines the efficiency of standard errors which may lead to wrong conclusions (Tabachnick and Fidell, 2013). However, non-normality can be treated through transformation mathematical methods such as square root, logarithm and inverse. The deviance form of normality is examined either graphically or statistically. Graphically, deviance is assessed by histogram or normality plot. Statistically, skewness and kurtosis are used to assess normality (Tabachnick and Fidel, 2013; Field, 2009).

According to Tabachnick and Fidell (2013) skewness refers to the symmetry of distribution while kurtosis refers to the peakedness of distribution. Tabachnick and Fidell (2013, p.79) proposed that "skewed variable is a variable whose mean is not in the centre of the distribution". The skewed variable could be either positive or negative. Positive skew occurs when the tail is longer on the positive side rather than negative side of the peak, while the negative skew happens when the tail is longer on the negative side of the peak. Positive kurtosis occurs when values of kurtosis are above zero, displaying heavy tails and too peaked to normal distribution, while the negative kurtosis occurs when values are below zero with flat and light tails.

Tabachnick and Fidell (2013) explained that normal distribution occurs when the values of skewness and kurtosis are equal to zero. However, there is no clear agreement in researches on the absolute values of skewness and kurtosis indexes. Many previous studies agreed that absolute values of skweness index greater than 3.0 are considered extremely skewed (Kline, 1993, Chou & Bentler, 1995; Hoyle, 1995). According to Kline, (1998) and Hoyle (1995) absolute values of kurtosis greater than 10.0 are considered a problem and values greater than 20.0 an extremely serious problem.

In this study, all independent variables were examined for normality using skewness and kurtosis methods as shown in Table 6.3. The table shows that all items were normally distributed with lowest registered values of skewness and kurtosis being -1.566 and -1.164, respectively, while the highest were 1.418 and 3.909, respectively.

Construct Name	Item Number	Mean	Standard Deviation	Skewness	Kurtosis	Construct Name	Item Number	Mean	Standard Deviation	Skewness	Kurtosis
Relative Advantage	RA1	3.2701	.99770	-.298	-.423	Compatibility	COMP1	3.4660	1.02947	-.599	-.467
	RA2	3.6699	.99156	-.995	.435		COMP2	3.6408	.91975	-1.124	1.161
	RA3	3.6650	.94711	-.814	.329		COMP3	3.2147	1.10399	-.280	-1.086
	RA4	3.4564	1.16688	-.489	-.703		COMP4	3.3500	.97473	-.497	-.438
	RA5	3.9854	.62842	-.704	1.814		COMP5	3.0437	1.16996	-.289	-.937
	RA6	3.8659	.85448	-1.110	1.267		COMP6	3.6195	.85620	-1.108	1.314
	RA7	3.7661	.91175	-1.041	1.222		COMP7	3.4709	.98606	-1.090	.256
	RA8	3.2788	1.11511	-.143	-.989	Complexity	COMPX1	2.7645	1.15787	.358	-.797
	RA9	3.3641	1.09476	-.223	-.805		COMPX2	3.1699	1.16672	-.299	-1.120
	RA10	3.6776	1.01395	-.847	.088		COMPX3	2.8301	1.11542	.213	-1.119
Trialability	TRIAL1	2.3002	.91978	.242	-.584		COMPX4	2.6699	1.18436	.398	-.970
	TRIAL2	2.3450	.89589	.209	-.681	Observability	OBSRV1	4.0874	.65677	-.823	1.990
	TRIAL3	2.9218	.91740	-.190	-.648		OBSRV2	4.1143	.63063	-.793	2.293
	TRIAL4	3.5955	.88360	-.746	.379		OBSRV3	4.0354	.61628	-.858	2.914
	TRIAL5	3.1327	.80900	-.293	.165		OBSRV4	3.3738	1.06889	-.502	-.333
	TRIAL6	2.8503	.86220	.109	-.201		OBSRV5	3.8001	.87352	-1.153	1.630

Construct Name	Item Number	Mean	Standard Deviation	Skewness	Kurtosis	Construct Name	Item Number	Mean	Standard Deviation	Skewness	Kurtosis
Financial Barriers	FINANCE1	3.4757	1.03918	-.791	-.307	Employees' IT Knowledge	IT_KNO_EMP1	3.9703	.73131	-1.384	3.909
	FINANCE2	2.2583	.98994	.773	-.096		IT_KNO_EMP2	4.1699	.65165	-.932	2.453
	FINANCE3	2.8712	1.03485	.185	-.962		IT_KNO_EMP3	3.8592	.78684	-1.566	3.621
	FINANCE4	3.4846	.96688	-.807	-.184						
Power Distance	PD1	3.6333	1.01812	-1.316	1.103	Top Management Support	MGMTSUP1	3.6893	.75261	-.596	.568
	PD2	3.3689	1.12176	-.495	-.593		MGMTSUP2	3.7725	.82834	-.438	-.219
	PD3	3.1239	1.16057	-.340	-1.164		MGMTSUP3	3.7476	.82897	-.744	.407
	PD4	2.2343	.97773	1.067	.848	Manager's Attitude toward e-commerce	ATTD1	4.1019	.81707	-1.057	1.127
	PD5	3.3080	1.00646	-.767	-.153		ATTD2	4.0922	.75627	-.770	.732
	PD6	2.9918	1.15759	-.191	-.969		ATTD3	3.9408	.85885	-.862	.854
	PD7	2.4172	1.11342	.510	-.431		ATTD4	4.0116	.83262	-.793	.616
Uncertainty Avoidance	UA1	2.6033	1.02692	0.561	-0.407		ATTD5	4.0570	.82903	-.992	.877
	UA2	2.3720	0.89755	0.766	0.003	Competitive Pressure	COMPTITVE1	4.2039	.52002	.222	.022
	UA3	2.8604	1.08093	0.003	-1.011		COMPTITVE2	4.0340	.57067	.005	.106
Customer Pressure	CUSTMR_PRSHR1	2.6481	1.01914	.333	-.933		COMPTITVE3	3.6553	.82795	-.636	.129
	CUSTMR_PRSHR2	2.7923	1.03056	.266	-.574		COMPTITVE4	3.5954	.91970	-.741	.311
	CUSTMR_PRSHR3	2.5146	1.00597	.395	-.740		COMPTTVE5	4.0485	.68259	-.897	1.905
Government Support	GOVSUPP1	2.5835	.95276	.099	-.829	Supplier/ Partner Pressure	BUSS_PRSHR1	3.5003	1.02452	-.628	-.477
	GOVSUPP2	3.8490	.94770	-1.361	2.020		BUSS_PRSHR2	3.8981	.71520	-1.060	1.723
	GOVSUPP3	2.5142	.84917	.201	-.598		BUSS_PRSHR3	3.5534	.86929	-.751	-.057
	GOVSUPP4	2.7400	.85571	.109	-.742						
	GOVSUPP5	2.5994	.89175	.123	-.641						
	GOVSUPP6	1.6452	.63303	.449	-.697						
	GOVSUPP7	1.6981	.63628	.598	.514						

Table 6.3: Normality test results

6.3.6 Multicollinearity and Singularity

Multicollinearity occurs when two or more independent variables (0.9 and above) are highly correlated with each other, while singularity occurs when the independent variables are perfectly correlated and one of these variables is a combination of two or more other independent variables. Examining multicollinearity prior to analysis is highly recommended because its occurrence poses a problem to the research .The occurrence of multicollinearity increases the variances of regression, making it very difficult to predict which of the independent variables accounts for variance R^2 in the dependent variable (Paul and Bhar, 2006; Tabachnick and Fidell, 2013).

Related literature presents three common methods used for determining the presence of multicollinearity. The first is the correlation matrix, used to examine correlation among independents variables. A squared correlation below 0.90 indicates no problem with multicollinearity (Tabachnick and Fidell, 2013). The other two methods are used to examine multicollinearity in the context of regression analysis by assessing two methods, Tolerance Value and Variance Inflation Factor (VIF), respectively (Hair et al, 2010, Kleinbaum et al, 1998).

The tolerance value indicates the amount of variance in the independent variable that can't be explained by another independent variable. The tolerance value is estimated by $1-R^2$ of each independent variable. Tolerance values range from 0 to 1, with values less than 0.10 indicate the presence of multicollinearity. Conversely, the variance inflation factor (VIF) is reciprocal of tolerance (1/tolerance). High variability of VIF (greater than 10) indicates multicollinearity (Meyers et al., 2013b; Hair et al., 2010).

In this study multicollinearity was assessed using Pearson's Correlation method to examine correlation between independent variables, as shown in Appendix B-3. The results show that none of correlations between independent variables were above 0.90; thus there was no apparent problem with multicollinearity. Lee (2009) recommended conducting the Variance Inflation Factor (VIF) in addition to correlation matrix in order to provide additional evidence that no multicollinearity is present. Therefore and for further assessment, this study also conducted VIF and tolerance value to assess multicollinearity within the context of multiple regressions. The results of collinearity are shown in Table 6.4, with VIF ranging between 1.2 and 3.054 and tolerance level between 0.327 and 0.833, indicating that none of VIFs exceeded 10 and none of tolerance values was below 0.10. The results, therefore, confirmed that variables were not highly collinear and did not constitute a problem to regression analysis in this study.

Variables	Collinearity Statistics	
	Tolerance	VIF
Relative Advantage	.327	3.054
Compatibility	.356	2.809
Complexity	.531	1.884
Trialability	.739	1.353
Observability	.438	2.282
Financial Barriers	.833	1.200
Employees' IT Knowledge	.821	1.218
Top Management Support	.739	1.354
Power Distance	.477	2.096
Uncertainty Avoidance	.450	2.220
Manger's Attitude toward E-commerce	.373	2.678
Competitive Advantage	.508	1.969
Business Pressure	.523	1.913
Customer Pressure	.573	1.745
Government support	.789	1.267
Travel Agency Size	.726	1.377

Table 6.4: Tolerance value and variance inflation factor results

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6.4 Reliability and Validity Analysis

Reliability and validity are important concept in research and should be measured to ensure that the instruments in the survey are valid and reliable which leads to a better quality data. The following sections show in details the measurement of these two concepts.

6.4.1 Initial Reliability Assessment

Reliability refers to the stability of measurement instrument through time. In the current study, the constructs in the survey were measured by multiple item scale. Therefore, internal consistency was used to measure the reliability of this study through measuring correlations between items within a scale of a given construct. Cronbach's alpha was used to calculate the internal reliability or homogeneity formed of a multiple items scale (Creswell, 2012). Cronbach's alpha value ranges between 0 and 1, where coefficient alpha is closer to 1, being the greater degree of items' reliability.

However, there has been no agreement among researchers on an acceptable cut-off value for reliability. Many considered that value 0.7 or above highly acceptable (Pallant, 2007; Field, 2009) while some have confirmed the value of 0.6 as fair (Moss et al., 1998;Yong et al., 2007) and others argued that a value above 0.5 is poor but acceptable (Nunnally, 1978; Bowling,1997). George and Mallery (2003, P.231) presented a rule of thumb for Cronbach's alpha categorizing reliability values, as shown in Table 6.5 :

Cronbach's Alpha	Internal Consistency
$0.9 \geq \alpha$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 6.5: Rule of thumb for Cronbach's alpha

Fifteen independent variables were estimated for internal consistency by calculating Cronbach's alpha as shown in table below.

	Variables	Number of Items	Cronbach's Alpha	Reliability Strength
Attributes of Innovation	Relative Advantages	10	0.926	Excellent
	Compatibility	7	0.899	Good
	Complexity	4	0.768	Acceptable
	Trialability	6	0.630	Questionable
	Observability	5	0.677	Questionable
Organisational Factors	Financial Barriers	4	0.630	Questionable
	Employee's IT Knowledge	3	0.663	Questionable
Managerial Factors	Power Distance	7	0.656	Questionable
	Top Management Support	3	0.804	Good
	Uncertainty Avoidance	3	0.852	Good
	Manager's Attitude toward E-commerce	5	0.911	Excellent
Environmental Factors	Competitive Pressure	5	0.551	Poor
	Supplier/Partner	5	0.807	Good
	Customer Pressure	3	0.777	Acceptable
	Government Support	7	0.527	Poor

Table 6.6: Cronbach's alpha reliability analysis

The above table shows that Cronbach's alpha scores range between 0.527 for the government support variable and 0.926 for the relative advantage variable. Out of the 15 variables, two have excellent reliability, four good, two acceptable, five questionable and two poor. Although that all items of each variable have a confirmed reliability through previous studies, it was found here that competitive pressure and government support display poor internal consistency.

This can be attributed to several factors including translation survey from original English language to Arabic. Also, multicultural issues may affect reliability. Finally, it could be affected by inappropriate items used to measure the construct (Rode, 2005; Kamaroddin et al., 2009). Field (2009) suggested applying Cronbach's alpha if item deleted in order to examine what the value of alpha would be with such exclusion. In other words, Cronbach's alpha if item deleted, explains the total score of coefficient alpha.

Squires et al., (2011) recommended dropping the items causing a substantial increase equal or more than 10% on the scale. Moreover, item-total correlation was also recommended beside Cronbach's alpha value if the item is deleted to evaluate internal consistency (Field, 2009; Gliem and Gliem, 2003). Item-total correlation is used to check correlation between items that measure the same concept with the total assessment score.

However, Kline (1993) proposed that item-total correlation score is affected by the sample size which exposes it to bias, , recommending to calculate corrected item-total correlation to minimize such bias. Corrected item-total correlation shows the correlation between a particular item and the summated score of the rest of items. In reliable scale,

there are many arguments among researchers regarding the accepted cut-off values for corrected item-total correlation through dropping an item in order to improve reliability.

Some researchers suggested that corrected item-total correlation should be at least 0.30 (Field, 2009; Kline, 1993), others recommended that it should be higher than 0.4 (Tan et al, 2007; Tang, 2009; Molla and Licker, 2005b). There were also those who proposed that, to be retained, an item should range between 0.3 and 0.8; otherwise it should be dropped from the scale because it may not measure the same concept in the rest of items if they have a low inter-item correlation or if the items are similar or repetitive through asking the same question in different ways in case of an inter-item correlation > 0.80 (Rattray & Jones, 2007; Squires et al ., 2011, Tavakol and Dennick, 2011).

Therefore, Cronbach's alpha if item deleted and corrected item-total correlation were computed for reliability as shown in Tables 6.7 through 6.22. All constructs were checked for the values of corrected item-total correlation. If values were not between 0.3 and 0.8, the item was considered for deletion. Then the values of Cronbach's alpha were checked upon which items with alpha value deletion over 10% of current Cronbach's alpha in the total scale were considered for deletion. Starting with the relative advantages construct, the Cronbach's alpha value is 0.926.

Table 6.7 shows that two items RA4, RA10 had values higher than 0.80 of corrected item-total correlation; therefore they were dropped from the relative advantage instrument. It also shows that none of the items will substantially increase reliability if one item was removed. The Cronbach's alpha for the remaining eight items became 0.896 instead of 0.926. Therefore, these two items were removed from further analysis.

Relative Advantages	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RA1	.644	.922
RA2	.751	.917
RA3	.741	.917
*RA4	.827	.912
RA5	.459	.930
RA6	.740	.918
RA7	.712	.919
RA8	.766	.916
RA9	.716	.919
*RA10	.802	.914

* item/s is dropped from measurement scale of the construct

Table 6.7: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Relative Advantages Construct

Table 6.8 shows that all items of the compatibility construct had valid ranges of corrected item-total correlation and none of alpha values was greater than the current Cronbach's alpha (0.889) of the total scale. As a result, all items were retained.

Compatibility	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COMP1	.581	.899
COMP2	.739	.881
COMP3	.759	.878
COMP4	.779	.876
COMP5	.705	.886
COMP6	.704	.886
COMP7	.702	.885

Table 6.8: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Compatibility Construct

Table 6.9: shows that all items of complexity had acceptable values of corrected item-total correlation between 0.472 and 0.747 and any item will not substantially improve reliability if deleted; therefore, all items were retained.

Complexity	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COMPX1	.472	.762
COMPX2	.747	.611
COMPX3	.424	.783
COMPX4	.650	.667

Table 6.9: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Complexity Construct

Table 6.10 shows that three items (TRIAL4, TRIAL5 and TRIAL6) of trialability had invalid values of corrected item-total correlation; therefore, they were dropped from trialability measurement. It also shows that none of alpha values is greater than the current Cronbach's alpha (0.630) of the total scale. After this exclusion, the values of corrected item-total correlation of retained items (TRIAL1, TRIAL2 and TRIAL3) were 0.671, 0.678, and 0.422, respectively. Moreover, the Cronbach's alpha value substantially increased to 0.755, and thus three items (TRIAL 4, TRIAL5, TRIAL6) were excluded from further analysis.

Trialability	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TRIAL1	.452	.549
TRIAL2	.457	.547
TRIAL3	.473	.540
*TRIAL4	.277	.618
*TRIAL5	.259	.622
*TRIAL6	.250	.627

* item/s is dropped from measurement scale of the construct

Table 6.10: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Trialability Construct

In the observability construct, Table 6.11 clearly shows that only one item (OBSRV1) was below 0.3 of corrected item correlation criteria given above. If this item is removed, the Cronbach's alpha value for observability will increase to 0.683 ; thus it was removed from further analysis.

Observability	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
*OBSRV1	.280	.683
OBSRV2	.509	.603
OBSRV3	.479	.616
OBSRV4	.505	.603
OBSRV5	.461	.612

* item/s is dropped from measurement scale of the construct

Table 6.11: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Observability Construct

Table 6.12 shows that all items in the financial barriers construct within the acceptable value of corrected item-total correlation; also, reliability was not affected by items' deletion. As a result, all items in the financial barriers were retained for further analysis with the same Cronbach's value of 0.630.

Financial Barriers	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FINANCE1	.496	.493
FINANCE2	.325	.618
FINANCE3	.371	.588
FINANCE4	.451	.532

* item/s is dropped from measurement scale of the construct

Table 6.12: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Financial Barriers Construct

It can be clearly seen ,in Table 6.13 that the employees' IT Knowledge construct was measured by three items and all items had correlation values greater than 0.3 and less than 0.8. Also, none of these items had alpha values greater than the current Cronbach's alpha (0.663) of the total scale. Therefore , all items were retained.

IT Expertise among Employees	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IT_KNO_EMP1	.485	.553
IT_KNO_EMP2	.530	.507
IT_KNO_EMP3	.422	.648

Table 6.13: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Employees' IT Knowledge

Table 6.14 shows that one item (PD1) of power distance had the invalid value of corrected item-total correlation of -.399. Moreover, it can be clearly seen that removing that item will substantially improve the reliability alpha value to 0.8. It was therefore dropped from further analysis, leaving six items to measure the power distance construct.

Power Distance	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
*PD1	-.399	.800
PD2	.439	.597
PD3	.606	.539
PD4	.537	.573
PD5	.385	.615
PD6	.566	.553
PD7	.583	.550

* item/s is dropped from measurement scale of the construct

Table 6.14: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Power Distance

Table 6.15 shows that all items in the top management support construct were within the acceptable value of corrected item-total correlation. The values of correlation range between 0.525 and 0.739. Also, reliability was not substantially affected by items deletion. As a result, all items in management support were retained for further analysis with the same Cronbach's value of (0.804).

Management Support	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MGMTSUP1	.707	.681
MGMTSUP2	.739	.635
MGMTSUP3	.525	.863

Table 6.15: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Management Support

Table 6.16 shows that all items in the uncertainty avoidance construct were within the acceptable values of corrected item-total correlation. The values of correlation range between 0.680 and 0.758. Also, reliability was not substantially affected by items

deletion. As a result, all items in the uncertainly avoidance were retained for further analysis with same Cronbach's value of (0.852).

Uncertainty Avoidance	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
UA1	.758	.758
UA2	.680	.836
UA3	.742	.776

Table 6.16: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Uncertainty Avoidance

The manager's attitude toward using e-commerce applications construct was measured by 5 items. Table 6.17 shows that only 1 item ATT4 had a value greater than 0.80. Also, the reliability was not substantially affected by items deletion. After that, the ATT4 item was deleted from measurement construct leaving a total of 4 items with Cronbach's alpha of 0.883 instead of 0.911 used for further analysis.

Attitude	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ATTD1	.765	.893
ATTD2	.758	.895
ATTD3	.774	.891
*ATTD4	.812	.883
ATTD5	.765	.893

* item/s is dropped from measurement scale of the construct

Table 6.17: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Attitude toward using e-commerce applications

Table 6.18 shows that two items (COMPTITVE1 and COMPTITVE2) of the competitive pressure were below the criteria of acceptable value of corrected item-total correlation; they were thus dropped from competitive pressure measurement. In addition reliability was not substantially affected by items deletion. After excluding these items the Cronbach's alpha values became 0.617 instead of 0.551. Therefore, two items (COMPTITVE1 and COMPTITVE2) were excluded from further analysis.

Competitive Pressure	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
*COMPTITVE1	.151	.569
*COMPTITVE2	.202	.549
COMPTITVE3	.435	.410
COMPTITVE4	.450	.395
COMPTITVE5	.326	.488

*item/s is dropped from measurement scale of the construct

Table 6.18: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Competitive Pressure

Table 6.19 shows that all items in the Supplier/Partner pressure construct were within the acceptable values of corrected item-total correlation that ranged between 0.472 and 0.743. Also, reliability was not substantially affected by items deletion. As a result, all items in the Supplier/Partner pressure construct were retained for further analysis with the same Cronbach's value of 0.807.

Supplier/Partner Pressure	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BUSS_PRSHR1	.547	.787
BUSS_PRSHR2	.472	.804
BUSS_PRSHR3	.721	.733
BUSS_PRSHR4	.518	.792
BUSS_PRSHR5	.743	.718

Table 6.19: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Supplier/Partner Pressure

Table 6.20 shows that all items in the customer pressure construct were within the acceptable values of corrected item-total correlation that ranged between 0.574 and 0.694. Also, reliability was not substantially affected by items deletion. As a result, all items in the customer pressure construct were retained for further analysis with the same Cronbach's value of 0.777.

Customer Pressure	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CUSTMR_PRSHR1	.574	.741
CUSTMR_PRSHR2	.575	.741
CUSTMR_PRSHR3	.694	.608

Table 6.20: Corrected Item-Total Correlation and Cronbach's Alpha if Item for Customer Pressure Deleted for Customer Pressure

Finally, Table 6.21 shows that one item (GOV_SUPP2) of the government support construct had a negative value of corrected item-total correlation and three items (GOV_SUPP1, GOV_SUPP4, GOV_SUPP5) had values lower than 0.3. However, it was decided to drop the negative value first and re-run the test again as the negative value may have a significant effect on the correlation values with other items in the same

construct. Having performed this deletion, it can be clearly seen in Table 6.22 that the corrected item correlation values significantly changed and only one item (GOV_SUPP1) had lower value than 0.3. In addition, removal of any of these items will not lead to substantially increasing reliability. Following that, two items (GOV_SUPP1, GOV_SUPP2) were removed from the construct leaving a total of six items with 0.630 reliability instead of 0.527.

Customer Pressure	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
GOV_SUPP1	.258	.491
*GOV_SUPP2	-.089	.638
GOV_SUPP3	.402	.426
GOV_SUPP4	.450	.403
GOV_SUPP5	.288	.476
GOV_SUPP6	.290	.483
GOV_SUPP7	.365	.459

*item/s is dropped from measurement scale of the construct

Table 6.21: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Government Support (First Run).

Customer Pressure	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
*GOV_SUPP1	.171	.630
GOV_SUPP3	.462	.557
GOV_SUPP4	.358	.599
GOV_SUPP5	.334	.610
GOV_SUPP6	.381	.596
GOV_SUPP7	.438	.578

*item/s is dropped from measurement scale of the construct

Table 6.22: Corrected Item-Total Correlation and Cronbach's Alpha if Item Deleted for Government Support (Second Run)

6.4.2 Validity Assessment

As discussed in chapter five, validity refers to whether the items of the scale are correctly measuring the relevant instrument without additional features. In chapter five , content validity was examined in a pilot study. According to Rattray & Jones (2007), construct validity which is concerned with the degree to which and how well items measure a theoretical construct, is considered very important it must be examined to establish the validity. Factor analysis is one of the statistical tools that can be used to assess the construct validity. Although all chosen constructs in this study are adapted from previous studies and have been validated by factor analysis, this analysis was repeatedly conducted because the measurement of constructs was translated from its original language (English) into Arabic. Secondly, factor analysis was used to confirm validity in order to generalize the finding of this study. Finally, the survey has not been applied in the context of Jordanian tourism organisations; thus, factor analysis was applied in this study.

6.4.2.1 Factor Analysis

The aim of factor analysis is to reduce the large number of items into a smaller number that can be identified in terms of the underlying factors measuring different constructs (Tabachnick and Fidell, 2013). There are many types of extraction methods used to conduct factor analysis. The two main common types are: Principal Component Analysis (PCA) and Principal Axis Factoring (PAF). According to Parsian and Dunning (2009), PCA is more inclusive than PAF as this latter only analyses common variance, while the former analyses all variables' variances (total variance) including specific and common variances. Therefore, PCA was used here to explore the inter-correlation between variables (Rattray and Jones, 2007; Field, 2009).

6.3.2.2 Principal Component Analysis Requirements

Three main requirements had to be met before conducting PCA in this study. The first requirement is sample size. Rattray and Jones (2007) suggested that the minimum absolute sample size of 100 respondents is necessary to conduct PCA. Other suggested that at least 150 are needed as the sample size (Hutcheson and Sofroniou, 1999). However, some recommended as a rule of thumb that five respondents or more per variable is the sufficient number to conduct the PCA (Bryman & Cramer, 1997; Hatcher, 1994).

In this study, the sample size is 206 respondents while variables were 16, which is a ratio of 13 to 1, meeting the first requirement to conduct PCA. The second prerequisite of PCA is examining the inter-item correlation which should be between 0.3 and 0.8, as to avoid undermining the analyses, especially the regression analysis (Field, 2009). To meet this requirement, an examination of inter-item correlation was conducted in previous section of this chapter and all items greater than 0.8 or lower than 0.3 were dropped from analysis. The third prerequisite is to identify sampling adequacy. This adequacy was measured through the Kaiser-Meyer-Olkin (KMO) measure. KMO ranges from 0 to 1, where the KMO value is closer to 1, the most appropriate value for factor analysis (Field, 2009). Kaiser (1974), cited in Parsian and Dunning (2009), suggested that KMO values greater than 0.5 are considered acceptable,   describing those between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great values higher than 0.9 as superb, while values less than 0.5 are unacceptable. Beside KMO test, Field (2009) and Hair (2010) suggest to examine Bartlett's Test of Sphericity prior to conducting factor analysis in order to confirm the correlation matrix is an identity

matrix among variables. To have a significant outcome the Bartlett's test should be P value <0.05. Table 6.23 shows that all the KMO values were acceptable for all four dimensions (Attributes of Innovation, Organisational Factors, Managerial Factors, and Environmental Factors). In addition, Table 6.23 shows that all Bartlett's test were significant for all dimensions.

Dimension	KMO	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	Sig (P-Value)
Attributes of	0.859	3492.349	325	0.000
Organisational	0.640	233.017	28	0.000
Managerial Factors	0.799	1870.626	120	0.000
Environmental	0.720	1176.652	120	0.000

Table 6.23: KMO and Bartlett's Test of Sphericity

As a result , all these measurements confirmed that all dimensions in the study were satisfactory for conducting the principle component analysis.

6.3.2.3 Principal Component Analysis

In order to determine the interpretation of factor, factor rotation was applied with PCA to maximize the variance of factor loading and minimize low loading of variables with weak association with factor. There are two main types of rotation: orthogonal and oblique. Orthogonal rotation assumes that factors are not correlated with each other and are used when the research assumes that factors are independent of each other, whereas the oblique rotation assumes that factors are correlated and have some relationships amongst them. Tabachnick and Fidell (2013) described many types of orthogonal

rotations such as varimax, quartamax and equamax and many types of oblique rotations such as oblimin, promax and direct quartimin. For the purpose of current study, the varimax orthogonal rotation approach was used to examine the validity construct in order to identify several high level factors by maximizing the variance of factor loading. There are many arguments among researchers regarding the significant cut-off loading value.

Many researchers suggested the absolute value of factor loading should be at least 0.40 as to provide an appropriate interpretation of factor analysis and should not be loaded on more than one factor with a value of 0.40 or greater. Others suggested that the significant loading value should be at least 0.30 (Hair et al., 2010; Morgan et al., 2013). According to Anderson et al. (1998), cited in Parsian and Dunning (2009), the minimal absolute value of factor loading is 0.30, and loading of 0.50 or greater is considered very significant. For a higher precision, this study adopted a factor loading of 0.50, dropping factors with lower values. The eigenvalue and scree plot were used to identify the number of factors to be retained in factor loading. Many previous studies recommended to adopt Kaiser's criterion according to which all factors with eigenvalue >=1 are retained (Rattray and Jones, 2007; Field, 2009; Parsian and Dunning, 2009). Field (2009, p. 640) stated that "this criterion is based on the idea that the eigenvalues represent the amount of variation explained by a factor and that an eigenvalue of 1 represents a substantial amount of variation". Beside Kaiser's criterion, the number of factors can be also identified by the graphical form scree plot. Scree plot is the graphical form that represents the eigenvalues in (Y axis) against components in X axis. Field (2009) suggested the cut-off for selecting the number of factors is based on break in the slope. He suggested retaining the factors that fitted in the vertical part of the plot before the data point at

which eigenvalue begins to drop into the horizontal part (excluding the factor at the point of break in the slope).Each dimension of this study was analysed separately using PCA with varimax rotation and eigenvalue greater than 1. In addition, items with loading values less than 0.50 and/or items that cross loaded value 0.50 were dropped.

6.3.2.3.1 Attributes of Innovation

Table A6.1 in Appendix B-4 shows that the Attributes of Innovation dimension was extracted in six factors explaining 70.371% of total variance. Factor 1, "Compatibility", accounts for 37.75% of the variance. factor 2, "Relative Advantage", accounts for 8.357% of the variance. factor 4, "Trialability", accounts for 6.636% of the variance. factor 5, "Complexity", accounts for 5.679% of the variance. factor 6, "Observability", accounts for 4.967% of the variance. factor 3, "visibility", accounts for 7.252% of the variance. Also, the scree plot was compiled and the inspection was supported by the Kaiser's criterion indicating six factors as seen in Figure B6.1 in Appendix B-4. The six resulting factors were rotated using the varimax method and items were loaded on these factors as seen in Table 6.24. The table below shows that items related to compatibility was loaded on factor 1. However, item COMP1 did not load on any factor .As a result, this item was deleted. All items related to the relative advantage construct were cleanly loaded on factor 2, except item RA5 that did not load on any factor and was therefore dropped from analysis. The complexity construct was measured on four items, two of which (COMPX2, COMPX3) were loaded significantly on factor 5, while the other two (COMPX1, COMPX4) were insignificant and loaded on factor 3 and dropped from further analysis. The trialability construct was measured on three items that were all loaded significantly on factor 4. In the observability construct, only two items (OBSRV2,

OBSRV3) were loaded significantly on factor 6. As for item OBSRV5 of the observability construct, it was loaded on the compatibility scale's Factor 1 rather than on its expected factor 6, as this item states that "e-commerce shows improved results over doing business than traditional way," which makes it more appropriate to the compatibility scale. Nonetheless, the item was dropped from further analysis. Item OBSERV4 was loaded on factor 3 rather than its expected factor, as it stated that "e-commerce improves visibility to connect with customers at any time". Therefore, factor 3 was named "visibility ", and it was excluded from analysis as it had only one item. In total, five factors were retained with twenty items for attributes of innovation measurement.

	Extraction Method: Principal Component Analysis					
	Rotation Method: Varimax with Kaiser Normalization					
	Rotated Component Matrix[a]					
	Component					
	F1	F2	F3	F4	F5	F6
RA1		.658				
RA2		.684				
RA3		.789				
RA5						
RA6		.667				
RA7		.687				
RA8		.606				
RA9		.711				
COMP1						
COMP2	.769					
COMP3	.717					
COMP4	.764					
COMP5	.754					
COMP6	.754					
COMP7	.740					
COMPX1			**-.787**			
COMPX2					.779	
COMPX3					.867	
COMPX4			**-.697**			
TRIAL1				.891		
TRIAL2				.886		
TRIAL3				.626		
OBSRV2						.908
OBSRV3						.901
OBSRV4			**.519**			
OBSRV5	**.605**					
a. Rotation converged in 6 iterations						
1.Bold items did not load significantly on excepted factor and were thus dropped						
2. Factor Labels: F1=Compatibility; F2=Relative Advantage; F3: visibility; F4: Trialability; F5: Complexity ; F6: Observability						

Table 6.24: Factor Analysis Results for Attributes of Innovation

6.3.2.3.2 Organisational Factors

The second factor analysis was computed at the level of organisational factors dimension, including the items that measure financial barriers, employees' IT knowledge and firm size constructs. Table A6.2 in Appendix B-4 shows that the organisational factors were extracted in three factors explaining 60.885% of total variance. factor 1, "Financial Barriers", accounts for 24.836 of the variance while factor 2, titled "Employees' IT Knowledge", accounts for 23.132% and factor 3, "Firm Size", accounts for 12.917%. Also, the inspection of scree plot confirmed the existence of 3 factors as shown in Figure B6.2 in Appendix B-4. The three resulting factors were rotated using the varimax method and items were loaded on these factors as seen in Table 6.25 which shows that all items were loaded cleanly on the expected factor, offering a strong evidence of its validity. Therefore, all items from the organisational factors dimension were retained for further analysis.

Extraction Method: Principal Component Analysis		
Rotation Method: Varimax with Kaiser Normalization		
Rotated Component Matrix[a]		
	Component		
	F1	F2	F3
FINANCE1	.771		
FINANCE2	.585		
FINANCE3	.639		
FINANCE4	.740		
IT_KNO_EMP1		.795	
IT_KNO_EMP2		.823	
IT_KNO_EMP3		.687	
NUM_EMP			.893
a. Rotation converged in 4 iterations.		
1.Bold items did not load significantly on expected factor and were dropped.		
2. Factor Labels: F1=Financial Barriers ; F2=Employee's IT Knowledge; F3: Travel Agency Size		

Table 6.25: Factor Analysis Results for Organisational Factors

6.3.2.3.3 Managerial Factors

The third factor analysis was computed at the level of managerial factors dimension including items relevant to power distance, top management support, uncertainty avoidance and manager's attitude constructs. Four factors were extracted from the principal component analysis with varimax rotation and eigenvalue >1, accounting for 69.396% of total variance as seen in Table A6.3 in Appendix B-3. factor 1, "Manager's Attitude toward E-commerce Applications", accounts for 33.875% of the variance and factor 2, "Power Distance", accounts for 19.731%. As for factor 3, "Uncertainty Avoidance", it accounts for 9.030% of the variance while factor 4 titled "Top Management Support", accounts for 6.761%. The inspection of scree plot confirmed the

existence of four factors as shown in Appendix B-4, Figure B.6.3 . Table 6.26 shows that all items were loaded on their expected factor, except one item (MGMTSUP3) of the top management support factor that had a cross loading on factor 1 "Manager's Attitude toward E-commerce Applications" with value greater than 0.50 and was therefore dropped from subsequent analysis.

Extraction Method: Principal Component Analysis				
Rotation Method: Varimax with Kaiser Normalization				
Rotated Component Matrix[a]				
	Component			
	1	2	3	4
PD2		.584		
PD3		.754		
PD4		.750		
PD5		.558		
PD6		.773		
PD7		.789		
MGMTSUP1				.836
MGMTSUP2				.859
MGMTSUP3	**.520**			**.586**
UA1			.813	
UA2			.768	
UA3			.841	
ATTD1	.831			
ATTD2	.881			
ATTD3	.671			
ATTD5	.743			
a. Rotation converged in 5 iterations.				
1. Items in bold did not load significantly on expected factor and were dropped.				
2. Factor Labels: F1= Manager's Attitude; F2=Power Distance; F3: Uncertainty Avoidance; F4: Top Management Support.				

Table 6.26: Factor Analysis Results for Managerial Factors

6.3.2.3.4 Environmental Factors

The fourth factor analysis was computed at the level of environmental factors dimension which includes items from competitive pressure, Supplier/Partner pressure, customer pressure and government support constructs. Five factors were extracted from principal component analysis with varimax rotation and eigenvalue >1, explaining 66.493 % of total variance as seen in Table A6.4 in Appendix B-4. factor 1, titled "Competitive Pressure", accounts for 26.107% of the variance; while factor 2, titled "Supplier/Partner Pressure", accounts for 15.249% and factor 3, titled "Customer Pressure", accounts for 9.956%. For the Government Support scale, two factors were extracted on the rule eigenvalue >1. As Table 6.27 shows, items GOV_SUPP 3, GOV_SUPP4 and GOV_SUPP5 were extracted and loaded on factor 5 which can be titled "Government Support" accounting for 6.623% of the variance. The other items GOV_SUPP6 and GOV_SUPP7 were extracted and loaded on factor 4 which can be titled "Government Funds and Incentives" accounting for 8.559% of the variance. As for factor 1, "Competitive Pressure", it was measured on three items, two of which (COMPTITVE3, COMPTITVE34) were loaded significantly on expected factor, while the item (COMPTITVE5) did not load on any factor and was therefore dropped from further analysis. The Supplier/Partner pressure construct was measured on five items. It can be clearly seen in Table 6.27 that two items, BUSS_PRSHR1 and BUSS_PRSHR2, were loaded on factor 1 rather than expected factor which is factor 2 with value greater than 0.50, therefore, these items were dropped from further analysis. As for items in the customer pressure construct they were all cleanly loaded on the expected factor and were thus retained for further analysis. As shown in table 6.27, the items were used to measure

government support were loaded on factor 4, and factor 5 and were constituted as 'Government Funds and Incentives' and 'Government Support' , respectively. These two factors was resulted based on the criteria of eigenvalue greater than 1. Madu (1998), cited in Chong et al. (2009), argued that the results obtained from statistical data analysis should be carefully interpreted based on an overview of research content in addition to sampling frame. Also, he suggested that the construct may not be divided into two factors if the eigenvalue for expected factor is slightly greater than 1, particularly if items measuring this construct were validated previously and loaded on one factor. As shown in table A6.4 in appendix B-4, the eigenvalue for factor 5 is 1.060, slightly greater than 1 and thus closer to the eigenvalue for factor 4 accounting for 1.369, Moreover, the contents of items in the government support construct were derived from pervious researches after proving validity. Finally, the scree plot test shows only four factors rather than five as proposed by the eigenvalue rule, (See Figure B.6.4, Appendix B-4); therefore, the Government Support construct was not divided into two factors.

	Component				
	F1	F2	F3	F4	F5

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

Rotated Component Matrix[a]

	Component				
	F1	F2	F3	F4	F5
COMPTITVE3	.791				
COMPTITVE4	.778				
COMPTITVE5					
BUSS_PRSHR1	**.648**				
BUSS_PRSHR2	**.582**				
BUSS_PRSHR3		.709			
BUSS_PRSHR4		.858			
BUSS_PRSHR5		.813			
CUSTMR_PRSHR1			.794		
CUSTMR_PRSHR2			.737		
CUSTMR_PRSHR3			.839		
GOV_SUPP3					.572
GOV_SUPP4					.679
GOV_SUPP5					.736
GOV_SUPP6				.868	
GOV_SUPP7				.865	
a. Rotation converged in 7 iterations					
1. Items in bold did not load significantly on the excepted factor and were thus dropped					
2. Factor Labels: F1= Competitive Pressure; F2= Supplier/Partner Pressure; F3: Customer Pressure; F4: Government Support; F5: Government Funds and Incentives					

Table 6.27: Factor Analysis Results for Environmental Factors

The PCA results show that most of items were loaded significantly on their expected factors, which designates the unidimensionality of each construct. Although cross loading items occurred in this study and were eliminated, those items were less than items were loading on the same factor, which supports discriminant validity of the constructs (El-Gohary, 2011; Molla and Licker, 2005b). However, to further assess convergent and

discriminant validity, convergent validity was measured by examining the average variance extracted (AVE) for each latent construct. Fornell and Larcker (1981) suggested that an AVE of 0.5 or greater is acceptable and adequate for convergent validity. As shown in Table 6.28, all AVEs were above 0.5, which supports convergent validity.

Constructs	AVE
Relative Advantages	0.51
Compatibility	0.57
Complexity	0.71
Trialability	0.65
Observability	0.83
Financial Barriers	0.60
Employee IT Knowledge	0.59
Firm Size	0.79
Power Distance	0.62
Top Management Support	0.63
Uncertainty Avoidance	0.52
Manager's Attitude	0.62
Competitive Pressure	0.67
Supplier/Partner Pressure	0.67
Customer Pressure	0.64
Government Support	0.59

Table 6.28: Average Variance Extracted of Retained Constructs

To ensure discriminant validity, the value of square root of AVE for each construct must be greater than correlations with other constructs (Fornell and Larcker, 1981). As shown in Table A6.5, AppendixB-4, the square roots of AVE of all constructs were greater than all other correlations, providing more evidence of discriminant validity. In general, the

results of this study show that both validities were satisfied and met the criteria of adequate convergent and discriminant validity; thus the constructs in the study can be trusted to generate quality data.

6.3.3 Final Reliability Assessment

Based on the above discussion, all retained constructs are expected to have a well-established measurement and acceptable scores of reliability. Many researchers called for examining internal consistency for retained items resulting from factor analysis as to ensure their reliability, (Pallant, 2007; Field, 2009; Tabachnick and Fidell, 2013). Cronbach's Alpha and Composite Reliability was used to measure the reliability of retrained items of the constructs.

Although the Cronbach's Alpha measurement was widely applied in assessing reliability, many researchers recommend applying Composite Reliability for being a better assessment method (Smith, 1974; Chin et at., 2003; Casalo et al., 2011). However, both Cronbach's Alpha and Composite Reliability were applied in this study as to verify the reliability of the constructs (Zhu and Kraemer, 2002; Ifinedo, 2011). As discussed earlier in this chapter the acceptable cut-off value of Cronbach's Alpha test is 0.60 while it is 0.65 or greater for Composite Reliability, (Geyskens et al. , 1996).

The results in Table 6.29 shows that Cronbach's Alpha and Composite Reliability exceeded the minimum recommended cut-off values, indicating an adequate reliability of the research constructs. The high score of Cronbach's alpha values in all variables of this study can be attributed to certain reasons. Firstly, all items that are used to measure the variables were derived from prior studies and have proved reliable and valid. Secondly,

as discussed in Section 6.4.1 of this chapter, initial reliability was initially applied using Cronbach's alpha if item deleted and corrected item-total correlation methods and dropped the items that affected the reliability of value scores.

	Variables	Number of Items	Number of Deleted Items	Number of Retained Items	Cronbach's Alpha	Composite Reliability
Attributes of Innovation	Relative Advantage	8	1	7	0.898	0.88
	Compatibility	7	1	6	0.899	0.89
	Complexity	4	2	2	0.789	0.83
	Trialability	3	0	3	0.755	0.84
	Observability	4	2	2	0.859	0.91
Organisational Factors	Financial Barriers	4	0	4	0.630	0.85
	Employee IT Knowledge	3	0	3	0.663	0.81
Managerial Factors	Power Distance	6	0	6	0.80	0.90
	Top Management Support	3	1	2	0.863	0.77
	Uncertainty Avoidance	3	0	3	0.852	0.76
	Manager's Attitude toward E-commerce Applications	4	0	4	0.883	0.87
Environmental Factors	Competitive Pressure	3	1	2	0.671	0.80
	Supplier/Partner Pressure	5	2	3	0.809	0.86
	Customer Pressure	3	0	3	0.777	0.84
	Government Support	5	0	5	0.630	0.87

Table 6.29: Cronbach's Alpha and Composite Reliability for Retained Constructs

6.4 Samples Demographic Profiles

The descriptions of all samples were computed by frequency distribution and percentage, upon which the demographic profile of samples was described at three levels: respondents' profile and travel agencies' profile and e-commerce information. The following sections describe the descriptive results of the demographic profiles.

6.4.1 Respondents Profile

The respondents in this study are Owners/Managers of travel agencies ,which are described by variables of age and education level.

6.4.1.1 Participants Ages

The questionnaire included a question aiming to identify age groups involved that were subsequently categorized as shown in Table 6.30. The table shows that the majority of respondents (40.3%) were of the age group 41-50, followed by the group 30-40 constituting 28.6% of respondents. Age groups 51-60 and 18-29 were almost similar with 12.9% and 12.4%, respectively, while the group of over than 60 years old was the lowest with only 4%.In addition, the table below shows that there were five missing values for this item.

Age					
		Frequency	Percent	Valid	Cumulative
Valid	18-29	25	12.1	12.4	12.4
	30-40	59	28.6	29.4	41.8
	41-50	83	40.3	41.3	83.1
	51-60	26	12.6	12.9	96.0
	60+	8	3.9	4.0	100.0
	Total	201	97.6	100.0	
Missing	System	5	2.4		
Total		206	100.0		

Table 6.30: Frequencies and Percentages for Respondents Ages

6.4.1.2 Educational Level

The respondents were asked to indicate their highest educational level, which resulted, as shown in Table 6.31, in a majority (77.7%) of respondents with a bachelor's degree followed by 17% of diploma holders then 3.9% with a high school certificate while only 1.5% had postgraduate degree.

Educational Level					
		Frequency	Percent	Valid	Cumulative
Valid	High School	8	3.9	3.9	3.9
	Diploma	35	17.0	17.0	20.9
	Bachelor Degree	160	77.7	77.7	98.5
	Postgraduate	3	1.5	1.5	100.0
	Total	206	100.0	100.0	

Table 6.31: Frequencies and Percentages for Respondents Educational Levels

6.4.2 Company Profile

Company profile refers to the participating travel agencies' type, age and size based on number of employees.

6.4.2.1 Travel Agencies Types

As discussed earlier in chapter 5 , travel agencies in Jordan are classified into three types: A, B and C. Table 6.32 shows that the majority (75.2%) of respondents were from Type B agencies compared to 17% of Type A and 7.8% of Type C. These results were expected as types A, B and C represent 13%, 82% and 5% respectively, of the total number of travel agencies in Jordan.

Travel Agencies Types					
		Frequency	Percent	Valid	Cumulative
Valid	Type A	35	17.0	17.0	17.0
	Type B	155	75.2	75.2	92.2
	Type C	16	7.8	7.8	100.0
	Total	206	100.0	100.0	

Table 6.32: Frequencies and Percentages for Travel Agencies Types

6.4.2.2 Travel Agencies Age

The respondents were asked to indicate the age of their travel agencies upon which five age categories were identified as shown in Table 6.33, where the majority belonged to the 6-10 years old category consisting 42.7%, followed by 3-5 years old agencies constituting 31.6%, while agencies of more than 10 years in the business were 17% of the sample. However, the lowest proportion belonged to the first and second categories, respectively, with 1.9% of less than 1 year old agencies and 6.8% of 1-2 years old.

Travel Agencies' Age					
		Frequency	Percent	Valid	Cumulative
Valid	Less than one Year	4	1.9	1.9	1.9
	Between 1 and 2	14	6.8	6.8	8.7
	Between 3 and 5	65	31.6	31.6	40.3
	Between 6 and 10	88	42.7	42.7	83.0
	More than 10 Years	35	17.0	17.0	100.0
	Total	206	100.0	100.0	

Table 6.33: Frequencies and Percentages of Travel Agencies Age

6.4.2.3 Travel Agency Size

The respondents were asked to indicate the number of employees in their agency as to determine the firm size. As discussed earlier in this study, the firms are classified into medium-size with more than 50 employees, small-size with less than 50 employees, and micro-size with less than 10 employees. As shown in Table 6.34 , micro-size firms were 70.4% of the sample, followed by 25.2% as small-size firms, while 4.4% of the sample was medium-size.

Travel agency Size					
		Frequency	Percent	Valid	Cumulative
Valid	Less than 10	145	70.4	70.4	70.4
	Between 10 and	52	25.2	25.2	95.6
	More than 50	9	4.4	4.4	100.0
	Total	206	100.0	100.0	

Table 6.34: Frequencies and Percentages for Travel Agencies Size

6.4.3 E-commerce Information

The e-commerce information in this study was examined to identify the extent to which travel agencies are currently engaged in e-commerce technologies. As discussed earlier in chapter four, e-commerce adoption in organisations is divided into six levels . The respondents were asked in the questionnaire to choose one of six choices that indicate the current level of e-commerce adoption in their travel agency. The answers show firms that do not use e-commerce technologies 'non-adopter', those using basic e-commerce technologies for communication only such as e-mail 'e-connectivity', those enabling one-way communication that only presents information in a static website 'e-window', those with 2-way communications that enable interaction with customers in an interactive

website 'e-interactivity', those using sophisticated e-commerce technologies that enable transactions such as online payment 'e-transaction' and those with 'e-enterprise' adoption level that enable providing all business process online such as an accounting system and transforming traditional business to electronic one .

6.4.3.1 Current Level of E-commerce Adoption by Travel Agencies

As shown in Table 6.35 , 91 of the 206 travel agencies, representing 44.2% of the sample, were currently adopted e-connectivity. Moreover, 49 of the sampled 206 travel agencies, representing 23.8%, were currently adopted e-window. The rest of travel agencies, (32%), were currently adopted e-interactivity. It is noteworthy here that none of travel agencies in the sample were non-adopters nor advanced adopters at e-transaction or e-enterprise groups. The latter type of advanced adoption can be attributed to the complex and costly technological equipment and high ICTs required for these levels. In addition, online payment and transaction security are still in early stages in Jordan. On the other hand, internet access is inexpensive in Jordan and widely available for business plans; thus, travel agencies use e-mail in communicating with their partners and customers.

Current State of E-commerce Adoption				
E-commerce Level	Frequency	Percent	Valid	Cumulative
Valid e-connectivity	91	44.2	44.2	44.2
e-window	49	23.8	23.8	68.0
e-interactivity	66	32.0	32.0	100.0
Total	206	100.0	100.0	

Table 6.35: Frequencies and Percentages of Current State of E-commerce Adoption in Travel Agencies

6.5 Descriptive Statistics of the Research Constructs

After the measurement of constructs in this study established their validity and reliability, descriptive statistics of these constructs was conducted to examine the hypotheses. All items in all constructs were measured using the 5-point Likert scale except the firm size construct that was measured using multichotomous. In descriptive statistics, mean and standard deviation were included for all items for which each construct was to be measured as shown in Table 6.36. In addition, table 6.36 shows the results of the independent t-test that reflects the significant differences in the constructs in identifying different levels of e-commerce adoption in travel agencies.

	Variables	E-connectivity (Level 0) N=91		E-window (Level 1) N=49		E-interactivity (Level 2) N=66		E-connectivity versus E-window	E-connectivity versus E-interactivity	E-window versus e-Interactivity
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Level of Significance(P-Value)	Level of Significance (p-Value)	Level of Significance (p-Value)
Attributes of Innovation	Relative Advantage	3.0036	.74309	3.9125	.49680	4.0476	.45751	0.000*	0.000*	0.134*
	Compatibility	2.8957	.90227	3.8730	.50192	3.7127	.43386	0.000*	0.000*	0.069
	Complexity	3.4945	.92344	2.9898	.88087	2.3258	.91354	0.002*	0.000*	0.000*
	Trialability	2.3552	.73840	2.6170	.68381	2.6925	.75941	0.042*	0.006*	0.584
	Observability	3.1429	.96978	3.9796	.44440	4.4364	.47841	0.000*	0.000*	0.000*
Organisational Factors	Financial Barriers	3.0930	.84775	3.0027	.53461	2.9398	.54601	0.500	0.200	0.539
	Employees' IT Knowledge	3.9126	.50888	3.9915	.59128	4.1263	.58984	0.410	0.016*	0.229

Table 6.36 (Cont.): Descriptive Statistics of Variables Affecting E-commerce Adoption Levels in Travel Agencies

	Variables	E-connectivity (Level 0) N=91		E-window (Level 1) N=49		E-interactivity (Level 2) N=66		E-connectivity versus E-window	E-connectivity versus E-interactivity	E-window versus e-Interactivity
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Level of Significance(P-Value)	Level of Significance (p-Value)	Level of Significance (p-Value)
Managerial Factors	Power Distance	2.9094	.71634	3.0222	.72470		.87318	0.378	0.479	0.189
	Top Management Support	3.4019	.74367	3.8469	.53233	4.0985	.68061	0.000*	0.000*	0.034*
	Uncertainty Avoidance	3.0921	.86259	2.1837	.66340	2.2677	.70461	0.000*	0.000*	0.518
	Manager's Attitude toward e-commerce	4.2639	.54263	4.4490	.42993	4.4801	.38934	0.041*	0.006*	0.686
Environmental Factors	Competitive Pressure	3.1740	.69471	3.3980	.68450	3.8636	.68806	0.070	0.000*	0.000*
	Supplier/Partner Pressure	2.7839	.92879	4.1497	.43066	4.2576	.54474	0.000*	0.000*	0.254
	Customer pressure	2.2732	.74232	2.7619	.63828	3.0916	.88995	0.000*	0.000*	0.029*
	Government Support	2.1414	.48594	2.4732	.44499	2.2009	.49715	0.000*	0.454	0.003*

Table 6.36: Descriptive Statistics of Variables Affecting E-commerce Adoption Levels in Travel Agencies

6.5.1 Attributes of Innovation

As shown in Table 6.36, the attributes of innovation dimension consists of five variables: relative advantage, compatibility, complexity, trialability and observability. The mean values of relative advantage differ in the three samples. For e-connectivity, the mean value of relative advantage was 3.0036, which is lower than the values of the two other groups of adopters 'e-window and e-interactivity' being 3.9125 and 4.0476, respectively. Moreover, the results of t-test shows that there were a significant differences between the e-connectivity and e-window groups and between the e-connectivity and e-interactivity with regard to relative advantage ($p<0.05$) which indicates that the e-window group are more aware of technological than the e-connectivity adopters. However, there were no significant differences between e-window and e-interactivity in terms of relative advantage. In addition, the results show that the mean values of compatibility for e-connectivity, e-window, and e-interactivity were 2.8957, 3.8730 and 3.7127, respectively. The mean value for compatibility was lower in the e-connectivity group than the e-window and e-interactivity groups. In fact, the mean value of e-window group was close to that of e-interactivity groups; and the t-test results show no significant differences in these groups, while there was a significant difference between e-connectivity and e-window groups and between e-connectivity and e-interactivity in terms of compatibility, which indicates that adopters of higher levels e-commerce were more aware of opportunities the web offers to their businesses. For the complexity variable, the mean value in the e-connectivity group was 3.4945 , which higher than that of the e-window group with 2.9898 and the e-interactivity group with 2.3258. This shows that the e-connectivity group face more difficulty in understanding and using e-commerce applications in their business than the other two higher levels of adopter

groups. Moreover, the t-test results show a significant differences between all three levels of e-commerce adoption in terms of complexity, which indicates that the lower levels of e-commerce adopters were less likely to adopt higher technology applications because they found it difficult to use and understand than the higher levels of adopters. For the trialability variable, the mean value in the e-connectivity group was 2.3552, which lower than that of the e-window group with 2.6170 and the e-interactivity group with 2.69170. This indicates that lower e-commerce adopters were less aware of opportunities to exploit e-commerce applications on trial basis than higher e-commerce adopters. The results of t-test show that there were significant differences between e-connectivity and e-window groups and between e-connectivity and e-interactivity groups regarding trialability ($p < 0.05$); however, there were no significant differences between e-window and e-interactivity with regard to awareness of the opportunities of e-commerce applications trials. For the observability construct, the mean value for e-interactivity group was 4.4364 compared to an e-connectivity value of 3.1429 and e-window value of 3.9796. The results also show that there was a significant difference between the three levels of e-commerce adoption in Jordanian travel agencies, which suggests that the higher levels adopters were more aware of the opportunities available through observability such as observing benefits obtained by adopting e-commerce applications in other competitors .

6.5.2 Organisational Factors

The organisational factors dimension includes three variables: financial barriers, employees' IT knowledge and firm size. Table 6.36 shows that the mean value of the financial barriers variable was higher in the e-connectivity group (3.0930) than the e-window group (3.0027) and the e-interactivity group (2.9398), which indicates that the lower levels e-commerce adopters have less available capital to implement e-

commerce applications than higher levels of adopters. However, the mean values of the three groups were close to each other and the t-test results show that there was no significant differences between three groups with regard to financial barriers (p>0.05). The above table also shows that the mean value of employees' IT knowledge for the e-connectivity group was 3.9126, which is lower than those for the e-window with 3.9915 and the e-interactivity with 4.1263 groups. The t-test results show that there was no significant differences between the e-connectivity and e-window groups or between the e-window and e-interactivity groups while there were significant differences between the e-connectivity and e-interactivity groups in terms of employees IT knowledge (p>0.05) which suggests that employees in the higher levels of e-commerce adoption in travel agents have more IT knowledge and skills than simple adopters. The firm size variable was measured by categorical variable. Therefore cross tabulation and Pearson chi-square tests were implemented between current e-commerce adoption level in travel agencies and firm size. Table 6.37 shows that there was a significant relationship between adoption level groups and firm size. Also , Table 6.38 shows that the majority (73.6%) of e-connectivity group consisted of micro-size firms while 26.4% of this group was small-size; however, there were no medium-size firms in the e-connectivity group. Similarly, 83.7%, and 16.3% of the e-window group were micro-size and small-size, respectively while there was no medium-size firms in this group. In contrast, the percentage of micro-size firms in the e-interactivity group was lower than those in the above mentioned two groups representing 56% while the percentage of small-size firms was higher than those in e-window and e-connectivity groups, respectively.

The results also show that only the e-interactivity group had large firm which indicates that a higher level of e-commerce adoption is mainly evident in larger firms, while smaller firms displayed lower levels of adoption.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.639[a]	4	.000
Likelihood Ratio	26.290	4	.000
Linear-by-Linear Association	10.493	1	.001
N of Valid Cases	206		

a.3 cells (33.3%) have expected count less than 5. The minimum expected count is 2.14.

Table 6.37: Chi-Square Tests of E-commerce Adoption Level and Travel agency size

Adoption Level	Firm Size						Total
	Less than 10 employees		Between 10 and 50 employees		More than 50 employees		
	N	%	N	%	N	%	
e-connectivity	67	73.6%	24	26.4%	0	0%	91
e-window	41	83.7%	8	16.3%	0	0%	49
e-interactivity	37	56%	20	30.4%	9	13.6%	66
							206

Table 6.38: Cross Tabulation of E-commerce Adoption Level and Travel agency size

6.5.3 Managerial Factors

The managerial factors dimension consists of four variables: power distance, Manager's attitude toward e-commerce applications, uncertainty avoidance and top management support. Table 6.36 shows that the mean values of the power distance variable differ in the three sample groups. In the e-connectivity group that value was 2.9094, which was lower than that of the e-window group with value of 3.0222, while the mean value of power distance in the e-interactivity group was lower than those of the two other groups, being 2.8193. Moreover, the results of the t-test show that there were no significant differences between the three sample groups ($p>0.05$) which indicates that that power distance variable is similar in all different groups of e-commerce adoption. Moving to the top management support variable, the results show that the mean for the e-connectivity group was 3.4019, lower than those of the e-window and e-interactivity groups that were 3.8469 and 4.0985, respectively. This suggests that higher levels of e-commerce adoption are relevant to higher management support manifested in e-commerce implementation and managers/owners better awareness of the opportunities possible through technology. In addition, the results of t-test show that there were significant differences in the three sample groups ($p<0.05$).

As for the uncertainty avoidance variable, the results show that the mean value for the e-connectivity group was 3.092, higher than those of the e-window and e-interactivity groups that were 2.1837 and 2.8193, respectively. Also, the t-test results show a significant difference between the e-connectivity and e-window as well as between the e-connectivity and e-interactivity groups in terms of uncertainty avoidance ($p<.05$), while there were no significant differences between e-window and e-interactivity groups ($p>0.05$). This indicates that simple adopters of e-commence were

less likely to take risks and are more reluctant to accept changes leading to adopting higher sophisticated e-commerce applications.

For the manager's attitude toward e-commerce applications, the results show 4.2639 as a mean value for the e-connectivity group, lower than those of the e-window and e-interactivity groups, being 4.4490 and 4.4801, respectively. The results of t-test show that there were significant differences between the e-connectivity and e-window groups as well as between the e-connectivity and e-interactivity groups (p<0.05), while there was no significant difference between e-window and e-interactivity groups (p>0.05). This suggests that decision makers who adopted higher level of e-commerce in their travel agents were more excited and have more positive outlook at e-commerce applications than simple adopters.

6.5.4 Environmental Factors

The environmental factors dimension consists of four variables: competitive pressure, supplier/partner pressure, customer pressure and government support. Table 6.36 shows 3.1740 to be the mean value of the competitive pressure variable in e-connectivity group which is lower than those of e-window and e-interactivity groups that were 3.3980 and 3.8636, respectively. The t-test results shows that there were significant differences between the e-connectivity and e-window groups as well as between the e-window and e-interactivity groups (p<0.05), while there were no significant differences between the e-connectivity and e-window groups, which indicates that owner/managers of travel agencies that have adopted higher level of e-commerce were more influenced by other competitors in terms of e-commerce adoption than lower level of e-commerce adopters. Regarding the Supplier/Partner pressure variable the mean values of the e-connectivity, e-window and e-interactivity groups were 2.7839, 4.1497 and 4.2576, respectively, indicating that such pressure

has more influence on higher levels of e-commerce adopters than lower levels of e-commerce adopters. In addition, the results of t-test show that there were significant differences between the e-connectivity and e-window groups as well as between the e-connectivity and e-interactivity groups ($p<0.05$) while there were no significant differences between e-window and e-interactivity groups ($p>0.05$). For the customers' pressure variable, the results show that the mean value of this pressure in the e-connectivity group was 2.2732, which is lower than the e-window and e-interactivity groups whose mean values were 2.7619 and 3.0916, respectively. Although the mean values in three sample groups were low, the results of t-test show significant differences between them ($p<0.05$), which suggests that decision makers of higher levels e-commerce adoption were more influenced by their customers' pressure than lower levels adopters. Regarding the government support, the data show that the mean values of government support were the lowest in all sample groups. In the e-connectivity group the mean values was 2.1414, which was lower than those of the e-interactivity and e-window groups being 2.4732 and 2.2009, respectively. Although there were no big differences between the mean values in all sample groups the results of t-test show the significant differences between e-connectivity and e-window as well as between e-window and e-interactivity ($p<0.05$) but no significant difference between e-connectivity and e-window. This suggests that government support has influence on e-commerce adoption levels among travel agencies in Jordan.

6.6 Inferential Statistics

The descriptive analysis results provided an initial idea on the factors that may influence the adoption level of e-commerce; however, this results is not statistically sufficient to answer the research questions and test the hypotheses of this study; therefore, an additional statistical analysis was conducted. Based on the conceptual framework and the questionnaire of the study, the independents variables were measured by continuous and categorical questions, and the dependent variable was measured by categorical groups. Therefore, the multinomial logistic regression was appropriate for this study.

6.6.1 Data Analysis Methods

Logistic regression was applied in the current study to test the factors influencing travel agencies e-commerce adoption levels. There were several reasons for selecting the logistic regression method. First, this method is used to predict discrete outcomes such groups or categorical dependent variables based on multiple independent variables. Second, logistic regression is similar to multiple regressions, except that the dependent variable is categorical, continuous, or a mix, while the dependent variable in multiple regression is metric or numerical value (Field, 2009, Tabachnick and Fidell, 2013). Finally, logistic regression is more flexible and robust than other alternative statistical techniques such as discriminant analysis.

Tabachnick and Fidell (2013) argued that logistic regression does not have assumptions like discriminant analysis. It is a significant difference as such assumptions require normal distribution, linearity or equal of variance for independent variables. Moreover, logistic regression is more flexible than discriminant analysis because the independent variables in discriminant analysis have to be continuous, while they can be a mix of continuous, nominal, and categorical in logistic regression.

All data in this study met the aforementioned assumptions, thus logistic regression was applied rather than discriminant analysis due to several reasons. First, logistic regression is consistent in all cases and gives valid results regardless whether the data are distributed normally or not normally. Second, logistic regression is preferable when the dependent variable is less than three categories while discriminant analysis is preferable when this variable more exceeds three categories. Third, the outcomes of the two methods are similar if the sample size is equal or more than 50 (Pohar et al., 2004).

Logistic regression is divided into two types: Binary logistic regression and multinomial logistic regression. Binary logistic regression is used when the dependent variable is dichotomous (consisting of two categories), while the multinomial logistic regression is an extension of binary logistic regression used in predicting the dependant variable that have more than two categories (Field, 2009).

The dependent variable in this study consists of three categories of adoption groups which necessitated using multinomial logistic regression to identify the predictor variables that significantly influence the e-commerce adoption levels among travel agencies in Jordan.

6.6.2 Multinomial Logistic Regression for E-commerce Adoption Levels in Travel Agencies

Tabachnick and Fidell (2013) proposed testing multicollinearity before examining multinomial logistic regression to avoid unreliable estimates of regression coefficient. The results in Section 6.3.6 of this chapter show that all independents variables were not highly correlated which confirms that there was no significant evidence of multicollinearity problems among the research variables.

In this study, sixteen predictors' variables were analysed using multinomial logistic regression to identify their effects on each level of e-commerce adoption in travel agencies. These e-commerce levels were categorized into three groups: e-connectivity level, e-window level and e-interactivity level. After explaining the sixteen independent variables used to predict the different dependent variables, a description of multinomial logistic regression models is possible as follows:

Predicted logit (Y) = α + $\beta_1 x_1$ + $\beta_2 x_2$ + $\beta_3 x_3$ + ……. $\beta_n x_n$

Where:
- Y = Dependent Variable

- α is the constant of the equation

- β is the regression coefficient

- x is the predictor (independent variable)

6.6.2.1 Assessing Multinomial Regression Results

According to Tabachnick and Fidell (2013, p. 300) multinomial logistic regression analysis "breaks the outcome variable down into a series of comparisons between two categories". Therefore, a reference category must be chosen for comparison between other groups. Based on this definition, multinomial regression analysis was applied in two separate runs. In the first run, the connectivity level was chosen as a reference category to compare the estimated sets of coefficients of the two other groups (e-window and e-interactivity). In the second run, the e-window level was chosen as a reference category to compare the estimated sets of coefficients of the two other groups (connectivity and e-interactivity). Table 6.39 shows goodness-of-fits which examines whether the model adequately fits the data. Field (2009) argued that Pearson and Deviance tests must not be significantly different from the observed value, which

indicates that the model is a good fit .It can be clearly seen from the table below that the p-value of the two tests were greater than 0.05; thus the data are adequate and fits the model assumptions.

	Chi-Square	df	Sig.
Pearson	197.510	374	1.000
Deviance	141.939	374	1.000

Table 6.39: Goodness-of-fit

Table 6.40 shows the model fitting information which uses -2 log likelihood (-2LL) and chi-square test statistic. The model fitting information tests the initial null model 'intercept only with no predictor variable' against the final model with predictor variables. It can be seen in the table below that the initial -2LL value for the null model was 439.676 and the final -2LL value for the full model was 141.939. Also, the chi-square value was 297.737, which stands for the difference between -2LL value of null model and full model. According to Field (2009) the lower value of -2LL of full model than the null model indicates a better model to fit. In this study, the model fit was statistically significant with $\chi^2(34)= 297.737$, P<0.05, which indicates that the model with predictor variables was significantly better than the null model. This means a significant relationship between e-commerce adoption level and the independent variables of this study.

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	439.676			
Final	141.939	297.737	34	.000

Table 6.40: Model Fitting Information

Table 6.41 shows Pseudo R-Square that is used to explain the percentage of variance in the dependent variable explained by model. Pseudo R-Square is used as an alternative measurement to compute an approximate coefficient of determination (R^2) unlike linear regression because it is mathematically impossible to compute a single R^2 with categorical dependent variable. It can be seen from table 6.41 that there are three different metrics of R^2 summarizing the coefficient of determination. It shows that Cox and Shell, Nagelkerke and McFadden values were 76.6%, 86.7% and 67.7%, respectively, indicating that the model used in this study is appropriate and fit. In addition, the model as a whole offers a good explanation of variance which indicates a strong relationship between dependent and independent variables of this study.

Cox and Snell	.764
Nagelkerke	.867
McFadden	.677

Table 6.41: Pseudo R-Square

Table 6.42 shows the classification table which provide the number of observed cases of dependent variable are correctly predicted. The table below shows that the cells on diagonal are correct prediction, while the cells off diagonal are incorrect prediction. In this study, 82 of the 91 respondents for e-connectivity group , 37 of the 49 respondents for e-window group , and 56 of the 66 respondents for e-interactivity group , were correctly classified. Also , the table shows that the model with all predictors with 85.0% were correctly classified. In summary, the results is shown in

the previous sections confirms the validity of model and shows that the overall model in this study is good to predict all three levels of e-commerce adoption.

Observed	Predicted			
	e-connectivity	e-window	e-interactivity	Percent
e-connectivity	82	5	4	90.1%
e-window	4	37	8	75.5%
e-interactivity	4	6	56	84.8%
Overall	43.7%	23.3%	33.0%	85.0%

Table 6.42: Classification Table

Table 6.43 shows the likelihood ratio tests that are used to determine the contribution and the effect of each predictor on the model. In other words, each predictor in the model will be tested against the full model to indicate the significant weight of that predictor within the model. As shown in the table below, there are two main variables: -2 log likelihood of reduced model and chi-square. The -2 log likelihood of reduced model is computed without selected predictor, whereas the chi-square represents the difference between -2 log likelihood of reduced model and the final model reported in the model fitting information table. In addition the table shows the P-value, as when this value is < 0.05, the predictor would have a significant contribution in the model. As seen below, ten predictors have a significant contribution in the model with p-value <0.05: relative advantage, complexity, observability, financial barriers , power distance, uncertainty avoidance, competitive pressure, Supplier/Partner pressure, government support and firm size. On the other hand, compatibility, trialability, employees IT knowledge, top management support, manager's attitude toward e-commerce applications and customer pressure have insignificant contribution in the model.

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	141.939[a]	.000	0	.
Relative Advantage	149.477	7.538	2	.023
Compatibility	146.109	4.170	2	.124
Complexity	160.111	18.172	2	.000
Trialability	146.285	4.346	2	.114
Observability	182.087	40.148	2	.000
Financial Barriers	149.045	7.106	2	.029
Employees' IT Knowledge	146.269	4.330	2	.115
Power Distance	148.697	6.758	2	.034
Top Management	144.721	2.782	2	.249
Uncertainty Avoidance	149.228	7.289	2	.026
Manager' Attitude toward e-commerce	145.536	3.597	2	.166
Competitive Pressure	151.064	9.125	2	.010
Supplier /Partner Pressure	167.915	25.976	2	.000
Customer Pressure	144.354	2.415	2	.299
Government Support	157.338	15.399	2	.000
Travel agency Size	162.154	20.215	4	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is where all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Table 6.43: Likelihood Ratio Tests

Two separate runs of parameter estimates were conducted to compare between the three different groups of e-commerce adoption. The e-connectivity group was chosen in the first run as a reference category to compare between the e-window and e-interactivity groups while the e-window was chosen in the second run as reference category to compare it with the e-interactivity group (See Appendix B-5, table A.6.6 , and A.6.7). Table 6.44 presents a summary of parameter estimates that show results of the effect of each predictor on the model, including the regression coefficient, Wald statistic, and exponentiated beta. In the multinomial logistic regression equation, each predictor is estimated by regression coefficient (β). A positive regression coefficient (β) indicates that a predictor increase is a likely outcome of that response category with respect to reference category, while the negative positive regression coefficient (β) indicates that a predictor decrease is a likely outcome of that response category with respect to reference category. Moreover, the parameter estimates show the Exp(β) which is also called exponentiated beta or the odds ratios. Field (2009) suggested that an Exp(β) less than 1 indicates that the predictor is less likely to be involved in the outcome of the response category rather than the reference category, while an Exp(β) higher than 1 indicates that predictor is more likely to be involved in the outcome of the response category rather than the reference category. Wald statistics is the most important part in parameter estimate as it is used to indicate which predictor is statistically significant in the outcome (Field, 2009). According to Field (2009), if the significant level of Wald statistic is a p-value lower than 0.05, the predictor is accepted; if it is higher than 0.05, the predictor is rejected.

It can be concluded that there are three different equations of multinomial logistic regression in this study as shown below :

Multinomial logistic regression equation 1:

Logit (e-window/e-connectivity$_{\text{reference}}$) = α+ β_1Relative Advantage + β_2Compatibility+ β_3 Complexity + β_4Trialability + β_5Observability + β_6Financial Barriers + β_7Employees' IT Knowledge + β_8Firm Size + β_9Power Distance + β_{10}Top Management Support + β_{11}Uncertainty Avoidance + β_{12}Manager's Attitude + β_{13}Competitive Pressure + β_{14} Supplier/partner Pressure + β_{15}Customer Pressure + β_{16}Government Support

And

Multinomial logistic regression equation 2:

Logit (e-interactivity/e-connectivity$_{\text{reference}}$) = α+ β_1Relative Advantage + β_2Compatibility+ β_3 Complexity + β_4Trialability + β_5Observability + β_6Financial Barriers + β_7Employees' IT Knowledge + β_8Firm Size + β_9Power Distance + β_{10}Top Management Support + β_{11}Uncertainty Avoidance + β_{12}Manager's Attitude + β_{13}Competitive Pressure + β_{14} Supplier/Partner Pressure + β_{15}Customer Pressure + β_{16}Government Support

And

Multinomial logistic regression equation 3:

Logit (e-interactivity /e-window$_{\text{reference}}$) = α+ β_1Relative Advantage + β_2Compatibility+ β_3 Complexity + β_4Trialability + β_5Observability + β_6Financial Barriers + β_7Employees' IT Knowledge + β_8Firm Size + β_9Power Distance + β_{10}Top Management Support + β_{11}Uncertainty Avoidance + β_{12}Manager's Attitude + β_{13}Competitive Pressure + β_{14} Supplier/Partner Pressure + β_{15}Customer Pressure + β_{16}Government Support**.**

6.6.2.2 E-window versus E-connectivity Results

In interpreting the results of each equation, Table 6.44 shows that five of the sixteen predictors were a statistically significant contribution in the multinomial logistic regression equation 1 with p-value <0.05 , which differentiates e-window from e-connectivity. These significant predictors were relative advantage, observability, uncertainty avoidance, supplier/partner pressure and government support .The results showed that relative advantage had a positive effect on the possibility of owners/managers' decision to adopt e-window rather than e-connectivity. In other words, the odd ratio showed that owners/managers who expressed a positive comprehension of relative advantage were 4.356 times more likely to adopt e-window than e-connectivity due to the positive β value. Also, observability had a positive and significant effect on owners/managers' decisions to adopt e-window compared toe-connectivity. The odd ratio results showed that owners/managers who reported positive answers of observability were 16.899 times more likely to adopt e-window rather than e-connectivity due to the positive β value. Moreover, the results showed that uncertainty avoidance had a significant and negative effect on the owners/managers decisions in adopting e-window compared to e-connectivity. The odd ratio of uncertainty avoidance was 0.235 with negative β value indicating that owners/managers who reported positive answers of uncertainty avoidance were 0.217 times less likely to adopt e-window than e-connectivity. For the suppliers or partner pressure, the results showed that it had a positive and significant effect on the owners/managers decisions in adopting e-window compared to e-connectivity. The odd ratio results showed that owners/managers who had more pressure from their business partners or suppliers regarding e-commerce adoption were 15.772 times more likely to adopt e-window than e-connectivity with positive β value. Finally, the

results showed that government support had a positive and significant effect on the owners/managers decisions in adopting e-window compared to e-connectivity. The odd ratio results showed that owners/managers who reported positive answers of government support were 33.878 times more likely to adopt e-window than e-connectivity due to the positive β value.

6.6.2.3 E-interactivity versus E-connectivity Results

Table 6.44 showed that seven of the sixteen predictors had statistically significant contribution in the multinomial logistic regression equation 2 with p-value <0.05, which differentiates between e-interactivity and e-connectivity. These significant predictors were: relative advantage, complexity, observability, financial barriers, power distance, Supplier/Partner pressure and governmental support. The results showed that relative advantage was significant and positively correlated with the possibility of owners/managers' decision to adopt e-interactivity compared to e-connectivity. The odd ratio showed that owners/managers who had positive answers regarding the relative advantage were 6.626 times more likely to adopt e-interactivity than e-connectivity. For the complexity predictor, the results showed that it was significant but negatively differentiates between e-interactivity and e-connectivity. The odd ratio results showed that managers/owners who reported positive answers to complexity were 0.194 times less likely to adopt e-interactivity than e-connectivity. Moreover, the results showed that observability had a significant and positive effect on owners/managers' decisions in adopting e-interactivity compared to e-connectivity. The odd ratio results showed that owners/managers who reported positive answers to observability were 93.512 times more likely to adopt e-interactivity than e-connectivity due to the positive β value. In addition, the results found that financial barriers was significant and had a negative effect on

owners/managers' decisions in adopting e-interactivity compared to e-connectivity. The odd ratio showed that owners/managers who reported positive answers to financial barriers were 0.165 times less likely to adopt e-interactivity than e-connectivity due to the negative β value. Similarly, the power distance predictor was significant and negatively correlated with e-commerce adoption. The owners/managers who reported positive answers to power distance were 0.198 times less likely to adopt e-interactivity than e-connectivity due to the negative β value. For the suppliers or partners pressure, the results showed that it had a positive and significant effect on owners/managers' decisions in adopting e-interactivity compared to e-connectivity. The odd ratio results showed that owners/managers who had more pressure from their business partners or suppliers regarding e-commerce adoption were 11.913 times more likely to adopt e-interactivity rather than e-connectivity with positive β value. Finally, the results showed that government support had a positive and significant effect on owners/managers decisions in adopting e-interactivity than e-connectivity. The odd ratio results showed that owners/managers who reported positive answers to government support were 20.504 times more likely to adopt e-interactivity rather than e-connectivity due to the positive β value.

6.6.2.4 E-interactivity versus E-window Results

Table 6.44 shows that four of the sixteen predictors had a statistically significant contribution in the multinomial logistic regression equation 3 with p-value <0.05, which differentiates between e-interactivity and e-window. These predictors include: complexity, observability, firm size and competitive pressure. The results showed that complexity predictors were significant but negatively differentiate between e-interactivity and e-window. Also, the results showed that managers/owners who reported positive answers to complexity were 0.270 times less likely to adopt e-

interactivity compared to e-window. Moreover, the results showed that observability had a significant and positive effect on owners/managers' decisions in adopting e-interactivity compared to e-window. The odd ratio results show that owners/managers who reported positive answers to observability were 5.534 times more likely to adopt e-interactivity than e-window due to the positive β value. For firm size, this was measured by three categorical questions where the variable NUM_EMP=1 refers to a number of employees less than 10 comprising 'micro-size company', and, NUM_EMP=2 refers to a number of employees between 10 and 50 comprising 'small-size company', and NUM_EMP=3 refers to a number of employees more than 50 comprising 'medium-size company'. Table 6.44 shows that reference group is number of employees NUM_EMP=3, which means that NUM_EMP=1 compares with NUM_EMP=3 and NUM_EMP=2 compares with NUM_EMP=3. The results showed that firm size was significant but it had a negative effect on adopting e-interactivity compared to e-window. The odd ratio showed that micro-size and medium size travel agencies were 3.729, and 8.590, respectively. These results showed that micro-size and small-size travel agencies were less likely to adopt e-interactivity than e-window in contrast with medium-size agencies that are more likely to adopt e-interactivity than the other two groups. Finally, the results showed that competitive pressure had a positive and significant effect on owners/managers decisions in adopting e-interactivity compared to e-window. The odd ratio results showed that owners/managers who had more pressure from their competitors in terms of e-commerce adoption were 5.161 times more likely to adopt e-interactivity than e-window.

	Variables	E-window versus E-connectivity				E-interactivity versus E-connectivity				E-interactivity versus E-window			
		(β)	Wald	Wald p-value	Exp(β)	(β)	Wald	Wald p-value	Exp(β)	(β)	Wald	Wald p-value	Exp(β)
	Intercept	-21.006	5.005	.025		2.359	.000	.999		23.364	11.374	.001	
Attributes of Innovation	Relative Advantage	1.472	4.299	.038	4.356	1.891	6.011	.014	6.626	.419	.365	.546	1.521
	Compatibility	1.287	2.264	.132	3.622	-.043	.003	.960	.958	-1.330	3.386	.066	.264
	Complexity	-.331	.439	.508	.718	-1.641	8.571	.003	.194	-1.310	11.291	.001	.270
	Trialability	1.468	3.538	.060	4.339	1.324	2.912	.088	3.757	-.144	.120	.730	.866
	Observability	2.827	8.408	.004	16.899	4.538	16.524	.000	93.512	1.711	5.851	.016	5.534
Organisational Factors	Financial Barriers	-.851	1.107	.293	.427	-1.802	5.555	.018	.165	-.951	2.707	.100	.386
	Employees IT Knowledge	-1.488	3.524	.060	.226	-1.125	1.751	.186	.325	.363	.453	.501	1.437
	Firm Size												
	[NUM_EMP=1.00]	1.102	.989	.320	3.009	-20.608	.000	.993	1.122E-09	-21.710	860.486	.000	3.729E-10
	[NUM_EMP=2.00]	-1.014			.363	-21.889	.000	.993	3.117E-10	-20.875			8.590E-10
	[NUM_EMP=3.00]	0[b]				0[b]				0[c]			

*P<0.05

Table 6.44(Cont.): Summary of Parameter Estimates Results

	Variables	E-window versus E-connectivity				E-interactivity versus E-connectivity				E-interactivity versus E-window			
		(β)	Wald	Wald p-value	Exp(β)	(β)	Wald	Wald p-value	Exp(β)	(β)	Wald	Wald p-value	Exp(β)
Managerial Factors	Power Distance	-.711	1.133	.287	.491	-1.619	5.363	.021	.198	-.908	3.177	.075	.403
	Top Management Support	-.444	.254	.615	.641	-1.254	1.937	.164	.285	-.810	1.764	.184	.445
	Uncertainty Avoidance	-1.448	4.655	.031	.235	-.435	.384	.536	.647	1.013	3.520	.061	2.753
	Manager's Attitude toward e-commerce	-1.286	2.037	.154	.276	-1.659	3.178	.075	.190	-.373	.253	.615	.689
Environmental Factors	Competitive Pressure	-.413	.347	.556	.662	1.229	2.456	.117	3.416	1.641	7.302	.007	5.161
	Supplier/Partner Pressure	2.758	12.719	.000	15.772	2.478	10.672	.001	11.913	-.281	.243	.622	.755
	Customer Pressure	.611	1.010	.315	1.841	.990	2.302	.129	2.692	.380	.648	.421	1.462
	Government Support	3.523	9.937	.002	33.878	3.021	7.130	.008	20.504	-.502	.551	.458	.605

*P<0.05

Table 6.44: Summary of Parameter Estimates Results

6.7 Hypotheses Results for Multinomial Regression Analysis and their Relation to Adoption Levels of E-commerce in Travel Agencies

Table 6.45 presents a summary of multinomial logistic regression analysis findings against the proposed hypotheses across the three models of e-commence adoption levels (e-window versus e-connectivity, e-interactivity versus e-connectivity, e-interactivity versus e-window). It is noteworthy in the table below that hypotheses results were not similar across all models because a single set of all hypotheses in this research was used to test the influence of owners/managers' decisions regarding the three different levels of e-commerce adoption by travel agencies in Jordan. It can be clearly seen in Table 6.45 that H1, H5, H11, H14 and H15 for model 1 (e-window versus e-connectivity) were significant and correlated with the e-commerce adoption level. In other word, these hypotheses have influenced owners/managers' decisions to adopt a statistic website (e-window) rather than using the internet with only e-mail (e-connectivity). Conversely, the remaining hypotheses were found insignificant and poor for Model 1. As can be seen from Table 6.45, it was found that the most significant predictor in Model 1 was government support with odd ratio of 33.878. This was followed by observability, Supplier/Partner pressure, relative advantage and uncertainty avoidance, with odd ratios of 16.899, 15.772, 4.356 and 0.235, respectively. For Model 2, e-interactivity versus e-connectivity, the results of multinomial logistic regression show that H1, H3, H5, H7, H10, H14 and H16 were significant and correlated with the e-commerce adoption level in travel agencies, while the remaining hypotheses were found poor and insignificant. The supported hypotheses mean that they have actually influenced owners/manager's decisions to adopt e-interactivity in their travel agencies instead of merely e-connectivity through only using e-mail. The results show that the strongest predictor in this model was

observability with an odd ratio of 93.512. This was followed by government support, supplier/partner pressure, relative advantage, financial barriers, complexity and power distance, with odd ratios of 20.504, 11.913, 6.626, 0.165, 0.194 and 0.198, respectively. For Model 3, 'e-interactivity versus e-window', the results of multinomial logistic regression show that H3, H5, H6 and H13 were significant and correlated with the e-commerce adoption level in travel agencies, which indicates that these hypotheses actually influenced owners/manager's decisions to adopt a dynamic website in their travel agencies as opposed to only using a static website. The results show that the strongest predictor in this model was observability with odd ratio of 5.534, followed by competitive pressure, firm size and complexity with odd ratios of 5.161, 3.729 and 0.270, respectively. Conversely, the remaining hypotheses were found insignificant and poor predictors in distinguishing between e-interactivity and e-window adoptions.

In general, it was found, as the table below shows, that H1, H3, H5, H6, H7, H10, H11, H13, H14 and H15 were significant in e-commerce adoption in travel agencies. Conversely, it was found that compatibility, trialability, employees' IT knowledge, top management support, manager's attitude toward e-commerce applications , and customer pressure were insignificant and poor predictors of all different levels of e-commerce adoption.

	Hypotheses Results		
	Model 1	**Model 2**	**Model 3**
Proposed Hypothesis	**E-window versus E-connectivity**	**E-interactivity versus E-connectivity**	**E-interactivity versus E-window**
H1: There is a positive and significant relationship between relative advantages and the adoption level of e-commerce.	Relative Advantage was found positive and significant which supported the proposed hypothesis, β=1.472, p=0.038v<0.05, Exp(β)=4.356	Relative Advantage was found positive and significant which supported the proposed hypothesis, β=1.891, p=0.014< 0.05, Exp(β)=6.626	Relative Advantage was found insignificant which rejected the proposed hypothesis, β=0.419, p=0.546> 0.05, Exp(β)=1.521
H2: There is a positive and significant relationship between compatibility and the adoption level of e-commerce.	Compatibility was found insignificant which rejected the proposed hypothesis, β=1.287, p=0.132> 0.05, Exp(β)=3.622	Compatibility was found insignificant which rejected the proposed hypothesis, β=-0.043, p=0.960> 0.05, Exp(β)=0.958	Compatibility was found insignificant which rejected the proposed hypothesis, β=-1.330, p=0.066> 0.05, Exp(β)=0.268
H3: There is a negative relationship between complexity and the adoption level of e-commerce.	Complexity was found insignificant which rejected the proposed hypothesis, β=-0.331, p=0.508> 0.05, Exp(β)=0.718	Complexity was found negative and significant which supported the proposed hypothesis, β=-1.641, p=0.003< 0.05, Exp(β)=0.194	Complexity was found negative and significant which supported the proposed hypothesis, β=-1.310, p=0.001< 0.05, Exp(β)=0.270
H4: There is a positive and significant relationship between trialability and the adoption level of e-commerce.	Trialability was found insignificant which rejected the proposed hypothesis, β=1.468, p=0.060> 0.05, Exp(β)=4.339	Trialability was found insignificant which rejected the proposed hypothesis, β=1.324, p=0.088> 0.05, Exp(β)=3.757	Trialability was found insignificant which rejected the proposed hypothesis, β=-0.144, p=0.730> 0.05, Exp(β)=0.886
H5: There is a positive and significant relationship between observability and the adoption level of e-commerce.	Observability was found positive and significant which supported the proposed hypothesis, β=2.827, p=0.004<0.05, Exp(β)=16.899	Observability was found positive and significant which supported the proposed hypothesis, β=4.538, p=0.000<0.05, Exp(β)=93.512	Observability was found positive and significant which supported the proposed hypothesis, β=1.711, p=0.016<0.05, Exp(β)=5.534

Note: The leftmost rotated header reads "Attributes of Innovation" spanning H1–H5 rows.

Table 6.45(Cont.): Summary of Findings of Proposed Hypotheses Testing

		Hypotheses Results		
		Model 1	**Model 2**	**Model 3**
	Proposed Hypothesis	**E-window versus E-connectivity**	**E-interactivity versus E-connectivity**	**E-interactivity versus E-window**
Organisational Factors	H6: There is a positive and significant relationship between travel agency size and the adoption level of e-commerce.	Travel Agency Size was found insignificant which rejected the proposed hypothesis, number of employees less than 10 and number of employees between 10 and 50, β=1.102, β=-1,.014, p=0.320> 0.05, Exp(β)=3.009, Exp(β)=0.363	Travel Agency Size was found insignificant which rejected the proposed hypothesis, number of employees less than 10 and number of employees between 10 and 50, β=-20.608, β=-20.014, p=0.993> 0.05, Exp(β)=1.22E-09, Exp(β)=3.117E-10	Travel Agency Size was found positive and significant which supported the proposed hypothesis, number of employees less than 10 and number of employees between 10 and 50,β=-21.710, β=-20.875, p=0.000< 0.05., Exp(β)=3.729E-10, Exp(β)=8.590E-10
	H7: There is a negative relationship between financial barriers and the adoption level of e-commerce.	Financial Barriers was found insignificant which rejected the proposed hypothesis, β=-0.851, p=0.293> 0.05, Exp(β)=0.427	Financial Barriers was found negative and significant which supported the proposed hypothesis, β=-1.802, p=0.018< 0.05, Exp(β)=0.165	Financial Barriers was found insignificant which rejected the proposed hypothesis, β=-0.951, p=0.100> 0.05, Exp(β)=0.386
	H8: There is a positive and significant relationship between employees' IT knowledge and the adoption level of e-commerce.	Employees' IT Knowledge was found insignificant which rejected the proposed hypothesis, β=-1.102, p=0.060> 0.05, Exp(β)=0.226	Employees IT Knowledge was found insignificant which rejected the proposed hypothesis, β=-1.125, p=0.186> 0.05, Exp(β)=0325	Employees IT Knowledge was found insignificant which rejected the proposed hypothesis, β=0.363, p=0.501> 0.05, Exp(β)=1.437

Table 6.45(Cont.): Summary of Findings of Proposed Hypotheses Testing

		Hypotheses Results		
		Model 1	**Model 2**	**Model 3**
	Proposed Hypothesis	**E-window versus E-connectivity**	**E-interactivity versus E-connectivity**	**E-interactivity versus E-window**
Managerial Factors	H9: There is a positive and significant relationship between top management support and the adoption level of e-commerce.	Top Management Support was found insignificant which rejected the proposed hypothesis, β=-0.444, p=0.615> 0.05, Exp(β)=0.641	Top Management Support was found insignificant which rejected the proposed hypothesis, β=-1.254, p=0.164> 0.05, Exp(β)=0.285	Top Management Support was found insignificant which rejected the proposed hypothesis, β=-0.810, p=0.184> 0.05, Exp(β)=0.445
	H10: There is a negative relationship between power distance and the adoption level of e-commerce.	Power Distance was found insignificant which rejected the proposed hypothesis, β=-0.711, p=0.615>0.05, Exp(β)=0.491	Power Distance was found negative and significant which supported the proposed hypothesis, β=-1.619, p=0.021< 0.05, Exp(β)=0.198	Power Distance was found insignificant which rejected the proposed hypothesis, β=-0.908, p=0.075> 0.05, Exp(β)=0.403
	H11: There is a negative relationship between uncertainty avoidance and the adoption level of e-commerce.	Uncertainty Avoidance was found negative and significant which supported the proposed hypothesis, β=-1.448, p=0.031< 0.05, Exp(β)=0.235	Uncertainty Avoidance was insignificant which rejected the proposed hypothesis, β=-0.435, p=0.536>0.05, Exp(β)=0.647	Uncertainty Avoidance was found insignificant which rejected the proposed hypothesis, β=1.013, p=0.061> 0.05, Exp(β)=2.753
	H12: There is a positive and significant relationship between manager's attitude toward using e-commerce applications and e-commerce adoption level.	Manager's Attitude was insignificant which rejected the proposed hypothesis, β=-1.286, p=0.154>0.05, Exp(β)=0.276	Manager's Attitude was insignificant which rejected the proposed hypothesis, β=-1.659, p=0.075>0.05, Exp(β)=0.190	Manager's Attitude was insignificant which rejected the proposed hypothesis, β=-0.373, p=0.615>0.05, Exp(β)=0.689

Table 6.45(Cont.): Summary of Findings of Proposed Hypotheses Testing

	Hypotheses Results		
	Model 1	**Model 2**	**Model 3**
Proposed Hypothesis	**E-window versus E-connectivity**	**E-interactivity versus E-connectivity**	**E-interactivity versus E-window**
H13: There is a positive and significant relationship between competitive pressure and the adoption level of e-commerce.	Competitive Pressure was insignificant which rejected the proposed hypothesis, β=-0.413, p=0.556>0.05, Exp(β)=0.662	Competitive Pressure was insignificant which rejected the proposed hypothesis, β=1.229, p=0.117>0.05, Exp(β)=3.416	Competitive Pressure was positive and significant which supported the proposed hypothesis, β=1.641, p=0.007<0.05, Exp(β)=5.161
H14: There is a positive and significant relationship between Supplier/Partner pressure and the adoption level of e-commerce.	Supplier/Partner Pressure was positive and significant which supported the proposed hypothesis, β=2.758, p=0.000<0.05, Exp(β)=15.772	Supplier/Partner pressure was positive and significant which supported the proposed hypothesis, β=2.478, p=0.001<0.05, Exp(β)=11.913	Supplier/Partner Pressure was insignificant which rejected the proposed hypothesis, β=-0.281, p=0.622>0.05, Exp(β)=0.755
H15: There is a positive and significant relationship between customer pressure and the adoption level of e-commerce.	Customer Pressure was insignificant which rejected the proposed hypothesis, β=0.611, p=0.315>0.05, Exp(β)=1.841	Customer Pressure was insignificant which rejected the proposed hypothesis, β=0.990, p=0.129 >0.05, Exp(β)=2.692	Customer Pressure was insignificant which rejected the proposed hypothesis, β=0.380, p=0.421>0.05, Exp(β)=1.462
H16: There is a positive and significant relationship between government support and the adoption level of e-commerce.	Government Support was positive and significant which supported the proposed hypothesis, β=3.523, p=0.002<0.05, Exp(β)=33.878	Government Support was positive and significant which supported the proposed hypothesis, β=3.021, p=0.008<0.05, Exp(β)=20.504	Government Support was insignificant which rejected the proposed hypothesis, β=-0.502, p=0.458>0.05, Exp(β)=0.605

Note: The leftmost vertical header for all four hypotheses rows reads "Environmental Factors".

Table 6.45: Summary of Findings of Proposed Hypotheses Testing

6.8 Chapter Summary

This chapter reported the results of data analyse from obtained research survey. In this chapter, data preparation, coding, screening and cleaning were first addressed to insure that data is free of errors, accurate and ready for analysis. Non-response bias, checking outliers, multicollinearity and normal distribution were then examined and verified as acceptable to avoid any statistical problems that can be associated with the regression analysis in this study. Then, reliability and validity were established using Cronbach's alpha, factor analysis and composite reliability. This was followed by a descriptive analysis of demographic information, providing a general profile of companies' information, respondents' information and e-commerce current adoption level by travel agencies in Jordan. Then, a descriptive analysis and t-test of the independent variables were conducted to provide an overview of the variables associated with e-commence adoption levels. Finally, multinomial logistic regression was applied to test the proposed hypotheses relating to e-commerce adoption, showing that ten of the sixteen hypotheses were supported with e-commerce adoption. For Model 1, five hypotheses were found significant: relative advantage, observability, Supplier/Partner pressure, uncertainty avoidance and government support, which differentiate between e-window and e-connectivity. For Model 2, six hypotheses (relative advantage, observability, financial barriers, power distance, Supplier/Partner pressure, and government support) were found significant and differentiate between e-interactivity and e-connectivity. For Model 3, four hypotheses were found significant and differentiate between e-interactivity and e-window. These significant hypotheses were: complexity, observability, firm size and competitive pressure. However, the results showed that six hypotheses (compatibility, trialability, employees' IT knowledge, top management support, manager's attitude toward e-

commerce applications , and customer pressure) were insignificant in e-commerce

adoption. Chapter 8 will follow to discuss in details the results of these hypotheses.

Chapter Seven

Discussion of Findings

7.1 Introduction

This chapter discusses the findings of hypothesis testing presented in chapter six and compares them with the reviewed literature presented in chapter four. The chapter is divided into five main sections. The first presents the characteristics of the surveyed respondents and the second the characteristics of the surveyed Jordanian travel agencies. The third section addresses the results of the surveyed sample regarding the current state of e-commerce adoption by Jordanian travel agencies. This is followed by discussing the research hypotheses results based on the proposed conceptual model of this study and the reviewed literature, while the final section offers a summary of the chapter.

7.2 Respondents General Characteristics

The survey has been provided to 300 of travel agents in Jordan, with a sampling frame drawn from the Jordan Society of Tourism and Travel Agents (JSTA). The final sample size consisting of 206 respondents is considered useful for the analysis and represents a 68.6% response rate. The respondents were owners/managers of travel agencies in Jordan, 40.3% of who were between 41 and 50 years old. The results also show that the majority of respondents (77.2%) had a university degree, indicating a high level of education.

7.3 Travel Agents General Characteristics

According to the Jordan Society of Tourism and Travel Agents (JSTA, 2013) the total number of travel agencies in Jordan is 631, the majority (82.7%) of whom based in the capital city of Jordan, Amman. In addition, travel agencies in Jordan are classified into three types: A, B and C. Type B agencies were the majority of total sample frame, accounting for 82%, followed by A then C accounting for 13% and 5.3%,

respectively. Out of 206 of responses , the results show that Type B agencies provided the highest number of respondents, accounting for 75.2% of the sample, followed by Type A then Type C, representing 17% and 7.8%, respectively.

These results were expected and approximately mirrored the sampling frame. Regarding firm size, the results show that the majority of samples were micro-sized firms, representing 70.4%, followed by small-sized then medium-sized firms that accounting for 25.2% and 4.4%, respectively. In terms of travel agencies age, the results show that the majority in the market were established between 6 and 10 years, representing 42.7%, followed by 17% that have been in the market for over 10 years, which indicates having sufficient experience in this industry.

7.4 General Characteristics of E-commerce in Travel Agencies in Jordan

The second objective of the research was to identify the current state of e-commerce adoption by Jordanian travel agencies. Several earlier studies investigated factors associated with e-commerce adoption in SMEs; however, emphasis was on whether those enterprises have adopted or not adopted e-commerce applications (Sutanonpaiboon and Pearson 2008; Teo and Ranganathan, 2004; Sparling et al, 2007; Kurnia et al., 2009; Huy et al., 2012). Others have only focused on identifying any intention to adopt such applications (Nasco et al 2008; Wymer and Regan , 2005; Lippert and Govindarajulu, 2006).

As discussed in chapter four, there are e-commerce maturity levels of e-commerce adoption in SMEs varying from non-adoption that includes no internet connectivity to most sophisticated levels of e-commerce adoption such as online payment, customer relationship management and enterprise resource planning within companies that provide online services for both employees and customers.

In this study, e-commerce adoption level was measured through asking respondents to choose one of six choices that describe the current state of e-commerce adoption in their agencies. The six different choices of e-commerce adoption were: non-adoption, e-connectivity, e-window, e-interactivity, e-transaction and e-enterprise.

Based on the sample of 206 of respondents, results show that only three different levels of e-commerce were currently adopted by travel agencies in Jordan, namely: e-connectivity, e-window and e-interactivity as shown in Figure 7.1, 91 of travel agencies adopted e-connectivity representing (44.2%) of total sampling, followed by 49 (23.8%) adopting e-window and 66 (32%) adopting e-interactivity.
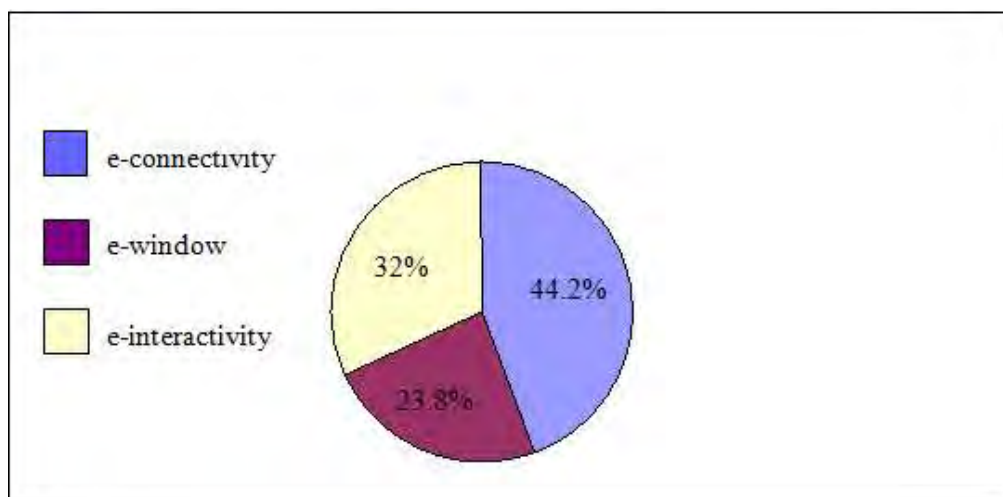
Figure 7.1: E-commerce Adoption Levels by Jordanian Travel Agencies

7.5 Factors Associated with e-commerce Adoption Levels by Jordanian Travel Agencies

The first objective of this study is to develop a comprehensive conceptual framework that can be used to identify the factors associated with the adoption level of e-commerce in Jordanian travel agencies. This objective can be achieved by analysing

data and validate the proposed conceptual model to determine the factors associated with e-commerce adoption level in Jordanian travel agencies.

As shown in figure 4.1 in chapter 4, the proposed conceptual framework consists of four dimensions (Attributes of Innovation, Organisational Factors, Managerial factors and Environmental Factors), represented by 16 variables.

Multinomial logistic regression was used to test the proposed hypotheses against the different adoption levels by the travel agencies in Jordan. As shown in Table 7.1, the results of this study revealed that only three levels of e-commerce maturity were adopted by travel agencies: e-connectivity, e-window and e-interactivity. It can be presumed that there were non-adopters due to the fact that the internet connection in Jordan is not expensive and that the nature of business in travel agencies required communication with travel suppliers by e-mail.

The results also show that none of the travel agencies adopted e-transaction and e-enterprise, most probably because electronic payment is still in an early stage in Jordan due to several reasons such as security concerns, trust and cultural issues (Al-ma'aitah, 2013; Shannak and Al-Debei, 2012).

The results of this study found that 5 of the 16 proposed hypotheses were significant and distinguish between e-window and e-connectivity. These significant factors were: relative advantage, observability, uncertainty avoidance, supplier/partner pressure and government support.

In addition, the results found that 7 of the 16 proposed hypotheses addressing e-interactivity versus e-connectivity were significant, namely: relative advantage, observability, financial barriers, power distance, business/partner pressure and

government support. Finally, the results showed that 4 of the 16 proposed hypotheses were significant, distinguishing between e-interactivity and e-window.

These significant factors were observability, competitive pressure, firm size and complexity. The following sections will provide more details on the findings of each hypothesis in this study and compare them to previous studies.

	Factors	Model 1 e-window versus e-connectivity	Model 2 e-interactivity versus e-connectivity	Model 3 e-interactivity versus e-window
Attributes of Innovation	Relative advantage	Sig(+)	Sig(+)	N.S
	Compatibility	N.S	N.S	N.S
	Complexity	N.S	Sig(-)	Sig(-)
	Trialability	N.S	N.S	N.S
	Observability	Sig(+)	Sig(+)	Sig(+)
Organisational Factors	Travel agency size	N.S	N.S	Sig(+)
	Financial barriers	N.S	Sig(-)	N.S
	Employees' IT knowledge	N.S	N.S	N.S
Managerial Factors	Top management support	N.S	N.S	N.S
	Power distance	N.S	Sig(-)	N.S
	Uncertainty avoidance	Sig(-)	N.S	N.S
	Manager's attitude toward e-commerce	N.S	N.S	N.S
Environmental Factors	Competitive pressure	N.S	N.S	Sig(+)
	Supplier/Partner pressure	Sig(+)	Sig(+)	N.S
	Customer pressure	N.S	N.S	N.S
	Government support	Sig(+)	Sig(+)	N.S

Table 7.1: Summary of Research Finding

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7.5.1 Attributes of Innovation

As shown in Table 7.1 , attributes of the innovation dimension includes five variables each of which was formulated into a hypothesis as shown Table 7.2.

H1: There is a positive and significant relationship between relative advantages and the adoption level of e-commerce.
H2: There is a positive and significant relationship between compatibility and the adoption level of e-commerce.
H3: There is a negative relationship between complexity and the adoption level of e-commerce.
H4: There is a positive and significant relationship between trialability and the adoption level of e-commerce.
H5: There is a positive and significant relationship between observability and the adoption level of e-commerce.

Table 7.2: Proposed Hypotheses of Attributes of Innovation

7.5.1.1 Relative Advantage

As discussed in chapter four, relative advantage refers to the degree of benefits obtained by adopting a new technology. According to Sparling et al. (2007, p.1049) "relative advantage is one of the most frequently used innovation characteristics in adoption research". This study focuses on the degree relative advantage influences travel agencies' decision on the adoption levels of e-commerce.

The relative advantage includes these factors: reduce operation cost, expand market share, increase customer base, enhance company's image, improve customer services and improve business relationship with suppliers. This result of this research found

that relative advantage is one of the important factor influencing manager's decision to adopt e-commerce.

Relative advantage had a significant and positive effect in differentiating between e-connectivity and e-window and between e-connectivity and e-interactivity. However, it was also found that relative advantage was insignificant in differentiating between e-window and e-interactivity, which is an important indication that the higher levels adopter groups of 'e-window' and 'e-interactivity' were more aware of perceived benefits that may be obtained of e-commerce adoption in their travel agencies than the lower levels of adopter group of 'e-connectivity'.

The finding is in line with Al-Qirim (2006), who found relative advantage factor positive and significant in differentiating between low and high levels of e-commerce adopters in SMEs in New Zealand. Moreover, many previous researchers found that relative advantage is significant and has an important role in determining adoption in different types of technology, particularly e-commerce (Tan and Eze, 2008, Ramdani and Kawalek, 2009; Tan and Teo, 2000; Limthongchai and Speece, 2003; Alam et al., 2008; Hussin and Noor, 2005; Grandon and Pearson, 2003; Looi, 2004). In addition, this research also shows that the score of expediential ratio of e-interactivity group is higher than those of e-window and e-connectivity groups and that e-window has a higher score than that of e-connectivity.

This indicates the importance role of relative advantage in adopting new innovation such as e-commerce which supported Roger's (2003) DoI model who argued that decision maker will not adopt new innovation without having clear information of the benefits perceived from e-commerce applications. The finding of the current study is somewhat consistent with the results previous studies , which had found that relative

advantage has a positive significant effect on e-commerce adoption (Poorangi et al.,2013; Ghobakhloo et al., 2011; Tan and Eze, 2008; Ramdani and Kawalek, 2009; Tan and Teo, 2000; Limthongchai and Speece, 2003; Alam et al., 2008; Hussin and Noor, 2005; Grandon and Pearson, 2003; Looi, 2004).

Moreover , the findings is consistent with the results of previous studies , which found that relative advantage is significant for those SMEs considering an initial adoption decision of e-commerce (Ghobakhloo et al. ,2011; Hussein ,2009). Moreover, other studies also found that advanced level of e-commerce adoption is only determined by perceived advantages of using e-commerce in Canadian travel agencies (Raymond ,2001; Al-Somali ,2011)

Based on this study's finding on relative advantage, it can be considered that owners/managers with more experience and faith in the advantages of e-commerce, are more likely to adopt e-commerce in their businesses. It is therefore recommended to invest in the important role of relative advantage on travel agencies owners/managers' decisions on the adoption levels of e-commerce.

7.5.1.2 Compatibility

Compatibility in this study is defined as the extent to which innovation level and consistent technology are needed to be adopted, or in other words, the degree to which e-commerce application fits the current businesses of Jordanian travel SMEs. It is found here that compatibility was insignificant and unrelated with any of e-commerce adoption levels, which is consistent with several previous studies (Almoawi and Mahmood, 2011; Sultan and Chan, 2000; Adewale et al., 2013; Thong, 1999; Premkumar and Roberts 1999; Hussin and Noor, 2005).

It is also consistent with the relevant findings of Al-Somali (2011) and Al-Qirim (2006) that compatibility is insignificant to any of e-commerce adoption levels among SMEs. Nevertheless, there were also many previous studies that found compatibility significant and has a positive effect on e-commerce adoption by SMEs (To and Ngai, 2007; Limithongchai and Speece, 2003; Alam et al, 2008; Sparling et al., 2007; Azam and Quaddus, 2009; Ghobakhloo et al., 2011; Tan and Eze, 2008; Ramdani and Kawalek, 2007; Tan and Teo, 2000; Garndon and Peace, 2003; Beatty et al., 2001).

This insignificance could very well be expressive of Jordanian travel agencies owners/managers' lack of compatibility background experience such as integrating e-commerce applications in their existing business. This study suggests addressing this factor in future research with a larger number of samples.

7.5.1.3 Complexity

Complexity refers to difficulty in understanding e-commerce applications, lack of appropriate tools and computer systems to support e-commerce and difficulty in integrating e-commerce applications in current business. With regard to complexity, the study found that it is insignificant in differentiating between e-window and e-connectivity, but significant and with a negative bearing on differentiating between e-interactivity and e-connectivity and between e-window and e-interactivity.

This result is somewhat consistent with previous studies which found complexity to be insignificant in e-commerce adoption by SMEs (Poorangi et al., 2013; Almoawi and Mahmood, 2011; Sultan and Chan, 2000; Chang and Cheung, 2001; Limthongchai and Speece, 2003). On the other hand, the results shows that complexity is significant and relevant to e-commerce adoption, which is somewhat

consistent with previous studies (Tan and Eze,2009; Alam et al, 2008; Hussin and Noor, 2005).

Upon that, complexity does not influence owners/manager in the early adoption stage such as e-mail and basic website, but when considering to adopt more sophisticated e-commerce applications such as interactive website , the complexity of using advanced website is considered significant factor whereby SMEs who perceive implementing the web as being difficult to understand and use are less likely to adopt. This view is compatible with Al-Qirim (2006) results who found that compatibility is significant factor influencing initial and advanced e-commerce adoption by SMEs.

Therefore, it is suggested here that complexity has an important role in steering travel agencies owners/managers' decisions to upgrade the adoption level in their businesses.

7.5.1.4 Trialability

Trialability is defined here as SMEs' ability to integrate e-commerce applications in their business on trial basis for a period of time with a low start-up cost. Trialability is found in this study to be insignificant and irrelevant to any of e-commerce adoption levels, which is inconsistent with previous studies (Tan and Teo, 2000; Kamarodin et al, 2009; Hussain et al, 2008) and challenged the proposed hypothesis of this study that trialability has a positive and significant effect on e-commerce adoption levels.

However, there are many other previous studies with which this finding is in line (Azam and Quaddus, 2009; Alam et al, 2009; Kendall et al., 2001; Hussin and Noor,2005). This result indicates that trialability has no influence on Jordanian travel agencies owners/managers decisions to adopt e-commerce and they are unaware of trialability's benefits. In addition, the descriptive findings imply that e-commerce

tourism applications as trial is not provided by software vendors such as Amadeus, and Galileo to travel agencies in Jordan.

7.5.1.5 Observability

In this study, observability refers to owners/managers' ability to observe the results of adopting e-commerce applications by other SMEs. Observability was found here positive and significantly associated with all levels of e-commerce adoption by Jordanian travel agencies, which is in line with previous studies (Tan et al., 2009; Limithongchai and Speece, 2003; Hussin and Noor, 2005; Tan an Eze, 2008; Alam et al., 2008; Hussin and Noor, 2005; Poorangi et al., 2013; Hussin et al., 2008).

Also, observability was found the strongest predictor in attribution of innovation dimension that differentiates between all levels of e-commerce adoption by Jordanian travel agencies, which means that it is the strongest factor that influences owners/managers to adopt e-commerce. This research shows the score of expediential ratio in the observability factor is higher in e-interactivity group than the e-window and e-connectivity groups, respectively. Therefore, the positive association of observability with e-commerce adoption levels implies that decision makers in travel agencies who rely on the results of e-commerce adoption by others are more likely to adopt e-commerce in their agencies.

This results confirms Poorangi et al. (2013), who suggests that the advantages of innovation perceived by other business such as e-commerce adoption will provide SMEs an opportunity to observe the benefits from that experience and encourage them to adopt e-commerce in their business. This suggests that observability has an important role in Jordanian travel agencies owners/managers' decisions on the adoption levels of e-commerce because website offers available information of other

travel agencies and facilitate to them to assess their stand in travel market prior make decision to adopt or not adopt e-commerce applications.

7.5.2 Organisational Factors

The organisational factors dimension includes three variables each of which was formulated in a hypothesis as shown in Table 7.3.

H6: There is a positive and significant relationship between travel agency size and the adoption level of e-commerce.
H7: There is a negative relationship between financial barriers and the adoption level of e-commerce.
H8: There is a positive and significant relationship between employees' IT knowledge and the adoption level of e-commerce.

Table 7.3: Proposed Hypotheses of the Organisational Factors

7.5.2.1 Travel Agency Size

As discussed in chapter four, travel agencies are considered small-medium enterprises (SMEs) that are classified according to size based on the number of employees in the agency: micro-size companies, small-size companies and medium-size companies. This research found that size is insignificant in differentiating between e-connectivity and e-interactivity and between e-connectivity and e-window groups; while size was found significant and positive in differentiating between e-interactivity and e-window.

Upon that, firm size is insignificant in differentiating between basic and advance ecommerce adopters , which is somewhat consistent with the findings of previous studies (Teo and Ranganathan, 2004; Sparling et al., 2007, Salwani et al. (2009).

However, the study also shows that travel agency size is positive and significant in differentiating between e-window (one-way communication) and e-interactivity (2-way communication website), which is consistent with previous studies (Salwani et al., 2009; Ramdani and Kawalek, 2009; Zhu and Kraemer, 2002; Zhu et al., 2003; Hussien, 2009; Thong, 1999) that found firm size to be positively relevant to the level of e-commerce adoption.

In addition, Huy et al. (2012) and Hewitt et al. (2011) found that firm size is a significant key element in influencing SMEs owners/managers' decisions to upgrade e-commerce adoption level. These findings imply that firm size may turn into a weak predictor of ecommerce adoption as connection to the Internet and setting up a basic website because they are becoming more common in SMEs, particularly travel agencies.

This findings confirm the evidence by prior studies , which found that firm size play a significant role influencing SMEs to attain higher e-commerce maturity levels (Huy et al., 2012; Teo et al., 2009) .Prior studies suggested that firm size play a significant role influencing decision maker to adopt advanced level of e-commerce because larger companies are normally have greater financial resources, knowledge and experience, and ability to tolerate failing implementations of ICTs and e-commerce than smaller firms (Tornatzsky & Fleischer, 1990; Iacovou et al., 1995; Levenburg et al., 2006; Thong, 1999). However, the finding on firm size was only relevant to e-commerce adoption level in travel agencies; therefore, this study suggests conducting further investigation with larger samples of SMEs involving different sectors.

7.5.2.2 Financial Barriers

As discussed in chapter four, the financial barrier is defined as limited financial resources and funding for adopting e-commerce applications in travel agencies. This study focuses on the relationship between the availability of financial resources and e-commerce adoption among travel agencies.

Financial barriers refer to cost required to adopt e-commerce applications, cost of internet access and e-commerce maintenance cost. It is found here that financial barriers are insignificant in differentiating between e-connectivity and e-window and between e-window and e-interactivity groups, while these barriers were negative and significant in differentiating between e-interactivity and e-connectivity. It is a result that is somewhat consistent with previous studies (Al-Somali, 2011; Al-Qirim 2006, Sutanonpaiboon and Pearson, 2008) which found that e-commerce adoption is only significant at higher levels of adoption.

In addition, Al-Qirim (2006) found that huge investments, time, and effort are required to integrate advanced e-commerce applications in SMEs compared to low-level of e-commerce applications. Therefore, SMEs owners/managers need to study feasibility and cost-effectiveness before making the decision to adopt advanced e-commerce in their business.

It is therefore logical to consider lack of financial resources a major barrier influencing the decision to adopt ecommerce in travel agencies (Buhalis and Deimezi, 2003; Heung, 2003). Also, the finding is consistent with another study conducted by Kaewkitipong (2010) found that limited financial resources is significant barrier on e-commerce adoption among travel agencies in Thailand particularly in advanced level of e-commerce adoption.

This result implies that financial resources are the biggest challenge for non-adopters and low adopters restricting their consideration of the opportunities obtainable from adopting e-commerce applications such as return on investments , future cost reduction and survive in the global market.

7.5.2.3 Employees' IT Knowledge

In chapter four, the employee IT knowledge is defined as the level of performance and the extent of employees' knowledge of e-commerce applications and computer systems usage that are obtained through previous practice or training. In this study, employee's IT knowledge refers to these components: level of employee's knowledge of e-commerce applications, level of employee's knowledge of computer systems usage, and identify whether the travel agencies have IT support staff.

It was found that employee's IT knowledge is insignificant and irrelevant to any of e-commerce adoption levels, which challenges the proposed hypothesis and previous studies (Scupola, 2009; Alam and Noor, 2009; Mehrtens et al.,2001; Thong, 1999; Mirchandani and Motwani, 2003; Hussein, 2009; Wang and Hou, 2012) that had identified the importance of such knowledge in influencing owners/managers decisions to adopt e-commerce applications.

However, there were studies with which this finding agrees such as Sarosa and Underwood (2005) and Seyal and Rahman (2006), who both identified employee's IT knowledge as insignificant and did not influence decision makers in adopting e-commerce in their business. This insignificance implies two possibilities. First, the employee's IT knowledge and computer skills are required to work in travel agencies as the nature of this business necessitates knowledge of global distribution systems (GDS) that connect agencies with travel suppliers like airlines and hotels for which a

networking infrastructure and computer hardware/software are needed. Second, it could be that the owners/managers' decisions regarding e-commerce adoption are not influenced by their employee's IT knowledge. Thus, this study suggests conducting further investigation with larger samples of SMEs and involving different sectors.

7.5.3 Managerial Factors

As shown above in Table 7.4, managerial factors include four variables each of which is formulated in a hypothesis : Top Management Support, Power Distance, Uncertainty Avoidance and Manager's Attitude toward E-commerce applications.

H9: There is a positive and significant relationship between top management support and the adoption level of e-commerce.
H10: There is a negative relationship between power distance and the adoption level of e-commerce.
H11: There is a negative relationship between uncertainty avoidance and the adoption level of e-commerce.
H12: There is a positive and significant relationship between owner/ manager's attitude toward e-commerce applications and e-commerce adoption level.

Table 7.4: Proposed Hypotheses of Managerial Factors

7.5.3.1 Top Management Support

In chapter four, top management support was defined as the extent of owners/manager's perception and commitment to the role of e-commerce applications in their business activities as reflected in allocating necessary resources. In this study, top management support was measured in terms of: willingness to provide the necessary resources for e-commerce adoption, having a clear vision of e-commerce technologies in business activities and interest in e-commerce in business operations.

This research found that such support is insignificant and does not have a role in influencing decision makers to adopt e-commerce in their travel agencies. This

outcome challenges the proposed hypothesis and previous studies (Beatty et al., 2001; Shaharudin et al., 2011; Ifinedo, 2011; Teo et al., 2009; Ramdani et al., 2009; Hussein, 2009; Al-Somali, 2011,Teo and Ranganathan, 2004; Mirchandani and Mowarni, 2001) that found this factor significant in e-commerce adoption by SMEs. Surprisingly , this result contradict many of previous studies findings , which found that support and competence from manger play a critical role in influencing decision in adoption e-commerce in SMEs.

However, that outcome is in line with Seyal et al. (2004) and Levy et al. (2005), both finding that top management support is not statistically significant for e-commerce adoption by SMEs. Also , this findings is compatible with Chong et al. (2009) argued that the possibility to adopt e-commerce in organisation will be higher when financial and technical resources are supported by top management. Therefore , this implies that e-commerce adoption might be affected by other additional indirect factors such as lack of financial and technological recourses that are addressed in this study. However, the influence of top management support on Jordanian travel agencies decision to adopt e-commerce applications must remain in question and receive further investigation.

7.5.3.2 Power Distance

As discussed in chapter four, power distance is defined as the degree of unequal distribution of power between managers and their employees. This study focuses on the extent to which employees involve in decision making within travel agencies. The power distance factor includes: owners/managers' sharing of information with their employees, owners/managers' emphasis on their authority and power in dealing with their employees and the extent to which managers consider their employees' opinions.

Power distance is found here negative and significant in differentiating between e-interactivity and e-connectivity but insignificant in differentiating between e-connectivity and e-window and between e-window and e-interactivity groups.

This result is somewhat consistent with previous studies (Kollmann et al., 2009; Hasan and Ditsa, 1999; Yoon, 2009; Almoawai, 2011; Lundgren and Walczuch, 2003) that found e-commerce adoption and growth to be directly influenced by the power distance factor. In addition, Chen and McQueen (2008) found that owners/managers with low power distance in SMEs are more likely to adopt a higher level of e-commerce applications.

Also, this finding is inconsistent with Seyal et al. (2004) , which found that organizational culture is insignificant factor in determining e-commerce adoption by SMEs, but he argued that this insignificant result due to be that few organizations already adopted technology at early stage and the chance is that organizational culture could not be very viable factor at the early stage , which confirmed the results of this study.

The finding of this study suggests that simple adopters might not be ready to adopt an advanced level of e-commerce in their travel agencies because of the unequally distributed power within these agencies that is reflected in a hierarchal order preventing employees particularly IT staff from making suggestions or participating in decision making with respect to e-commerce applications.

7.5.3.3 Uncertainty Avoidance

Uncertainty avoidance refers the extent to which Jordanian travel agencies owners/managers feel at risk by uncertain situations relevant to making e-commerce adoption decisions. The uncertainty avoidance factor includes: taking the risk of

adopting e-commerce, accepting departure from traditional business process to an electronic one and have confidence about the security of e-commerce transactions.

The study found that uncertainty avoidance is significant in differentiating between e-connectivity and e-window groups, but insignificant in differentiating between e-connectivity and e-interactivity and between e-interactivity and e-window. This result is somewhat consistent with several studies (Seyal and Rahman, 2003; Chen and McQueen, 2008, Al-Hujra et al., 2011; Kollmann et al., 2009; Al-Noor and Arif, 2011; Azam and Quaddus, 2009b; Ghobakhloo and Tang, 2013) that found uncertainty avoidance significant in e-commerce adoption by SMEs.

Based on the above results, it is logical to expect that owners/managers with a high level of uncertainty avoidance are not likely to adopt a higher level of e-commerce applications due to reluctance in taking risks and becoming exposed to the threat of ambiguous situations like security concerns. Unexpectedly however, this study did not find any significant difference between e-connectivity and e-interactivity, or between e-window and e-interactivity, with regard to uncertainty avoidance which may suggest that owners/managers who adopted e-interactivity are unwilling to 'take risk' by adopting a higher level of e-commerce applications such as accepting credit card and e-payment system.

A recent study by Al-ma'aitah (2103) found that security concerns related to e-payment is major challenge to adopt an advanced e-commerce application by Jordanian SMEs.

7.5.3.4 Owners/Managers' Attitude toward E-commerce Applications

As discussed in chapter four, attitude are defined as the degree of owner/manager's feeling, either positively or negatively, toward using e-commerce applications in their

business. This attitude includes: the idea of using e-commerce applications in their travel agencies, the excitement and enthusiasm for using websites in general, planning to adopt e-commerce in near future and feeling toward the perceived benefits of implementing e-commerce in travel agencies.

Owner/manager's attitude toward e-commerce applications was found an important and significant factor in the decision to adopt e-commerce by SMEs (Seyal et al., 2006; To and Ngai, 2007; Hao et al., 2010; Thong, 1999; Dholakia and Kshetri, 2004, Al-Qirim, 2006; Huy et al., 2012).

Moreover, Teo et al. (2009) found that manager's attitude was a positive and significant factor for both adopters and non-adopters, yet higher for adopters than non-adopters. However, this study did not identify any evidence of association between owner/manager's attitude toward e-commerce applications and the decision to adopt e-commerce by Jordanian travel agencies, which challenges the proposed hypothesis but is consistent with Chau and Jim (2002) who found that owner/manager's attitude is an insignificant factor in e-commerce adoption. Moreover , the study is somewhat consistent with Hussain (2009) results , which reported that manager's attitude toward using e-commerce is only significant to differentiate adopters from non-adopters , but insignificant relationship with simple versus advanced adoption.

This outcome suggests that owners/managers' attitude has no significant effect on adopting e-commerce as it might be other external factors such as, complexity and lack of financial resources, or internal factors such as, uncertainty avoidance that have the greater influence; nevertheless, this effect must be addressed and investigated in future studies.

7.5.4 Environmental Factors

The environmental factors dimension includes four variables each of which was formulated in a hypothesis as shown in Table 7.5.

H13: There is a positive and significant relationship between competitive pressure and the adoption level of e-commerce.
H14: There is a positive and significant relationship between Supplier/Partner pressure and the adoption level of e-commerce.
H15: There is a positive and significant relationship between customer pressure and the adoption level of e-commerce.
H16: There is a positive and significant relationship between government support and the adoption level of e-commerce.

Table 7.5: Proposed Hypotheses of Environmental Factors

7.5.4.1 Competitive Pressure

In this study, competitive pressure is defined as the resultant pressure from actions by competitors in the travel industry in terms of e-commerce capability level. Competitive pressure includes: pressure from competitors in adopting e-commerce applications and possibility of customers' switching to another travel agency for similar services without any difficulty.

This research found that competitive pressure was insignificant in differentiating between e-connectivity and e-window and between e-connectivity and e-interactivity, but it was positively significant in differentiating between e-window and e-interactively.

This result is somewhat consistent with various previous studies (Mpofu et al., 2009; Alamro and Tarawneh, 2011; Zhu et al., 2003; Almoawi and Mahmood, 2011; Lee and Cheung, 2004; Zu et al., 2006; Iacovou et al., 2005; Ghobakhloo et al., 2011;

Raymond, 2001; Huy et al., 2012) that found competitive pressure significant in e-commerce adoption by SMEs.

In addition, this result was expected as Scupola (2009), and Thong (1999) found that competitive pressure is not very significant in influencing the lower levels of e-commerce adoption by SMEs. In addition, Zhu et al. (2006b) found that early stages of adoption, rather than non-adoption, are more likely affected by competitive pressure. The finding of this study suggests that competitive pressure might influence owner/managers' decisions at higher levels of e-commerce adoption; therefore, advanced e-commerce adopters is more influenced to competitors pressures in deciding to adopt e-commerce applications as this is believed to enhance competitiveness.

7.5.4.2 Supplier/Partner Pressure

Supplier/partner pressure is defined as "the power of the chosen trading partner which has already adopted the e-commerce" (Shaharudin et al. 2011, p.3651). Supplier/partners' pressure was expressed in terms of: suppliers/partners are demanding to adopt e-commerce applications in doing business with them, tourism industry is pressuring travel agencies to adopt e-commerce and suppliers/partners have already adopted e-commerce applications.

This study found that suppliers/partners pressure has significant and positive effect in differentiating between e-connectivity and e-window and between e-connectively and e-interactivity, but has no effect in differentiating between e-window and e-interactivity. This finding was expected and is consistent with previous studies (Scupola, 2003; Heck and Ribbers, 1999; Mehrtens et al., 2001; Molla and Licker, 2005b; Al-Qirim, 2006) that found suppliers/partners pressure a positive and

significant factor in e-commerce adoption by SMEs. In addition, it was in line with Ifinedo (2011) and Teo et al. (2009), who found that there was a significant difference between advanced adopters and low adopters with regard to suppliers/partners pressure.

Moreover, the results of this study confirms the prior study conducted by Andreu et al. (2010) found that travel suppliers pressure is very significant effect on adopting advanced level of e-commerce in Spanish travel agencies. This study suggests an important role of suppliers/partners' readiness in adopting a higher level of e-commerce by Jordanian travel agencies.

7.5.4.3 Customer Pressure

Customer pressure refers the degree to which customer demand e-commerce applications from travel agencies in order to maintain relationship with them. Customer pressure includes: customer demand from travel agencies to adopt e-commerce, customer possible pressure on travel agencies to provide their products and services online and travel agencies' fear to lose their customers if they do not adopt e-commerce.

Many previous studies found that customer pressure was positive and had a significant effect on e-commerce adoption by SMEs (Grandon and Pearson, 2003; Harrison et al., 1997; Ghobakhloo et al., 2011; Teo et al., 2003; Alamro and Tarawneh, 2011; Scupola, 2009). Moreover, Abdul Hameed and Counsell (2012) found that customer pressure was the most influential factor of e-commerce adoption.

However, Al-Somali et al. (2011) found that customer pressure was only significant on advanced e-commerce adopters. Also, Andreu et al. (2010) found customers pressure to be a significant factor in early e-commerce adoption level in Spanish

travel agencies. Contrary to above assumption, this study found that customer pressure is insignificant and does not have a role in influencing the adoption of e-commerce by Jordanian travel agencies, which is in line with Sparling et al. (2007) who found that the customer pressure factor is statistically insignificant in differentiating between adopters and non-adopters among Canadian SMEs. Also, Al-Qirim (2007) found that customer pressure does not have any significance in different e-commerce adoption levels among New Zealand SMEs.

The insignificance of customer pressure suggests that this factor does not influence travel agents' decisions to adopt e-commerce, possibly due to the supremacy of competitive pressure and trading partners factors over customer pressure in adopting e-commerce as decision makers in Jordanian travel agencies are more concerned about their competitors and trading partners than their customers with respect to e-commerce adoption and it can also be attributed to lack of online buyers in Jordan (Masoud, 2013).

7.5.4.4 Government Support

Government support is defined as the degree to which government should be active in supporting and encouraging the growth of e-commerce adoption in SMEs by providing electronic infrastructure, policies and legislations, training and educational programmes and funding.

This research found government support to be an important factor influencing travel agencies decision to adopt e-commerce. Government support has a significant and positive effect in differentiating between e-connectivity and e-window and between e-connectivity and e-interactivity; it was however insignificant in differentiating between e-window and e-interactivity.

The importance of this finding is that it indicates that the higher levels of adopter groups 'e-window' and 'e-interactivity' were more aware than lower level of adopters of government's role in supporting travel agencies in adopting e-commerce in their business, which is consistent with previous studies that found government support is positive and significant to adopt advanced level of e-commerce in SMEs (Looi, 1998; Ramsey and McCole, 2005; Ghobakhloo et al., 2011; Teo and Tan, 2000).

Moreover, other studies found government support to be positive and significant in influencing all levels of e-commerce adoption in SMEs (Tan and Teo, 2000; Hung et al., 2011; Huy et al., 2012; Hunaiti et al., 2009; Scupola, 2009).

In addition, among all environmental factors, government support is found in this study to be the strongest significant predictor to determine e-commerce adoption by Jordanian travel agencies. Thus, the greater government support as perceived by travel agencies owners/managers, the higher likelihood to adopt e-commerce applications. The suggested forms of this support includes promoting e-commerce adoption in SMEs by providing training programmes and workshops, well established technological infrastructure and financial support.

7.6 Discussion and Summary of the Research Findings

This research made a major contribution in investigating the factors affecting the adoption level of e-commerce by Jordanian travel agencies. Although e-commerce adoption is considered an important tool for SMEs to survive in the market, limited studies have investigated the rate of adoption among SMEs. Surprisingly, as shown in Table 7.6, most prior studies investigated factors that influence e-commerce adoption as e-commerce adoption versus non-adoption. The main criticism for the reviewed literature on e-commerce adoption by SMEs is overlooking the fact that e-commerce

adoption occurs in sequential levels of adoption. Therefore, it is important to determine which factor affects each level of e-commerce maturity.

A comprehensive conceptual framework was developed and the factors were identified on the basis of Doe, TOE, and Hofstede's Cultural Dimension in order identify the association between these factors and the level of e-commerce maturity attained by travel agencies. In this study, e-commence maturity model as the dependent variable was adapted from Molla and Licker (2004) including non-adoption, e-connectivity, e-widow, e-interactivity, e-transaction and e-enterprise. The key objective of this study is to determine different factors affecting different levels of e-commerce in Jordanian travel agencies.

As discussed earlier, several key findings and implications were identified regarding e-commerce adoption in Jordanian travel agencies. They show that travel agencies' adoption of e-commerce in Jordan depends on attributes of innovation, managerial, organizational and environmental contexts. The findings revealed that relative advantage, complexity, observability, firm size, financial barriers, power distance, uncertainty avoidance, competitive pressure, supplier/partner pressure and government support have a significant role in influencing different levels of e-commerce adoption in Jordanian travel agencies, while compatibility, trialability, employees' IT knowledge, top management support, managers' attitude toward e-commerce applications and customer pressure were found insignificant. Nevertheless, the findings on these factors are unique and might not be compared with previous studies.

As shown in the Table 7.6, the determinant factors of e-commerce adoption are different based on the current level of e-commerce adoption by SMEs. For example, the current study found relative advantage significant in differentiating between e-connectivity and e-window and between e-connectivity and e-interactivity, but it was not found significant in differentiating between e-window and e-interactivity. These findings are compatible with Ghobakhloo et al. (2011) who identified e-commerce adoption as a sequential levels process. However, the findings of this study might also be considered as partially compatible with other studies that found relative advantage significant but identified e-commerce as only dichotomous without determining the sequential level. Therefore this study is different from prior studies through contributing to the understanding of the different factors affecting different levels of e-commerce adoption and showing that the levels of e-commerce maturity in SMEs are very important in identifying the reason of the current level of e-commerce adopted by these SMEs and encourage to move to a higher level of e-commerce maturity.

Independent variable	Author(s)	Dependent variable (Sig: Significant), InSig (Insignificant), (N/A: not applicable)					
		Adopter Versus Non-adopter	e-window versus e-connectivity	e-interactivity versus e-connectivity	e-interactivity versus e-window	e-transaction versus e-interactively	e-interactively versus e-enterprise
Relative advantage	Current study	N/A	Sig	Sig	InSig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	Sig	Sig	N/A	N/A	N/A
	Hussein (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Raymond (2001)	N/A	InSig	N/A	N/A	InSig	Sig
	Al-Somali (2011)	N/A	InSig	N/A	InSig	Sig	N/A
	Ramdani and Kawalek (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Limthongchai and Speece (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Al-Qirim (2006)	N/A	InSig	InSig	N/A	Sig	N/A
	Hussin and Noor (2005)	Sig	N/A	N/A	N/A	N/A	N/A
Compatibility	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	Sig	Sig	N/A	N/A	N/A
	Hussein (2009)	InSig	N/A	InSig	N/A	N/A	N/A
	Raymond (2001)	N/A	InSig	N/A	N/A	InSig	Sig
	Al-Somali (2011)	N/A	InSig	N/A	InSig	InSig	N/A
	Ramdani and Kawalek (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Limthongchai and Speece (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Hussin and Noor (2005)	InSig	N/A	N/A	N/A	N/A	N/A
	Al-Qirim (2006)		InSig	InSig		Sig	
Trialability	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Hussein (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Ramdani and Kawalek (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Limthongchai and Speece (2003)	InSig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	InSig	N/A	N/A	N/A	N/A	N/A
	Hussin and Noor (2005)	InSig	N/A	N/A	N/A	N/A	N/A
	Poorangi et al. (2013)	Sig	N/A	N/A	N/A	N/A	N/A
	Azam and Quaddus (2009)	InSig	N/A	N/A	N/A	N/A	N/A

Table 7.6: Summary Results of the Findings of E-commerce Adoption (cont.)

Independent variable	Author(s)	Dependent variable (Sig: Significant), InSig (Insignificant) ,(N/A: not applicable)					
		Adopter Versus Non-adopter	e-window versus e-connectivity	e-interactivity versus e-connectivity	e-interactivity versus e-window	e-transaction versus e-interactively	e-interactively versus e-enterprise
Complexity	Current study		InSig	Sig	Sig	N/A	N/A
	Hussein (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Ramdani and Kawalek (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Limthongchai and Speece (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Hussin and Noor (2005)	Sig	N/A	N/A	N/A	N/A	N/A
	Poorangi et al. (2013)	InSig	N/A	N/A	N/A	N/A	N/A
	Tan et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Ramdani and Kawalek (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Hussein (2009)	Sig	N/A	N/A	N/A	N/A	N/A
Observability	Current study	N/A	Sig	Sig	Sig	Not exist	Not exist
	Ramdani and Kawalek (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Limthongchai and Speece (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Hussin and Noor (2005)	Sig	N/A	N/A	N/A	N/A	N/A
	Poorangi et al. (2013)	Sig	N/A	N/A	N/A	N/A	N/A
	Azam and Quaddus (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Kendall et al. (2001)	Insig	N/A	N/A	N/A	N/A	N/A
Firm Size	Current study	N/A	InSig	InSig	Sig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	InSig	InSig	N/A	N/A	N/A
	Ramdani and Kawalek (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Zhu and Kraemer, 2002	Sig	N/A	N/A	N/A	N/A	N/A
	Hussien 2009	Sig	N/A	N/A	N/A	N/A	N/A
	Teo and Ranganatha (2004)	InSig	N/A	N/A	N/A	N/A	N/A
	Huy et al. (2012)	Sig	N/A	N/A	N/A	N/A	N/A
	Hewitt et al. (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Sparling et al. (2007)	InSig	N/A	N/A	N/A	N/A	N/A
	Salwani et al. (2009)	InSig	N/A	N/A	N/A	N/A	N/A

Table 7.6: Summary Results of the Findings of E-commerce Adoption (cont.)

Independent variable	Author(s)	Dependent variable (Sig: Significant), InSig (Insignificant), (N/A: not applicable)					
		Adopter Versus Non-adopter	e-window versus e-connectivity	e-interactivity versus e-connectivity	e-interactivity versus e-window	e-transaction versus e-interactively	e-interactively versus e-enterprise
Financial Barriers	Current study	N/A	InSig	Sig	InSig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	InSig	InSig	N/A	N/A	N/A
	Al-Somali (2011)	N/A	InSig		InSig	Sig	
	Teo et al. (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Al-Qirim (2006)	N/A	InSig	InSig		Sig	
	Sutanonpaiboon and Pearson (2008	Sig	N/A	N/A	N/A	N/A	N/A
	Kaewkitipong (2010)	Sig	N/A	N/A	N/A	N/A	N/A
	Ramsey and McCole (2005)	InSig	N/A	N/A	N/A	N/A	N/A
	Heung (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Buhalis and Deimezi (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Musawa and Wahab (2012)	Sig	N/A	N/A	N/A	N/A	N/A
Employee's IT Knowledge	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Hussein (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Scupola, 2009	Sig	N/A	N/A	N/A	N/A	N/A
	Sarosa and Underwood (2005)	InSig	N/A	N/A	N/A	N/A	N/A
	Seyal and Rahman (2006)	InSig	N/A	N/A	N/A	N/A	N/A
	Thong, 1999	Sig	N/A	N/A	N/A	N/A	N/A
	Mirchandani and Motwani, 2003	Sig	N/A	N/A	N/A	N/A	N/A
	Wang and Hou, 2012	Sig	N/A	N/A	N/A	N/A	N/A
	Alam and Noor, 2009	Sig	N/A	N/A	N/A	N/A	N/A
	Mehrtens et al.,2001	Sig	N/A	N/A	N/A	N/A	N/A
Top Management Support	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	Sig	Sig	N/A	N/A	N/A
	Al-Somali (2011)	N/A	Sig	N/A	Sig	Sig	N/A
	Ramdani and Kawalek (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Chen and McQueen (2008)		InSig	InSig	Sig	Sig	
	Sutanonpaiboon and Pearson (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Ifinedo (2011)	Sig	InSig	Sig	InSig	Sig	N/A
	Shaharudin et al. (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Ranganathan (2004)	Sig	N/A	N/A	N/A	N/A	N/A
	Seyal et al. (2004)	Sig	N/A	N/A	N/A	N/A	N/A
	Chong et al. (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Levy et al. (2005)	InSig	N/A	N/A	N/A	N/A	N/A

Table 7.6: Summary Results of the Findings of E-commerce Adoption (cont.)

Independent variable	Author(s)	Dependent variable (Sig: Significant), InSig (Insignificant), (N/A: not applicable)					
		Adopter Versus Non-adopter	e-window versus e-connectivity	e-interactivity versus e-connectivity	e-interactivity versus e-window	e-transaction versus e-interactively	e-interactively versus e-enterprise
Power Distance	Current study	N/A	Sig	Sig	InSig	Not exist	Not exist
	Al-Somali (2011)	N/A	InSig	N/A	InSig	InSig	N/A
	Seyal et al.(2005)	Sig	N/A	N/A	N/A	N/A	N/A
	Chen and McQueen (2008)	N/A	Sig	Sig	N/A	N/A	N/A
	Senarathna and Wickramasuriya, 2011	N/A	InSig	Sig	InSig	Sig	N/A
	Hung et al.(2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Hasan and Ditsa (1999)	Sig	N/A	N/A	N/A	N/A	N/A
Uncertainty Avoidance	Current study	N/A	Sig	InSig	InSig	Not exist	Not exist
	Hussein (2009)	InSig	N/A	N/A	N/A	N/A	N/A
	Raymond (2001)	N/A	Sig	N/A	N/A	Sig	InSig
	Al-Somali (2011)	N/A	InSig	N/A	InSig	InSig	N/A
	Limthongchai and Speece (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	Alam et al. (2008)	Sig	N/A	N/A	N/A	N/A	N/A
	Azam and Quaddus (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Hung et al.(2011)	Sig					
Manager's Attitude toward E-commerce Application	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Hussein (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Mpofu et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Seyal and Rahman (2003)	Sig	N/A	N/A	N/A	N/A	N/A
	To and Ngai (2007)	Sig	N/A	N/A	N/A	N/A	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Chau and Jim (2002)	InSig	N/A	N/A	N/A	N/A	N/A
	Abdul Hameed and Counsell (2012)	InSig	N/A	N/A	N/A	N/A	N/A
	Chen and McQueen (2008)	N/A	Sig	InSig	InSig	N/A	N/A
Competitive Pressure	Current study	N/A	InSig	InSig	Sig	Not exist	Not exist
	Ghobakhloo et al. (2011)	N/A	Sig	Sig	N/A	N/A	N/A
	Al-Somali (2011)	N/A	InSig	N/A	InSig	Sig	
	Ramdani and Kawalek (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Al-Qirim (2006)	N/A	InSig	InSig	N/A	Sig	N/A
	Mpofu et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Almoawi and Mahmood (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Alamro and Tarawneh (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Huy et al. (2012)	Sig	N/A	N/A	N/A	N/A	N/A
	Scupola (2009)	Sig	N/A	N/A	N/A	N/A	N/A

Table 7.6: Summary Results of the Findings of E-commerce Adoption (cont.)

Independent variable	Author(s)	Dependent variable (Sig: Significant), InSig (Insignificant) ,(N/A: not applicable)					
		Adopter Versus Non-adopter	e-window versus e-connectivity	e-interactivity versus e-connectivity	e-interactivity versus e-window	e-transaction versus e-interactively	e-interactively versus e-enterprise
Supplier/Partner Pressure	Current study	N/A	Sig	Sig	InSig	Not exist	Not exist
	Raymond (2001)	N/A	Sig	N/A	N/A	Sig	InSig
	Al-Somali (2011)	N/A	Sig	N/A	InSig	Sig	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Al-Qirim (2006)	N/A	InSig	InSig	N/A	InSig	N/A
	Hung et al.(2011)	InSig	N/A	N/A	N/A	N/A	N/A
	Al-Somali (2011)	N/A	Sig	N/A	InSig	Sig	
	Andreu et al. (2010)	N/A	InSig	N/A	Sig	N/A	N/A
Customer Pressure	Current study	N/A	InSig	InSig	InSig	Not exist	Not exist
	Al-Qirim (2006)	N/A	Sig	Sig	N/A	Sig	N/A
	Teo et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Grandon and Pearson, 2003	Sig	N/A	N/A	N/A	N/A	N/A
	Scupola (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Alamro and Tarawneh (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Abdul Hameed and Counsell (2012)	Sig	N/A	N/A	N/A	N/A	N/A
	Andreu et al. (2010)	N/A	Sig	N/A	InSig	N/A	N/A
	Al-Somali (2011)	N/A	InSig	N/A	InSig	Sig	N/A
Government Support	Current study	N/A	Sig	Sig	InSig	Not exist	Not exist
	Al-Somali (2011)	N/A	Sig	N/A	Sig	Sig	N/A
	Seyal et al.(2005)	Sig	N/A	N/A	N/A	N/A	N/A
	Hung et al.(2011)	InSig	N/A	N/A	N/A	N/A	N/A
	Looi (1998)	Sig	N/A	N/A	N/A	N/A	N/A
	Ramsey and McCole (2005)	Sig	N/A	N/A	N/A	N/A	N/A
	Ghobakhloo et al. (2011)	N/A	InSig	Sig	N/A	N/A	N/A
	Scupola (2009)	Sig	N/A	N/A	N/A	N/A	N/A
	Tan and Teo (2000)	Sig	N/A	N/A	N/A	N/A	N/A
	Hung et al. (2011)	Sig	N/A	N/A	N/A	N/A	N/A
	Huy et al. (2012)	Sig	N/A	N/A	N/A	N/A	N/A
	Hunaiti et al. (2009)	Sig	N/A	N/A	N/A	N/A	N/A

Table 7.6: Summary Results of the Findings of E-commerce Adoption

7.7 Revising the Research Objectives

Objective 1: Conduct a critical review of relevant literature related to ICTs and e-commerce and develop a conceptual framework that can be used to identify the factors associated with the adoption level of e-commerce in Jordanian travel agencies

E-commerce technologies offer a survival guarantee and stability to SMEs in the market and provide a competitive environment. However, the literature reviewed in this study showed that the position of SMEs in developing countries is behind developed countries in terms of e-commerce and technology adoption. Moreover, the study found a lack of comprehensive framework that gives a best explanation of e-commerce adoption by SMEs. Finally, most of prior studies of e-commerce adoption focused on dichotomous variable presenting adoption versus non-adoption, while limited studies addressed e-commerce maturity level in SMEs.

The current study extensively reviewed the literature relevant to technology and e-commerce adoption by SMEs in both developed and developing countries and reviewed the background, strengths and weaknesses of the most prominent theoretical models that were used as bases of these studies to investigate e-commerce adoption by SMEs. These include the Technology-Organisation-Environment (TOE), the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Diffusion of Innovation Theory and Hofstede's Cultural Dimensions. It also reviewed the most common e-commerce maturity models including the Rao Model, Daniel Model, PriceWaterhouseCoopers Model, Rayport and Jaworski Model, Lefebvrea et al.'s Model and Molla and Licker's Model.

Based on reviewed literature, a comprehensive conceptual framework was developed to provide a best explanation of e-commerce adoption as a guide of this study. The

conceptual framework was developed mainly on the basis of DoI, TOE, Hofstede's Cultural Dimension as independent variables and Molla and licker's maturity model as a dependent variable in order identify the association between these factors and the level of e-commerce maturity attained by travel agencies, thus addressing the first objective.

Objective 2: To study the current e-commerce adoption level in travel agencies in Jordan

The study tested and validated the proposed conceptual framework by applying a quantitative method for data collection using self-administrated questionnaire distributed to 300 Jordanian travel agencies. A descriptive analysis was presented for the demographic characteristics including respondent's profile, company's profile and e-commerce information.

The results of descriptive analysis revealed that three different levels of e-commerce are currently adopted by Jordanian travel agencies, namely: e-connectivity, e-window and e-interactivity. It was found that 44.2% of the travel agencies adopted e-connectivity, followed by 23.8% of agencies that adopted e-window and 32% of agencies adopting e-interactivity, thus achieving the second objective.

Objective 3: To analyse data and validate the proposed conceptual model to determine the factors associated with e-commerce adoption level in Jordanian travel agencies

The multinomial logistic technique was applied as statistical procedure to test the proposed hypotheses and their association with e-commerce adoption in travel agencies. It was found that the effects of the developed hypotheses were different based on the level of e-commerce adoption. In other words, it was found that different factors affect different levels of e-commerce adoption in travel agencies.

The findings revealed that 10 independent variables have a significant role in predicting e-commerce adoption levels by Jordanian travel agencies. The results showed that relative advantage, observability, business/partner pressure, uncertainty avoidance and government support were the significant predictors differentiating e-window from e-connectivity. Moreover, relative advantage, observability, financial barriers, power distance, business/partner pressure and government support proved to be significant predictors differentiating between e-interactivity and e-connectivity.

It was also found that observability, competitive pressure, firm size and complexity were significant predictors differentiating between e-interactivity and e-window. On the other hand, the results showed that compatibility, trialability, employees' IT knowledge, top management support, manager's attitude, and customer pressure were insignificant predictors of any of the e-commerce adoption levels. These results, therefore achieve the third objective of the study.

Objective 4: To provide valuable guidance to decision makers, IT consultants and web vendors on adopting, facilitating and accelerating the diffusion of e-commerce by Jordanian travel agencies

The results of the current study confirmed that different levels of e-commerce adoption are affected by different factors. This entails the necessity of addressing the ten significant predictors as they can be useful for managers, IT Vendors and policy makers in drawing a roadmap and strategies for expanding the use and benefits of e-commerce adoption.

The next chapter presents the study's main findings and contribution to practice, which addresses this objective.

7.8 Chapter Summary

This chapter discussed the findings based on the objectives of this study as well as the results of this study compared to previous studies in order to answer the research questions and validate the proposed conceptual model. The conceptual model covers the factors affecting the adoption level of e-commerce in Jordanian travel agencies. The next chapter will present the conclusion, contributions, limitations and recommendations for future researches on e-commerce adoption.

Chapter Eight

Conclusion

8.1 Introduction

This chapter presents the conclusion of the study, based on the findings of the earlier chapters and offers its main contributions. The limitations and suggestions for future research are also included.

8.2 Research Summary

The study begins with the research background, problems, and motivations in order to address the importance of this research and its contribution to the information systems field. The discussion showed that while e-commerce growth affords many benefits and opportunities to SMEs, travel agencies as a category of SMEs, face serious e-commerce relevant challenges compared to other SMEs sectors. This can be attributed to the fact that the Internet has changed the distribution structure in tourism industry, which allowed travel suppliers to substitute their reliance on travel agents with marketing and selling their products directly to customers through their own websites.

To survive in such market, travel agencies must, therefore, adopt e-commerce as an alternative distribution channel, which gives them a wide range of opportunities to reach their customers directly, improve their sales and marketing and increase their revenues. However, there is lack of empirical studies in e-commerce adoption by SMEs in developing countries, with only limited number of studies in Middle East and more particularly Jordan.

The reviewed literature shows that no single or integrated theories have a best explanation of the factors that affect e-commerce adoption in SMEs. Therefore, this study attempts to develop a comprehensive framework that would present a better explanation of e-commerce adoption decisions by SMEs in general and travel agencies in particular.

In addition, there is a general lack of researches investigating whether different factors affect different levels of e-commerce in SMEs. Therefore, this study included an examination of the different factors affecting different levels of e-commerce adoption, thus contributing to extant the maturity level of e-commerce in SMEs, specifically in the in the area of information systems studies.

Based on the reviewed literature, the conceptual framework was developed to examine and identify whether different factors affect different levels of e-commerce adoption in travel agencies in Jordan, thus addressing the first objective. The suggested conceptual framework was built on a combination of models including TOE, DoI, and Hofstede's Model. The factors were chosen for this study based on the most frequent and dominant factors from prior studies, resulting in 16 factors that examine the relationship between them and the e-commence adoption level.

Then, an inferential statistical technique using multinomial regression analysis was applied to validate the model and test the proposed hypotheses for identifying the factors associated with the research model. The study found that currently there are only three different levels of e-commerce adoption in Jordanian travel agencies, namely: e-connectivity, e-window and e-interactivity. It was found that 44.2% of the travel agencies adopted e-connectivity, followed by 23.8% of agencies that adopted e-window and 32% of agencies adopting e-interactivity.

Moreover, the results of the study showed the effects of e-commerce adoption levels against the proposed hypotheses. The findings identified that different factors affect different levels of e-commerce adoption in travel agencies. The results indicate that e-window versus e-connectivity is determined by relative advantage, observability, business/partner pressure, uncertainty avoidance and government. Moreover, e-

interactivity versus e-connectivity is determined by relative advantage, observability, financial barriers, power distance, business/partner pressure and government support. Finally, e-interactivity versus e-window is determined by observability, competitive pressure, firm size and complexity.

The following chapter presents the study's main findings, contribution, limitations and recommendations for future research.

8.3 The Study Main Findings

The main findings are organized to answer the research questions as to achieve its objectives. The findings are discussed based on three main questions as follows:

8.3.1 Research Question 1

What factors can be included in the proposed conceptual framework to study and identify e-commerce adoption by Jordanian travel agencies?

The study aims is to analyse the impact of managerial decision on the level of e-commerce adoption in travel agencies of Jordan. This aim has been met by addressing the objectives of study, identifying the factors that influence or hinder decision makers in Jordanian travel agencies in the adoption levels of e-commerce. To examine the adoption level by Jordanian travel agencies a conceptual framework was proposed including 16 predictors ,namely : relative advantage , compatibility, complexity, trialability, observability , financial barriers , employees' IT knowledge, firm size, top management support , manager's attitude toward e-commerce application , power distance , uncertainty avoidance ,competitive pressure, customer pressure, supplier/partner pressure and government support. These factors were tested against different dependent variables, namely: non-adoption, e-connectivity, e-window, e-interactivity, e-transaction and e-enterprise.

8.3.2 Research Question 2

What is the current state of e-commerce adoption level in Jordanian travel agencies?

The findings of this study show that there are only three levels of e-commerce adoption by travel agencies in Jordan, namely: e-connectivity, e-window and e-interactivity and that 44.2% of the travel agencies adopted e-connectivity, followed by 23.8% of agencies that adopted e-window and 32% adopting e-interactivity. This indicates that the majority of travel agencies of the sample have some sort of connection to the Internet which can be attributed to the inexpensive cost of Internet and well establishment of a modern telecommunication infrastructure in Jordan (Jordan Investment Board, 2010). Moreover, travel agencies in Jordan use emails in communicating with their travel suppliers and partners in order to maintain their business relationship. Also, the findings show that many of travel agencies in Jordan have websites to promote their travel products and services, and provide their profiles. One interesting findings is that more advanced and sophisticated levels of e-commerce adoption including online payment and/or full e-commerce business activities , are not common in Jordanian travel agencies, which may be indicative that an advanced level of e-commence requires more sophisticated technology equipment and ICTs skills which is costly. In addition, electronic payment in Jordan is still in infancy while the security concerns also hinders the adoption of an advanced level of e-commerce in SMEs (Shannak and Al-Debei, 2005; Al-ma'aitah, 2013).

8.3.3 Research Question 3

What significant factors in the proposed framework are associated with the adoption level of e-commerce in Jordanian travel agencies?

Multinomial logistic regression verified the research model of this study and was therefore used in identifying the significant factors of developed conceptual framework in order to differentiate between three different adoption groups. As shown in the Figure 8.1, there is statistical evidence showing that different factors affect different levels of e-commerce adoption.
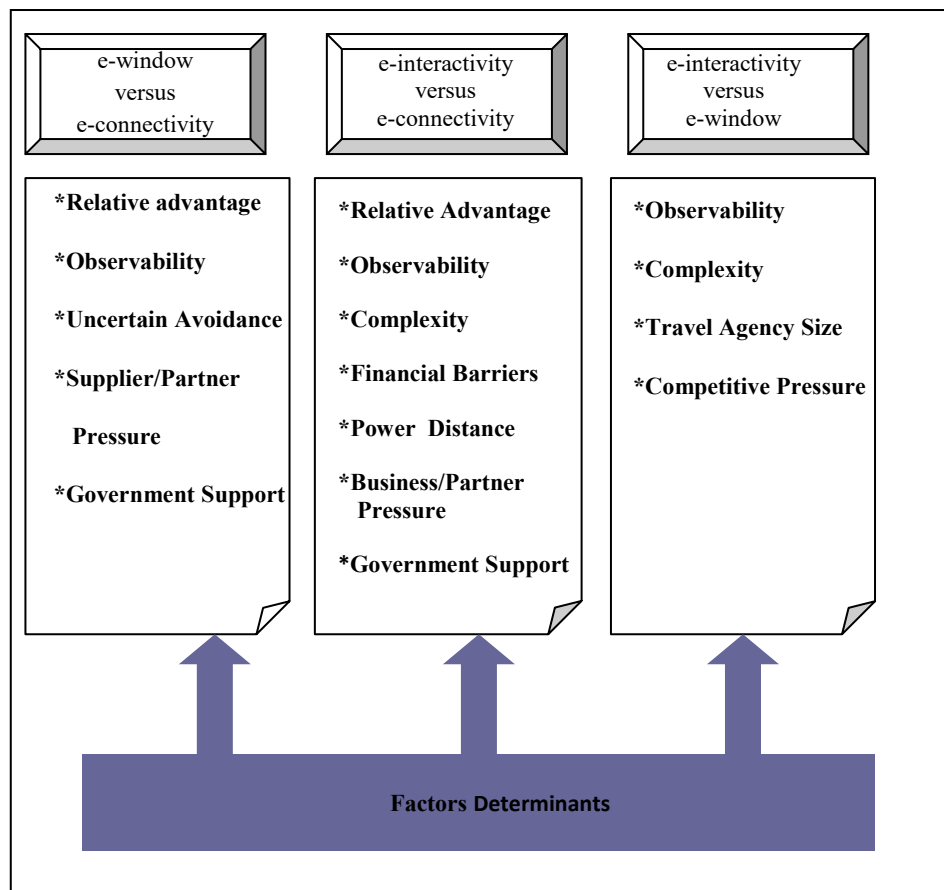

Figure 8.1: Determinants of E-commerce Adoption

8.3.3.1 Attributes of Innovation

The relationship between attributes of innovation and the e-commerce adoption level was examined in Chapter 6 and the results showing that relative advantage, observability and complexity were significant factors affecting the level of e-commerce adoption in travel agencies while compatibility and trialability were insignificant in all e-commerce adoption models. It can be clearly seen in Figure 8.1 that relative advantage is an important driver in influencing decision makers in travel agencies to adopt simple and interactive website rather than basic e-commerce adopters who only have e-mails but no website. This can be attributed to the benefits obtained from e-commerce adoption that motivate decision makers to employ higher level e-commence practices.

Moreover, the complexity factor was found negative but significant in differentiating between e-interactivity and e-connectivity as well between as e-window and e-interactivity. This indicates that the difficulty of using e-commerce applications is an important factor influencing decision makers when considering the adoption choice particularly with regard to an advanced level of e-commerce applications, which means that a higher perception of technical complexity by decision makers led to a lower e-commerce adoption level.

Observability was found the most significant factor in the attributes of innovation dimension influencing the adoption decision. In addition, this study found that this factor influenced all levels of e-commence adoption among Jordanian travel agencies, which means that observing the benefits of e-commerce adoption results by other adopters entails more likeliness of adopting that innovation in Jordanian travel agencies.

8.3.3.2 Organisational Factors

Two of the three organisational factors were found significant in influencing decision makers on the adoption level of e-commerce, namely: travel agency size and financial barriers, while employees' IT knowledge was found insignificant in all adoption levels. As shown in Figure 8.1, the study found that travel agency size is only significant in differentiating between e-interactivity and e-window, which indicates this factor's close relevance to advanced e-commerce adoption group.

The financial barriers factor was found significant and negatively in differentiating between e-interactivity and e-connectivity, but insignificant in all other groups of adopters. The findings showed that more advanced levels of e-commence adoption are affected by financial barriers. Therefore, decision makers of travel agencies are more willing to adopt more sophisticated levels of e-commerce if they have sufficient budget for e-commerce implementation and maintenance and employee training.

8.3.3.3 Managerial Factors

Two of the four managerial factors were found relevant to travel agencies e-commerce adoption. These significant variables include power distance and uncertainty avoidance while top management support and manager's attitude toward e-commerce were found insignificant in all e-commence adoption levels.

As shown in Figure 8.1, the study found that the advanced level of e-commerce adoption is more related to the power distance factor. This indicates that travel agencies owners/mangers with low levels of power distance features such as willingness to listen to employees' suggestions are more ready to adopt higher levels of e-commerce applications.

Uncertainty avoidance was found significant and negative in differentiating between e-window and e-connectivity and insignificant in differentiating between e-interactivity and e-connectivity as well as between e-window and e-interactivity. This result indicates that the basic adoption and simple adoption levels are more affected by uncertainty avoidance factor. In addition, the insignificant relation in high levels of e-commerce adopters indicates that decision makers are not willing to take risk with e-commerce due to security concerns and risks related to electronic payment.

8.3.3.4 Environmental Factors

Three of the four environmental factors were found relevant to travel agencies e-commerce adoption: competitive pressure, supplier/partner pressure and government support. As shown in Figure 8.1, competitive pressure was found to have a positive and significant relationship in differentiating between e-window and e-interactivity, while this factor had an insignificant relationship with other groups. This indicates that only competitive pressure affected e-commerce adopters in travel agencies and urged them to upgrade to more sophisticated e-commerce applications. Supplier/partner pressure had a significant and positive relationship in differentiating between e-window and e-connectivity as well as between e-interactivity and e-connectivity indicating its significance in influencing decision makers to adopt a higher level of e-commerce in their travel agencies.

However, supplier/partner pressure did not have any influence on advanced e-commerce adopters because these have already adopted e-commence applications and are now connected with their partners and suppliers over the Internet in different ways as logging onto their websites to use information and database and placing orders. Similarly, the government support was positive and significant in differentiating

between e-window and e-connectivity and between e-interactivity and e-connectivity groups which indicates that government support is an important factor influencing decision makers when considering a shift from basic level of e-commerce adoption to higher adoption levels such as simple or interactive website.

To recap, these results confirmed that several factors are affecting owners/managers decisions on the different levels of e-commerce adoption. They show that only the observability factor influenced all levels of e-commerce adoption and that the business/partner pressure factor and government support factor are significant for the decision on basic and simple level of e-commerce adoption. Additionally, uncertainty avoidance was found only significant to decision makers planning to upgrade from basic e-commerce adoption to a simple adoption. Also, complexity and financial barriers were found inhibitive factors for travel agencies planning to shift from basic to a more advanced level of e-commerce. Finally, the travel agency size and competitive pressure were significant factor for decisions on advanced level of e-commerce adoption such as shifting from a simple website to interactive website.

8.4 Contribution of this study

The above section presented a summary of the key findings of the study, upon which the study offers two main contributions, namely: contribution to research and contribution to practice, as discussed hereunder.

8.4.1 Contribution to Research

This study presented more holistic image of the existing literature in the area of information systems, particularly in the context of e-commerce adoption. The study reviewed and evaluated the most prominent models and theories in IT adoption and

discussed the strengths and weaknesses of these models and their applicability in organisations as to provide the best explanation of the factors affecting e-commerce adoption in travel agencies as an SMEs in developing countries, and more particularly in Jordan.

Upon that, the study developed a conceptual framework based on diffusion of innovation theory (DoI), technology-organisation-environment model (TOE) and Hofstede's cultural dimensions to determine the relationship between four groups of factors including 'attribution of innovation factors', 'organisational factors', 'managerial factors' and 'environmental factors' on the one hand and the e-commerce adoption levels on the other. The findings of this study responded to Hung et al. (2011) who claimed that there are no theories or models whether single or integrated that have a best explanation of e-commerce adoption in SMEs in developing countries, particularly in travel sector.

The e-commence adoption maturity level as the dependent variable was identified in the current study as multichotomous variable including non-adoption, e-connectivity, e-widow, e-interactivity, e-transaction and e-enterprise, which moves beyond many previous studies that only identified the factors affecting e-commerce adoption as dichotomous variables, 'adoption versus non-adoption'.

Therefore, it can be argued that this study's approach to conceptualizing e-commence maturity levels adds to its strength and represents another contribution to relevant literature. The study identified that the different levels of e-commerce adoption are affected by the different predictors of the proposed model of this study. These findings shed a light to researcher the real situation that travel agents face. Understanding the factors that inhibiting or facilitating owners/managers' decisions on the adoption level of e-commerce also adds value to the context of e-commerce

adoption literature.

Also, the findings of this study answered the call by Abou-Shouk (2012) who claimed to identify the factors affecting different levels of e-commerce adoption in travel agents starting from simple e-commerce adoption and ends to extensive adoption.

These findings are contributes to the growing body of knowledge in the field of e-commerce adoption in developing countries, particularly within SMEs. Also, the measurement model for this study can be applied for other travel agencies and SMEs in developing countries.

Another contribution of this study is manifested in the research methodology that is based on empirical validation and measurement of the constructs included in the conceptual framework that could be further invested in understanding e-commerce adoption in developing countries. Another methodological contribution is the multinomial logistic regression that offered a richer interpretation of data regarding the factors affecting the level of e-commerce adoption, as no previous researches in the context of technology adoption could be found with similar statistical methods.

8.4.2 Contribution to Practice

The above section presented the important contribution of this study to information systems fields specifically within the discipline of e-commerce. This research has also significant contribution to practice including owners/managers, policy makers, and IT consultants and software vendors. It provided them to have a better understanding of e-commerce adoption in Jordanian travel agencies such as, the current state of e-commerce adoption activates by Jordanian travel agencies and the factors that influence/inhibit travel agencies to adopt e-commerce.

8.4.2.1 Contribution to Owners/Managers

The findings of this study offer a useful model for owners/managers of travel agencies to improve their decisions regarding e-commerce adoption. It can guide decision makers to identify which level of e-commerce could be useful for their business and help draw a roadmap and strategies for managers interested in expanding their business and acquiring more benefits from adopting e-commerce applications. It also shows factors that motivate and inhibit travel agencies' decision makers in e-commerce adoption. The findings are a significant contribution to the efforts of travel agencies' owners/managers in developing an effective and efficient support for SMEs. For example, it is shown that observability and uncertainty avoidance are the greatest influential factors to decision makers when considering moving from a traditional business to an early stage of e-commerce adoption such as basic website. Therefore, efforts should be exerted to increase the management's awareness of the importance of adopting e-commerce applications in travel agencies and reduce their sense of uncertainty. Undoubtedly, if owners/managers see the benefits attained by e-commence adopters in travel business, they will be more likely to adopt e-commence applications and become less uncertain about such adoption.

In addition, the study shows that power distance and financial barriers are the most significant factors that inhibit owners/managers' decisions to move from traditional business to interactive website. This suggests that owners/managers with high score of power distance have a significant and negative relationship with advanced e-commerce adoption .This may be indicative of Jordanian travel agencies' reluctance to adopt an advanced level of e-commerce as owners/managers do not share decision with their employees, particularly IT staff who might explain the benefits of e-commerce implementation and usage in the travel agency. Another finding is that lack

of financial resources is one of the most important reasons of this reluctance which suggests that they should have a financial strategy in which the level of e-commerce adoption is included. For example, it is not expensive for travel agencies to launch a basic website displaying general information about the agency, its services, promotional activities and contacts details, including website building, designing, maintaining and hosting. On the other hand, travel agencies that adopted interactive website enabling communication with customers and suppliers to receive requests and provide online feedback and inventory search have to afford more costs as such level entails regular maintenance and updates.

The study also found that competitive pressure influences owners/managers' decisions to move from simple website to interactive one, which suggests that travel agencies with a high competitive position influence decision makers to upgrade e-commerce adoption in their businesses. This would encourage decision makers to develop an information systems strategy that includes e-commerce applications in their travel agencies when they believe that Jordanian customers will buy their travel products online rather than in the traditional way.

8.4.2.2 Contribution to Web Vendors and IT Consultants

As discussed earlier in this chapter, e-commerce adoption provides travel agencies with the opportunity to increase their survival in the global travel market. In addition, the study found that various factors affect the different levels of e-commerce adoption, thus carrying important web vendors and IT consultants' contribution in developing and designing strategies to promote e-commerce adoption in Jordanian travel agencies.

The findings allow web vendors and IT consultants to identify the appropriate model

affecting each level of e-commerce in travel agencies, understand owners/managers perceptions and knowledge regarding using e-commerce applications and identify the reasons for slow e-commerce adoption within travel agencies. This in turn enables them to tailor solutions for travel agencies' needs in adopting the appropriate level of e-commence. Also, the complexity factor was found the most important barrier hindering decision makers in Jordanian travel agencies from adopting an advanced e-commerce level.

Furthermore, relative advantages were found a very important factor particularly in an early adoption level. This entails that web vendors and IT consultants should educate and train decision makers on e-commerce benefits through conferences, workshops and personal visits. Finally, although the study found that trialability is insignificant in influencing owners/managers to adopt e-commerce, web vendors should provide travel agencies with trial versions of e-commerce applications and allow enough time to evaluate these applications. Trial versions would assist owners/managers in making the appropriate decision whether implementing a certain e-commerce application in their agency will be rewarding, as such versions minimize the uncertainty of using e-commerce applications and enable agencies to adopt solutions with low start-up cost.

8.4.2.3 Contribution to Policy Makers

The study showed that government support is an important factor that influences policy makers in Jordanian travel agencies in adopting e-commerce. Government support includes policies and legislations, training and educational programs, electronic infrastructure and funding. This outcome ought to assist policy makers in planning, identifying solutions and overcoming challenges hindering e-commerce adoption in travel agencies. First, the government can use information in this study to

draft policies and legislations that promote the adoption of e-commerce in Jordanian travel agencies. In terms of policy, the government should liberalize the telecommunication sector and trade which might have a major impact on e-commerce adoption in SMEs. The government should also decrease taxes and tariffs on technology devices such as computers, servers, switches and routers, which may expedite e-commerce adoption. In terms of legislations, the government should design a solid regulatory framework to support e-commerce adoption and protect businesses and customers against hacking and fraud. Also, government agencies, such as the Jordan Tourism Board and Ministry of Tourism, should raise travel agencies' awareness of e-commerce benefits and applications through training programs, conferences and workshops. Moreover, the government has to further improve the Internet infrastructure and provide subsidies to SMEs which would boost the growth of e-commerce adoption. Finally, travel agencies in Jordan would have no problem to adopt full and sophisticated levels of e-commerce applications if they receive financial assistance from the government. It was found that the main concerns of travel agencies owners/mangers are set-up cost and pricing issues. Therefore, the government should support travel agencies financially through long term and low interest loans.

8.8 Limitations and Suggestions for Future Study

First, the study employed a quantitative method that is based on self-administrated cross-sectional survey to investigate the factors associated with e-commerce adoption level by Jordanian travel agencies. The cross-sectional survey only reflects the respondents' beliefs, perceptions and experiences towards e-commerce adoption at one point in time. However, these can change over time which necessitates

conducting a longitudinal survey in future research to provide more robust evidence that explains the factors associated with e-commerce adoption and gives further validation of the conceptual framework proposed in this study.

Second, in measuring the constructs of this study, the quantitative method using self-administrated questionnaire. There is limitation of this method as it does not provide true information about the context and it involves the problem of biased reporting particularly by busy respondents who do not have enough time to answer the questionnaire accurately. Also, self-administrated questionnaire have another limitation, which is a subjective measure; thus it might be inappropriate surrogate in determining the actual usage of technology.

Third, the data of this study was confined to Jordan which may restrict applying its findings to other countries. Therefore, future research is needed to replicate it in other countries particularly the Arab countries in order to expand the generalizability of the study.

Fourth, owners/managers' perception of e-commerce adoption in Jordanian travel agencies were assessed. It would be interesting to conduct a future research to examine these perceptions toward e-commerce adoption in SMEs in a wider range of SMEs sectors such as financial, services and manufacturing in order to identify the factors influencing owners/managers' decisions on the level of e-commerce adoption. Such research can also provide a useful comparative view of the different types of SMEs and the factors affecting owners/managers decisions on the level of adoption, which contributes to the knowledge and understanding of e-commerce adoption by SMEs.

Finally, the study found that various factors affect the different levels of e-commerce adoption. However, the current state of e-commerce adoption by Jordanian travel agencies was only distributed in three adoption levels, namely: e-connectivity, e-window and e-interactivity; while the other levels identified in the proposed framework 'non-adoption, e-transaction and e-enterprise' did not exist in those agencies. Future studies are needed to examine the factors affecting the other levels of e-commerce adoption in order to build a complete picture in understanding e-commerce adoption and identify different factors associated with different e-commerce adoption levels.

8.6 Conclusion

Significant threat of disintermediation encounters traditional travel agencies if they do not change their business strategies. Abu-Shouk (2012) and Cheung (2009) argued that e-commerce adoption is the most effective strategy by travel agencies to save them from disintermediation. However, exploratory studies found slow adoption of e-commerce in travel agencies, particularly in developing countries (Rania, 2009; Abu-Shouk, 2012; Heung, 2003; Li and Buhalis, 2006; Livi, 2008), although e-commerce is considered a strategic tool in supporting travel agencies. Therefore, this study has sought to understand the factors influencing owner/managers of Jordanian travel agencies decisions on e-commerce adoption level. These factors were identified by integrating three dominant technological theories, namely: DoI, TOE and Hofstede's Cultural Theory as to examine their association with e-commerce adoption levels which included six different levels of e-commerce: non-adoption, e-connectivity, e-window, e-interactivity, e-transaction and e-enterprise. The findings are expected to provide a useful tool and necessary directions on e-commerce adoption among

decision makers in Jordanian travel agencies. This research has fulfilled its goals and objectives and answered the questions presented in Chapter 1. Multinomial logistic regression was used to test sixteen hypotheses and their relation to e-commerce adoption level. Ten of the sixteen hypotheses were supported. Also, it was found that different hypotheses affect different levels of e-commerce. Moreover, this study showed that only three levels of e-commerce were adopted by travel agencies in Jordan: e-connectivity, e-window and e-interactivity. The results of Multinomial Logistic Regression Analysis supported Hypothesis 1 (Relative Advantage), Hypothesis 5 (Observability), Hypothesis 11 (Uncertainty Avoidance), Hypothesis 14 (Business/Partner Pressure) and Hypothesis 16 (Government Support) to differentiate between e-window and e-connectivity. The results also found that Hypothesis 1 (Relative Advantage), Hypothesis 3 (Complexity), Hypothesis 5 (Observability), Hypothesis 7 (Financial Barriers), Hypothesis 10 (Power Distance), Hypothesis 14 (Business/Partner Pressure) and Hypothesis 16 (Government Support) were significant in differentiating between e-window and e-connectivity. Finlay, the results found that Hypothesis 3 (Complexity), Hypothesis 5 (Observability), Hypothesis 6 (Travel Agency Size) and Hypothesis 13 (Competitive Pressure) were significantly supported as differentiating between e-interactivity and e-window.

In general, the findings of this study have provided an important contribution to the information technology literature in general and e-commerce adoption in SMEs and travel agencies in particular. Thus, it avoided the limitations of previous studies and filled a gap by establishing a comprehensive conceptual framework that links between the factors influencing owners/managers' decisions and e-commerce adoption level with empirical support. Although the study has provided a general evidence of conceptual framework applicability in Jordan, further research is needed to examine

the applicability of this conceptual framework in other countries in order to increase knowledge on e-commerce adoption in travel agencies and other SMEs which should help expanding the research range in the field of information systems. Finally, it is hoped that the findings of this study will provide useful information to practitioners, policy makers and academics.

References

Abdul Hameed, M., and Counsell, S. (2012). "Assessing the influence of Environmental and CEO Characteristics for Adoption of Information Technology in Organizations", Journal of Technology Management & Innovation, Vol.7, No.1, pp. 64-83

Abou-Shouk, M., Megicks, P., and Lim,W.M. (2012) "Perceived Benefits and E-Commerce Adoption by SME Travel Agents in Developing Countries:

Evidence From Egypt", Journal of Hospitality & Tourism Research, Journal of Hospitality & Tourism, Vol. 37, No. 4, pp. 490-515

Adewale, G., Ayo-Oyebiyi G.T, and Adebayo, S. A. (2013) "An Empirical Study of Factors That Influence the Adoption Of e-Commerce in Nigerian Business Organizations" , International Journal of Business and Management Invention, Vol. 2, No. 9, pp. 28–33.

Aghaunor, L. and Fotoh, X. (2006) "Factors Affecting Ecommerce Adoption in Nigerian Banks", Jönköping Int. Bus. School, Jönköping University. Online available at <hj.diva.portal.org/smash/get/diva2:4190/FULLTEXT01> [Accessed 30/4/2011]

Ajlouni,K.H (2006) " The financing problems of small and medium-sized manufacturing enterprises in Jordan", PhD Thesis, University of Durham, UK. Online available at < http://etheses.dur.ac.uk/1816/1/1816.pdf > [Accessed 2/11/2014]

Ajzen, I. (1985) "From intentions to actions: A theory of planned behavior". In J. Kuhl and J. Beckmann (eds.), Action Control: From Cognition to Behavior. New York: Springer.

Ajzen, I. (1991) " The theory of planned behavior". Organizational Behavior and Human Decision Processes, Vol 50,No. 2,pp. 179-211.

Al-Adwan, A., Al- Adwan,A. , Smedley,J. (2013) "Exploring students acceptance of e-learning using Technology Acceptance Model in Jordanian universities". International Journal of Education and Development using Information and Communication Technology Vol. 9, No. 2, pp. 4-18

Alam, S.S, Khatibi ,A. Sayed ,and I. Isamil ,H. (2008) "Factors affecting e-commerce adoption in the electronic manufacturing companies in Malaysia". International Journal of Commerce and Management, Vol. 17 ,Nos. 1/2, pp. 125-139

Alam,.S ,Khatibi,A, Ismail M.,Ahmad,S., Ismail,H. (2008) "Factors affecting e-commerce adoption in the electronic manufacturing companies in Malaysia", International Journal of Commerce and Management, Vol. 17, Nos, 1/2, pp.125 – 139.

Alam,S.,and Noor,M.(2009) "ICT Adoption in Small and Medium Enterprises: an Empirical Evidence of Service Sectors in Malaysia". International Journal of Business and Management, Vol. 4, No 2, pp. 112-125

Alamro, S., Tarawneh, S.A. (2011) "Factors Affecting E-Commerce Adoption in Jordanian SMEs", European Journal of Scientific Research, Vol. 64, No. 4, pp. 497-506

Alatawi, F.M.H., Dwivedi, Y.K. and Williams, M.D. (2013) "Developing a conceptual model for investigating adoption of knowledge management system in Saudi Arabian public sector", International Journal of Business Information Systems, Vol. 14, No. 2, pp.135–163.

Al-Dmour,H. , and Al-Surkhi,M.M (2012) "Factors Affecting SMEs Adoption of Internet-Based Information Systems in Business-To-Business (B2B) and the Value-Added on organization's Performance", Jordan Journal of Applied Science , Vol.14, No. 1, pp.181-200

Al-Hudhaif, S., and Alkubeyyer, A. (2011) "E-Commerce Adoption Factors in Saudi Arabia", International Journal of Business and Management, Vol. 6, No. 9, pp. 122-133.

Al-Hujra, O. Al-dalahmeh,M. and Aloudat, A. (2011) "The Role of National Culture on Citizen Adoption of eGovernment Services: An Empirical Study", Electronic Journal of e-Government, Vol. 9 , No. 2, pp.93 – 106.

Al-Khaffaf, M. (2011) "E-Readiness in Jordan Public Shareholding Companies", Jordan Journal of Business Administration,Vol.7, No.3,pp. 494-510

AlGhamdi, R., Alfarraj, O. & Bahadad, A. (2014) "How Retailers at different Stages of E-Commerce Maturity Evaluate Their Entry to E-Commerce Activities?", Journal of Computer Science and Information Technology, Vol. 2, No. 2, pp. 37-71.

Allahawiah, S., Altarawneh, H. , Alamro, S. (2010) "The Internet and Small Medium-Sized Enterprises (SMES) in Jordan", World Academy of Science, Engineering and Technology, 62, pp. 302-306

Allan, C., Annear, J., Beck, E. and Beneren, J.V. (2003) "A framework for the adoption of ICT and security technologies by SMEs", Proceedings of 16th Annual Conference of Small Enterprise Association of Australia and New Zealand, pp. 1-10.

Al-ma'aitah, M.A. (2013) "Security Concernsin E-payment and the Law in Jordan". International Journal of Advanced Computer Science and Applications, Vol. 4, No.7,pp. 179-183

Almoawi ,A. (2011) "E-commerce adoption Among Small and Medium Enterprises in Saudi Arabia" PhD Thesis, University Utara Malaysia

Almoawi ,A.,and Mahmood,R. (2011) "Applying the OTE Model in Determining the E-commerce Adoption on SMes in Saudi Arabia", Asian Journal of Business and Management Sciences , Vol. 1 ,No. 7 ,pp.12-24.

Al-Noor, M.,and Arif, R. (2011) "Adoption of B2B e-commerce by the SMEs in Bangladesh Innovative Systems Design and Engineering". Innovative Systems Design and Engineering, Vol. 2, No.6, pp. 48-59

Al-Qirim, N. (2006) "The role of the government and e-commerce adoption in small businesses in New Zealand", International Journal of Internet and Enterprise Management, Vol. 4, No. 4, pp. 293-313.

Alrawabdeh,W., Salloum,A., Mingers,J. (2012) "Key Factors influencing the Diffusion of Information and Communication Technology (ICT) in the Arab World, A Comparative Study", British Journal of Economics, Finance and Management Sciences, No. 2, Vol. 5, pp.45-59

Al-Rawashdeh, S.T. (2011) "The Effect of Small-Scale Industry on Local Development Case Study : Karak Governorate", Canadian Social Science, Vol. 7, No. 6, pp. 264-271.

Al-Somali, S. A., and Clegg, B. (2011) "Determinants of B2B e-commerce adoption in Saudi Arabian firms", International Journal of Digital Society (IJDS), Vol. 2,No. 2,pp. 406–415.

Al-Somali, S. A., Gholami,R., and Clegg, B. (2011) "Determinants of B2B e-commerce adoption in Saudi Arabian firms, International Journal of Digital Society (IJDS)",Vol. 2,No. 2,pp. 406–415.

Al-weshah, G. A., and Al-zubi, K. (2012) "Study Of SMEs in Jordanian Communication", Global Journal of Business Research, Vol. 6, No. 3, pp. 1–15.

Alzougool, B., and Kurnia, S. (2008) "Electronic commerce technologies adoption by SMEs: A conceptual study", Proceedings of the 19th Australasian Conference on Information System, pp. 42-54.

American Association for Public Opinion Research (2006) "Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys", Available online at < http://www.aapor.org/AM/Template.cfm?Section=Standard_DefinitionsandTemplate=/CM/C > [Accessed 20/ 11/2013] .

Andreu, L., Aldás, J., Bigné, J. E., and Mattila, A. S. (2010) "An analysis of e-business adoption and its impact on relational quality in travel agency–supplier relationships", Tourism Management, Vol. 31, No. 6,pp. 777–787.

Antunes,I., Barandas, H., and Martins,V. (2013) "The Impact Of National Cultures On International Marketing Strategy And Subsidiary Performance Of Portuguese Sme's". The International Journal of Management, Vol. 2, No. 3, pp. 38-45.

Apulu, I and Latham, A. (2009c) "Information and communication technology adoption: Challenges for Nigerian SMEs", TMC Academic Journal, Vol. 4, No. 2, pp. 64-80.

Apulu, I., and Latham, A. (2011) "Drivers for Information and Communication Technology Adoption:A Case Study of Nigerian Small and Medium Sized Enterprises", International Journal of Business and Management, Vol. 6, No. 5, pp. 51-60.

Arabadvisors .(2012) "Jordan Internet users and e-commerce survey 2012",Arab Advisors Group, Available online at <http://www.arabadvisors.com/node/13566> [Accessed 16/10/14]

Arano ,K.G., and Spong,B. (2012) "Electronic Commerce Adoption in the Hardwood Industry" .Journal of extension , Vol. 50,No. 6 , Available online at <http://www.joe.org/joe/2012december/rb4.php> [Accessed 11/09/2014]

Araste, A. R., Mansouri, A., and Jafari, M. (2013) "The Factors Affecting the E-commerce Adoption in SMEs in the Industrial Towns of Zanjan-Iran: Managers` Perspectives", International Journal of Academic Research in Business and Social Sciences, Vol. 3, No. 10, pp. 100–109.

Archer, N., Wang, S., and Kang, C. (2008) "Barriers to the adoption of online supply chain solutions in small and medium enterprises", Supply Chain Management, Vol. 13, No. 1, pp. 73 - 82.

Arendt, L. (2008) "Barriers to ICT adoption in SMEs: how to bridge the digital divide?", Journal of Systems and Information Technology, Vol. 10, No. 2, pp. 93-108.

Ary, D. , Jacobs, L., Sorensen, C, and Walker, D. (2002) "Introduction to Research in Education", 9th ed., Belmont,CA:Wadsworth.

Ashrafi, R., and Murtaza, M. (2008) "Use and Impact of ICT on SMEs in Oman", Electronic Journal Information Systems Evaluation, Vol. 11,No. 3,pp. 125-138.

Awa ,H.O., Ukoha, O. (2012) "Integrating TAM and TOE Frameworks and Expanding their Characteristic Constructs for E-Commerce Adoption by SMEs" ,In Proceedings of Informing Science and IT Education Conference (InSITE) .Online available at<http://proceedings.informingscience.org/InSITE2012/InSITE12p571-588Awa0144.pdf > [Accessed 15/10/2014]

Awa, H. Nwibere , B., Inyang, B. (2010) "The Uptake of Electronic Commerce By SMEs: A Meta Theoretical Framework Expanding The Determining Constructs Of TAM and TOE Frameworks", Journal of Global Business Technology ,Vol. 6, No. 1,pp. 1-27.

Azam, M.S., and Quaddus, M. (2009b) "Adoption of E-Commerce by the SMEs in Bangladesh: The Effects of Innovation Characteristics and Perceived Risk", In Proceedings of the Australian and New Zealand Marketing Academy Conference (ANZMAC) ,Melbourne, Australia.

Azam, M.S., and Quadddus, M. (2009), "Adoption of b2b e-commerce by the SMEs in Bangladesh: an empirical analysis", Proceedings of Asian Business

Research Conference, Dhaka, online available at
www.wbiconpro.com/18%5B1%5D.-Azam-.pdf [Accessed 13-4-2012]

Azam, M.S., and Quaddus, M. (2012) "Effects of internal and external factors on
internet-based digital technology usage by SMEs in a developing country",
Communications of the IIMA ,Vol. 12 , No.4, pp. 41-69.

Aziz ,F., and Jamali ,N. (2013) "Factors Influencing the Level of Adoption in
Electronic Commerce Among SMEs", International Journal of Information
Technology & Computer Science (IJITCS) ,Vol. 8 , No. 2 ,pp.105-110.

Babbie E. (2010) "The Practice of Social Research", 12th ed, Thomson Wadsworth
Australia.

Baker,J. (2012) "The Technology–Organization–Environment Framework".
Integrated Series in Information Systems, Vol. 28, pp. 231-245

Bao.J., and Sun, X. (2010) "A Conceptual Model of Factors Affecting e-Commerce
Adoption by SMEs in China", In proceeding of International Conference on
Management of e-Commerce and e-Government, IEEE.

Barba-Sanchez, V., Martinez-Ruiz ,M., and Jiménez-Zarco, A. (2007) "Drivers,
Benefits and Challenges of ICT Adoption by Small and Medium Sized
Enterprises (SMEs): A Literature Review", Problems and Perspectives in
Management ,Vol. 5, No. 1, pp.103-114.

Barker, C., Pistrang, N. and Elliott, R. (2005) "Research Methods in Clinical Psychology: An Introduction for Students and Practitioners", 2nd Ed. ,John Wiley & Sons, Ltd, Chichester, UK.

Barker, N. (1994) "The Internet as a Reach Generation for Small Business", Master Thesis, Business School, and University of Durham.

Bartlett, J.E. , Kotrlik J.W., and Higgins ,C.C. (2001) "Organizational research: determining appropriate sample size in survey research", Information Technology Learning and Performance Journal, Vol. 19 ,No. 1, pp. 43–50.

Bartlett, S., Burton, D. and Peim, N. (2001) "Introduction to Education Studies",1st Ed., London: Paul Chapman

Bazini, E., Qarri, A., and Ilia, D., (2011) "Barriers of ICT Implementation within SMEs in service sector in Albania", Journal of Information Technology and Economic Development, Vol. 2,No .1 , pp. 1-8.

Beatty R. C., Shim J. P., and Jones M. C.(2001) "Factors influencing corporate web site adoption: A time-based assessment," Information and Management, Vol. 38, No. 6, pp. 337-354.

Beirne, E., and Curry, P. (1999) "The impact of the Internet on the information search process and tourism decision making", In D. Buhalis and W. Schertler (Eds.), International Conference on Information and Communication Technologies in Tourism . Innsbruck, Austria: Springer-Verlag, pp. 87–97.

Bell ,R. , Brooks ,C. , and Prokopczuk , M. (2013) "Handbook of Research Methods and Applications in Empirical Finance", Edward Elgar , Cheltenham.

Bennett, D. A. (2001) "How can I deal with missing data in my study? Australian and New Zealand", Journal of Public Health, Vol. 25, No.5, pp. 464–469.

Beri, G.C., (2007) "Marketing Research: Research Design", 4th Ed., McGraw Hill Education.

Boisvert,H. (2002) " The use of Internet in SME.Its impact on business processes", In preceding Conference of International Conference on Electronic Commerce Research (ICECR-5).Available online at< http://www2.hec.ca/cicma/communications/documentations/articles/ICECR5_ 3UseofInternet.pdf> [Accessed 13-12-2011]

Borker, R.D. (2013) "Economic Growth and Cultural Value Analysis In Six Emerging Economies" ,World Journal of Social Sciences, Vol. 3, No. 6, pp. 115 –125.

Bowling ,A. (1997) "Measuring health: a review of quality of life measurement scales", Open University Press. Available online at < http://link.springer.com/article/10.1023%2FA%3A1006926723202#page-1> [Accessed 20-03-2014]

Bradley, S. P., J. A. Hausman, and R. L. Nolan, eds. (1993) "Globalization, Technology, and Competition: The Fusion of Computers and Telecommunications in the 1990s. Boston", Harvard Business School Press, Korean ed.

Braun,P. (2005) "Regional Tourism and the Internet in Australia".In
s,Marshall,W.Taylor,and X.Yu(Eds), Encyclopaedia of the developing
regional communities with information and communication technology ,
pp.603-607 ,Hcrshcy,PA:Idea Group Reference

Breakwell, G.M,Hammond,S., and Fife-Schaw,C. (1995) "Research Methods in
Psychology", 3rd ed., London: Sage.

Bruce,W. , Stevens, R., and Loudon ,D. (2002) "Marketing Research Text and Cases",
An Imprint of the Haworth Press.

Bryman, A. , and Cramer, D. (1997) "Quantitative Data Analysis with SPSS for
Windows", Routledge, London.

Bryman, A., Stephen, M. and Campo, C. (1996) "The Importance of Context:
Qualitative Research and the Study of Leadership", Leadership Quarterly, Vol.
7, No. 3,pp. 353-370.

Buff, C., Seifert, C. and Van Ness, R. (2008),"Exploring Individual Culture and
Internet Commerce Success Factors" , The International Journal for Business
& IT, Vol. 4, No. 2, pp. 17-29.

Buhalis, D. (1996) "Enhancing the competitiveness of small and medium sized
tourism enterprises at the destination level by using information technology",
Electronic Markets, Vol. 6, No. 1, pp. 1-6.

Buhalis, D., and Jun, S. (2011) "E-Tourism", Contemporarily Tourism Reviews.
Oxford, Good fellow. Available online at
<www.goodfellowpublishers.com/free_files/fileEtourism.pdf> [Accessed 23-
11-2011]

Buhalis, D. and Deimezi, O. (2003) "Information technology penetration and E-commerce developments in Greece, with a focus on small and medium-sized enterprises", Electronic Markets, Vo.13, No. 4, pp.309-324.

Buhalis, D.,and Law, R. (2008) "Progress in information technology and tourism management: 20 years on and 10 years after the Internet, The state of eTourism research", Tourism Management, Vol. 29,No. 4, pp. 609-623.

Carmines, E.G., and Richard A.Z (1979) "Reliability and Validity Assessment", Newbury Park, CA: Sage Publications.

Carter R and Bedard, F. (2001) " E-Business for Tourism-Practical Guidelines for Tourism Destinations and Business", WTO Business Council, Madrid.

Casaló, L. V., Flavián, C., and Guinalíu, M. (2011) "Understanding the intention to follow the advice obtained in an online travel community", Computers in Human Behavior, Vol. 27, 2, pp. 622–633.

Catalyst Corporate Finance (2013) "Leisure Travel Sector", online available at http://www.catalystcf.co.uk/uploads/Leisure_Travel_Report.pdf [Accessed 15/10/2014]

Chambermag (2012) "Economic Development in Jordan Story of Success and Achievement", Available online at < http://chambermag.com/en/details.asp?t=05&yearmonthid=33&idno=25> [Accessed 22/11/11].

Chan, P., Yuen P., and Mills, A. (2003) "E-Commerce Adoption in Small Firms: a Study of Online Share Trading", Managing E-Commerce and Mobile Computing Technologies,PA: IRM Press.

Chanvarasuth, P. (2010) "Adoption of E-Business by Thai SMEs", World Academy of Science, Engineering and Technology , Vol. 65, pp. 741-746

Chau, P.Y.K. and Hui, K.L. (2001) "Determinants of small business EDI adoption: an empirical investigation", Journal of Organizational Computing and Electronic Commerce, Vol. 11 , No. 4, pp. 229-52.

Chau, P.Y.K. and Jim, C.C.F. (2002) "Adoption of electronic data interchange in small and medium sized enterprises", Journal of Global Information Management, Vol. 10 ,No. 4, pp. 61-85.

Chen, J., and McQueen, R.J. (2008) "Factors Affecting E-Commerce Stages of Growth in Small Chinese Firms in New Zealand: An Analysis of Adoption Motivators and Inhibitors", Journal of Global Information Management, Vol. 16, No. 1, pp. 26-60.

Chen, L., Gillenson, M. I., and Sherre ll, D. L. (2002) "Enticing online consumers: An extended technology acceptance perspective", Information & Management, Vol. 39, No. 8,pp. 705-719.

Cheung, R., and Lam, P. (2009) "How travel agency survive in e-Business world?", Communications of the IBIMA, Vol. 10, No. 11, pp. 85-92.

Chia, R. (2002) "The Production of Management Knowledge: Philosophical Underpinnings of Research Design", In Partington, D. (ed.) Essential Skills for Management Research, 1st ed. , SAGE Publications Ltd., London, pp. 1-19.

Chin, W. W., Marcolin ,B. L., Newsted and P. R. (2003) "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/ Adoption Study", Information Systems Research, Vol. 14, No. 2, pp.189-217.

Ching, H.L. and Ellis, P. (2004), "Marketing in cyberspace: what factors drive e-commerce adoption?", Journal of Marketing Management, Vol. 20, Nos 3/4, pp. 409-29.

Cho,Y., Oh, H J., Kim ,O.K., and Shim S.J. (2013) "Outlier detection and missing data filling methods for coastal water temperature data", Journal of Coastal Research, Vol. 65,No. 1,pp. 1898-1903.

Cho,Y., and Agrusa, J. (2006) "Assessing Use Acceptance And Satisfaction Toword Online Travel Agencies", Information Technology and Tourism ,Vol. 8 ,Nos. 3/4, pp. 179-195.

Chong , S. (2006) "An Empirical Study of Factors that Influence the Extent of Deployment of Electronic Commerce for Small- and Medium-sized Enterprises in Australia", Journal of Theoretical and Applied Electronic Commerce Research . Vol. 1, No. 2 , pp. 45- 57

Chooprayoon, V., Fung, C. and Depickere, A. (2007) 'TECTAM, a modified technology acceptance model to assess e-commerce technologies adoption by Thai SME', IEEE Region 10 Conference, pp.1–4.

Chou, C. P., and Bentler, P. M. (1995) "Estimates and tests in structural equation modeling: Concepts, issues, and applications", Sage Publications, Thousand Oaks.

Choudrie, J., and Dwivedi, Y. K. (2005) "Investigating the research approaches for examining technology adoption issues", Journal of Research Practice,Vol. 1, No.1, pp.1-12.

Chuchuen, C. and Chanvarasuth, P. (2011) "The adoption factors of E-CRM in service sector of Thai SMEs", 2nd International Conference on Networking and Information Technology IPCSIT, Vol. 17, pp. 350–355.

Cohen, S., and Kallirroi, G. (2006) "e-Commerce Investments from an SME perspective: Costs, Benefits and Processe", The Electronic Journal Information Systems Evaluation,Vol. 9 ,No. 2,pp. 45 – 56.

Collins, C. Srikes ,M, Louvieris ,P.(2009) "Impact of culture on mobile phone purchasing: A comparison between Thai and British consumers", In Preceding of 17th European Conference on Information Systems .Available online at <http:// www.ecis2009.it/papers/ ecis2009-0515.pdf> [Accessed 15/4/2012]

Collis, J. and Hussey, R. (2003) "Business Research: a practical guide for undergraduate and postgraduate students", 2nd ed., Basingstoke: Palgrave Macmillan

Conrad, C., Serlin,R.(2011) "The SAGE Handbook for Research in Education: Pursuing Ideas as the Keystone of Exemplary Inquiry",2nd ed. , SAGE Publications.

Cooper, D. and Schindler, P. (2001) "Business Research Methods", 7th ed. , McGraw-

Cortina, J.M. (1993) "What is coefficient alpha? An examination of theory and applications", Journal of Applied Psychology, Vol.78, No.1 ,pp. 98–104.

Costa, G., Prior, M. and Rogerson, S. (2007) "The learning organization: Synonymous with ethical knowledge management?", In Murata, K. et al. (eds), ETHICOMP WORKING CONFERENCE , Kunming: Yunan University, CD: paper 16

Creswell, J. W. (1994) "Research designs: Qualitative and quantitative approaches", Thousand Oaks, CA: Sage

Creswell, J. W. (2003) "Qualitative, quantitative, and mixed methods approaches "2nd ed., Thousand Oaks, CA: Sage.

Creswell, J. W. (2012) "Educational research: Planning, conducting, and evaluating quantitative and qualitative research", 4th ed., Boston: Pearson.

Creswell, J., Shope, R., Plano, C., and Green, D. (2006) "How Interpretive Qualitative Research Extends Mixed Methods Research", Research In The Schools, Vol. 13, No. 1,pp. 1-11.

Dajani, D. (2012) "Determinants of electronic commerce use: the case of Jordanian travel agencies", International Journal of Business and Management Studies, Vol. 1 , No.1 ,pp. 75-81.

Daniel, E., Wilson, H. and Myers, A. (2002) "Adoption of e-commerce by SMEs in the UK: towards a stage model", International Small Business Journal, Vol. 20, pp.253–270.

Daniel, J. (2012) "Sampling Essentials: Practical Guidelines for Making Sampling Choices", Sage publications.

Davis, D (2004) "Business research for decision making", 6th ed. , Wadsworth, Belmont, CA.

Davis, F. D. (1989) " Perceived ease of use, and user acceptance of information technology", MIS Quarterly, Vol. 13, No. 3, pp. 319-339.

Dedrick, J. and K.L. Kraemer (2001) "China IT Report", Electronic Journal on Information Systems in Developing Countries, Vol. 6, No. 2, pp. 1–10.

Denzin, N. K., and Lincoln, Y. S. (2005) "Introduction: The discipline and practice of qualitative research", In N. K. Denzin and Y. S. Lincoln (Eds.), The Sage handbook of qualitative research (pp. 1-32). Thousand Oaks, CA: Sage.

Department of Statistics of Jordan (2014) Available online at < http://www.dos.gov.jo/dos_home_e/main/> [Accessed 10-10-2014]

Descombe, M. (2003) "The Good Research Guide: for small-scale social research projects", 2nd edition, Open University Press, Berkshire.

Deshpande, R. (1983) "Paradigms Lost: On Theory and Method in Research Marketing", Journal of Marketing, Vol. 47, No. 4, pp. 101-110.

Dholakia, R. R. and Kshetri, N. (2004) "Factors impacting the adoption of the Internet among SMEs", Small Business Economics, Vol. 23, No.4, pp. 311-23.

Ditsa ,G.(2004) "A Research Design and a Methodological Approach to an Explanatory User Behavior Testing: Lessons Learnt". In Khosrow-Pour ,M.(ed.) , "Innovations Through Information Technology" , Vol. 1 , pp. 1-730 .Online available at <http://www.irma-international.org/viewtitle/32475/> [Accessed 27-6-2012]

Dodge, Y., (2003) "The Oxford Dictionary of Statistical Terms", The Oxford
University Press, Oxford.

Dong, Y., Peng, C.-Y. J. (2013) "Principled missing data methods for researchers",
Springer Plus.

Doyle, J. K. (2005) "Face-to-face surveys", In B.S. Everitt and D. Howell (eds), "The
Encyclopedia of Statistics in Behavioral Science", New York: Wiley.
Available online at <http://www.wpi.edu/Images/CMS/SSPS/Doyle_-_Face-
to-Face_Surveys.pdf > [Accessed 26-7-2012]

Draper, J. (2004) "The relationship between research question and research design. In
Crookes, Patrick A. and Davies, Sue (eds) , "Research into Practice: Essential
Skills for Reading and Applying Research in Nursing and Health Care",
Bailliere Tindall, Edinburgh.

Duncombe, R., Heeks, R.B., Kintu, R., Nakangu, B. and Abraham, S. (2005) "E-
Commerce for Small Enterprise Development: A Handbook for Entrepreneurs
in Developing Countries", IDPM, University of Manchester, UK
[online]http://www.ecomm4dev.org/handbooks.htm (accessed 13 July 2013).

Dutta, S., and Coury, M. (2003) "ICT Challenges for the Arab World", Available
online at <http://www.mafhoum.com/press7/218T42.pdf > [Accessed
22/11/11]

Dutta., S., El-Hage, C., Sabbagh, K., and Tarazi, P.(2003) "Challenges for
Information and Communication Technology Development in the Arab World
the Global Information Technology Report 2002-03", Available online at

<http://zunia.org/uploads/media/knowledge/1.12_Challenges_for_ICT_Develo pment.pdf> [Accessed 14/05/11].

Easterby-Smith, M., Thorpe, R., Jackson, P. and Lowe, A. (2008) "Management Research", 3rd ed., London: Sage

El-Gohary, H. (2011) "Factors affecting E-Marketing adoption and implementation in tourism firms: An empirical investigation of Egyptian small tourism organizations", Tourism Management , Vol.55, No.5 , pp.1256-1269

eMarketer , (2014) Worldwide Ecommerce Sales to Increase Nearly 20% in 2014".Available online at < http://www.emarketer.com/Article/Worldwide-Ecommerce-Sales-Increase-Nearly-20-2014/1011039 > [Acessed 12/1/2015]

eMarketer ,(2014) "US Mobile Travel Sales to Increase 60% in 2014", online available at <http://www.emarketer.com/Article/US-Mobile-Treavel-Sales-Increase-60-2014/1010828> [Accessed 23/12/2014]

eMarketer, (2010) "Post-Recession Online Travel Trends". Available online at<

Evans, G., Peacock, M. (1999) "A comparative study of ICT and tourism and hospitality SMEs in Europe", Information and communication technologies in tourism, In Buhalis et al. (eds.) , "Information and Communication Technologies in Tourism ,pp. 247-258.

Eye for Travel Research (2008) "European Online travel repot". EyeforTravel Research. London.

Fazlollahi, B. (2002) "Strategies for E Commerce Success", IPM, London,

Federal Research Division (2006) "Country Profile: Jordan", Library of Congress,
Available online at <http://lcweb2.loc.gov/frd/cs/profiles/Jordan.pdf>
[Accessed 9/10/2014].

Field, A. P. (2009) "Discovering statistics using SPSS", 4th ed., Sage, London.

Fischer,R. (2005) "Organizational Behaviour across Cultures: Theoretical and
Methodological Issues for Developing Multi-Level Framework Involving
Culture", International Journal of Cross Cultural Management , Vol. 5, No. 1,
pp.27-48

Fishbein, M., and Ajzen, I. (1975) "Belief, attitude, intention, and behavior : An
introduction to theory and research", Don Mills, Ontario: Addison-Wesley
Pub. Co.

Ford, D. P., Connelly, C. E., and Meister, D. B. (2003) " Information systems
research and Hofstede's culture's consequences: an uneasy and incomplete
partnership" , IEEE Transactions on Engineering Management, Vol. 50, No.
1,pp. 8–25.

Forman, J., Creswell, J. ,Damschroder, L., Kowalski, C., and Krein, S. (2008)
"Qualitative research methods: Key features and insights gained from use in
infection prevention research", AJIC: American Journal of Infection Control
,Vol. 36, No. 10 , pp. 764-771 .

Fornell, C., Larcker, DF. (1981) "Evaluating structural equation models with
unobservable variables and measurement error", Journal of Marketing
Research , Vol.18 ,No. 1, pp. 39–47.

Foxall, G. (1997) "Marketing psychology: The paradigm in the wings", London: Macmillan.

Gable, G.G. (1994) "Integrating Case Study and Survey Research Methods: An Example in Information Systems", European Journal of Information Systems, Vol. 3, No. 2, pp.112-126.

Ghachem L. (2006) "Maturity of Electronic Commerce: A Review of the Principal Models", In Proceedings of the Global Conference on Emergent Business Phenomena in the Digital Economy; November 28thDecember 2nd. Tampere, Finland

Gall, M. D., Gall, J. P., and Borg, W. R. (2003) "Educational Research: An Introduction" 7th ed., Allyn & Bacon, Boston.

Galliers, R. D. (1992) "Choosing Information Systems Research Approaches", In R.D. Galliers (Ed.), Information Systems Research: Issues, Methods and Practical Guidelines. Blackwell Scientific Publications, 144-162. ISBN: 0632028645

Gawady, Z.M., (2005) "The Impact of E-commerce on Developed and Developing Countries Case Study: Egypt and United States". In proceeding of International Conference of Globalization, Technology and Sustainable Development. Misr University for Science and Technology, Giza-Egypt.

Gay, L.R. and Diehl, P. L. (1992) "Research methods for business and management" , New York: Macmillan.

Gefen, D., Karahanna, E., Straub, D.W. (2003) "Inexperience and experience with online stores: the importance of TAM and trust", IEEE Transactions on Engineering Management ,Vol. 50,No. 3, pp. 307– 321.

George, D., and Mallery, P. (2003) "SPSS for Windows step by step: A simple guide and reference 11.0 update ", 4th ed., Boston: Allyn & Bacon.

Geyskens, I., Steenkamp, J., and Scheer, L. K. (1996) "The effects of trust and interdependence on relationship commitment. A trans-Atlantic stud", International Journal of Research in Marketing, Vol. 13, No. 4, pp. 303–317.

Ghazal, M. (2012) "Travel agencies urged to expand e-presence", The Jordan Times. Available online at <www.jordantimes.com/travel-agencies-urged-to-expand-e-presence> [Accessed 16/10/2014]

Ghobakhloo ,M. and Tang,S.J. (2013) "The role of owner/manager in adoption of electronic commerce in small businesses", Journal of Small Business and Enterprise Development ,Vol. 20 ,No. 4,pp. 754-787

Ghobakhloo,M., Arias-Aranda,D., and Benitez-Amado,J. (2011) "Adoption of e-commerce applications in SMEs", Industrial Management and Data Systems, Vol. 111 , No. 8, pp.1238-1269

Gibbs,J., Kraemer, K.L., and Dedrick, J. (2003) "Environment and policy factors shaping global e-commerce diffusion: a cross-country comparison", The Information Society ,Vol. 19 ,No.1 ,pp.5–18.

Gibson, J.L., Ivancevich, J.M., and Donnely Jr, J.H. (2000) "Organisations: Bahaviour, Structure, Process", Boston,MA: Mcgraw-Hill.

Girod-Seville, M., and Perret, V. (2001) "Epistemological Foundations', in Doing

    Management Research: A comprehensive Guide", Sage Publications, London.

Gliem JA, Gliem RR. (2003) "Calculating, interpreting, and reporting Cronbach's

    alpha reliability coefficient for Likert-type Scale", In proceeding of the

    Midwest Research to Practice Conference in Adult, Continuing, and

    Community Education. Available online at

    <https://scholarworks.iupui.edu/bitstream/handle/1805/344/Gliem%20&%20..

    ?sequence=1> [Accessed 4/03/2014]

Goel, R. (2007) "E-Commerce", New Dehli: New Age International Pvt. Ltd.

    Publishers.

Gokhan ,O.,Yilmaz,E. (2011) "Comparison of the theory of reasoned action and the

    theory of planned behavior: An application on accountants' information

    technology usage", African Journal of Business Management, Vol. 5, No. 1,

    pp. 50-58,

Golafshani, N. (2003) "Understanding Reliability and Validity in Qualitative

    Research", The Qualitative Report, Vol. 8, No. 4, pp. 597-607

Gong, W. (2009) "National culture and global diffusion of business-to-consumer e-

    commerce. cross Cultural Management", International Journal, Vol. 16 ,No. 1,

    , pp. 83-101

Grandon, E., and Mykytyn, P.P. (2004) "Theory-based instrumentation to measure

    the intention to use electronic commerce in small and medium sized

    businesses", The Journal of Computer Information Systems, Vol. 44,No. 3,pp.

    44-57.

Grandon, E., and Pearson, J.(2004) "Electronic commerce adoption: an empirical study of small and medium US businesses", Information and Management ,Vol. 42,no. 1, pp. 197–216.

Grandon, E.E, Nasco, S.A,and Mykytyn, P.P (2011) "Comparing theories to explain e-commerce adoption", Journal of Business Research ,Vol. 64, No. 3, pp.292-298.

Gray, D. E. (2004) "Doing research in the real world", London: Sage.

Grazzi, M., and Vergara, S. (2012) "ICT in developing countries: Are language barriers relevant? Evidence from Paraguay", Information Economics and Policy, Vol. 24, No.1, pp. 161–171

Greene, J. C. (2007) "Mixed methods in social inquiry", San Francisco, CA: Jossey-Bass.

Greene, J. C., Caracelli, V. J., and Graham, W. F. (1989) "Toward a conceptual framework for mixed-method evaluation designs", Educational Evaluation and Policy Analysis, Vol.11, No. 3, pp. 255- 274.

Greener S.L. (2008) "Business Research Methods", Ventus Publishing ApS, Copenhagen.

Greenwood, Davydd J. and Morten Levin (2007) "Introduction to Action Research: Social Research for Social Change", 2nd ed., Thousand Oaks, CA: Sage

Greet-Hofstede, (n.d.) "Country comparison", Online Available from < www.geert-hofstede.com/Jordan.html > [Accessed 10/05/2012]

Gupta, U. (2000) "Information Systems: Success in the 21st Century", Upper Saddle River, NJ: Prentice Hall.

Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R. (2010) "Multivariate Data Analysis", 7th ed., Pearson Educational International -Prentice Hall, Upper Saddle River- New Jersey.

Han, Y.F (2012) "Technology acceptance model and adoption of internet with e-purchase system among travel agencies in Kelantan" , Undergraduate project report, Faculty of Entrepreneurship and Business. online available at <http://umkeprints.umk.edu.my/1748/> [Accessed 20/9/2014]

Hani,B. Corbitt,B., Pittayachawan,S.,and Alsaggaf ,W. (2012)"Organisational Culture and Adoption of ElectronicCommerce: A Study of the Saudi Arabian Tourism Market", The 7th International Conference onComputer Science and Education (ICCSE 2012). Melbourne, Australia

Hao ,X., Duo-lin, L.Zhi-jie. (2010) "A Research Model for Measuring the Level of E-commerce in SMEs", In proceeding of the International Conference on Machine Vision and Human-machine Interface MVHI ,pp. 776-779

Harindranath ,G., Dyerson, R., and Barnes, D. (2008) "ICT in small firms: Factors affecting the adoption and use of ICT in Southeast England SMEs" , In Proceedings of the European Conference on Information Systems (ECIS), Galway, Ireland.

Harrison, DA. Mykytyn, PP., and Riemenschneider, CK.(1997) "Executive decisions about adoption of information technology in small businesses: theory and empirical test", Information Systems Research ,Vol. 8, No. 1,pp. 171–95.

Hasan, H., and Ditsa, G. (1999) "The impact of Culture On The Adoption of IT: An Interpretive Study", Journal of Global information Management, Vol. 7, No. 1, pp.5 – 15.

Hashim, J. (2007) "Information and Commuication Technology (ICT) Adoption among SME Owner in Malaysia", International Journal of Business and Information, Vol. 2, No. 2, pp.221–240

Hatcher, L. (1994) "A Step-by-Step Approach to Using the SAS® System for Factor Analysis and Structural Equation Modeling", Cary, NC: SAS Institute, Inc.

Heck, E., and Ribbers, P. (1999) "The adoption and impact of EDI in Dutch SMEs", Proceedings of 32nd Hawaii International Conference on System Sciences, Maui, Hawaii.

Helfat, C. E. (1997) "Know-How and Asset Complementarity and Dynamic Capability Accumulation: The Case of R&D", Strategic Management Journal, Vol. 18, No. 5, pp. 339-360.

Henderson,J.Dooley,F,andAkridge,J. (2000) "Adoption of Ecommerce Strategies for Agribusiness Firms", American Agricultural Economics Association Annual Meeting.Available online at < https://www.agecon.purdue.edu/cab/research/articles/ecommerce.pdf> [Accessed 19/4/2012]

Heung ,V. (2003) "Barriers to implement E-commerce in the travel industry :a practical perspective", International Journal of Hospitality Management, Vol. 22,No. 1, pp.111-118

Hewitt, R., Sowlati, T., and Paradi, J. C. (2011) "Information technology adoption in US and Canadian forest products industries", Forest Products Journal, Vo.l 61,No. 2, pp. 161-169.

Hoebel, A. (1960) "Man, Culture and Society", New York : Oxford University Press.

Hofstede, G. (1980) "Culture's Consequences; International Differences in work related values", Sage, Beverly Hills.

Hofstede, G. (1984) "Culture's consequences: International differences in work-related values", Sage, Newbury Park, CA.

Hofstede, G. (2001) "Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organization Across Nations", Sage, Beverly Hills, CA.

Howe, K.R. (2004) "A critique of experimentalism", Qualitative Inquiry, Vol. 10, No.1, pp. 42-61.

Hoyle, R. H. (1995) "Structural equation modeling", Sage Publications, Thousand Oaks, CA.

Hsu, P.F., Kraemer, K.L., and Dunkle, D. (2006) "Determinants of e-business use in us firms", International Journal of Electronic Commerce, Vol. 10, No. 4, pp 9-45.

Huang, C. D., Hart, P. and Wiley, M. (2004) "Factors Characterizing IT Use in SMEs: An Exploratory Study", In proceedings of the Innovations Through Information Technology, New Orleans: Idea Group Inc, pp.1229–1230

Humphrey, J.,Mansell,R. Pare, D. and Schmitz, H. (2004) "E-commerce for
Developing Countries: Expectations and Reality", IDS Bulletin, Vol. 35,No.
1,pp. 31–39.

Hunaiti, Z., Masa'deh R., Mansour, M., and Al-Nawafleh, A (2009) "Electronic
commerce adoption barriers in small and medium-sized enterprises (SMEs) in
developing countries: the case of Libya", IBIMA Business Review, Vol. 2, pp.
37-45.

Hung, Y., Yang, Y., Yang, H., and Chuang, Y. (2011) "Factors Affecting the
Adoption of E- commerce for the Tourism Industry in Taiwan", Asia Pacific
Journal of Tourism Research, Vol. 16, No. 1, pp. 105-119

Hussain,I.Sib,S., and Wang,L.(2010) "SMEs Development in Developing Countries
through Public – Private Partnership" ,In proceeding of the Inaugural
International Conference, Available online at http://www.ceauk.org.uk/2010-
conference-papers/full-papers/Iftikhar-Hussain-CEA-final.pdf > [Accessed
24-12-2011]

Hussein, R.M.S. (2009) "The Adoption of Web Based Marketing in the Travel and
Tourism Industry: An Empirical Investigation in Egypt", PhD. Thesis,
University of Nottingham, UK.

Hussin,H., Noor, M. (2005) "Innovating Business Through E-commerce: Exploring
the Willingness of Malaysian SMEs", In proceeding of the Second
International Conference on Innovations in IT (IIT'05).

Hussin, H.,Noor,M.and Suhaimi,M.(2008) "Perceived Attributes of E-Commerce and the Adoption Decision: The Case of Malaysian SMEs" , Jurnal Teknologi Maklumat & Multimedia ,Vol. 5,No.1 ,pp. 107-125

Hutcheson, G., and Sofroniou, N. (1999) "The multivariate social scientist: Introductory statistics using generalized linear models", Sage Publications, Thousand Oaks, CA.

Huy, L. E. Van, Rowe, F., and Truex, D. (2012) "An empirical Study of Determinants of E-commerce Adoption in SMEs in Vietnam an economy in transition", Journal of Global Information Management, Vol. 20, No. 3 ,pp.1-35.

Iacovou, C.L., Benbasat, I., and Dexter, A.S. (1995) "Electronic data interchange and small organizations: Adoption and impact of technology", MIS Quarterly, Vol. 19, No. 4, pp. 465-485.

Idisemi, A., Ann, L., and Moreton, R. (2011) "Factors affecting the effective Utilisation and adoption of sophisticated ICT solutions Case studies of SMES in Lagos", Nigeria Journal of Systems and Information Technology ,Vol. 13, No. 2, pp. 125-143

Ifinedo,P. (2011) "Internet/e-business technologies acceptance in Canada's SMEs: an exploratory investigation", Internet Research, Vol. 21 ,No. 3, pp. 255-281.

Igbaria, M., Iivari, J., and Maragahh, H. (1995) "Why do individuals use computer technology? A Finnish case study", Information and Management, Vol. 29,pp. 227–238.

Indecon International Economic Consultants (2013) "Assessment of the macro-economic impact of Internet/digital on the Irish economy", Report submitted to the Department of Communications, Energy and Natural Resources. Online available at < http://www.dcenr.gov.ie/NR/rdonlyres/3382C36A-3E42-4DA1-BFFFD6A106F90684/0/IndeconReportonAssessmentofMacroEconomicValue ofDigitalEconomy.pdf> Accessed on [10/9/2014] .

Ivanov, G.(2011) "The History and Background of Travel Agencies", Online available at <http://ezinearticles.com/?The-History-and-Background-of-Travel-Agencies&id=5175442> [Accessed 13-12-2011]

Jackson, S.(2011) "Research Methods and Statistics: A Critical Thinking Approach" ,4th ed., Wadsworth Publishing.

Jagoda, K. (2010) "The Use of Electronic Commerce by SMEs in Newfoundland, Canada", Entrepreneurial Practice Review, Vol. 1, No. 3, pp. 36-47

Jaidee, S. and Beaumont, N. (2003), "Factors affecting SMEs` owners/mangers in adoption of Business-to-Business Techniques: a Research Framework", Online available at <http://www.buseco.monash.edu.au/mgt/research/working-papers/2003/wp47-03.pdf > [Accessed 20/3/2012]

Janom,N., Zakaria, M.S, Habibah,N., Salleh,S.S, Aris, A.R. (2014) " Multidimensional Business to Business E-Commerce Maturity Application: Assessment on Its Practicality", iBusiness, Vol. 6, pp. 71-81. Online available at < www.scirp.org/Journal/PaperDownload.aspx?paperID=46232> [Accessed 23/5/2015]

JEDCO (2011) "SME Development in Jordan", Available online at <
http://worldsmeexpo.hktdc.com/pdf/2011/SeminarRoom_C/Dec_3/1630_1800
_24/2_AAl-Ahmad.pdf> [Accessed 16/10/2014]

Jeff Hoi, Y.Y, Shim, J.P., and Andy, K.L. (2003) "Current Progress of E-Commerce
Adoption: Small and Medium Enterprises in Hong Kong", Communication of
the ACM, Vol. 46,No. 9, pp. 226- 232.

Jeyaraj, A., Rottman, J.W. and Lacity, M.C. (2006) "A review of the predictors,
linkages, and biases in IT innovation adoption research", Journal of
Information Technology, Vol. 21, No. 1, pp. 1-23.

Jick, T. D. (1979) "Mixing qualitative and quantitative methods: Triangulation in
action", Administrative Science Quarterly, Vol. 24,No.1 ,pp. 602-611.

Johnson, B., and Christensen, L. (2010) "Educational Research: Quantitative,
Qualitative, and Mixed Approaches". UK: SAGE.

Johnson, B., and Turner, L. A. (2003) "Data collection strategies in mixed methods
research", In Tashakkori, A. and Teddlie ,C. (Eds.) Handbook of mixed
methods in social & behavioral research (pp. 297-320). Thousand Oaks, CA:
Sage Publications.

Jones, K. (2001) "E-Commerce Attitudes and Technology Involvement:
Organizational Perspectives", Journal of Business and Entrepreneurship, Vol.
13, No. 1.pp.3-6

Jordan Embassy (2014) "Culture and Religion" Available online at <
http://jordanembassyus.org/page/culture-and-religion> [Accessed 9/10/2014]

Jordan investment Board (2011) "This Middle East Market Report Gives an Overview of the Fixed-line Segment of the Telecoms Markets of the Region", Available online at <http://www.jordaninvestment.com/businessandinvestment/infrastructure/tabi d/140/language/en-us/default.aspx#515 > [Accessed 12/7/2014]

JSTA (2012) "Jordan Society of Tourism and Travel Agents", Available online at < jsta.org.jo> [Accessed 13/05/2012]

Kaewkitipong, L. (2010) "Disintermediation in the Tourism Industry: Theory vs. Practice", Business Information Processing , Vol. 58, pp. 16-171

Kamaroddin,J. ,Mei,D., and Ahmad,A. (2009) "Measuring Perception of Malaysian SME Towords E-commerce As An Innovation" ,In proceeding of the Conference of Science and Social Research ,CSSR 08' 09 .

Kapurubandara, M., and Lawson, R. (2007) "SMEs in Developing Countries Face Challenges in Adopting e-commerce Technologies", In proceeding of 20th Bled eConference eMergence, pp. 141–146.

Kapurubandara, M., Lawson, R. (2006) "Barriers to Adopting ICT and e-commerce with SMEs in Developing Countries: An Exploratory study in Sri Lanka", In proceeding of Collabourative Electronic Commerce Technology and Research, CollECTeR '06(9) December, Adelaide

Kapurubandara, M., Lawson, R. (2007) "SMEs in Developing Countries Face Challenges in Adopting e-commerce Technologies", In proceeding of the Inaugural IEEE International Conference on Digital Ecosystems and Technologies, pp.141-146

Karahanna, E., Straub, D, and Chervany, N. L. (1999) "Information technology adoption across time: Across-sectional comparison of pre-adoption and post adoption beliefs" , MIS Quarterly, Vol. 23 , No. 2, pp. 183-213.

Kartiwi, M. (2006) "Case Studies of E-commerce Adoption in Indonesian SMEs: The Evaluation of Strategic Use", Australasian Journal of Information Systems, Vol.14, No. 1, pp. 69-80.

Keesee, G. S., and Shepard, M.F. (2011) "Perceived attributes predict course management system adopter status", Online Journal of Distance Learning Administration, Vol. 4, No.1. Available online at <http://www.westga.edu/~distance/ojdla/spring141/keesee_shepard141.html> [Accessed 17/7/2014]

Kendall, J., Tung, L.L., Chua, K.H., Ng, C.H.D., and Tan, S.M. (2001) "Electronic commerce adoption by SMEs in Singapore", In proceedings of the 34th Hawaii International Conference on System Sciences, pp.1-10.

Keung, J., Jeffery, R., and Kitchenham, B. (2004) "The challenge of introducing a new software cost estimation technology into a small software organization", In proceedings of the 2004 Australian Software Engineering Conference (ASWEC'04), IEEE Computer Society Press, pp. 52–59.

Kew, J. and Herrington, M. (2009) "ICT and Entrepreneurship", A research report presented to the Small Enterprise Development Agency, UCT Graduate School of Business, University of Cape Town . Available online at: <http://www.gsb.uct.ac.za/files/SEDAICTReport2009.pdf> [Accessed 10 June, 2011].

Khalil, M., and Kenny, C., (n.d) "The Next Decade of ICT Development: Access, Applications and the Forces of Convergence ", Washington, DC: The World Bank Group. Online available at < http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICA TIONANDTECHNOLOGIES/Resources/NextDecadeICTGrowth.pdf > [Accessed on 08/01/2015]

Khan ,M., Dominic, P. Khan, A., and Naseebullah, A. (2010) "Adoption of E-commerce in Malaysia and its Affect on the Business Performance: An Organizational Perspective", In proceeding of International Symposium on Information Technology, ITSim , Vol. 1, pp.1-5.

Khushman, S. ,Todman, A. ,Amin, S. (2009) "The Relationship between Culture and E-business Acceptance in Arab Countries", In proceeding of the Second International Conference on Developments in eSystems Engineering , pp.454-459

King,W., and He, J. (2006) "A meta-analysis of the technology acceptance model", Information & Management, Vol. 43, No. 6, pp. 740-755

Kleinbaum, D.G., Kupper, L.L. and Muller, K.E. (1988) "Applied Regression Analysis and Other Multivariate Methods", PWS, Boston, MA.

Kline, P. (1993) "The Handbook of Psychological Testing", Routledge, London.

Kokash, H.A. (2012) "Jordanian Travel Agencies' Websites Assessment: Experts vs Tourists' Perceptions", International Journal of Marketing Studies, Vol. 4, No. 2, pp.80-92

Kollberg, M., and Dreyer, H. (2006) "Exploring the impact of ICT on integration in supply chain control: a research model",   Department of Production and Quality Engineering, Norwegian University of Science and Technology, Norway.

Kollmann, T., Kuckertz, A., and Breugst, N. (2009) "Organizational Readiness and the Adoption of Electronic Business - The Moderating Role of National Culture in 29 European Countries" ,The DATA BASE for Advances in Information Systems, Vol/ 40,No. 4,pp. 117-131.

Kothari, C.R. (2004) "Research Methodology Methods and Techniques", Second Edition, New Delhi: New Age International publisher.

Kotelnikov,V. (2007) "Small and Medium Enterprises and ICT", Asia-Pacific Development Information Programme. e-Primers for the Information Economy, Society and Polity. ISBN: 978-974-8283-93-7

Kowtha, N. R. and T. W. I. Choon (2001) "Determinants of website development: a study of electronic commerce in Singapore", Information & Management,Vol. 39, No.3 , pp. 227-242.

Kraemer, K.L., Dedrick, J. and Dunkle, D. (2002) "E-Commerce in the United States: Leader or One of the Pack? ", Global B Commerce Survey, Report of Results for the United States, Center for Research on Information Technology and Organisations, University of California, Irvine.

Kramer,W.J., Jenkins, B., and Katz ,R.S. (2007) "The Role of the Information and Communications Technology Sector in Expanding Economic Opportunity",

Corporate Social Responsibility Initiative Report No.22, Cambridge, MA: Kennedy School of Government , Harvard University.

Krejcie, R.V., and Morgan, D.W. (1970) "Determining Sample Size for Research Activities", Educational and Psychological Measurement , Vol 30, No.1,pp.607-610 .Available online at < http://opa.uprrp.edu/InvinsDocs/KrejcieandMorgan.pdf> [Accessed 12/8/2012]

Kuan, K.K.Y., and Chau, P.Y.K. (2001) "A Perception-Based Model for EDI Adoption in Small Businesses Using a Technology-Organization-Environment Framework", Information & Management,Vol. 38,No. 8 , pp. 507-521.

Kuhn, T.S. (1970) "The Structure of Scientific Revolutions", 2nd ed. , The University of Chicago Press.

Kurnia S, Alzougool B., Ali M and Alhashmi S. (2009) "Adoption of Electronic Commerce Technologies by SMEs in Malaysia", In proceedings of the 42nd Hawaii International Conference on System Sciences (HICSS 2009), pp. 1-10, California, United States: IEEE Computer Society.

Lancaster, G. (2005) "Research methods in management: a concise introduction to research in management and business consultancy", Oxford: Elsevier Butterworth-Heinemann.

Lawrence, J., Tar, U. (2010) "Barriers to e-commerce in developing countries Information, Society and Justice", Vol. 3, No. 1, pp. 23-35.

Leah H., Rubin, L.H., Witkiewitz,K., Andre,J.S., and Reilly, S. (2007) "Methods for Handling Missing Data in the Behavioral Neurosciences: Don't Throw the

Baby Rat out with the Bath Water", The Journal of Undergraduate Neuroscience Education ,Vol. 5, No.2,pp. 71-77

Lee, C.P., and Shim, J.P. (2007) "An Exploratory Study of Radio Frequency Identification (RFID) Adoption in the Healthcare Industry", European Journal of Information Systems, Vol.16, No. 6, pp. 712-724.

Lee, M.K.O. and Cheung, C.M.K. (2004) "Internet Retailing Adoption by Small-to-Medium Sized Enterprises (SMEs): A Multiple-Case Study", Information Systems Frontiers ,Vol. 6,No. 4, pp. 385-397.

Lee, O.K., Wang, M., Lim, K.H. ,and Peng, Z. (2009) "Knowledge management systems diffusion in chinese enterprises: A multistage approach using the technology-organization-environment framework", Journal of Global Information Management, Vol. 17, No. 1, pp 70-84.

Lee, Y.; Kosar, K. and Larsen, K. (2003) "The technology acceptance model: past, present and future", Communications of the Association for Information Systems,Vol. 12 ,No. 50, pp.752-780.

Lee, Y.-H., Hsieh, Y.-C., and Hsu, C.-N. (2011) "Adding Innovation Diffusion Theory to the Technology Acceptance Model: Supporting Employees' Intentions to use E-Learning Systems", Educational Technology & Society,Vol. 14 ,No. 4,pp. 124–137.

Lefebvrea, L., Lefebvrea, E., Elia, E. and Boeck, H. (2005) "Exploring B-to-B e-commerce adoption trajectories in manufacturing SMEs", Technovation, Vol. 25, No. 12, pp.1443–1456.

Leidner, D. and Kayworth, T. (2006) "A Review of Culture in Information Systems Research: Toward A Theory of Information Technology Culture Conflict", MIS Quarterly, Vol. 30, No. 2, pp. 357-399.

Levenburg, N., Magal, S.R., and Kosalge, P. (2006) "An exploratory investigation of organizational factors and e-business motivations among SMFOEs in the US", Electronic Markets, Vol. 16, No. 1, pp. 70-84.

Levy, M., Powell, P. and Worrall, L. (2005) "Strategic Intent and E-business in SMEs: Enablers and Inhibitors" Information Resources Management Journal, Vol. 18, No.4, pp. 1-20.

Li , Li., and Buhalis, D. (2006) "E-Commerce in China: The case of travel", International Journal of Information Management, Vol. 6, No. 2, pp. 153-166

Limthongchai, P., and Speece, M.W. (2003) "The effect of perceived characteristics of innovation on e-commerce adoption by SMEs in Thailand", In proceeding of the Seventh International Conference on Global Business and Economic Development, 8-11 January, pp.1573-85.

Lin, F.H. , Wu, J.H. (2004) "An empirical study of end-user computing acceptance factors in small and medium enterprises in Taiwan: analyzed by structural equation modeling", Journal of Computer Information Systems,Vol. 44, No. 4, pp. 98–108.

Lindner, J. R., Murphy, T. H., and Briers, G. E. (2001) "Handling Nonresponse In Social Science Research. Journal of Agricultural Education, Vol. 42, No. 4, pp. 43–53.

376

Ling, C.Y (2001) "Model of factor influences on electronic commerce adoption and diffusion in small and medium sized enterprises" ECIS Doctoral Consortium, 24-26 June, AIS Region 2 (Europe, Africa, Middle-East).

Lippert, S. K., and Govindarajulu,C. (2006) "Technological , Organizational , and Environmental Antecedents to Web Services Adoption", Communications of the IIMA, Vol. 6,No. 1 ,pp. 146-158

Little, R. J. A. (1988) "A test of missing completely at random for multivariate data with missing values", Journal of the American Statistical Association, Vol. 83,No.404 , pp. 1198- 1202.

Liu, S. (2005) " A Theoretic Discussion of Tourism E-commerce", In proceeding of the 17th conference on electronic commerce .

Livi ,E,(2008) "Information Technology and New Business Models in the Tourism Industry", In proceeding of the 8th Global Conference on Business & Economics ,October 18-19th ,pp. 1-13.

Locke,S.(2004) "ICT adoption and SME growth in New Zealand" ,Vol 4, Nos. 1/2, pp. 93–102.

Lockett, A. and Littler, D. (1997), "The adoption of direct banking services", Journal of Marketing Management, Vol. 13, pp. 791-811.

Looi, H. C. (2005) "E-commerce adoption in Brunei Darussalam: A quantitative analysis of factors influencing its adoption", Communication of the Association for Information Systems, Vol. 15, pp. 61-81.

Lopez-Nicolas,C., Molina-Castillo,F., and Bouwman,H.(2008) "An assessment of advanced mobile services acceptance: Contributions from TAM and diffusion theory models" , Information & Management, Vol. 45, No. 6, pp. 359-364

Lundgren, H., and Walczuch, R. (2003) "Moderated trust: The impact of power distance and uncertainty avoidance on the consumer trust formation process in e-retailing", In proceedings of the tenth research symposium on Emerging electronic markets,pp. 31-52.

Luo, M., and Remus,W. (2006) "Technology Acceptance of A Travel Website: An Exploratory Study", In proceedings of the 11th Annual Conference of Asia Pacific Decision Sciences Institute Hong Kong, June 14-18, pp. 118-125.

Lutz, R. J. (1981) "A functional theory framework for designing and pretesting advertising themes", In R. J. Lutz (ed.), "Contemporary Perspectives in Consumer Research",Boston: Kent Publishing Company.

Ma, X., Buhalis, D., and Song, H. (2003) "ICTs and Internet adoption in China's tourism industry",   International Journal of Information Management, Vol. 23, No. 6, pp. 451–467.

Macgregor, R. (2008) "The Role of Gender in the Perception of barriers to E-commerce Adoption in SMEs : An Australian Study", Communications of the IBIMA, Vol. 4, pp. 141-147

MacGregor, R., and Varazalic, L. (2005) "A basic model of electronic commerce adoption barriers, a study of regional small businesses in Sweden and Australia", Journal of Small Business and Enterprise Development, Vol.12, No. 4, pp.510-527

Malhotra, N.K., and Birks , D.F. (2000) "Marketing Research: An Applied Approach, European Edition", Harlow: Pearson Education Ltd.

Malhotra, N.K. (2010) "Marketing research: an applied orientation", 6th ed., Global edition, Boston: Pearson.

Manyika, J., Roxburgh, C. (2011) "The great transformer: The impact of the Internet on economic growth and prosperity", McKinsey Global Institute, Available online at

<http://www.mckinsey.com/insights/high_tech_telecoms_internet/the_great_tr ansformer > [Accessed 10/2/2012]

Martin, L. (2005) "Internet adoption and use in small firms: Internal processes, organizational culture and the roles of the owner-manager and key staff", New Technology, Work, and Employment, Vol. 13, No. 2, pp. 147- 159.

Martins, M. and Oliveira, T. (2009) "Determinants of e-commerce adoption by small firms in Portugal", In proceedings of the 3rd european conference on information management and evaluation. Gothenburg, Sweden, September, pp. 328-338.

Masoud, E. Y. (2013) "The Effect of Perceived Risk on Online Shopping in Jordan", European Journal of Business and Management, Vol.5, No.6,pp.76-87.

Masrek, M.N, Abdul Karim, N.S, and Hussein, R. (2008) "The effect of organizational and individual characteristics on corporate intranet utilizations", Information Management & Computer Security, Vol. 16, No. 2 pp. 89-112

McCarty, C. (2003) "Differences in Response Rates Using Most Recent versus Final Dispositions in Telephone Surveys", Public Opinion Quarterly, Vol. 67, No. 3,pp. 396–406.

McFarlane, D., Chembezi, D., and Befecadu, J. (2003) "Internet adoption and use of e--commerce strategies by agribusiness firms in Alabama", The Southern Agricultural Economics Association Annual Meeting, Mobile, Alabama. Online available at < http://www.webspace.aamu.edu/smallfarmers/AGB200308.pdf> [Accessed 19/5/2015]

Mcilhone, M. (2012) "Amadeus Jordan's e-Commerce", Workshop Focuses on eTrends in MENA, African Brains, Available online at < http://africanbrains.net/2012/09/28/amadeus-jordans-e-commerce-workshop-focuses-on-etrends-in-mena/#sthash.yPQp7VmL.dpuf> [Accessed 16/10/2014]

McKechnie, S., Winklhofer, H., and Ennew, C. (2006) "Applying the technology acceptance model to the online retailing of financial service", International Journal of Retail & Distribution Management , Vol. 34, No. 4/5,pp. 388-410.

Md Nor, K., and Pearson, J. M. (2007), "The Influence of Trust on Internet Banking Acceptance," Journal of Internet Banking and Commerce, Vol. 12, No. 2,pp. 1-10.

Mehrtens, J., Cragg ,P.B., and Mills, A. M. (2001) "A Model of Internet Adoption by SMEs", Information & Management, Vol. 39,No. 3, pp. 165-176.

Meredith, O.O. (1994) "Small Business Management in Australia", 4th ed., Sydney: McGraw-Hill.

Meyers, L.S., Gamst, G., and Guarino, A.J. (2013b) "Applied multivariate research: Design and Interpretation", 2nd ed., Thousand Oaks, CA: Sage.

Migiro, S.O. (2006) "Diffusion of ICTs and E-commerce adoption in manufacturing SMEs in Kenya", South African Journal of Library & Information Science, Vol. 72, No. 1, pp. 35-44.

Mingers, J. (2001) "Combining IS research methods: Towards a pluralist methodology", Information Systems Research, Vol. 12,No. 3,pp. 240-259.

Ministry of Information and Communications Technology (2007) "National e-commerce Strategy : Policies and Strategies Directorate" , Available online at< http://www.moict.gov.jo/portals/0/final1.pdf > [Accessed 10/10/2014]

Mirchandani, D.A., and Motwani, J. (2001) "Understanding small business electronic commerce adoption: an empirical analysis", Journal of Computer Information Systems, Vol. 41 No. 3, pp. 70-3.

Mishra, S.(2014) "Adoption of M-commerce in India: Applying Theory of Planned Behaviour Model", Journal of Internet Banking and Commerce, Vol. 19, No. 1, pp.1-17

Mndzebele, N. (2013) "The Effects of Relative Advantage, Compatibility and Complexity in the Adoption of EC in the Hotel Industry", International Journal of Computer and Communication Engineering, Vol. 2, No.4, pp. 473–476.

Molla, A. and Licker, P. (2004) "Maturation Stage of eCommerce in Developing Countries: A Survey of South African Companies", Information Technologies and International Development, Vol. 2, No. 1, pp. 89-98.

Molla, A. and Licker, P.S. (2005a), "eCommerce adoption in developing countries: a model and instrument", Information & Management, Vol. 42 No. 6, pp. 877-99.

Molla, A. and Licker, P.S. (2005b), "Perceived e-readiness factors in e-commerce adoption: an empirical investigation in a developing country", International Journal of Electronic Commerce, Vol. 10, No. 1, pp. 83-110.

Moraisa.E.P., Piresa,J.A., Gonçalvesb,R.M. (2012) "E-Business Maturity: Constraints Associated With Their Evolution", Journal of Organizational Computing and Electronic Commerce, Vol. 22, No. 3,pp. 280-300

Morgan, D. L. (2007) "Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods", Journal of Mixed Methods Research, Vol. 1, No. 1, pp. 48-76.

Morgan, G. A., Leech, N. L., Gloeckner, G. W., and Barrett, K.C. (2013) "IBM SPSS for introductory statistics: Use and interpretation", 5th ed., New York, NY: Routledge/Taylor and Francis

Moss, S., Prosser, H., Costello, H., et al. (1998) "Reliability and validity of the PAS–ADD Checklist for detecting psychiatric disorders in adults with intellectual disability", Journal of Intellectual Disability Research, Vol. 42, No.2, pp. 173–183

Mpofu, K.C., Milne, D., and Watkin-Mathys, L. (2009) "ICT and Development of E-business among SMEs in South Africa", ISBE 2009 Conference, Liverpool, UK.

Muijs, D. (2004) "Doing quantitative research in education with SPSS", London: Sage

Mumtaz ,AB. , Stev,C. (2012) "Assessing the Influence of Environmental and CEO Characteristics for Adoption of Information Technology in Organizations" ,Journal of Technology Management & Innovation, Vol. 7, No. 1, pp. 64-84.

Munir,AR., Idrus M.S., and Kadir R.A. (2013) "Acceptance of Mobile Banking Services in Makassar: A Technology Acceptance Model (TAM) Approach", Journal of Business and Management (IOSR-JBM) ,Vol. 7, No.6 ,pp. 52-59

Musawa,M., and Wahab, E. 2012 "The adoption of electronic data interchange (EDI) technology by Nigerian SMEs: A conceptual framework" , Journal of Business Management and Economics ,Vol. 3, No. 2, pp. 55-68.

Myers, M.D., and Avison, D.E. (2002) "Qualitative Research in Information Systems: A Reader", Sage Publications, London.

Nakata, C., and Sivakumar, K. (2001) "Instituting the Marketing Concept in a Multinational Setting: The Role of National Culture", Journal of the Academy of Marketing Science, Vol. 29, No. 3, pp. 255-275.

Narayan, P., Prasad, B., Ram, Y., and Narayan, J. (2005) "An Analysis of the Relationship between ICT and Fiji's Tourism Industry", Available online at< www.gdn-oceania.org/Portals/83/Downloads/Paresh_final.pdf> [Accessed 22/11/11]

Nasco S.A., Grandón E.E., and Mykytyn P.P. (2008) "Predicting electronic commerce

    adoption in Chilean SMEs" Journal of Business Research , Vol. 61, No. 6,

    pp.697–705

Nelson, M., Michael S. and Troy, S. (2010) "Sustainable e-Business Management", In

    proceeding of the 16th Americas Conference on Information Systems

    (AMCIS), pp.160-171

Nemat, R. (2011) "Taking a look at different types of e-commerce", World Applied

    Programming, Vol. 1, No. 2, pp. 100-104.

Neuman,W., (2003) "Social Research Methods: Qualitative and Quantitative

    Approahes", Boston: Pearson Education Inc.

Nunnally, J.C. (1978) "Psychometric Theory", New York : McGraw-Hill.

OECD (2002) "OECD small and medium size enterprise outlook", Available online at

    <http://www.oecd.org/document/39/0,3746,en_2649_34197_2483303_1_1_1_

    1,00.html> [Accessed 12/12/2011]

OECD (2004) "Promoting Entrepreneurship and innovative SMEs in a Global

    Economy: Towards a More Responsive and Inclusive Globalisation", In

    proceeding of the 2nd OECD Conference of Ministers Responsible for Small

    and Medium-Sized Enterprises (SMEs) Istanbul, Turkey 3-5 June.

OECD (2013) "OECD Investment Policy Reviews: Jordan 2013 ", Available online

    at< http://www.oecd.org/daf/inv/investment-policy/IPR-Jordan_2013-

    ExecSum.pdf> [Accessed 12/11/2014]

OECD (2009) "Top Barriers and Drivers t o SME Internationalization", Report by the OECD Working Party on SMEs and Entrepreneurship. Available online at < http://www.oecd.org/dataoecd/16/26/43357832.pdf > [Accessed 10/10/2014]

Olatokun, W. M., and Igbinedion, L.J. (2009) "The Adoption of Automatic Teller Machines in Nigeria : An Application of the Theory of Diffusion of Innovation", Informing Science and Information Technology, Vol. 6, pp. 275-393.

Olatokun, W., and Kebonye, M. (2010) "e-Commerce Technology Adoption by SMEs in Botswana e-Commerce Technology Adoption by SMEs in Botswana Introduction", International Journal of Emerging Technologies and Society ,Vol. 8, No. 1,pp. 42–56.

Oliveira, T., and Martins, M.F. (2010a) "Firms patterns of e-business adoption: Evidence for the European union- 27" , The Electronic Journal Information Systems Evaluation Volume, Vol. 13, No. 1, pp 47-56.

Oliveira, T., and Martins, M.F. (2010b) "Understanding E-Business Adoption across Industries in European Countries", Industrial Management & Data Systems, Vol. 110 No. 9, pp. 1337-54.

Oliveira, T., and Martins, M. (2011) "Literature Review of Information Technology Adoption Models at Firm Level", Information Systems Journal ,Vol. 14, No. 1, pp. 110- 121.

Oluyinka, S., Shamsuddin, A., Wahab, E., Akintunde, M. and Imoudu, W. (2013) "A study ofelectronic commerce adoption factors in Nigeria", International Journal of Information Systems and Change Management, Vol. 6, No. 14, pp.293–314.

Onwuegbuzie, A. J., and Collins, K. M. T. (2007) "A typology of mixed methods sampling designs in social science research. The Qualitative Report ,Vol. 12, No, pp. 281-316

Pallant, J. (2007) "SPSS Survival Manual, A Step by Step Guide to Data Analysis using SPSS for Windows (Version 12)" , 3rd ed., McGrew-Hill, Berkshire.

Pan, M.J., and Jang, W.Y. (2008) "Determinants of the adoption of enterprise resource planning within the technology-organization-environment framework: Taiwan's communications", Journal of Computer Information Systems, Vol. 48, No. 3, pp. 94-102.

Park, S. Y. (2009) "An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning", Educational Technology & Society, Vol. 12, No. 3,pp. 150–162.

Parsian, N., and Dunning, T. (2009) "Developing and validating a questionnaire to measure spirituality: A psychometric process", Global journal of health science, Vol. 1, No. 1, pp. 2-11

Patricia ,D. (2008) "The Internet , Threat or Tool for Travel Agencies" , Available online at < http://steconomice.uoradea.ro/anale/volume/2008/v2-economy-and-business-administration/017.pdf [Accessed 10-12-2011]

Paul, D. (2005) "Survey research. Emerging issues. New directions for institutional research", San Francisco: Jossey-Bass.

Paul R, K., Bhar , L.M. (2006) "Multicollinearity: Causes, Effects And Remedies" ,Available online at <http://www.iasri.res.in/seminar/AS-299/ebooks%5C2005-2006%5CMsc%5Ctrim2%5C3.%20Multicollinearity-%20Causes,Effects%20and%20Remedies-Ranjit.pdf> [Accsessed on 10/03/2014]

Pavlou, P. (2003) "Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model", International Journal of Electronic Commerce Vol. 7,No. 3, pp. 101–134.

Pavlou, P., and El Sawy, O.A. (2006) "From IT leveraging competence to competitive advantage in turbulent environments: the case of new product development", Information Systems Research, Vol. 17, No. 3, pp. 198-227.

Peppard, J. (1993) "IT strategy for business", Pitman, London.

Perez, M. P., Sanchez, A. M., Carnicer, P. L., and Jimenez (2004) "A Technology Acceptance Model of Innovation Adoption: The Case of Teleworking", Journal of Innovation Management, Vol. 7, No. 4, pp. 280-91.

Pham, L., Pham, LN., and Nguyen, D. (2011) "Determinants Of E-commerce Adoption in Vietnamese Small and Medium Sized Enterprises", International journal of entrepreneurship, Vol. 15 , pp. 45-72 , Available online at < http://www.alliedacademies.org/Publications/Papers/IJE%20VOL%2015%202011%20p%2045-72.pdf> [Accessed 20/9/2014]

Plana, C., Cerpa, N., and Bro ,P.B. (2004) "eCommerce Adoption Methodology for Chilean SME's", In proceeding of Collaborative Electronic Commerce Technology and Research. Available online at < https://www.researchgate.net/publication/233754770_eCommerce_Adoption_Methodology_for_Chilean_SME%27s> [Accessed 15/7/2014]

Pohar, M., Blas, M., and Turk, S. (2004) "Comparison of Logistic Regression and Linear Discriminant Analysis", A Simulation Study. Metodološki zvezki , Vol.1, No.1, pp. 143–161.

Polit, D., Beck, C. (2006) "Essentials of Nursing Research: Methods, Appraisal and Utilization", 6th ed., Lippincott Williams and Wilkins, Philadelphia

Polonsky, M., and Waller, D.S. (2005) "Designing and managing a research project: a business student's guide", Sage Publications, Thousand Oaks, Calif.

Poon, A. (1993) "Tourism, Technology and Competitive Strategies", Wallingford: CAB International. Oxford.

Poorangi, M.M., Edward, W.S.K., Shohreh, N. and Arash, K. (2013) "E-commerce adoption in Malaysian small and medium enterprises practitioner firms: a revisit on Rogers' model" , Anais da Academia Brasileira de Ciências , Vol. 85, No. 4, pp.1593–1604.

Porter, M.E., and Millar, V.E. (1985) "How Information Gives You Competitive Advantage", Harvard Business Review, Vol. 63,pp. 149-160.

Premkumar, G., and Roberts, M. (1999) "Adoption of New Information Technologies in Rural Small Businesses. Omega", The International Journal of Management Science, Vol. 27, No. 4, pp. 467-484.

PriceWaterhouseCoopers. (1999) "SME electronic commerce study" ,In proceedings of the Asia Pacific Economic Cooperation (APEC) Telecommunications Working Group.

Purwati, Y. (2011) "Standard Features of E-Commerce User Interface for the Web", Journal of Arts, Science & Commerce, Vol. 2, No. 3, pp. 77-87

Qiang, C.Z.-W., Rossotto, C.M., and Kimura, K. (2009) "Economic Impacts of Broadband", In Information and Communications for Development 2009: Extending Reach and Increasing Impact, World Bank, Online available at < http://siteresources.worldbank.org/EXTIC4D/Resources/IC4D_Broadband_35 _50.pdf > [Accessed 3/1/2015]

Ramdani, B., Kawalek, P., and Lorenzo, O. (2009) "Knowledge management and enterprise systems adoption by SMEs: Predicting SMEs' adoption of enterprise systems", Journal of Enterprise Information Management, Vol. 22, Nos. 1/2, pp. 10-24.

Ramsey, E. and McCole, P. (2005) "E-business in professional SMEs: the case of New Zealand", Journal of Small Business and Enterprise Development, Vol. 12, No. 4, pp.528–544.

Rao, S., Metts, G., and Monge, C. (2003) "Electronic commerce development in small and medium sized enterprises: A stage model and its implications", Business Process Management Journal, Vol. 9, No. 1, pp. 11-32.

Rattray, J., and Jones, M. C. (2007) "Essential elements of questionnaire design and development" , Journal of Clinical Nursing, Vol. 16, No. 2,pp. 234–43.

Raymond, L. (2001) "Determinants of Web site implementation in small businesses", Internet Research: Electronic Networking Applications and Policy, Vol. 11, No.5, pp.411-22.

Rayport, J. and Jaworski, B. (2002) "Introduction to E-Commerce", 2nd ed., Irwin/McGraw-Hill, Boston, MA.

Riemenschneider, C. K., Harrison, D. A., and Mykytn, P. P. (2003) "Understanding IT adoption decisions in small business: Integrating current theories", Information & Management, Vol. 40,No. 4,pp. 269-285.

Riemenschneider, C.K., and McKinney, V.R. (2001) "Assessing Belief Differences in Small Business Adopters and Non-Adopters of Web-Based E-Commerce", The Journal of Computer Information Systems ,Vol. 42 ,No. 2, pp. 101-107.

Riemenschneider, C.K., and McKinney, V.R. (1999) "Assessing the adoption of web-based e-commerce for businesses: a research proposal and preliminary findings", Electronic Markets, Vol. 9, Nos. 1/2, pp. 9-13.

Robert C., MacGregor, R.C., and Kartiwi, M. (2010) "Perception of Barriers to E-Commerce Adoption in SMEs in a Developed and Developing Country: A Comparison Between Australia and Indonesia", Journal of Electronic Commerce in Organizations ,Vol.8, No. 1 , pp. 61-82

Rode, N. (2005) "Translation of Measurement Instruments and their Reliability: An Example of Job-Related Affective Well-Being Scale " Metodološki zvezki , Vol. 2, No. 1, pp.15-26

Rogers, E.M. (1983) "Diffusion of innovations", 3rd ed., New York: Free Press

Rogers, E.M. (2003) "Diffusion of innovations", 5th ed. New York: Free Press

Rogers, E.M., Medina, U.E., Rivera, M.A., and Wiley, C.J. (2005) "Complex adaptive systems and the diffusion of innovations", The Innovation Journal: The Public Sector Innovation Journal, Vol. 10, No. 3, Article 30.

Royal , K.(2011) "Understanding Reliability in Higher Education Student Learning Outcomes Assessment", Quality Approach in Higher Education , Vol. 2, No. 2 , pp. 1-16 .

Sabherwal, R., Jeyaraj, A., and Chowa, C. (2006) "Information System Success: Individual and Organizational Determinants", Management Science, Vol. 52, No.12, pp.1849-1864.

Salwani, M.I., Marthandan, G., Norzaidi, M.D., and Choy, S. (2009) "E-commerce usage and business performance in the Malaysian tourism sector: empirical analysis", Information Management & Computer Security, Vol. 17 , No.2 ,pp. 166 – 185.

Sandy, C. and Graham, P. (2007) "Factors influencing the extent of deployment of e-commerce for small and medium sized enterprises", Journal of Electronic Commerce in Organizations, Vol. 5,No. 1,pp. 1-29.

Sanzogni, L. (2010) "Factors Influencing the Adoption and Usage of Online Services in Saudi Arabia", The Electronic Journal on Information Systems in Developing Countries, Vol. 40, No.1, pp. 1–32.

Saprikis, V., and Vlachopoulou, M. (2012) "Determinants of suppliers' level of use of B2B emarketplaces", Industrial Management & Data Systems, Vol. 112, No. 4, pp.619 – 643

Sarkar, A. (2008) "E-commerce adoption and Implementation in SMEs: an analysis of factors", In proceeding of the 21s t Annual Conference of the National Advisory Committee on Computing Qualifications, pp. 309-319.

Sarosa, S., and Zowghi, D. (2003) "Strategy for Adopting Information Technology for SMEs:Experience in Adopting Email within an Indonesian Furniture Company", Electronic Journal of Information Systems Evaluation, Vol. 6, No. 2, pp. 165-176.

Sarosa, S. and Underwood, J. (2005) "Factors affecting IT adoption within Indonesian SMEs: manager's perspectives", In Proceedings of the 9th Pacific Asia Conference on Information Systems, 7-10 July, Bangkok, Thailand.

Satti, O., and Nour, M. (2002) "ICT Opportunities and Challenges for Development in the Arab World", World Institute for Development Economics Research Discussion Paper 2002/83 United Nations University , Available online at < https://www.academia.edu/4395099/ICT_Opportunities_and_Challenges_for_ Development_in_the_Arab_World > [Accessed 25/5/2012]

Saunders, C. and Hart, P. (1993) "Electronic Data Interchange Across Organizational Boundaries: Building a Theory of Motivation and Implementation" , In proceeding of 21st the Annual Conference of Administrative Sciences Association of Canada , Lake Louise, Alberta, Canada.

Saunders, M., Lewis, P., and Thornhill, A. (2012) "Research methods for business students", 6th ed., Harlow, Pearson Education

Schensul ,S.L., Schensul J.J., and LeCompte, M.D. (1999) "Essential ethnographic methods: observations, interviews, and questionnaires". Walnut Creek, CA: Altamira Press; 1999.

Schlomer, G. L., Bauman, S., and Card, N. a. (2010) "Best practices for missing data management in counseling psychology", Journal of counseling psychology, Vol. 57, No. 1, pp. 1–10.

Scupola , A. (2009) "SMEs' e-commerce adoption:perspective from Denmark and Australia", Journal of Enterprise Information Management ,Vol 22. Nos ½. pp. 152-166.

Scupola, A. (2003) "The adoption of internet commerce by SMEs in the South of Italy: an environmental, technological and organizational perspective", Journal of Global Information Technology Management, Vol. 6 ,No. 1, pp. 51-71.

Seidman, I. (2006) "Interviewing As Qualitative Research: A Guide for Researchers in Education and the Social Sciences", 3rd ed., New York: Teachers College Press.

Sekaran, U. (2003) "Research Methods for Business: A Skill Building Approach", USA: John Wiley and Sons.

Senarathna, R.P.I.R., and Wickramasuriya, H.V.A. (2011) "Organizational factors affecting e-commerce adoption in small and medium-sized enterprises", Tropical Agricultural Research, Vol. 22, No. 2, pp.204–210.

Seni, D.A, and Hodges, W. (1996) "Common grounds and relationships between
information technology and philosophy", Association for information
sciences, America's conference, Vol. 2, pp. 398–400.

Seyal, A.H. and Rahman, M.N.A. (2003) "A preliminary investigation of e-commerce
adoption in SMEs in Brunei", Journal of Global Information Technology
Management, Vol. 6, No. 6,pp. 6-26.

Seyal, A.H., Awais, M.M., Shamail, S., and Abbas, A. (2004) "Determinants of
Electronic Commerce in Pakistan: Preliminary Evidence from Small and
Medium Enterprises", electronic markets , Vol. 14 ,No.4.pp. 372–387

Shackleton, V.J., and Ali, A.H. (1990) "Work-related values of managers: A test of
the Hofstede model", Journal of Cross Cultural Psychology, Vol. 21, No. 1,
pp. 109-118.

Shaharudin, M. R., Omar, M. W., Elias, S. J., Ismail, M., Ali, S. M., and Fadzil, M. I.
(2012) "Determinants of electronic commerce adoption in Malaysian SMEs'
furniture industry", African Journal of Business Management ,Vol. 6, No.10,
pp. 3648–3661.

Shanker, D. (2008) "ICT and Tourism: Challenges and Opportunities", In preceding
of conference on Tourism in India-Challenges Ahead, pp. 15-17.

Shannak,O.R, Al-Debei,O.O. (2012) "The Current State of E-Commerce In Jordan:
Applicability And Future Prospects", In proceedings of the 5th IBIMA
Conference on The Internet & Information Technology in Modern
Organizations, pp. 457-489.

Sharma, G. (2008) "Veterinary extension education", Hyderabad [India] : BS
Publications.

Shdeifat, O. Mohsen, M. Mustafa, , M. al-Ali, , Y. and al-Mhaisen, B (2006)
"Development of Methods and Tools for the Establishment of Good
Environmental Performance in The Tourist Accommodation Sector in Jordan
– Implementation of pilot studies", 1st Issue.

Shih, T., and Fan, X. (2007) "Response Rates and Mode Preferences in Web-Mail
Mixed-Mode Surveys: A Meta-Analysis", International Journal of Internet
Science, Vol. 2, No. 1, pp. 59-82

Simpson, M., and Docherty, A. J. (2004) "E-commerce adoption support and advice
for UK SMEs Determine the barriers facing SMEs adopting", Journal of Small
Business and Enterprise Development, Vol. 11, No. 3, pp. 315-328.

Smircich, L. (1983) "Concepts of culture and organisational analysis", Administrative
Science Quarterly, Vol. 28, No. 3, pp. 339–58.

Smith, K. W. (1974) "On estimating the reliability of composite indexes through
factor analysis", Sociological Methods & Research, Vol.2,No.4, pp. 485–510.

Sparling, L., Toleman, M., and Cater-steel, A. (2007) "SME Adoption of e-
Commerce in the Central Okanagan Region of Canada Review of e-
Commerce Adoption Literature", In proceeding of the 18th Australasian
Conference on Information Systems, pp. 1046–1059.

Sparling, L., Cater-Steel, A., and Toleman, M. (2010) "Adoption of e-commerce by
Canadian SMEs: defining organizational, environmental and innovation
characteristics", In Encyclopedia of e-business development and management

in the global economy". Business Science Reference (IGI Global), Hershey, PA, United States, pp. 305-315.

Squires, JE. , Estabrooks, CA. , Newburn-Cook, CV. , and Gierl, M. (2011) "Validation of the Conceptual Research Utilization Scale: An application of the Standards for Educational and Psychological Testing in Healthcare", BMC Health Services Research, Vol. 11,pp.107. Available online at< http://www.biomedcentral.com/1472-6963/11/107> [Accessed 9/7/2014]

Standing, C., Vasudavan, T. ,and Borbely, S. (1998) " Re-engineering travel agencies with the World Wide Web", Electronic Markets, Vol. 8, No. 4, pp. 40-43.

Stephen, J., Ezell, S.J., and Atkinson, R.D. (2014) "How ITA Expansion Benefits the Chinese and Global Economies", The Information Technology & Innovation Foundation, online available at http://www2.itif.org/2014-ita-expansion-benefits-chinese-global-economies.pdf Acessed on 5/1/2015]

Straub, D., Loch, K.D, and Hill, C.E. (2001) "Transfer of information technology to the Arab World: A test of cultural influence modeling", Journal of Global Information Management. Vol.9, No. 4, pp. 1-60.

Straub, D., Keila, M., and Brenner, W. (1997) "Testing the technology acceptance model across cultures: A three country study", Information and Management, Vol.33, No. 1, pp. 29-38.

Sultan, F., and Chan, L. (2000) "The adoption of new technology: the case of object-oriented computing in software companies", IEEE transactions on Engineering Management, Vol. 47 ,No. 1, pp.106-126.

Sutanonpaiboon, J., and Pearson, A.M. (2008) "E-commerce adoption: perceptions of managers/owners of small- and medium sized enterprises (SMEs) in Thailand e-commerce adoption: perceptions of managers/owners of small- and medium-sized enterprises (SMEs) in Thailand", Journal of Internet Commerce, Vol. 5, No. 3, pp.53–82.

Sweet, P. (2001) "Designing interactive value development" , PhD. Thesis, Lund University, Lund Business Press , Sweden

Szajna, B. (1994) "Software evaluation and choice: predictive evaluation of the Technology Acceptance Instrument", MIS Quarterly, Vol. 18, No. 3,pp. 319–324,

Tabachnick, B. G., and Fidell, L. S. (2013) "Using multivariate statistics", 6th ed., Boston: Allyn and Bacon

Tagini, P. (2000) "E-Commerce in Vanuatu: Can Contract Law Accommodate for New Technology?", Journal of South Pacific Law (JSPL), Vol. 4. Online available at < http://www.usp.ac.fj/index.php?id=13203 > [Accessed 10-1-2015]

Tan, J., Tyler, K., and Manica, A. (2007) "Business-to-business adoption of eCommerce in China", Information & Management,Vol. 44,No. 3,pp. 332-351.

Tan, K.S., Chong, S., Lin, B., Eze, U.C. (2009) "Internet-based ICT adoption: evidence from Malaysian SMEs", Industrial Management & Data Systems, Vol. 109, No. 2, pp. 224 – 244.

Tan, M., and Teo, T.S.H. (2000) "Factors influencing the adoption of internet banking", Journal of the Association for Information Systems, Vol. 1, No. 5,pp. 1-42.

Tan, C.F. (2010) "A Perception-based Model for Technological Innovation in Small and Medium Enterprises", In proceeding of 18th European Conference on Information Systems, pp. 1-13.

Tan, K., and Eze, U. (2008) "An Empirical Study of Internet-Based ICT Adoption Among Malaysian SMEs", Communications of IBIMA, Vol.1, No. 1, pp. 1-12.

Tang, J.E., and Chiang ,C. (2009) "Towards an understanding of the behavioral intention to use mobile knowledge management", Information Science and Applications, Vol. 6, No. 9, pp. 1601–1613.

Tavakol, M., and Dennick, R. (2011) "Making sense of Cronbach's alpha", International Journal of Medical Education, Vol. 2, pp. 53-55.

Taylor, S. and Todd, P.A. (1995) "Assessing IT Usage: the Role of Prior Experience", MIS Quarterly, Vol. 19, No. 2 , pp. 561-570.

Taylor-Powell, E., and Hermann, C. (2000 "Collecting Evaluation Data: Surveys", University of Wisconsin-Extension, Online available at <http://learningstore.uwex.edu/assets/pdfs/G3658-10.PDF> [Accessed 29-7-2012]

Teo, H.H., Wei, K.K. and Benbasat, I. (2003) "Predicting Intention to Adopt Interorganizational Linkages: An Institutional Perspective", MIS Quarterly , Vol. 27, No.1, pp. 19-49.

Teo, T.S.H., and Tan, M. (1998) "An empirical study of adopters and non-adopters of the internet in Singapore", Information & Management, Vol. 34, pp. 339-345.

Teo, T.S.H., Lin, S., and Lai, K. H. (2009) "Adopters and non-adopters of e-procurement in Singapore: An empirical study", International Journal of Management Science, Vol. 37, No. 5, pp. 972-987.

Teo, T.S.H., Ranganathan, C. , and Dhaliwal, J. (2006) "Key dimensions of inhibitors for the deployment of web-based business-to-business electronic commerce", IEEE Transactions on Engineering Management, Vol. 53, No. 3, pp. 395-411.

Teo,T.S.H., and Ranganathan, C.(2004) "Adopters and non-adopters of business- to-business electronic commerce in Singapore", Information and Management ,Vol. 42,No.1,pp. 89–102.

Thatcher ,S.M.B., Foster, W., and Zhu., L. (2006) "B2B e-commerce adoption decisions in Taiwan: the interaction of cultural and other institutional factors", Electronic research and applications , Vol. 5, pp. 92–104.

Thong, J.Y.L. (1999) "An integrated model of information systems adoption in small businesses", Journal of Management Information Systems, Vol. 15, No. 4, pp. 187-214.

To, M.L., and Ngai, E.W.T. (2007) "The role of managerial attitudes in the adoption of technological innovations: an application to B2C e-commerce",

International Journal of Enterprise Information Systems, Vol. 3, No. 2, pp.23-33.

Tornatzky, L., and Klein, K. (1982) "Innovation characteristics and innovation adoption-implementation : A meta-analysis of findings", IEEE Transactions on Engineering Management, Vol. 29,No. 1, pp. 28-45.

Tornatzky, L.G., and Fleischer, M.(1990) "The Processes of Technological Innovation", Lexington, MA: Lexington Books.

Touray ,A., Salminen,A., and Mursu ,A. (2013) "ICT BARRIERS AND CRITICAL SUCCESS FACTORS IN DEVELOPING COUNTRIES", The Electronic Journal of Information Systems in Developing Countries, Vol. 56,No. 7,pp. 1-17

Travel Industry Association (2009) "Travelers' Use of the Internet", Online available at < http://travel.utah.gov/publications/newsletters/files/2010_01_21/Travelers%20 Use%20of%20the%20Internet%20-%202009.pdf > [Accessed 25/11/11]

Ukoha,O., Awa,H., Nwuche,C., and Asiegbu ,I. (2011) "Analysis of Explanatory and Predictive Architectures and the Relevance in Explaining the Adoption of IT in SMEs" , Interdisciplinary Journal of Information, Knowledge, and Management,Vol.6 , pp. 217-230

United Nations (2010) "The Global Partnership for Development at a Critical Juncture", MDG Gap Task Force Report, Online Available at < http://www.un.org/millenniumgoals/pdf/1043282_MDG_2010%20%28E%29 %20WEBv2.pdf > [Accessed 6/1//2015]

Van Dijk, J. (2006) "Digital divide research, achievements and shortcomings Poetics", The digital divide in the twenty-first century, Vol. 34, No. 4-5, pp. 221-235.

Vatanasakdakul, S. , and D'Ambra, J. (2006) "An exploratory study of the socio-cultural impact on the adoption of e-commerce for firms in the tourism industry of Thailand, in proceeding of the14[th] European Conference on Information System (ECIS), Goteborg, Sweden, pp.235-247.

Vatanasakdakul, S., Tibben, W., and Cooper, J. (2004) "What prevents B2B ecommerce adoption in developing countries?: A socio-cultural perspective" ,In proceeding of the 17th Bled Ecommerce Conference Eglobal, Bled, Slovenia.

Veiga, J. F., Floyd, S., and Dechant, K. (2001) "Towards modeling the effects of national culture on IT implementation and acceptance", Journal of Information Technology, Vol. 16, No. 3 , pp. 145-158.

Venkatesh, V., Morris, V., Davis, G., and Davis, F. (2003) "User acceptance of information technology: toward a unified view", MIS Quarterly, Vol. 27,No. 3,pp. 425–78.

Venkatesh, V. and Davis, F.D. (2000) "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies", Management Science, Vol. 46, pp. 186-204.

Venkatesh, V., and Bala, H. (2008) "TAM 3: Advancing the Technology Acceptance Model with a Focus on Interventions", Decision Sciences , Vol. 39, No. 2, pp. 273–315.

Vittinghoff, E., and McCulloch, E.C. (2006) "Relaxing the Rule of Ten Events per Variable in Logistic and Cox Regression", American Journal of Epidemiology,Vol.165, No. 6,pp. 710-718

Vogt, W.P., and Johnson, B. (2011) "Dictionary of statistics and methodology: A nontechnical guide for the social sciences", 4th ed., Thousand Oaks, CA: Sage.

Vrana, V., Zafiropoulos, C., and Paschalidis, S. (2006) "Attitudes towards Internet Use among Travel Agencies in Greece", In proceedings of the14 th European Conference on Information Systems.

Wang, E.H. (1999) "ICT and economic development in Taiwan: analysis of the evidence", Telecommunications Policy, Vol. 23, No3-4, pp. 235–243.

Wang, H., Hou, J. (2012) "Factors Affecting E-commerce Adoption and Implementation in Small and Medium-Sized Enterprise", International Journal of Digital Content Technology and its Applications(JDCTA) ,Vol. 6, No. 7, pp. 167-173

Wang, S., and Cheung, W. (2004) "E-Business adoption by travel agencies: Prime candidates for mobile e-business", International Journal of Electronic Commerce, Vol. 8, No. 3, pp. 43-63

Wang, H. , and Hou, J. (2012) "Factors Affecting E-commerce Adoption and Implementation in Small and Medium-Sized Enterprises" , International Journal of Digital Content Technology and its Applications,Vol. 6,No. 7,pp.167-173.

Warnaby, G., White, G., Prabhakar, G. P. , and Abd Razak, A. (2008) "Adoption and use of E-commerce by small businesses in the UK tourism industry", In Entrepreneurship and Firms in the New Economy, Tunisia. Available online at < http://eprints.uwe.ac.uk/14409/1/eCommerce_in_UK_Tourism_SMEs.pdf > [Accessed 20/10/14]

Weaver, K., and Olson, J.K. (2006) "Understanding paradigms used for nursing research", Journal of Advanced Nursing, Vol. 53, No. 4, pp. 459-69.

Weiss, J.A., and Dale, B.C. (1998) "Diffusing against mature technology: Issues and strategy", Industrial Marketing Management, Vol. 27, No. 4, pp.293–304

Werner, P. (2004) "Reasoned Action and Planned Behavior", In S.J. Peterson & T.S. Bredow (eds), Middle range Theories: Application to Nursing Research, Lippincott Williams & Wilkins, Philadelphia, pp. 125-147.

Werthner, H., and Klein, S. (1999) "Information technology and tourism: A challenging relation", Vienna: Springer Verlag.

Weston , R., and Gore, P. (2006) "A Brief Guide to Structural Equation Modeling". The Counseling Psychologist, Vol. 34 No. 5,pp. 719-751

Wigand, R. T. (1997) "Electronic Commerce: Definition, Theory and Context, The Information Society", Vol. 1, No. 13, pp. 1-16

Wijngaert, L.V.D., Vermaas, K., Brinkkemper, S., and Bouwman, H. (2008) " Accumulating IS Theories Using a Network Approach Towards Meta-Analysis" , In proceeding of the 2008 European Conference on Information Systems , pp. 1153-1164.

Williams, M.D., Dwivedi, Y.K., Lal, B. and Schwarz, A. (2009) "Contemporary trends and issues in IT adoption and diffusion research", Journal of Information Technology,Vol. 24, No. 1, pp. 1-10.

Woods, M., Woods , M.B, (2009) "Seven Wonders of the Ancient Middle East", 2nd ed., British Library Cataloguing :UK , Online available at< http://books.google.co.uk/books/about/Seven_Wonders_of_the_Ancient_Midd le_East.html?id=SldNota6-FUC&redir_esc=y >[Accessed 30/10/2014]

World Bank (2014) "Country and Lending Groups" , Available online at < http://data.worldbank.org/about/country-and-lending-groups > [Accessed 12/11/2014]

World Health Organization (2013) "Country Cooperation Strategy for WHO and Jordan 2008–2013", Online available at < http://www.who.int/countryfocus/cooperation_strategy/ccs_jor_en.pdf > [Accessed 20/11/2014]

World Internet stats (2014) "Internet Users in the World", Online available at < http://www.internetworldstats.com/stats.htm> [Accessed 2/1/2015]

World Population Review (2014) "Jordan Population" Available online at< http://worldpopulationreview.com/countries/jordan-population> [Accessed 9/10/2014].

World Tourism Organization Council (2001) "E-business for Tourism", Available online at < http://pub.unwto.org/WebRoot/Store/Shops/Infoshop/Products/1210/1210-1.pdf > [Accessed 17/11/11].

World Travel Market (2014) "The Future of Travel: Top Three Drivers of The Industry", Euromonitor International, Online Available at < http://sete.gr/_fileuploads/entries/Online%20library/GR/The%20Future%20of%20Travel_WTM.pdf > [Accessed 23/12/2014] .

Wrenn,B., Stevens,R., and Loudon,D. (2006) "Marketing Research: Text and Cases", Routledge, London.

WTO (2001) "E-business for Tourism", Online available at < http://pub.unwto.org/WebRoot/Store/Shops/Infoshop/Products/1210/1210-1.pdf > [Accessed 17-11-11]

WTO (2013a) "Travel and Tourism , Economic Impact 2014 , Online available at < http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCQQFjAA&url=http%3A%2F%2Fwww.wttc.org%2F~%2Fmedia%2Ffiles%2Freports%2Feconomic%2520impact%2520research%2Fregional%2520reports%2Fworld2014.ashx&ei=vBE8VO7TMMSa7gao1IGIAQ&usg=AFQjCNFw0VVjx0rC40ZNO-h62yEv7G75qQ&bvm=bv.77161500,d.ZWU > [Accessed 29/10/2014]

WTO (2013b) "Travel and Tourism , Economic Impact 2014",Online available at <
http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ve
d=0CCgQFjAB&url=http%3A%2F%2Fwww.wttc.org%2F~%2Fmedia%2Ffil
es%2Freports%2Feconomic%2520impact%2520research%2Fcountry%2520re
ports%2Fjordan2014.ashx&ei=4gg8VPC6M43e7AbN1IH4CA&usg=AFQjC
NGiSe5qiR0H597Se6Z_7cJPfN8yQw&bvm=bv.77161500,d.ZWU&cad=rja>
[Accessed 29/10/2014]

Wymer, S., and Regan, E. (2005) "Factors influencing e-commerce adoption and use
by small and medium businesses", Electronic Markets, Vol. 15, No. 4, pp.
438-453.

Yatigammana, K., Johar , M.G., and Gunawardhana, C. (2014) "Comparison of E-
Learning Acceptance among Postgraduate Students in Sri Lanka and
Malaysia", Jouranl of South Asian Studies , Vol. 2 ,No. 2 ,pp.165-176

Yeung, J.H.Y., Shim, J.P., and Lai, A.Y.K. (2003) "Current Progress of E-Commerce
Adoption: Small and Medium Enterprises in Hong Kong", Communications of
the ACM, Vol. 46, No. 9, pp. 226-232.

Ygge , B.M., and Arnetz J.E. (2004) "A study of non-response in a questionnaire
survey of parents' views of pediatric care", Journal of Nursing Management.
Vo. 12, No. 1, pp. 5-12.

Yin, R.K. (2003) "Case study research: Design and methods", 3rd ed., Thousand Oaks,
CA: Sage.

Yong,T., Shi-Hua, M., and Feng-Mei,G (2007). "An Empirical Research:Relationship Between Logistics Capabilities and Supply Chain Performance in Industrial Enterprises", Chinese Journal of Management ,Vol. 4, No.4 pp. 493-504

Yoo, B., Donthu, N., and Lenartowicz, T. (2011) "Measuring Hofstede's Five Dimintions of Cultural Values at the individual level : development and Validation of CVSCALE", Journal of International Consumer Marketing . Vol. 23. Nos. 3-4, pp. 193-210

Yoon, C. (2009) "The effects of national culture values on consumer acceptance of e-commerce: Online shoppers in China", Information & Management ,Vol. 46, No. 5 ,pp. 294-301.

Yousafzai , S.Y., Foxall, G., and Pallister, J.G. (2010) "Explaining Internet Banking Behavior: Theory of Reasoned Action, Theory of Planned Behavior, or Technology Acceptance Model?", Journal of Applied Social Psychology, Vol. 40,No. 5, pp. 1172–1202.

Yousafzai,S.Y., Foxall, G., and Pallister ,J.G (2007) "Technology acceptance: a meta‐analysis of the TAM: Part 1", Journal of Modelling in Management, Vol. 2 ,No. 3, pp.251 – 280

Zandi,F. (2013) "A Country-Level Decision Support Framework for Self-Assessment of E-Commerce Maturity", iBusiness, Vol. 5 No. 2, pp. 43-54.

Zendehdel, M., and Paim, L.H. (2012) "Determinants of behavioural attitude to accept E-shopping among the students in Malaysia", Life Science Journal , Vol.9, No. 3 , pp. 2441-2445

Zhou, Q., and DeSantis, R. (2005) "Usability Issues in City Tourism Website Design: A Content Analysis", In proceeding of the 2005 IEEE International Professional Communication Conference.

Zhu, K., and Kraemer, K.L. (2002) "e-Commerce Metrics for Net-Enhanced Organizations: Assessing the Value of e-Commerce to Firm Performance in the Manufacturing Sector", Information Systems Research, Vol. 13, No. 3,pp. 275-295.

Zhu, K., and Kraemer, K.L. (2005) "Post-adoption variations in usage and value of e-business by organizations: cross-country evidence from the retail industry", Information Systems Research, Vol. 16 No. 1, pp. 61-84.

Zhu, K., Kraemer, K., and Xu, S. (2003) "Electronic business adoption by European firms: a cross-country assessment of the facilitators and inhibitors", European Journal of Information Systems, Vol. 12, No. 4, pp. 251-268.

Zhu, K., Kraemer, K.L. and Xu, S. (2006b) "The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business", Management Science, Vol. 52, No. 10, pp. 1557-1576.

APPENDICES

Appendix A1- The directory lists of travel agencies in Jordan

العنوان	E -MAIL	فاكس	تليفون	الاسم بالانجليزي	فئة	الاسم بالعربية	الرقم
	jordan@abrcrombiekent.com.jo	5664767	5665465	ABROCROMBI &	ب	ابوكرومبي	1
		5662805	5662805	ABEN TAYMEYAH	ب	ابن تيمية للسياحة والسفر	2
	abukhalf-travel@flyjordan.com.jo.com	5349950	5332000	ABU KHALAF	ب	ابو خلف للسياحة والسفر	3
	ajnaden_tourism@yahoo.com	5671842	5680600	AJNADIN TRAVEL	ب	اجنادين للسياحة والسفر وحج	4
	artemisjordan@wanadoo.jo	5821284	5521601	ARTEMIS TOURS &	١	ارتميس للسياحة والسفر	5
	Asfaar@flyjordan.jo	5857292	5857998	ASFAAR TRAVEL	ب	الاسفار للسياحة والسفر	6
	holiday@maltrans.com	5656582	5656601	ASYAD TOURS &	١	اسياد للسياحة والسفر	7
	daralhijra@flyjordan.com.jo	5693292	5693291	TRAVEL HOUSE	ب	فندق دار الهجرة للسياحة والسفر	8
		5602708	5602703	AL ALAI	ب	العلا للسياحة والسفر وحج	9
		5677963	5677965	AL ABADEYAH	ب	العبادي للسياحة والسفر	10
	CHAMPIONS.TOURS@GO.COM.JO	5682255	5677702	CHAMPIONS TRAVEL	ب	الابطال للسياحة والسفر	11
	nyazi@index.com.jo	5815902	5815910	JORDAN TOURISM	ب	ائتلاف الاردن للسياحة	12
	alathar@flyjordan.jo	5562767	5562766	AL ATHAR TRAVEL &	ب	الاثر للسياحة والسفر	13
	ghtours@wanadoo.jo	5659054	5659051	GOLDEN HOLIDAY	ب	الاجازة الذهبية	14
	Green_wings@flyjordan.com.jo	5699097	5699083	GREEN WINGS	ب	الاجنحة الخضراء للسياحة	15
	Khaledalmaet@Hotmail.Com	553613	5536012	SILVER WINGS	ب	الاجنحة الفضية للسياحة والسفر	16
	SKYWAYS55@HUTMAIL.COM	4616592	4637205	SKYWAYS	ب	الجو العالي للسياحة والسفر	17
	info@1stchicetrvl.com	5863619	5813232	FIRST CHOICE	ب	الخيار الاول للسياحة	18
	info@brothers_tours.com	5678019	5678025	BROTHERS TOURS	١	الاخوة للسياحة والسفر	19
	jonatrs@go.com.jo	5815765	5815562	JORDAN NATIONAL	١	الاردن الوطني	20
	azure_int@hotmail.com	5824778	5824767	AZURE INT. T. T	ب	الازرق الدولي	21
	discovery@discover1.com	5698183	5697998	DESCOVERY -	ب	الاستكشاف	22
	tropi@go.com.jo	5623745	5623744	TROPICANA	ب	الاستوائية	23
	info@isra_tours .com	5549236	5549236	AL ISRAA FOR	ب	الاسراء لعالم السياحة	24
	LegendTours@index.com.jo		5665212	LEGENED TOURS	ب	فرع الاسطورة /	25
	LegendTours@index.com.jo	5829428	5858888	LEGENED TOURS	ب	الاسطورة للسياحة	26
	friendstours@index.com.jo	4617507	4617506	FRIENDS TOURS	ب	الصفا للسياحة	27
	m-alosol-travel@hotmil.com	5533035	5522322	ALOSOOL TRAVEL	ب	الصول للسياحة	28
	m-alosol-travel@hotmil.com	4652242	4652241	ALOSOOL TRAVEL	ب	فرع الصول للسياحة /	29
	info@travelplusjordan.com	5810688	5854555	TRAVEL PLUS	ب	الضفاء للسياحة والسفر	30
	Ancient-jo@hotmail.com	5850463	5850461	ANCIENT TOURS	ب	القدمون للخدمات السياحية	31
	jo tours@travel1.com	5529111	5535777	TRAVEL ONE	١	الاول	32
	tours@travel1.com.jo	5820817	5820820	TRAVEL ONE	١	فرع عبدون لشركة الاول /	33
	alamir-travel@ flyjordan .com .jo	5514710	5514705	PRINCE TRAVEL &	ب	الاميل للسياحة والسفر	34
	badiya@index.com.jo	5512486	5529025	AL BADIYAH	ب	البادية	35
	beduina1@go.com.jo	5541630	5541631	LA BEDUINA	ب	البدوية	36
		4645080	4645080	AL BADEI	ب	البدي للسياحة والسفر	37
	BlessTour@yahoo.com	5334020	5335235	AL BARAKEH	ب	البركة للسياحة	38
	ALBASMATRAVEL@AMADEUS.JO	5543713	5543712	AL BASMA TRAVEL	ب	البسمة للسياحة والسفر	39
	FLAMINGO@FLYJORDAN.COM.JO	5686505	5652205	FLAMINGO TRAVEL	١	البشير للسياحة والسفر	40
	venice@venicejo.com	5538844	5519994	VENICE TRAVEL	ج	البندقية للسياحة والسفر	41
	info@westgate.jo	4652362	4652361	WEST GATE	ب	البوابة الغربية للسياحة	42
	info@Albayantours.com	5659690	5659691	ALBAYAN TRAVEL &	ب	البيان للسياحة والسفر	43

عمان شارع مادبا دوار المنارة -	goldencr@go.com.jo	5511202	5511200	GOLDEN CROWN	ب	التاج الذهبي	44
للتاج فيوتير		5534406	5534406	DIMOND CROWN	ب	التاج الماسي	45
ديما عبدالحميد شناوي شقل-	Altahadi@flyjordan.com.jo	5697217	5664181	ALTAHADI	ج	التحدي للسياحة والسفر	46
تياسين علي	honorstravel@hotmil.com	5676729	6569696	HONORS TRAVEL	ب	التشريفات للسياحة	47
للفي في	osama.jarar@exceedworldtravel.com		5862981	EXCEED	ب	التفوق للسياحة والسفر	48
عبون الضمني	progress-travel@flyjordanl.com.jo	5933853	5933851	PROGRESS	ب	التقدم	49
لهيفي في قرارة الوكالة الثالث-	Suhad@excutivetraveljo.com	5800034	5800032	EXECUTIVE TRAVEL	ا	التنفيذي للسياحة والسفر	50
فرشدي عبدالحميد شبعة	SHADI@TRAVELCODE-JO.COM	5664180	5675683	EL TAHADY TRAVEL	ب	التهادي للسياحة والسفر	51
شوادي قصري	Fadi@althurayatravel . Com	553828	5535525	AL -THURAYA	ب	الثريا للسياحة والسفر	52
جبل الحسين	planetz@flyjordan.com.jo	5656333	5656300	AL THNAEYAH	ج	الثنائية للسياحة /	53
للفي في	planetz@flyjordan.com.jo	5868681	5868685	AL THNAEYAH	ج	الثنائية للسياحة والسفر	54
شارع المعز نورور	al-jazy-travel@flyjordan.com.jo	5662112	5666499	AL JAZY TRAVEL &	ب	الجازي للسياحة والسفر	55
ديدولي بربك خلال عراش	awidah@index.com.jo	5653719	5653718	AL JAZEERAH	ا	الجزيرة	56
نودعبدالمنعم في صوال/	Ppassport@flyjordan.com.jo	5939029	5931719	PLUE PASAPORT	ب	الجواز الازرق	57
ابدا عران		4777798	4777796	AL JAYOSI TRAVEL	ب	الجيوسي للسياحة والسفر	58
سين لحم العال شارع	mastertours@flyjordan.com	5652149	5652116	MASTER TOURS	ب	الحاذق للسياحة والسفر	59
ابدا عمار شارع شميساني -لو	haramain@wanadoo.jo	4786786	4782782	AL HARAMAIN	ب	الحرمين للسياحة والسفر	60
لهيفي في قرارة الوكالة الثالث-	ammar@libertytour.co	5854602	5854601	LIBERTY TOURS	ب	الحرية للسياحة والسفر	61
الأردن في تنفجاع-	zaki@amadeus.jo	4647483	4647484	LUCKY TRAVEL	ب	الحظ للسياحة والسفر	62
للتاج فعمل و ش-	Whaleet@go.co.jo	5513628	5533175	WHALE TRAVEL	ب	الحوت	63
للتاج فصوف		565776	5650119	AL HAYAH ATYBA	ب	الحياة الطيبة	64
ديما عبدالحميد شناوي شقل-	itts@itts.com.jo	5604197	5669938	INTERNATIONAL T. T.	ب	الخدمات الدولية	65
العبيدة للسجار عفا-	tso@go.com.jo	4610272	4624355	TRAVEL SERVICES	ب	الخدمات السياحية	66
الشريف اجنان عران -	GOLDEN LINES@FLYJORDAN.COM.JO	5536342	5536341	GOLDEN LINES T.T	ب	الخطوط الذهبية	67
للفي في		5212129	5812124	ALKATEEB TOURIST	ج	الخطيب للسياحة والسفر	68
بن الجمل شارع عمان شن	INFO@DAKKAK.COM	5687972	5601076	DAKKAK TOURISM	ب	الدقاق للسياحة والسياحة	69
ما عرا شارع / تنستر ابوزيد	Info@dakkakholidays .com	5524677	5533975	DAKKAK HOLIDAYS	ج	الدقاق عطلات	70
سين لحم العال شارع	accurytravel@wanadoo.jo	4615112	4613112	ACCURACY	ب	الدقة للسياحة والسفر	71
للتاج فصوف	al-daleelh@mec.com.jo	5659007	5651002	AL -DALEEL	ب	الدليل للسياحة والسفر وللحج والعمرة	72
ابليه	alia_transport@flyjordan.com.jo	5603102	5690588	INTERNATIONAL	ب	الدولي للسياحة	73
سين لحم الش لل		5666262	5666262	AL THAKREN	ب	الذاكرين للسياحة والسفر	74
عران في في عة-	emadh@globalvision.com.jo	5856237	5857111	GLOBAL VISION	ج	الرؤية العالمية للسياحة والسفر	75
عمرة مجمع	info@confort-jo.com	5651367	5651366	COMFORT TOURS	ب	الراحة للسياحة والسفر وشحن	76
ابليه	alrubban@flyjordan.com.jo	5655570	5655541	AL RUBBAN	ب	الربان للسياحة والسفر	77
تياسين علي	omnilinktravel@yahoo.com	5693197	5692793	OMNILINK TOURS	ج	الربط شامل	78
المدينة الرياضية-	intt@flyjordan.com.jo	4615514	4619555	INTRNATIONAL	ب	الرحلات الدولية للسياحة والسفر	79
تياسين علي	Wanders_jo@hotmail.com	5655898	5655885	WONDERS TRAVEL	ج	الرؤى للسياحة والسفر	80
وادي قصري	pioneer@go.com.jo	5627895	5627894	PIONEERS		الرواد	81
جبل الحسين	info@alsabeel-travel.com	5699663	5679989	AL -SABEEL TOUR &	ج	السبيل للسياحة والسفر	82
ابلونيا رور	bbelbeisi@yahoo.com	5232553	5232296		ب	السراج للحج والعمرة / عفر	83
عبدالله شارع العال حسين	ALSaudiTravel@Hotmail	4645222	4621111	SAUDI TRAVEL	ب	السعودية للسياحة وللحج	84
جبل عمان	ambassador_traval@hotmail.com	4614295	4614294	AMBASSADOR TOURS	ب	السفير للسياحة والسفر	85
تياسين علي الش		5339323	5336883	ALSNAA	ب	السنا للسياحة وللحج والعمرة	86
الش الميز محمد-دوحات عمان	SINDBADTRAVEL@JOINNET.COM.JO	4757750	4752750	SINDEBAD TRAVEL	ب	السندباد / سيري	87
ابليه	alsihamtrade@hotmail.com	46547333	4656078	AL -SIHAM TOURS	ب	السهام للسياحة والسفر	88
عربط العشار قم نين اخ-	info@gat.jo	5857242	5858478	GREEN ARROW	ب	السهم الاخضر	89
ابليه	GTOURS@ACCESS.COM	4610460	4624307	GENERAL TOURS	ب	السياحة العامة	90
تياسين علي	saiftravel@batalco.jo	5692582	5692581	AL-SAIF	ب	السيف للسياحة والسفر	91

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لصفوية	blubach@and4i.com	5827777	5885555	**BLUE BEACH**	ب	لشاطئء الزرق	92
ليای ة	saad.jaber@ibmi.com	5548851	5544283	**ALSHAMEL TOURISM**	ب	لشامل لوئیل لولة لكول لسیاحة	93
شارع المدينة المنورة	BlessedTree2002@hotmail.Com	5534177	5534133	**THE BLEEASD TREE**	ب	لشجرة لمبارك ة	94
تلیمیسن ى	orientex@go.com.jo	5691385	5699227	**ORIENT EXPRESS**	ب	لشرق لطبریع	95
تلیمیسن ى	eastwest@index.com.jo	5682545	5688121	**EAST-WEST TOURS**	ب	لشرق ولا غرب للسیاحة	96
جبال اللویبدة	eastern@firstnet.com.jo	4621113	4621112	**EASTERN TOURS**	ا	لشرق یة للسیاحة ولیسفر	97
شارع عبد الحمید بن بادیس	*orientals@otigroup.com*	5683876	5607609	**ORIENTALS TRAVEL**	ا	لشرقیون للسیاحة ولیسفر	98
– عمارة لعال لمحسنین	Jtb@flyjordan.com.jo	4628585	4621220	**JORDAN TRAVEL**	ب	قررکة الردنی ةللسفر	99
جبل عمان	info@travelcorp.jo	4633463	4655465	**TRAVELCORP**	ا	قررکة لخص لخدمات لیسفر	100
– لشوین ائیش ارع ال نکة ن ور	Nationaltrvl@joinnet.com.jo	5686790	5674267	**NATIONAL TRAVEL**	ب	قررکة لوطظ لخدمات لسیاحة	101
شارع عن ضرب ن جمیل	twosco@index.com.jo	5522592	5512292	**TWOS CO**	ب	لشیوکان	102
دوار الشرق الاوسط	jawad@shammastours.com	4704169	4704168	**AL SHAMMAS**	ب	فرع لشماس للسیاحة ولیسفر /	103
وادي صقرة	suntrvl@flyjordan.com.jo	5662422	5662422	**SUN TRAVEL**	ب	لشمس للسیاحة ولیسفر	104
الصفوية	alsuhbaumra@yahoo.com	4734122	4705009	**AL SUHBAH**	ب	لصحبة للحج ولاعمرة	105
شمکة	v.kurdi@royalfalcon.com.jo	5563181	5538538	**ROYAL FALCON**	ا	لصقر لملکی	106
شل عمل مةلمحسنین	falcon_travel@flyjordan.com.jo	4613418	4613417	**FALCON TRAVEL &**	ب	لصقور للسیاحة ولیسفر	107
لمدینة المنورة	guarantee.tours@batelco.jo	5519497	5519496	**GUARANATEE TOURS**	ب	لضمان للسیاحة ولیسفر	108
شل عة میش ال رضی	bluebird@ wanadoo.jo	5684735	5684734	**BLUEBIRD**	ب	لطائر الزرق	109
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238	حسام للسياحة	ب	HUSSAM	5510209	5531060	ht@go.com.jo	قاسم امام
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240	بان ايست للسياحة والسفر	ب	PAN EAST	5673361	5685421	dmc@paneast.com.jo	شميساني
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245	خوري للسياحة والسفر	ب	KHOURY	4623430	4622684	Info@khourytravel.com	شميساني
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ةيرلاةعماجلنعم-	islamic@go.com.jo	5624461	5624893	ISLAH ISLAMIC	ب	ةيملاسلا الصالح ةيضرم	387
نارهز ارعتراشلب-	bisharat@nol.com.jo	4659330	4641350	BISHARAT TOURS	ب	تارابشيق يضرم	388
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ابلايلاملويلدبلدلعمنشرل-	ARTT@JONNET.COM.GO	5623979	5683773	AL RAHHAL TRAVEL	ب	ولحج ةيحاريللرحلا لاريضرم	390
ديلفامعنلزبد لخ ش-	Intl-tourism@flyjordan.com.jo	5699174	5694616	INTERNATIONAL	ب	ةلولية ةيحاريقسلا ةيضرم	391
لتلافوفهف راش	MIDDLE EAST@FLYJORDAN.COM.JO	5531903	5533494	MIDDLEEAST TOURS	ج	ةيحاريظلياوصلا قرشل ةيضرم	392
زنادجلاعرارش	ff@ftt-jordan.com	5650317	5650316		ب	ةيحاريطلاحاريقلترفوقم	393
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ابداعم ارنشدحو -لو	HALA-TRAVEL@FLYJORDAN.COM	4778588	4777283	HALA TRAVEL &	ب	ولحج ةيحاريليلاه سيضرم	395
كلطللجدلا مسنلبايقلودلبدلع	algalayinitravel@flyjordanl .com.jo	4649494	5680619	WALID GHALLINE	ب	ولحج ةيحاري نيطليقياتلاليدلينيدليقل سيضرم	396
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نامع-ةفيصل	hashweh@go.com.jo	5862277	5828801	HASHWEH	ب	ةورح ةخسيضرم	399
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نيسلحلجب	stclub@nets.jo	5695757	5676787	MAGI TOURS	ج	ةيحاريلطغام	401
يليسميقن	destination-jo@go.com.jo	5655400	5655401	DESTINATION	ب	طسوتمللقرشر ندرلا تاطحم	402
يليسميقن	Mohd@tours-fm.com	5337864	5337863	FLAVOR TOURS	ب	فير وليبراحة يليلقرشل قاذم	403
ةشوغ ةحاولادبعنشانعم-	murjan4@hotmail.com	5827990	5822261	MURJAN TOURS	ا	ةحاريللنجرم	404
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لتلافنلعم و ش-	ebony_travel@flyjordanl.com.jo	5531666	5531666	EBONY TRAVEL &	ب	سونابيبتعل	410
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نانعم / نيسحلطللعراش	JOYTOURS@NETS.COM.JO	4635666	4633444	JOY TRAVEL	ب	فير وليبراحة يليطلعوجبتعل	412
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نيسحللاش	mushtaha@index.Com.Jo	4611509	4636410	MUSHTAHA	ب	فير وليبراحةيللهشتشيمبتعل	414
لتلافوصهش	hawaitoura2003@hotmail	5602011	5602010	HAWAI TR. TOURS	ج	ةيحاريللياوا ها بتعل	415
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ةهيجيل	munatravel@hotmail.com	5343726	5343724	MUNA INT.	ب	ةيلودلاقةيحاريطلنم	417
ةيرلا ةعماجلاش-	mhanna@wanadoo.jo	5334885	5335885	MUHANNA TOURS	ب	فير وليبراحة يليللنهم	418
ةفيصل	ner@index.com.jo	5811877	5861431	NEAR EAST	ب	ندلا قرشل دراوم	419
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نيسحلطلعلا راش	mosic_travel@flyjordan.com.jo	5677403	5677402	MOSAICS FOR	ب	فير وليبراحة يلطلاقيزوم	421
يليسميقن	monalisa@flyjordan.com	5631000	5150415	MONALEZA	ب	فير وليبراحة يلازيللنوم	422
نيسحلطلجب	MILANNO@FLYJORDAN.COM.JO	5673333	5673333	MILANO FOR	ج	/ ةيحاريللنولنزللعم فرع	423
ةفيصل	MILANNO@FLYJORDAN.COM.JO	5863388	5863388	MILANO FOR	ج	فير وليبراحة يللنولنليم	424
ةضيفرلطريلعيعراش-	naser-travel@flyjordan .com.jo	5699876	5699887	NASER TOURS	ب	ةيحاريلليلنض	425
قشيفيصل-سياربب	Info@navtravels.com	5885667	5885668	NAV TRAVEL &	ب	فير وليبراحة يللفان	426

لتليفوص	suha-halawa@hotmail.com	562518	5625215	NANA&YARA	ب	نانا ويارا للسياحة والسفر	427
علي ال تفاحـ -	info@hafmon.com	5377046	5377045	HALF MOON	ب	هاف مون	428
شارع الحسين	TRAVEL-SYS@FLYJORDAN.COM.JO	4632277	4632255	SYSTEMS FOR	ب	نظم للسياحة والسفر	429
شل الحسين	Issam@nawas-amma.com	4622185	4622184	NAWAS TOURS	ب	نواس/ فرع	430
دوار الشرق الاوسط	nihad@amadeus.jo	4741115	4741114	NEHAD TRAVEL &	ب	نهاد للسياحة والسفر	431
شل ويلس مجمع علي رماوي	riverjordan@flyjordan .com .jo	5654350	5654330	RIVER JORDAN	ب	نهر الردن للسياحة والسفر	432
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زرادجل	info@nepton-tours.com	5521495	5521493	NEPTUNE TOURS	ب	نبتون للسياحة	435
نيومبرلي	gnotes@neo.com.jo	5679950	5679957	NEBO TOURS	ب	نيبو	436
ياية	info@travelnow.jo.com	5549693	5549690	TRAVEL NOW	ب	هدمي للسياحة والسفر	437
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بوق	info@hermesarabia.com	5411786	5411785	HERMES	ب	هيرمس للسياحة والسفر	441
طبلي	AQIQ-JO@YAHOO .COM	4655901	4655900	WADI ALAQEEQ	ب	وادي العقيق للسياحة وحج	442
شل الحسين	alwazzan-travelflyJordan.Com .jo	4637339	4623180	WAZZAN . TRAVEL	ب	وزان للسياحة والسفر	443
دوار الثالث	apollo@joinnet.com.jo	4657999	4641083	APOLLO TOURIST &	ب	وكالة بولو للسياحة والسفر	444
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عمان الصرفية/	alasali_travel@flyjordan.com.jo	5814720	5817736	ASALI TRAVEL &	ب	وكالة العسلي للسياحة والسفر	456
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شارع الحسين	alfursan@flyjordan.com.jo	4651284	4651283	AL FURSAN	ب	وكالة الفرسان للسياحة والسفر	458
طبلي	jet1@nets.jo	5688126	5685195	JERUSALEM EXP	ا	عبدالله وكالة القدس /	459
شل الحسين	jet1@nets.jo	4651125	4622151	JERUSALEM EXP	ا	رئيس وكالة القدس /	460
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شالميم محمد	bitatours@yahoo.com	4618208	4618283	BETHLEHEM INT.	ب	وكالة بيت لحم	462
جبل الحسين.	derbi@wanadoo.jo	4611860	4610933	DERBI T. A AGENCY	ب	وكالة دربي	463
شارع الحسين	ztt@flyjordan .com.jo	4625197	4637827	ZAID TOURISM	ب	وكالة زيد للسياحة	464
شارع الحسين	ztt@flyjordan. com.jo	4641391	4641392	ZAID TOURISM	ب	وكالة زيد فرع	465
شل الحسين	zaatrah.zatravel@flyjordan.com.jo	4655011	4654001	ZATARAH CO . T. T	ب	وكالة زعترة/ رئيسي	466
الصويفية	zaatrah.zatravel@flyjordan.com.jo	5863816	5863818	ZATARAH CO . T. T	ب	وكالة زعترة فرع الصويفية	467
حباس		4169955	4169966	WAHJ ALSHAMS	ب	وهج للسياحة	468
جبل المنزه	ibrahim.yaghi@hotmail.com	4636036	4636036	YAGHI TOURISM &	ب	ياغي للسياحة والسفر	469
مجمع نادي فيصلي	yallajordan@lyberia.jo	5603302	5603301	YALLA JORDAN	ب	يلا اردن للسياحة والسفر	470
جبل الحسين	unitours@uni-toursl.com	4671047	5683260	UNITOURS	ب	زوني تورز	471

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شدبارات داري شارع فين	Rozana@flyjordan.com	7256331	7256330	AL ROZANA	ج	الروزانا	1
اربد		7240787	7240787	AL BADEI	ب	البدعي للسياحة والسفر	2
اربد		7262231	7262231		ب	معهد تبيلي	3
اربد		7246942	7426942	AL MOHANAD	ب	المهند للحج والعمرة	4
مهفشن العاربشرل		7259900	7258600		ب	السلام للحج والعمرة	5
حرين النعطعان شربل/ بغداد/مجمع عشرات اربدش		725288	7250588		ب	الصيرين	6
		7252424	7252323	AL FAROOK	ب	الفاروق للسياحة والحج والعمرة	7
اربد		7261021	7261023	AL FAYHA	ب	الفيحاء للحج والعمرة	8
شارع بغداد	NASRAWI@NETS.COM.JO	7276555	7242521	BEIT EL MAKDES	ب	بيت المقدس / السياحة	9
شارع جلعاد		7240721	7204986	HIJAZI TRAVEL &	ب	حجازي للسياحة والسفر	10
شارع غانم العرببل		7250665	7250665	ALWAHEDON	ب	الوحيدون للحج والعمرة	11
عمارة الزهراوي	mafmad-algzawi@yahoo.com	7250020	7279685	ALGZAWI FOR TOURISM	ب	موريس الغزاوي للسياحة والحج	12
	almanasek@ index . Com .jo	7246711	7244711	AL MANASEK	ب	موريس المناسك للخدمات السياحية	13
شارع فلسطين حسين	telltrvl@go.com.jo	7242416	7242199	TELL TRAVEL & TOURISM	ب	وكالة تل للسياحة والسفر	14
شارع بغداد	jet1@nets.io	7277607	7277607	JERUSALEM EXP AGENCY	١	وكالة القدس	15
شارع اربد	zaatrah.zatravel@flyjordan.com.jo	7247187	7243995	ZAATRAH &CO TOURIST	ب	وكالة زعترة	16
شارع فاين رزمال	Akahtravel@flyJordan.com.jo	7242733	7242733	AKKA TRAVEL &TOURISM	ب	وكالة عكا	17
شارع العاربشمهفشن	khirv123@hotmmail.com	7252716	7279007	KHIRY AND AL SMADI	ب	خيري والصمادي	18
اربد		7241578	7241578	AL SADAH	ب	السادة للحج والعمرة	19
شدبار اللعبكة لمل.	info@trust-tours.com	7253316	7253315	TRUST TOURS AGENCY	١	وكالة ثقة للسياحة والسفر	20
اربد	ranahtours@yahoo.com	7245207	7245206	RANA TOURS	ب	رنا للسياحة والسفر	21
اربد	rawabi@flyjordan.com.jo	7424909	7242707	RAWABI -BAYT Al	ب	شركة روابي تي للقدس	22
اربد	nefertiti@flyjordan.com.jo	7271238	7271236	NEFERTITI TOURISM AND	ب	فرتيتي للسياحة والسفر	23
شارع العاربملك طلال		7242381	7242381	ADWA A	ب	اضواء للسياحة والسفر	24

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السلط	attawaba2000@yahoo.com	3532011	3550801	ATTAWBA	ب	موريس قلتوبة للسياحة والسفر والحج	1
السلط	rawabi@flvjordan.com.jo	3554466	3553388	RAWABI -BAYT Al	ب	شركة روابي تي للقدس	2
السلط	hayat_makah@yahoo.com	3555800	3552800	HYATT MAKKAH	ب	شركة حياة مكة المكرمة	3

العنوان	E -MAIL	فاكس	تليفون	اسم المرجع/الزيارة	فئة	المرجع/الزيارة	رقم
شفا العزيزي-اللقا	aborobin@vahoo.com	3753555	3753555	AL -DEFETAIN	ب	موريس الدفيتين لخدمات السياحة	1
رصيفة		3754640	3754640	SHTAT	ب	شتات للسياحة والحج والعمرة	2
رصيفة		3747231	3747231	MWAKEB	ب	مواكب للسياحة والعمرة	3

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العنوان	E -MAIL	فاكس	تلفون	المجال التجاري	فئة	المحل عنوية	الرقم
الرمثا		7385446	7385446	ADWA A		اضواء للسياحة والسفر	1

جرش

العنوان	E -MAIL	فاكس	تلفون	المجال التجاري	فئة	المحل عنوية	الرقم
جرش		6340880	6340880		ب	رضا الزهراني للحج والعمرة	1
جرش	MENA@Link.net.Jo	6340889	6351889	MENA TOURS	ب	شركة مينا للسياحة والحج	2

عجلون

العنوان	E -MAIL	فاكس	تلفون	المجال التجاري	فئة	المحل عنوية	الرقم
عجلون		642233	6422300		ب	ارض السلام للسياحة والسفر	1

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المفرق		26234172	26236698		ب	الباقة الشمالية	1

الزرقاء

العنوان	E -MAIL	فاكس	تلفون	المجال التجاري	فئة	المحل عنوية	الرقم
الزرقاء		3938996	3996776	SUNDOS TRAVEL &	ب	السندس للسياحة والسفر رئيسي	1
الزرقاء		3939196	3939192	SUNDOS TRAVEL &	ب	السندس للسياحة فرع	2
الزرقاء	alray@go.com.jo	3963353	3963353	ALRAYAH	ب	الراية للسياحة والسفر والحج	3
الزرقاء	alghaith@yahoo.com	3964843	3964242	ALGHAITH	ب	الغيث للسياحة والسفر لخدمات الحج	4
شمال الملك طلال	jawad@shammastours.com	3984014	3992744	AL SHAMMAS	ب	رئيسي الشماس /	5
التل فوق شعيب	ALA_HARB@YAHOO.COM	3659400	3659500	MSHAEL ALNOOR	ب	مشاعل النور للحج والعمرة	6
		3988660	3966619		ب	موسى السليم للسياحة والسفر	7
جواد الحاوز		3863639	3935000	ABRAJ MAKAH	ب	موسى ابراج مكة للسياحة والحج	8
	A20062006A@hotmail.com	3996000	3938444	ESTITIAH FOR TOURS	ب	موسى الاستيتية للسياحة والسفر والحج	9
	Alataa@yahoo.com	3981860	3981860	ALATAAA FOR	ب	شركة العطاء للسياحة والحج والعمرة	10
ميدان شعاع الزرقاء-	nak_tours@hotmail.com	3931910	3936960	NAKHLEH TOURS	ب	نخلة للسياحة	11
ميدان شعاع الزرقاء-	nak_tours@hotmail.com	3931414	3931313	NAKHLEH TOURS	ب	فرع نخلة للسياحة /	12
شمال الملك طلال	jet1@nets.jo	3991858	3982516	JERUSALEM EXP	أ	وكالة القدس	13
ميدان شعاع الزرقاء-	zaatrah.zatravel@flyjordan.com.jo	3908939	3983089	ZATARAH CO . T. T	ب	وكالة زعترة	14
للزرقاء الطابق-	capri-travel@flyjordan.co.jo	3824446	38424445	CAPRI TRAVEL	ب	كابري للسياحة والسفر والشحن	15
الزرقاء		3974040	3974040	SAFEIR AL ARABI	ب	سفير العربي للحج والعمرة	16

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الرقم	فئة	الاسم التجاري	الاسم التجاري باللغة الأجنبية	تليفـون	فـاكـس	E -MAIL	العنوان	
1	ب	البـدوية	LA BEDUINA	2157099	2156931	beduina1@go.com.jo	وادى موسى	
2	ب	البـدول للسياحة والسفر	ALBEDOOL TRAVEL	2157016	2157016	info@albedooltravel.com	وادى موسى / اصى حون	
3	ب	جوهرة الأنباط	JOHARET AL ANBAT	20157100	2156994	EDOM@GGO.COM	وادى موسى	
4	ب	خبراء الأردن للسياحة	JORDAN	2155005	2155004	JO@JORDANEXPERIENCE .COM	وادى موسى	
5	ب	زمان للسياحة	ZAMAN TOURS	2157723	2157722	Info@zamantours.com	وادى موسى	
6	ب	قمر بلـتراء	PETRA MOON	2156665	2156666	info@Petramoon.com	وادى موسى	
7	ب	قوفل بلـتراء	PETRA CARAVAN	2155412	2156435	petravan@go.com.jo	وادى موسى	
8	ب	وحى الأردن للسياحة	JORDAN	2157317	2157317	sami@jitours.com	وادى موسى	
9	ب	ليالى بلـتراء	PETRA NIGHTS	2154010	2154015	reservation@pntours.com	بلـتراء	
10	ب	الأردن الجميل للسياحة	JORDAN Beauty Tours	795581644	2154999	info@jordanbeauty.com	وادى موسى	
11	ب	قرون الخير للسياحة	CORNA COPIA TOURS	2154440	2154441	info@cornacopiatours.com	وادى موسى	
12	ب	الأردن للسياحة والسفر	JORDAN TOURS	2154600	5154666	info@jordantours-travel.com	وادى موسى	
13	ب	موريس قبيى للسياحة	RAFEED TRAVEL	2154135	2154135	rafeed@accessme.com	وادى موسى	
14	ب	رامى للسياحة والسفر	RAAMI TOURS	2154551	2154551	Rami_manajah@hotmail.com	وادى موسى / اصى حون	
15	ب	فنان الأردن للسياحة والسفر	ARTIST TOURS	2157561	2154561	info@artistjordan.com	وادى موسى	
16	ب	شاهد الأردن للسياحة والسفر	SEE JORDAN FOR	2155200	2155400	info@seejordantours.com	وادى موسى	
17	ب	غراق لصحراء للسياحة والسفر	DESERT PARAMOURS	2155955	2155955	info@desertparamours.com	وادى موسى	
18	ب	ايدوم للسياحة والسفر	EDOM	2155355	2155355	info@redrock.jo	وادى موسى	
19	ب	فلاح لتسلم خدمات السياحة	JEZRA TRAVEL	2155799	2155798	info@jezratravel.com	وادى موسى	

الرقم	فئة	الاسم التجاري	الاسم التجاري باللغة الأجنبية	تليفـون	فـاكـس	E -MAIL	العنوان	
1	ب	اثر الأردن	JORDAN TRACKS	796482801	03/20148889	saleemali@jordantracks.com		

الرقم	فئة	الاسم التجاري	الاسم التجاري باللغة الأجنبية	تليفـون	فـاكـس	E -MAIL	العنوان	
1	ب	جعفر الطيار	JAFAR AL TAYYAR	2355983	2351281	JAAFARCO@YAHOO.COM	الشارع الايطالى	
2		موريس قل جن بوب الحج والعمرة		2353721	2353721			

الرقم	فئة	الاسم التجاري	الاسم التجاري باللغة الأجنبية	تليفـون	فـاكـس	E -MAIL	العنوان	
1	ب	لوادى	WADI TOURS	05/3241113	05/3241112	waditour@go.com.jo	مأدبا-شارع لنزهة	
2	ب	ابو كف للحج والعمرة والسياحة	ABU KAFF	05/3246655	05/3246655		شارع القدس	
3	ب	للسى قل حج والعمرة للسياحة		05/3253860	05/3253860	fadikhalel@hotmail.com	شارع البـتراء	
4	ب	شركة لرجو الحج والعمرة		3244626	3244626			
5	ب	ترحال للسياحة والسفر	TERHAAL TRAVEL	3251008	3251005	team@terhaal.com	مأدبا	
6	ب	شركة حياة مكة فرع	HYATT MAKKAH	3247094	3247094	hayat_makah@yahoo.com	مأدبا	
7	ب	للسراج للسياحة والحج والعمرة		3253994	3253995			

لرقم	البيانات عربية	فئة	البيانات الانجليزية	تليفون	فاكس	E -MAIL	لعنوان
1	اكواما رينا		AQUAMARINA	2015165	2033631		
2	الاجازة الذهبية		GOLDEN HOLIDAY	2022655	2015654		
3	الردن سيناء للفنادق والسياحة		JORDAN SINAI HOTELS	2018700	2018701	info@jordansinaihotels.com	
4	لجبر		BRIDGE	2039009	2035950	bridge@bridgetra.com.jo	
5	لجواد		AL -JAWAD T.T	2014337	2014338	abbadi@go.com.jo	
6	الشركة الموحدة / ويزيسي		UNITED CO. FOR TOURS	2016601	2016603		
7	الشركة الموحدة		UNITED CO. FOR TOURS	2016601	2016603		
8	الكرنك / ويزيسي		AL KARNAK	2016887	2018837		
9	الكرنك		AL KARNAK	2016887	2018837		
10	المحور / ويزيسي		ORBIT TOURS	2030822	2019085		
11	المحور		ORBIT TOURS	2030822	2019085		
12	الهلوي للخدمات السياحية		HILLAWI TOURS	2013841	2013841		
13	أمين قعوار		AMIN KAWAR	2014217		tt@kswar.com.io	
14	باقيس		PALKEES TOURS	2015003	2015003		
15	تريدرز		INTERNATIONAL	2013757	2015316	guest@traders.com.jo	
16	الي		DALLY	2013377	2013377	dalia@index.com.jo	
17	عبر الصحراء البحار		TRANS DESERT AND	2014131	2014133		
18	ش. المروج الخضراء		GREEN MEADOWS	2013391	2013392		
19	صحراء وادي رم		WADI RUM DESRT	2033711	2033711		
20	صحاري		SAHARA T.T	2032996	2018900		
21	طابا		TABA TOURS	2013055	2013055		
22	خالد الردن		Via Jordan	2012299	2022990	VIAJORDAN@VIAJORDAN.COM	
23	البر والتقوى للحج والعمرة والسياحة		ALBER AND AL TAOWA	2017676	2017676		
24	ادويس		ADONIS	2030188	2030788		
25	سماء عقبا للسياحة والسفر		AQABA SKY TRAVEL	2062444	2062440	hburdini@aqabasky.com	
26	حول الشرق للسياحة والاوئلة	ب	PAN EAST	2013046	2013047		
27	تحرك		MOTION TOURS	2013111			
28	نيازي		NYAZI TOURS	2022801	2019461	nyazi@index.com.jo	
29	لقمة للسياحة والسفر	ب		2050420	2050430		
30	فن فيض الفن للسياحة والسفر	ب	ARTIS SPACE	2018816	2058816		
31	الحياة للطب للسياحة والسفر	ب	PERFECT LIFE RTAVEL	2030690	2030690		
32	الثقة للسياحة والسفر	ا	TRUST TOURSM	2058011	2058022		

Appendix A-2

English Questionnaire

E-commerce Adoption among Travel Agents' Owners/Managers in Jordan

Dear Manager/Owner

This questionnaire is a part of my PhD research at Cardiff Metropolitan University. This research entitled E-commerce adoption among Travel Agents' owners/managers in Jordan is attempting to study the use of e-commerce among Jordanian travel agents in order to have a better explanation of the factors that affect decision makers toward e-commerce adoption levels among these companies. E-commerce adoption gives opportunities to travel agents to survive in the global travel market at the time traditional travel agents are facing a threat to disintermediation if they did not have any future actions regarding to e-commerce adoption. The results of this work would fill the gap by developing a model to explain how owners/managers of small and medium sized travel agencies in Jordan might adopt levels of e-commerce to facilitate decision-making and business operations.

Your participation is voluntary, and you are free to withdraw at any time without giving any reasons. Filling the questionnaire will not take more than 20 minutes. There are no right or a wrong answer, your answers is your own opinion. I would be glad to answer all questions related to the questionnaire. Your participation in this research is very important for successful completion of this research.

Your identity will be anonymous and I will assure you that your responses and company information will be kept in the strictest confidence. I will provide you the results of this research if you indicate your interest. You participation in this survey will be accepted as your consent

Thank you in advance for your cooperation and effort in completing this questionnaire.

If you have any questions about the research or how I intend to conduct the study, please contact me.

Mohammad Alrousan ,PhD student.

e-mail:20024308@cardiffmet.ac.uk

Mobile No: UK - +44 (0) 779 490 7794,

Jordan - +962 (0) 795 226 105

Part 1: General Information

Part 2: Current Internet adoption in your company

Company's Profile

Q1) How long your company been in existence?	Q2) Which of the following is your travel agency type?
☐ Less than 12	☐ Type A
☐ 1-2 years	☐ Type B
☐ 3-5 years	☐ Type C
☐ 5-10 years	
☐ More than 10 years	

Owner/Manager's Profile

Q3) Which of the following is the highest educational degree you have achieved?	Q4) What is your age?
☐ Below High School	☐ 18~29
☐ High School	☐ 30~40
☐ Diploma /certificate	☐ 41~50
☐ Bachelor Degree	☐ 51~60
☐ Postgraduate Degree	☐ 61+

This part of questionnaire asking you about your company's status regarding to web technologies and applications that have/haven't adopted.

Q5) Please indicate which of the following describes your current e-commerce level? ***Please choose one question***

Yes	No	
( )	( )	1. Our company is not connected with the internet
( )	( )	2. Our company is connected to the internet with only e-mail but no website.
( )	( )	3. Our Company has a static website that present company's information and advertise its
( )	( )	4. Our company has an interactive website that accepts online orders, queries, forms, and e-
( )	( )	5. Our company accepts online transition through website that allows buying and selling
( )	( )	6. Our company has a website connected with computer systems that allows our company to do

This part of questionnaire asking about your thoughts /opinion regarding e-commerce applications and usage in your company. It is concerned with investigating the technological factors such as relative advantages, compatibility, complexity, Trialability , and Observability. .

Q6) The following statements relate to your company's viewpoints about relative advantages of e-commerce adoption. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. E-commerce reduces the company's overall operating cost.	1	2	3	4	5
2. E-commerce helps our company to expand market share.	1	2	3	4	5
3. E-commerce helps company to increase customer base.	1	2	3	4	5
4. E-commerce increases company's sales and revenues.	1	2	3	4	5
5. E-commerce creates new channel for advertising.	1	2	3	4	5
6. E-commerce enhances company's image.	1	2	3	4	5
7. E-commerce increases company's competitive advantage.	1	2	3	4	5
8. E-commerce improves customer services and satisfaction.	1	2	3	4	5
9. E-commerce improves business relationship with suppliers.	1	2	3	4	5
10. E-commerce enables us to perform our operation more quickly	1	2	3	4	5

Q7) The following statements relate to your company's viewpoints about compatibility of e-commerce adoption. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. E-commerce is compatible with our company's IT infrastructure.	1	2	3	4	5
2. E-commerce is compatible with our company's current software and hardware.	1	2	3	4	5
3. E-commerce is compatible with all aspects of our business operations	1	2	3	4	5
4. E-commerce is compatible with our current business operations/processes	1	2	3	4	5
5. E-commerce is compatible with the existing values and mentality of the people in our company	1	2	3	4	5
6. E-commerce is compatible with suppliers' and customers' ways of doing business.	1	2	3	4	5
7. E-commerce applications fit into our working style	1	2	3	4	5

Q8) The following statements relate to your company's viewpoints about complexity using of e-commerce applications. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. E-commerce applications are too complicated to understand and use	1	2	3	4	5
2. Lack of appropriate tools to support e-commerce applications.	1	2	3	4	5
3. Company lacks adequate computer systems to support e-commerce activities	1	2	3	4	5
4. E-commerce applications is too complex for our business operations	1	2	3	4	5

Q9) The following statements relate to your company's viewpoints about of trial applications regarding to e-commerce adoption. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our company could access to a free trial before making a decision to adopt e-commerce.	1	2	3	4	5
2. Our company has the opportunity to try a number of e-commerce applications before making a decision.	1	2	3	4	5
3. Our company can try out e-commerce on a sufficiently large scale.	1	2	3	4	5
4. Our company is allowed to use e-commerce on a trial basis long enough to see its true capabilities .	1	2	3	4	5
5. It is easy to our Company to get out after testing a e-commerce .	1	2	3	4	5
6. The start-up cost for using e-commerce is low.	1	2	3	4	5

Q10) The following statements relate to the degree to which of e-commerce outcomes is visible and observed to others. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. There are so many computers that people in our company can access to use Internet and e-commerce	1	2	3	4	5
2. Many of our competitors in the market have started using e-commerce	1	2	3	4	5
3. Many of our partners and suppliers in the market have started using e-commerce.	1	2	3	4	5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4. E-commerce improve visibility to connect with customers at any time	1	2	3	4	5
5. E-commerce shows improved results over doing business the traditional way.	1	2	3	4	5

Part 4 : Organisational Factors

This part of questionnaire is concerned to investigate your company's internal factors and its relation to e-commerce adoption levels such as finical resources , company's size , and IT expertise among employees.

Q11) The following statements relate to your company's viewpoints about the financial requirement for e-commerce adoption. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The cost required to implement e-commerce applications are too high for us	1	2	3	4	5
2 The cost for internet access is expensive.	1	2	3	4	5
3. Company doesn't have sufficient budget to maintain e-commerce system.	1	2	3	4	5
4. E-commerce applications require an additional cost to train employees in how to use these applications	1	2	3	4	5

Q12) The following statements relate to your point of view about the level of your employees IT knowledge. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Employees in our company have necessary knowledge and understanding of e-commerce.	1	2	3	4	5
2. Employees in our company are computer literate	1	2	3	4	5
3. Our company has IT support staff	1	2	3	4	5

Q13) How many employees are working in your company?

☐	Less than 10
☐	10~50
☐	50+

Part 5 : Managerial Factors

This part of questionnaire is concerned to examine the factors that may influence the decision maker to adopt e-commerce. It is focused with investigating the managerial factors such as power distance, uncertainty avoidance , management support , and manager's attitude.

Q14) The following statements ask your work relationship with your employees. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Managers share information with employees	1	2	3	4	5
2. It is often necessary for the supervisor to emphasize his or her authority and power when dealing with subordinates	1	2	3	4	5
3. Managers should be careful not to ask the option of subordinates too frequently	1	2	3	4	5
4. A manager should avoid socializing with his or her subordinates of the job	1	2	3	4	5
5.Subordinates should not disagree with their manager's decisions	1	2	3	4	5
6.Managers should not delegate difficult and important tasks to their subordinates	1	2	3	4	5
7.Managers should make most decisions without consulting subordinates	1	2	3	4	5

Q15) The following statements ask your point of view about your support and concern in e-commerce implementation in your company. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am willing to provide necessary resources for e-commerce adoption.	1	2	3	4	5
2. I am interested in the use of electronic commerce in our operations	1	2	3	4	5
3. Our business has a clear vision on electronic commerce technologies.	1	2	3	4	5

Q16) The following statements look for your opinion about dealing with uncertain situations regarding to e-commerce implementation. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am not willing to take risk to adopt e-commerce application in my business.	1	2	3	4	5
2. I am not able to accept change from traditional business process to electronic one.	1	2	3	4	5
3.I don't have confidence about the security of e-commerce transactions	1	2	3	4	5

Q17) The following statements relate to your feeling toward internet and e-commence applications. Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have fun interacting with the Internet	1	2	3	4	5
Using the web provides me with a lot of enjoyment	1	2	3	4	5
I like the idea of adopting e-commerce in my company	1	2	3	4	5
I think that e-commerce will be adopted in most of SMEs in the near future.	1	2	3	4	5
I think adopting e-commerce would beneficial to my company	1	2	3	4	5

Part 6 : Environmental Factors

This part of questionnaire is concerned to examine the external factors that may influence the decision maker to adopt e-commerce in company such as compotators' pressure, customers' pressure, suppliers' pressure, and government support.

Q18) The following statements look for your thoughts about the influence of your company's competitors on the decision to adopt e-commerce in your company.   Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The rivalry among companies in the industry my company is operating in is very intense.	1	2	3	4	5
2. Some of our competitors have already adopted e-commerce	1	2	3	4	5
3. Our firm is under pressure from competitors to adopt Internet/e-business technologies	1	2	3	4	5
4. It is easy for our customers to switch to another company for similar services without any difficulty	1	2	3	4	5
5. Our customers are able to easily access to several existing products/services in the market which are	1	2	3	4	5

Q19) The following statements look for your thoughts about the influence of your company's suppliers/partners on the decision to adopt e-commerce in your company.   Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our company depends on other firms that are already using e-commerce.	1	2	3	4	5
2. Many of our suppliers and business partners are already adopted e-commerce.	1	2	3	4	5
3. Our industry is pressuring us to adopt e-commerce	1	2	3	4	5
4. Our suppliers and Business partners' demand better communication and data interchange which pressure	1	2	3	4	5
5. Our partners are demanding the use of e-commerce in doing business with them.	1	2	3	4	5

Q20) The following statements look for your thoughts about the influence of your company's customers on the decision to adopt e-commerce in your company.   Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our customers are requesting us to adopt e-commerce	1	2	3	4	5
2. Our company may lose our potential customers if we have not adopted e-commerce.	1	2	3	4	5
3. Our company is under pressure from customers to adopt e-commerce.	1	2	3	4	5

Q21) The following statements relate to your point of view about government support on the decision to adopt e-commerce .Please kindly indicate to what extend you agree or disagree with these statements that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Government plays an important role in promoting e-commerce within SMEs	1	2	3	4	5
2. The telecommunication infrastructure and availability of internet technology (ADSL,Cable,wireless) encouraged our company to adopt e-commerce .	1	2	3	4	5
3. The government agencies offers training and educational programs to our company to adopt e-commerce	1	2	3	4	5
4. Existing governmental legislation in e-commerce in terms of buyer /seller protection encouraged us to adopt e-commerce	1	2	3	4	5
5. The government has an effective laws to combat cyber crime	1	2	3	4	5
6. The government is providing us loans facilities to adopt e-commerce.	1	2	3	4	5
7. The government is active in setting up the facilities to enable Internet commerce	1	2	3	4	5

Thank You For Your Participation

If you would you like to receive a copy of the study results ,please provide us your postal address or e-mail address

Postal address :	**E-mail address :**
……………………………………...	………………………………………

Appendix A-3

Initial Version of Arabic Questionnaire

تبني لتجارة إلكترويية من قبل مدراء ومالكوكآلتسلفرفي ألردن

عزيزي لملك / لمهير

أن هذه السينتبلة جزء من بحثي لدرجة لدكتوراهفي جامعة كارديف تروبوليتان   Cardiff Metropolitan University في لمملكة لمتحدة بريطايا . هذا لبحثيبعحوانتبني لتجارة إلكترويية من قبل مدراء ومالك وكآلتسلفرفي ألردن وهي محاولة لدرسة لمبتتخدام لتجارة إلكترويية عبر وكآلتسلفر لروبيية من أجل لحصول على فأضل لإيضاحات للعوامل لمؤثرة في صناعلقرارببنجاح لتجارة إلكترويية ومبتويات تبنيها عبر هذه لشركات. أنتبني لتجارة إلكترويية يعطيفرصأ لوكالت لبفر للحفاظ على بقى لهافي لسوق لروباحة لعلميفي حين أن لوكالء لقليبيون يواجهونتهديد لالوسطية أو لزوال إذالميكنلبى همفلعال مبتقبلي تجاه لتجارة إلكترويية. إنتلئج هذا لعملسيجبرر لهؤَقتبتطوينموذج يوضحلكيفي ةللمالك / لمدراءلوكالتسلفرص غيرة ومتوسطة لحجمفي ألردن من اجملية مدى درجتبني لتجارة الكترويية لتسهيل على قضع القرار ولعملية لتجاري ة.

أن شراركتكتطوعية، ولك لحي قبالنبحابفي أي وقت دون بإداء لاسباب. إنتعبئة السينتبيانلنيستغرق ألثر من ٢٠ فيقة واليوجد إجبات صحيحة أو خاطئة، وإجبتك هي رأيك.

سوف أكونسعياً إذا اجهت عن جميع ألمرلة لمتخلق بالسينتبيان. أن شراركتكفي هذا لبحث مهمة جداً لإتمام هذا لبحثبنجاح.

هويتك سيتقى غير معرفة وأؤكد لك بأن بيتجلبتك ومعلومات شراكتك سيتقى محفظ على هابأعلى درجات لسرية. وسأزودكبيتليج هذا لبحث إذاشئعتين يبلك. إنتعبئة هذا السينتبيانستكون لمهوفق ة في شراركتكم .

شكراً لكم قدماًلتعاويكم وجهدكمفي تعبئة هذا السينتبيان.

لرجاء عدم لتردذفي لتوصل معي إذاكانلديك أي لمرلة عن لبحث أو ماذا أوي علي ه من هذه لدرلسة .

محمد لروسان ـ طلب لدكتوراه   موبيل—لردن: ٠٠٩٦٢٧٩٨٦٨٨٧٣١

جامعة كارديف تروبوليتان   موبيل بريطايا: ٠٠٤٤٧٧٩٤٩٠٧٧٩٤

لبريد الكتروني: 20024308@cardiffmet.ac.uk.

هذا الجزء من الاستبيان سيسأل عن نفسك و عن ملف الشركة .

ملف الشركة	
س٢) في أي من الفئات التي تصنف فيها شركتك وكالة السفر؟	**س١) كم مضى على وجودك في الشركة؟**
☐ تنتمي الفئة (أ) (*)	☐ أقل من ١٢ شهر
☐ تنتمي الفئة (ب) (**)	☐ ١ – ٢ سنة
☐ تنتمي الفئة (ج) (***)	☐ ٥ سنوات
	☐ ١٠ سنوات
	☐ أكثر من ١٠ سنوات

ملف المالك / المدير	
س٤) أي مما يلي الدرجة العلمية الأعلى التي حصلت عليها؟	**س٣) ما هو عمرك؟**
☐ أقل من الثانوية	☐ ١٨~٢٩
☐ الثانوية	☐ ٣٠~٤٠
☐ شهادة دبلوم	☐ ٤٠~٥٠
☐ درجة البكالوريوس	☐ ٥٠~٦٠
☐ الدراسات العليا	☐ ٦٠+

* الفئة (أ): وقم بتنظيم وتسيير الرحلات الوافدة والصادرة وتنظيم الرحلات الداخلية
** الفئة (ب): وقم بالتقام وتنظيم وتسيير الرحلات الوافدة داخل المملكة
*** الفئة (ج): وقم بتنظيم برامج الرحلات الصادرة تبيع برامج الرحلات الصادرة المنظمة من قبل الفئة (أ)

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هذا الجزء من الاستبيان يسأل عن وضع شركتك تجاه العبارات المتعلقة بالموقع الإلكتروني وتطبيقات الإنترنت التي تتبناها أو المتبناة شركتك.

س٥) أي من المستويات تطبيقات الإنترنت الحالية التي تتبناها شركتك ؟

لطفاً اختر إجابة واحدة فقط

	ال	نعم
١. شركتنا ليست مربوطة مع الإنترنت .		
٢. شركتنا مربوطة مع الإنترنت وللبريد الإلكتروني واليوجد للشركة موقع الإلكتروني على الشبكة عن كبويية.		
٣. لدى شركتنا موقع الإلكتروني يثبت فيه ظهر المعلومات عن الشركة و عن منتجاتها ويقتصار لاتصال واحدة سبيل استخدام البريد الإلكتروني .		
٤. لدى شركتنا موقع فعال ويقبل الطلبات الإلكتروني أو والنماذج والبريد الإلكتروني من الزبائن والمزودين ولكن عملية الدفع الإلكتروني غير مدمجة في الموقع الإلكتروني .		
٥. شركتنا تنفذ فيها العمليات الإلكتروني عبر الموقع الإلكتروني التي تسمح بالشراء والبيع للمنتجات والخدمات للزبائن والمزودين بما في ذلك خدمات الزبون .		
٦. لدى شركتنا موقع متصل مع أنظمة الكمبيوتر والتي تتيح لحل لشركتنا عمل معظم أعمالها وعملياتها مثل النظام المحاسبي، نظام الجرد، إدارة علاقات الزبون وأي أوراق عملية المعنية إلى أوراق الإلكترونية.		

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هذا الجزء من الاستبيان يرصد الأفكار/آرائكم فيما يتعلق بتطبيقات التجارة الإلكترونية واستخداماتها في شركتكم. ويقيم هذا الجزء تحقق عوامل التكنولوجية مثل الميزانيات، التوافقية، التقنية، وذلك تحت جوانب القابلية للملاحظة.

س٦: العبارات التالية تتعلق بآراء شركتكم حول قبولكم لتطبيق التجارة الإلكترونية.

فضلاً، أشر إلى مدى الموافقة أو عدم الموافقة حول هذه العبارات بدرجة من (١) (لا أوافق بشدة) إلى (٥) (أوافق بشدة).

	لا أوافق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة
١ التجارة الإلكترونية تخفض كل تكاليف العمليات لدى الشركة	١	٢	٣	٤	٥
٢ التجارة الإلكترونية تساعد شركتنا على التوسع في حصص الأسواق	١	٢	٣	٤	٥
٣ التجارة الإلكترونية تساعد في زيادة قاعدة الزبون	١	٢	٣	٤	٥
٤ التجارة الإلكترونية تزيد المبيعات والعوائد	١	٢	٣	٤	٥
٥ التجارة الإلكترونية تخلق قنوات جديدة للإعلان	١	٢	٣	٤	٥
٦. التجارة الإلكترونية تُعزز صورة الشركة	١	٢	٣	٤	٥
٧ التجارة الإلكترونية تزيد من الميزة التنافسية للشركة	١	٢	٣	٤	٥
٨ التجارة الإلكترونية تحسن من خدمات ورضى الزبون	١	٢	٣	٤	٥
٩ التجارة الإلكترونية تحسن علاقة أعمالنا مع الموردين لدى شركتنا.	١	٢	٣	٤	٥
١٠ التجارة الإلكترونية تُمكّن من أداء أعمال الشركة بشكل أسرع	١	٢	٣	٤	٥

س٧: العبارات التالي تتفق في مدى موافقتك بما يتعلق بمدى ملائمة ألنظمة وتطبيقات شركتك معتبني للتجارة الإلكترونية. لظفأ، أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من (١ (ال أوفقشدةإلى)٥(أوفقشدة.

أوفقشدة	أوفق	محايد	ال أوفق	ال أوفقشدة	
٥	٤	٣	٢	١	١. التجارة الإلكترونية متفقة مع البنية التحتيةتكنولوجيا المعلوماتالخاصةبالشركة .
٥	٤	٣	٢	١	٢. التجارة اللكترونية متفقة مع برامج تطبيقات الحاسوب بالضفةالعالى المعدات والالجهزة الموجودة والمستخدمة حاليأ في الشركة.
٥	٤	٣	٢	١	٣.التجارة الالكترونية متفقة مع جميع بعض جوانب عملياتنا التجارية
٥	٤	٣	٢	١	٤.التجارة الالكترونية متفقة مع اعمال الحالية لدى الشركة.
٥	٤	٣	٢	١	٥.التجارة الإلكترونية متفقة مع فلسفة عملنا في شركتنا.
٥	٤	٣	٢	١	٦.التجارة الإلكترونية متفقة مع الموردين والعمال في طرق إنجاز أعمالهم.
٥	٤	٣	٢	١	٧.تطبيقات التجارة الإلكترونية تتناسب بأسلوب عمل في الشركة.

س ٨)العبارات التالي تتفق بها رأى آراء شركتك حتى عقب يدات استخدام وتطبيق التجارة الإلكترونية.
لظفأ أشر رلى مدى الموافقة أو عدم الموافقة مع هذه العبارات المتدرجة من)١(ال أوفقشة إلى)٥(أوفلقشدة.

أوفقشدة	أوفق	محايد	ال أوفق	ال أوفقشدة	
٥	٤	٣	٢	١	١. أن تطبيقات التجارة الإلكترونية معقدة جدأ فهمها ولتخدامها.
٥	٤	٣	٢	١	٢.لدى الشركة قصرف في ألدوات النماسبة لدعم تطبيق التجارة الإلكترونية .
٥	٤	٣	٢	١	٣.لدى الشركة قصرف في ألانظمةالالىي في الكبيوتر لدعم أنشطة التجارةالإلكترونية.
٥	٤	٣	٢	١	٤. أن تطبيقات التجارة الإلكترونية معقدة جدأ للقيام بعملياتنا التجارية.

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س ٩ (العبارات التالية تتعلق بآراء شركتكم حول تجريب التطبيقات المتعلقة بتبني التجارة الإلكترونية.

لطفاً أشر إلى مدى لموافقة أو عدم لموافقة حول هذه العبارات المتدرجة من ١ (ال أوافق بشدة إلى ٥)شدة أوفق.

العبارة	١	٢	٣	٤	٥
١ تستطيع شركتنا الوصول إلى تكنولوجيا بالمجاني قبل عمل قرار تبني التجارة الإلكترونية	١	٢	٣	٤	٥
٢. لدى شركتنا فرصة تجريب عدد من تطبيقات التجارة الإلكترونية قبل صنع القرار.	١	٢	٣	٤	٥
٣ تستطيع شركتنا تجريب التجارة الإلكترونية قبل مدى واسع عالية	١	٢	٣	٤	٥
٤ تسمح شركتنا بتجربة استخدام التجارة الإلكترونية على أساس التجريب لمدة كافية في مدى فعاليتها	١	٢	٣	٤	٥
٥. أنه من السهول في شركتنا الخروج بعد تجربة استخدام التجارة الإلكترونية	١	٢	٣	٤	٥
تكلفة تجريب شركتنا في التجارة الإلكترونية منخفضة	١	٢	٣	٤	٥

س ١٠ (العبارات التالية تتعلق بأي درجة وضوح وملاحظة من قبل الآخرين لمنتجات التجارة الإلكترونية. لطفاً أشر بربما يلق أو ال يوفق العبارات المتدرجة من ١ (ال أوافق بشدة إلى ٥) أوفق شدة

العبارة	١	٢	٣	٤	٥
١. يوجد عدد كبير من أجهزة الكمبيوتر حيث يستطيع الناس في شركتنا الوصول إلى الإنترنت واستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٢. ألعديد من زبائننا في السوق بدأوا باستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٣ العديد من شركائنا ومزودين في السوق بدأوا باستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. جربت التجارة الإلكترونية للتواصل للوضح مع نطاق في جميع الأوقات.	١	٢	٣	٤	٥
٥. أظهرت التجارة الإلكترونية فتنظم طرق للأعمال عن الطرق	١	٢	٣	٤	٥

هذا الجزء من الاستبيان معني بالتحقيق في العوامل الداخلية في شركتك و علاقتها بمستوى تبني التجارة الإلكترونية مثل المصادر المالية، حجم الشركة، خبرتك التكنولوجية، المعلومات عن العمال الموظفين.

س ١١ (هذه العبارات تتعلق بآراء شركتك حول المتطلبات المالية في تبني التجارة الإلكترونية فطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من ١(لا أوافق بشدة)إلى ٥(موافق بشدة أطلق.

	أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
١.يتطلب تطبيق تقنيات التجارة الإلكترونية تكلفة عالية جداً في شركتنا.	٥	٤	٣	٢	١
٢.تكلفة الوصول للإنترنت عالية .	٥	٤	٣	٢	١
٣.ليس لدى الشركة ميزانية كافية لتطبيق وتبني للحفاظ على نظام التجارة الإلكترونية .	٥	٤	٣	٢	١
٤.تتطلب تطبيقات التجارة الإلكترونية تكلفة إضافية في تدريب الموظفين على كيفية استخدامها .	٥	٤	٣	٢	١

س ١٢ (العبارات التالية تتعلق برأيك عن مستوى المعرفة التكنولوجية والمعلومات لدى الموظفين العاملين لديك. لطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من ١(لا أوافق بشدة)إلى ٥(موافق بشدة أطلق

	أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
١.لدى الموظفين في شركتنا المعرفة الضرورية والفهم للتجارة الإلكترونية	٥	٤	٣	٢	١
٢.الموظفين في شركتنا لديهم خبرة و معرفة باستخدام الحاسب الآلي	٥	٤	٣	٢	١
٣. يوجد موظفين متخصصين وعلى دراية في تقنية التكنولوجيا والمعلومات في شركتنا .	٥	٤	٣	٢	١

س ١٣ (كم عدد الموظفين العاملين في شركتك

أقل من ١٠	☐
من ١٠ – ٥٠	☐
أكثر من ٥٠	☐

الجزء الخامس: عوامل إدارية

هذا الجزء من الاستبيان يهدف فحص العوامل التي قد تؤثر على صنع القرار بتبني تجارة الإلكترونية و تركز على العوامل الإدارية مثل مدى السلطة الممنوحة لطرفي العلاقتين، دعم الإدارة و موقف المدير.

س ١٤ (العبارات التالية تسألك عن طبيعة علاقتك مع موظفي شركتك لطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات التي تتدرج من) ١ (لا أوافق بشدة إلى) موافق بشدة أوافق.

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة	
٥	٤	٣	٢	١	١ يتشارك المدراء المعلومات مع الموظفين.
٥	٤	٣	٢	١	٢. أنه غالبا و من الضروري أن يكون مسؤول لاستخدام السلطة والقوة عند التعامل مع الموظفين.
٥	٤	٣	٢	١	٣ يجب على المدراء الحذر بأن الموظفين ألا يسألوا عن آراء الموظفين بشكل متكرر .
٥	٤	٣	٢	١	٤. على المدير أن يتجنب التآلف الاجتماعي مع الموظفين لديه في الشركة.
٥	٤	٣	٢	١	٥ يجب على الموظفين الصراع لقرارات مدرائهم.
٥	٤	٣	٢	١	٦. يجب على المدراء الحذر من انتداب مهمات صعبة ومهمة الموظفين لديهم.
٥	٤	٣	٢	١	٧ يجب على المدراء اتخاذ معظم قراراتهم دون استشارة الموظفين لدى الشركة .

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س ١٥(العبارات التالية تسأل عن رأيك عن دعمك واهتمامك بتنفيذ التجارة الإلكترونية في شركتك. لطفاً أشر إلى مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من ١) ال أوفق بشدة إلى ٥(موافق بشدة أوفق.

	أوافق بشدة	أوافق	محايد	ال أوافق	ال أوافق بشدة	
	٥	٤	٣	٢	١	١. أنا مستعد أن أزود الموارد الالزمة والضرورية لتنفيذ التجارة الإلكترونية
	٥	٤	٣	٢	١	٢. أنا أعتقد بأهمية استخدام التجارة الإلكترونية في أعمالنا التجارية
	٥	٤	٣	٢	١	٣. لدينا الرؤية الواضحة في أعمالنا عن تطبيق التجارة الإلكترونية

س ١٦(تبحث العبارات التالية عن رأيك في التعامل مع الظروف غير المؤكدة المتعلقة بتنفيذ التجارة الإلكترونية. لطفاً أشر إلى مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من ١) ال أوفق بشدة إلى ٥(موافق بشدة أوفق.

	أوافق بشدة	أوافق	محايد	ال أوافق	ال أوافق بشدة	
	٥	٤	٣	٢	١	١. أنا غير مستعد ألخذ المجازفة في تبني تطبيقات التجارة الإلكترونية في منشأتي التجارية.
	٥	٤	٣	٢	١	٢. أنا غير مستعد على تقبل التغير من األعمال التقليدية إلى األعمال الإلكترونية.
	٥	٤	٣	٢	١	٣. ليس لدي قلق بشأن أمن معامالت التجارة الإلكترونية

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س ١٧) :العبارات التالية تتعلق بمشاعرك تجاه تحركات الانترنت وتطبيقات التجارة الإلكترونية فظطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوفق بشدة إلى)٥(شدة أوفق.

الأوفق بشدة	أوفق	محايد	ال أوفق	ال أوفق بشدة	
٥	٤	٣	٢	١	أجد المتعة فلي تفاعل مع الانترنت
٥	٤	٣	٢	١	٢.استخدام موقع الالكتروني يزودني بمتعة كبيرة
٥	٤	٣	٢	١	٣. أحب فكرة تبني التجارة الإلكترونية في شركتي
٥	٤	٣	٢	١	٤. أعتقد أن التجارة الإلكترونية سوف تُطبق فى الشركات الصغيرة ومتوسطة الحجم فالمستقبل القريب
٥	٤	٣	٢	١	٥. اعتقد أن تبني التجارة الإلكترونية سوف يكون مفيدا لشركتي

الجزء السادس: العوامل البيئية

هذا الجزء من السبيان من عن في حص العوامل الخارجية التي يمكن أن تؤثر فى صنع القرارات بتبني التجارة الإلكترونية في الشركة كمثل ضغط المنافسين ضغط الزبائن ضغط المزودين والدعم الحكومي.

س ١٨) تبحث العبارات التالية عن أفكارك حول تأثير المنافسين لشركتك في قرارات تبني التجارة الإلكترونية. لظفأ أشر فى مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوفق بشدة إلى)٥(شدة أوفق.

الأوفق بشدة	أوفق	محايد	ال أوفق	ال أوفق بشدة	
٥	٤	٣	٢	١	١توجد منافسة شديدة بين شركتي والشركات الأخرى في نفس مجال العمل.
٥	٤	٣	٢	١	٢.بعض منافسينا قامت بتبني التجارة الإلكترونية.
٥	٤	٣	٢	١	٣. أن مؤسستنا تحت ضغط المنافسين لتبني الانترنت والتجارة الالكترونية.
٥	٤	٣	٢	١	٤. أنه من السهل على زبائننا أن يتغيروا والى شركة أخرى ذات خدمات مشابهة دون أي صعوبة.
٥	٤	٣	٢	١	٥ يستطيع زبائننا بسهولة الوصول إلى العديد من المنتجات والخدمات الموجودة لدينا من مصادر منخفضة اخرى.

س ١٩) تبحث العبارات التالية عن فكرتك حول تأثير أنشطة شركتك بالموردين والشركاء في قرار تبني التجارة الإلكترونية. لطفاً أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من (١ ال أوافق بشدة إلى ٥ موافق أوافق بشدة).

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة	
٥	٤	٣	٢	١	١. تتعمد شركتنا على شركات أخرى التي في فعلها تستخدم التجارة الإلكترونية
٥	٤	٣	٢	١	٢. ألزمنا العديد من موردينا وشركائنا بتبني التجارة الإلكترونية.
٥	٤	٣	٢	١	٣. طبيعة مجال عملنا تضغط علينا من أجل تبني التجارة الإلكترونية.
٥	٤	٣	٢	١	٤. غالبية موردينا وشركائنا في العمل يطلبون الاتصال وتبادل المعلومات معهم عبر قنوات تقنية حديثة (مثل الفاكس، البريد الإلكتروني الخ)
٥	٤	٣	٢	١	٥. غالبية موردينا وشركائنا يطلبون منا العمل بالتجارة الإلكترونية للتعامل معهم

س ٢٠) العبارات التالية تبحث في فكرتك عن تأثير زبائن شركتك في قرار تبني التجارة الإلكترونية. لطفاً أشر في مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من (١ ال أوافق بشدة إلى ٥ موافق أوافق بشدة).

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة	
٥	٤	٣	٢	١	١. غالبية زبائننا يطلبون منا استخدام التجارة الإلكترونية
٥	٤	٣	٢	١	٢. من المحتمل انفقاد شركتنا الزبائن المحتملين إذا لم تتبنى التجارة الإلكترونية
٥	٤	٣	٢	١	٣. أن شركتنا تحت ضغط من الزبائن لتبني التجارة الإلكترونية

س ٢١) العبارات التالية تتعلق برأيك حول الدعم الحكومي لقرارتني التجارة الإلكتروني فاطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات التي تتدرج من (١) ال أوافق بشدة إلى (٥) موافق بشدة.

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة	
٥	٤	٣	٢	١	١. تلعب الحكومة دوراً مهماً في تشجيع التجارة الإلكترونية ضمن الشركات الصغيرة ومتوسطة الحجم.
٥	٤	٣	٢	١	٢. البنية التحتية للاتصالات وتوفر تكنولوجيا الإنترنت مثل (الإنترنت السلكي واللاسلكي) فعلا ودعم تشجيع الشركات على تبني التجارة الإلكترونية
٥	٤	٣	٢	١	٣. تقدم الوكالات الحكومي تدريباً وبرامج تنمية في الشركات لتبني التجارة الإلكترونية.
٥	٤	٣	٢	١	٤. وجود التشريعات الحكومية في التجارة الإلكتروني في حماية البائع والمشتري شجع على تبني التجارة الإلكترونية .
٥	٤	٣	٢	١	٥. يوجد لدى الحكومة قوانين فعلا لمنع جرائم الإنترنت.

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة	
٥	٤	٣	٢	١	٦. تقدم الحكومة من قرض أنتسي لتبني التجارة الإلكترونية .
٥	٤	٣	٢	١	٧. الحكومة فعالة في وضع السياسات التي تعزز التجار الإنترنت.

شكراً لمشاركتك

كشراكتك في هذا البحث في نهاية ارافي لك الحصول على نسخة من نتائج هذه الدراسة، لطفاً زودنا بعنوانك البريدي أو بريدك الإلكتروني أو رقم الفاكس. هذه البيانات لكم مشاركتكم ونؤكد أن جميع المعلومات سوف تستعمل لأغراض وصري قوس تامة.

العنوان البريدي	اسم المنشأة : ....
....	البريد الإلكتروني : ....
....	رقم الفاكس : ....

Appendix A-4

Final Version of Arabic Questionnaire

تبني تطبيقات التجارة الإلكترونية من قبل مدراء ومالك وكالات السفر في الأردن

عزيزي المالك / المدير

أن هذه الاستبانة جزء من بحثي لدرجة الدكتوراه في جامعة كارديف متروبوليتان   Cardiff Metropolitan University في المملكة المتحدة البريطانيا .هذا البحث يبحث عن تبني التجارة الإلكترونية من قبل مدراء ومالك وكالات السفر في الأردن وهي محاولة لدراسة تطبيقات خدمات التجارة الإلكترونية عبر وكالات السفر الأردنية من أجل الوصول على أفضل الإيضاحات للعوامل المؤثرة في صناعة القرار في تبني التجارة الإلكترونية التي تم تبنيها عبر هذه الشركات. أن تبني التجارة الإلكترونية تعطي فرصة لوكالات السفر للحفاظ على بقائها في السوق والسياحة العالمية في حين أن الوكلاء يواجهون تهديد التوسطية أو الزوال إذا لم يكن لديهم فعلا منتجات تتجاه التجارة الإلكترونية. إن نتائج هذا العمل سيجعل تطوير نموذج يوضح التي يهم المالك / المدراء لوكالات السفر صغيرة ومتوسطة الحجم في الأردن من احتمالية مدى درجة تبني التجارة الإلكترونية لتسهيل عملية صناعة القرار وعملية تجارية.

أن مشاركتك تطوعية، ولك الحرية الكاملة في الانسحاب في أي وقت دون إبداء الأسباب بالنتيجة في استبيان الدراسة غرق أكثر من 10دقيقة والوجود إجابة صحيحة أو خاطئة، وإجابتك هي رأيك.

سوف تكون سعيدا إذا اتجهت عن جميع الأسئلة لتحقق بالنتيجة. أن مشاركتك في هذا البحث مهمة جدا إلتمام هذا البحث بنجاح.

وهي تبقى غير معروفة وأؤكد لك بأن نتائجك وجلتك ومعلومات شركتك ستبقى محفوظة في أعلى درجات السرية. وسأزودك بنتائج هذا البحث إذا شرعتني بالبحث عبئة المعلومات بأن ستكون وموافقة على مشاركتكم .

شكرا لكم قدما لتعاونكم وجهدكم في تعبئة هذا الاستبيان.

الرجاء عدم التردد في التواصل معي إذا كان لديك أي أسئلة عن البحث أو ماذا لديك من هذه الدراسة .

محمد لروسان ـ طالب دكتوراه   موبايل في الأردن: 00962798688731

جامعة كارديف متروبوليتان   موبايل في بريطانيا: 00447794907794

البريد الإلكتروني: 20024308@cardiffmet.ac.uk.

التاريخ: 23 أيار 2013

الرقم: م/1/6/3/763

الى من يهمه الأمر

تحية طيبة وبعد ،

تقدم الينا السيد محمد قاسم الروسان و أعلمنا بأنه يعمل حالياً على تحضير اطروحته لنيل درجة الدكتوراة في مجال نظم المعلومات الادارية من جامعة كارديف متروبوليتان في بريطانيا و بعنوان **(تبني التجارة الالكترونية من قبل مدراء و مالكي الشركات السياحية و وكلاء السفر في الأردن)** و هو يرغب بتعبئة استبانة من قبل الشركات السياحية و وكلاء السياحة و السفر ، و عليه فاننا نأمل من حضرتكم تقديم التسهيلات اللازمة للباحث من خلال تعبئة الاستبيان لما لتلك الدراسة من اهمية في الحصول على نتائج قد تخدم القطاع السياحي مستقبلا .

وتفضلوا بقبول فائق الاحترام ،،،

د. عبد الرزاق عربيات

المدير العام

الجزء الأول: معلومات عامّة

هذا الجزء من الاستبيان يسأل عن نفسك و عن ملف الشركة .

ملف الشركة	
س٢) أي من التالي يصف مكتب التسفر؟	**س١) كم مضى على وجد الشركة؟**
☐ ينتمي للفئة (أ)*	☐ أقل من ١٢ شهر
☐ ينتمي للفئة (ب)**	☐ ١ – سنة
☐ ينتمي للفئة (ج)***	☐ ٣ سنوات
	☐ ٥ سنوات
	☐ أكثر من ٥ سنوات

ملف المالك / المدير	
س٤) أي يلي الدرجة التعليمية الأعلى التي تحصلت عليها؟	**س٣) ما هو عمرك؟**
☐ أقل من الثانوية	☐ ١٨~٢٩
☐ الثانوية	☐ ٣٠~٤٠
☐ شهادة دبلوم	☐ ٤٠~٥٠
☐ درجة البكالوريوس	☐ ٥٠~٦٠
☐ الدراسات العليا	☐ ٦٠+

* ينتمي للفئة (أ): وقوم بتنظيم وتسيير الرحلات الوافدة والصادرة وتنظيم الرحلات الداخلية
** ينتمي الفئة (ب): وقوم باستقبال وتنظيم وتسيير الرحلات الوافدة داخل المملكة
*** ينتمي للفئة (ج): وقوم بتنظيم برامج الرحلات الصادرة تبيع برامج الرحلات الصادرة المنظمة من قبل المنشأت للفئة (أ)

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هذا الجزء من الاستبيان يسأل عن وضع شركتك العبارات المقع الالكتروني و تطبيقات الانترنت التي يتبناها او ستتبناها شركتك.

س٥ (أي من المستويات تطبيقات الانترنت التالي الذي يتبناها شركتك ؟

لطفاً اختر اجابة واحدة فقط

نعم	ال	
		١.شركتنا ليس لها ربطة مع الانترنت .
		٢.شركتنا لها ربطة مع الانترنت و البريد الالكتروني و الوجود لدى الشركة مقع الالكتروني على الشبكة العنكبوتية.
		٣.لدى شركتنا مقع الالكتروني يثبت و يظهر المعلومات عن الشركة و عن منتجاتها بطريقة اتصال واحد باستخدام البريد الالكتروني .
		٤.لدى شركتنا مقع عالي يقبل الطلبات الالكتروني و النماذج و البريد الالكتروني من الزبائن و المزودين لكن عملية الفعل الالكترونيا غير متجهي مع المقع الالكتروني .
		٥.شركتنا تتكامل عملياتها الالكترونيا مع المقع التي تسمح بمجال الشراء و البيع للمنتجات و الخدمات للزبائن و المزودين بينما في ملف خدمات الزبون .
		٦.لدى شركتنا مقع متصل مع أنظمة الكمبيوتر و التي يتيح لشركتنا عمل معظم أعمالها و عملياتها مثل النظام المحاسبي، نظام الجرد، إدارة علاقة الزبون و أي أوراق عمل قائمة الى أوراق الكترونية.

هذا الجزء من الاستبيان يسأل أفكارك/ رأيك فيما يتعلق بتطبيقات التجارة الإلكترونية واستخدامها في شركتك . ويقيم هذا الجزء المتحقق عن العوامل التكنولوجية مثل الايجابيات المالية، والتوافق التجريبي والقابلية للملاحظة.

س٦: العبارات التالية تتعلق بآراء شركتك بما يتعلق بالإيجابيات المالية التي تتيحها التجارة الإلكترونية.

لفظاً، قرر في مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(أوافق بشدة.

	ال أوفق بشدة	ال أوفق	محايد	أوفق	أوفق بشدة
١.التجارة الإلكترونية تخفض كل عمليات التكلفة لدى الشركة	١	٢	٣	٤	٥
٢.التجارة الإلكترونية تسرع في التوسع في حصص الأسواق	١	٢	٣	٤	٥
٣.التجارة الإلكترونية تساعد في زيادة عائدة الزبون	١	٢	٣	٤	٥
٤.التجارة الإلكترونية تزيد الربح والعوائد	١	٢	٣	٤	٥
٥.التجارة الإلكترونية تخلق قنوات جديدة للإعلان	١	٢	٣	٤	٥
٦.التجارة الإلكترونية تُعزز صورة الشركة	١	٢	٣	٤	٥
٧.التجارة الإلكترونية تزيد من الميزة التنافسية للشركة	١	٢	٣	٤	٥
٨.التجارة الإلكترونية تحسن من خدمات ورضى الزبون	١	٢	٣	٤	٥
٩.التجارة الإلكترونية تحسن علاقة أعمالنا مع الموردين لدى شركتنا.	١	٢	٣	٤	٥
١٠.التجارة الإلكترونية تمكننا من أداء أعمال النشاط أسرع	١	٢	٣	٤	٥

س٧: العبارات التالية تتعلق على مدى توافقكم بما يتعلق بمدى ملائمة انظمة وتطبيقات شركتك معتنية بالتجارة الإلكترونية.لفظاً، قرر في مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوفق بشدة إلى)٥(أوافق بشدة.

	ال أوفق بشدة	ال أوفق	محايد	أوفق	أوفق بشدة
١.التجارة الإلكترونية متوافقة مع البنية التحتية للتكنولوجيا المعلوماتية الخصية الشركة .	١	٢	٣	٤	٥
٢.التجارة الإلكترونية متوافقة مع البرامج تطبيقات الحاسوب بالاضافة الى المعدات والاجهزة الموجودة المستخدمة حالياً في شركة.	١	٢	٣	٤	٥
٣.التجارة الإلكترونية متوافقة مع جميع جوانب عملنا التجارية	١	٢	٣	٤	٥
٤.التجارة الإلكترونية متوافقة مع اعمال الحالية لدى الشركة.	١	٢	٣	٤	٥
٥.التجارة الإلكترونية متوافقة مع ثقافة التنافسي شركتنا.	١	٢	٣	٤	٥
٦.التجارة الإلكترونية متوافقة مع الموردين والعملاء في طرق انجاز أعمالهم.	١	٢	٣	٤	٥
٧.تطبيقات التجارة الإلكترونية تتناسب بأسلوب عملنا في شركة.	١	٢	٣	٤	٥

س ٨)العبارات التالي تتعلق بآراء شركتك حول تعزيزات استخدام وتطبيقات التجارة الإلكترونية.

لطفاً أشر إلى مدى الموافقة أو عدم الموافقة مع هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(أوافق بشدة.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. أن تطبيقات التجارة الإلكترونية معقدة جداً في فهمها واستخدامها.	١	٢	٣	٤	٥
٢. لدى الشركة قصص في الأدوات المناسبة لدعم تطبيقات التجارة الإلكترونية .	١	٢	٣	٤	٥
٣. لدى الشركة قصص في الأنظمة المناسبة من الكمبيوتر لدعم أنشطة التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. أن تطبيقات التجارة الإلكترونية معقدة جداً للتقييم مع بيئتنا التجارية.	١	٢	٣	٤	٥

س ٩)العبارات التالي تتعلق بآراء شركتك حول تجريب التطبيقات العلى قبة تبني التجارة الإلكترونية.

لطفاً أشر إلى مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١ تستطيع شركتنا الوصول إلى تجريب المجلي قبل عمل قراريتي بالتجارة الإلكترونية	١	٢	٣	٤	٥
٢. لدى شركتنا فرصة تجريب عدد من تطبيقات التجارة الإلكترونية قبل صنع القرار.	١	٢	٣	٤	٥
٣ تستطيع شركتنا تجريب تطبيقات التجارة الإلكترونية بمدى واسع فعاليتها	١	٢	٣	٤	٥
٤ تسمح شركتنا بإستخدام التجارة الإلكترونية على أساس تجريب لمدة لفترة لترى مدى فعاليتها	١	٢	٣	٤	٥
٥. أه من السهول في شركتنا الخروج وعدت تجريب استخدام التجارة الإلكترونية	١	٢	٣	٤	٥
التكلفة في الشركة في التجريب للتجارة الإلكترونية منخفضة	١	٢	٣	٤	٥

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س ١٠ (العبارات التالي تتعلق بأي درجة وضوح وملاحظة من قبل الآخرين لمنتجات التجارة الإلكترونية. لطفاً أشر بما يوافق أول في العبارات للعبارات التدرجة من)١(ال أوافق بشدة إلى)٥(أوافق بشدة

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. يوجد عدد كبير من أجهزة الكمبيوتر في يستطيع الناس في شركاتنا الوصول إلى الانترنت واستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٢. أن العديد من منافسينا في السوق قد بدأوا باستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٣. العديد من شركائنا ومزودينا في السوق قد بدأوا باستخدام التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. جعلت التجارة الإلكترونية التواصل أوضح مع زبائننا في جميع الأوقات.	١	٢	٣	٤	٥
٥. أظهرت التجارة الإلكترونية تفضيل العملاء عن الطرق التقليدية	١	٢	٣	٤	٥

الجزء الرابع: عوامل المنشأة/الشركة

هذا الجزء من الاستبيان معني بتحقيق من العوامل الداخلي لشركتك والقيم والمستويات التي تتبنى التجارة الإلكترونية مثل المصادر المالي حجم الشركة وخبرة التقنية ومهارات ومعرفة الموظفين.

س ١١ (هذه العبارات تتعلق بآراء شركتك حول المتطلبات المالي لتبني التجارة الإلكترونية. لطفاً أشر في مدى الموافقة أو عدم الموافقة حول هذه العبارات للتدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. يتطلب تطبيق تقنيات التجارة الإلكترونية تكلفة عالية جداً في شركتنا.	١	٢	٣	٤	٥
٢. تكلفة الوصول الانترنت عالية.	١	٢	٣	٤	٥
٣. لدى الشركة ميزانية كافية لتطبيق وتبني للحفاظ في نظام التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. تتطلب تطبيق التجارة الإلكترونية تكلفة إضافية لتدريب الموظفين على كيفية استخدامها.	١	٢	٣	٤	٥

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س ١٢) الاعبارات التالي تتعلق برأيك عن مستوى المعرفة والوعي بتقنية المعلومات لدى الموظفين العاملين لديك. لطفا أشر
على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١.لدى الموظفين في شركتك المعرفة الضرورية بوظائف التجارة الإلكترونية.	١	٢	٣	٤	٥
٢. الموظفين في شركتي لديهم خبرة و معرفة باستخدام الحاسب الآلي	١	٢	٣	٤	٥
٣. يوجد موظفين متخصصين وعلى دراية في تقنية ونولوجيا المعلومات في شركتنا .	١	٢	٣	٤	٥

س ١٣) كم عدد الموظفين العاملين في شركتك

	أقل من ١٠ موظفين		من ١٠ إلى ٥٠ موظف		أكثر من ٥٠ موظف
□		□		□	

الجزء الخامس: عوامل الإدارية

هذا الجزء من الاستبيان يهدف لمعرفة حصص العوامل التي يقد يكون لها متؤشر على يص على القرار ارتباط التجارة الإلكترونية بتقنية على مركز العوامل الإدارية مثل مدى السلطة تتخذ بعدم اليقين، دعم الإدارة و موقف المدير.

س ١٤) الاعبارات التالية تسألك عن طبيعة علاقتك مع موظفي شركتك، لطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. يشارك المدراء المعلومات مع الموظفين.	١	٢	٣	٤	٥
٢. أنه غالبا و من الضروري للمسؤول استخدام السلطة القوة عند التعامل مع الموظفين.	١	٢	٣	٤	٥
٣ يجب على المدراء الحذر بأن ال يسألوا عن آراء الموظفين ليهم بشكل متكرر .	١	٢	٣	٤	٥
٤. على المدير أن يتجنب التآلف االجتماعي مع الموظفين ليهم في الشركة.	١	٢	٣	٤	٥
٥ يجب على الموظفين العصيان في قرارات مدرائهم.	١	٢	٣	٤	٥
٦ يجب على المدراء الحذر من انتداب مهمات متخصصة و مهمة للموظفين لديهم.	١	٢	٣	٤	٥
٧. يجب على المدراء اتخاذ معظم قراراتهم دون استشارة الموظفين لدى الشركة .	١	٢	٣	٤	٥

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س ١٥ (العبارات التالية تسأل عن رأيك عن دعمك وامكانيات تنفيذ التجارة الإلكترونية في شركتك. لطفاً أشر على مدى الموافقة أوعدم الموافقة حول هذه العبارات بدرجة من)١(ال أوافق بشدة إلى)٥(موافق بشدة.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. أنا مستعد أن أزود بالموارد الالزمة والضرورية لتقني للتجارة الإلكترونية.	١	٢	٣	٤	٥
٢. أنا أعتقد بأهمية استخدام التجارة الإلكترونية في أعمالنا التجارية	١	٢	٣	٤	٥
٣. لدينا الرؤيا الواضحة في أعمالنا عن تقنيات التجارة الإلكترونية	١	٢	٣	٤	٥

س ١٦ (تبحث العبارات التالية عن رأيك كعامل في الظروف غير المؤكدة المتعلق بتنفيذ التجارة الإلكترونية. لطفاً أشر على مدى الموافقة أوعدم الموافقة حول هذه العبارات بدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. أنا غير مستعد لأخذ المجازفة لتقنية تطبيق التجارة الإلكترونية في نشاطي التجاري.	١	٢	٣	٤	٥
٢. أنا غير مستعد لتقبل التغير من الأعمال التقليدية إلى الأعمال الإلكترونية .	١	٢	٣	٤	٥
٣.ليس لدي قلق بشأن أمن معامالت التجارة الإلكترونية	١	٢	٣	٤	٥

س ١٧ (العبارات التالي تتعلق بمشاعر كاتجاه الانترنت وتطبيق التجارة الإلكترونية. لطفا أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات بدرجة من)١(ال أوافق بشدة إلى)٥(بشدة أوافق.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١. أجد المتعة في التفاعل مع الانترنت	١	٢	٣	٤	٥
٢ استخدام الموقع الإلكتروني يزودني بمتعة كبيرة	١	٢	٣	٤	٥
٣.أنا أجد فكرة تقنية للتجارة الإلكترونية في شركتي	١	٢	٣	٤	٥
٤. أعتقد أن التجارة الإلكترونية سوف تُطبق في الشركات الصغيرة ومتوسطة الحجم في القريب العاجل	١	٢	٣	٤	٥
٥. اعتقد أن تبني التجارة الإلكترونية سوف يكون فيداً لشركتي	١	٢	٣	٤	٥

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هذا الجزء من الاستبيان معني بفحص العوامل الخارجية التي يمكن أن تؤثر على صناع القرار بتبني التجارة الإلكترونية في الشركة مثل ضغط المنافسين ضغط الزبائن ضغط المزودين والدعم الحكومي.

س ١٨) تبحث العبارات التالية عن فكرتك حول تأثير المنافسين لشركتك في قرارات تبني التجارة الإلكترونية. لظاً أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(أوافق بشدة.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١توجد منافسة شديدة بين شركتي والشركات الأخرى في نفس مجال العمل.	١	٢	٣	٤	٥
٢بعض منافسينا قد تبنى التجارة الإلكترونية.	١	٢	٣	٤	٥
٣. أن مؤسستنا تحت ضغط المنافسين لتبني الإنترنت و التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. لأنه من السهل على زبائننا أن يغيروا إلى شركة أخرى ذات خدمات مشابهة دون أي صعوبة.	١	٢	٣	٤	٥
٥يستطيع زبائننا بسهولة الوصول إلى العديد من المنتجات والخدمات الموجودة لدينا من مصادر أخرى منخفضة.	١	٢	٣	٤	٥

س ١٩) تبحث العبارات التالية عن فكرتك حول تأثير نشاطات المورين والشركاء في قرارات تبني الشركة في التجارة الإلكترونية. لظاً أشر على مدى الموافقة أو عدم الموافقة حول هذه العبارات المتدرجة من)١(ال أوافق بشدة إلى)٥(أوافق بشدة.

	ال أوافق بشدة	ال أوافق	محايد	أوافق	أوافق بشدة
١تعتمد شركتنا على شركات أخرى والتي هي على استخدام التجارة الإلكترونية	١	٢	٣	٤	٥
٢. أن العديد من مورينا وشركائنا قد تبنوا التجارة الإلكترونية .	١	٢	٣	٤	٥
٣. طبيعة مجال عملنا تضغط علينا من أجل تبني التجارة الإلكترونية.	١	٢	٣	٤	٥
٤. غالبية مورينا وشركائنا في العمل يطلبون الاتصال وتبادل المعلومات معهم عبر طرق وتقنيات حديثة)مثل الفاكس، البريد الإلكتروني، الخ (	١	٢	٣	٤	٥
٥غالبية مورينا وشركائنا يطلبون أن العمل التجارة الإلكترونية للتعامل معهم	١	٢	٣	٤	٥

س ٢٠) العبارات التالية تبحث حول تأثير نية شركائك في قرارتبني التجارة الإلكترونية. لطفاً أشر في مدى الموافقة أو عدم الموافقة حول هذه العبارات لتتدرج من)١(ال أوفلق قشدة إلى)٥(بشدة أوفلق.

	ال أوفلق بشدة	ال أوفلق	محيد	أوفلق	أوفلق بشدة
١غالبية ز ئلاقني بطل بون اابقتني التجارة الإلكترونية	١	٢	٣	٤	٥
٢.من المحتمل ارتفق شركائن النئن المضيلين إذا ال متبني التجارة الإلكترونية	١	٢	٣	٤	٥
٣. أن شركائن اتحت ضغط من النئن لتبني التجارة الإلكترونية	١	٢	٣	٤	٥

س ٢١) العبارات التالي تتعلق قبريأك حول الدعم الحكومي قر ارتبني التجارة الإلكتروني لطف أشر في مدى الموافقة أو عدم الموافقة حول هذه العبارات لتتدرج من)١(ال أوفلق قشدة إلى)٥(بشدة أوفلق.

	ال أوفلق بشدة	ال أوفلق	محيد	أوفلق	أوفلق بشدة
١تلعب الحكومة دوراً مهماً في تشجيع التجارة الإلكترونية ضمن الشركات الصغيرة ومتوسطة الحجم.	١	٢	٣	٤	٥
٢.البنى التحتية الصلة التوتفر ها اتقنولوجيا الانترنت مثل)الانترنت السلكي واللاسلكي(فعالة لدعم وتشجيع الشركات عيتبني التجارة الإلكترونية	١	٢	٣	٤	٥
٣ بتقدم لوكالت الحكومي تدريباً وبرامج في تعليم الشركائن لتبني التجارة الإلكترونية.	١	٢	٣	٤	٥
٤ . وجود تشريعات الحكومي التجارة الإلكتروني في حمية البيع والمشتني شجع على تبني التجارة الإلكترونية .	١	٢	٣	٤	٥
٥ يوجد لدى الحكومة قوقانين فعالة ضد جرائم الانترنت.	١	٢	٣	٤	٥
٦ بتقدم الحكومة قوانين الفرض التسيل لتبني التجارة الإلكترونية.	١	٢	٣	٤	٥
٧.الحكومة فعالة في وضع التسريعات لتمكين التجارة بالانترنت.	١	٢	٣	٤	٥

شكرا لمش اركتك

بمشاركتكم في هذا البحث لكم الحرية في الانسحاب منه في أي مرحلة من مراحله، لذا نرجو إبداء تعاونكم بالرد عبر بريدكم الإلكتروني أو رقم الفاكس. هذا نقدر لكم مشاركتكم ونؤكد أن جميع المعلومات سوف تعامل بخصوصية وسرية تامة.

العنوان البريدي:....................................	اسم المنشأة : ....
....	البريد الإلكتروني :....................................
....	رقم الفاكس :....................................

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Appendix B-1

Independent T-test Results

Group Statistics

	Response Time	N	Mean	Std. Deviation	Std. Error Mean
Years_TA	Early Response	20	3.7500	.71635	.16018
	Late Response	20	3.7500	.71635	.16018
Travel_Type	Early Response	20	1.8500	.36635	.08192
	Late Response	20	2.0000	.56195	.12566
Age	Early Response	20	2.8500	.74516	.16662
	Late Response	20	2.7500	.85070	.19022
Education_LVL	Early Response	20	3.7500	.44426	.09934
	Late Response	20	3.8000	.41039	.09177
Internet_Level	Early Response	20	2.8000	.69585	.15560
	Late Response	20	2.9000	.78807	.17622
RA1	Early Response	20	3.3553	.92551	.20695
	Late Response	20	3.2000	.76777	.17168
RA2	Early Response	20	3.6000	.94032	.21026
	Late Response	20	3.3500	.93330	.20869
RA3	Early Response	20	3.4000	.82078	.18353
	Late Response	20	3.3500	.87509	.19568
RA4	Early Response	20	3.4000	.82078	.18353
	Late Response	20	3.4000	.68056	.15218
RA5	Early Response	20	3.6500	.87509	.19568
	Late Response	20	3.8000	.52315	.11698
RA6	Early Response	20	3.7192	.71827	.16061
	Late Response	20	3.8500	.74516	.16662
RA7	Early Response	20	3.9500	.60481	.13524
	Late Response	20	3.8500	.48936	.10942
RA8	Early Response	20	3.2500	1.01955	.22798
	Late Response	20	3.1500	1.03999	.23255
RA9	Early Response	20	3.0500	.82558	.18460
	Late Response	20	3.1000	.85224	.19057
RA10	Early Response	20	3.6500	.67082	.15000
	Late Response	20	3.7000	.73270	.16384
COMP1	Early Response	20	3.2500	1.06992	.23924
	Late Response	20	3.1000	.91191	.20391

COMP2	Early Response	20	3.8000	.61559	.13765
	Late Response	20	3.8500	.36635	.08192
COMP3	Early Response	20	3.2000	.95145	.21275
	Late Response	20	3.2500	1.01955	.22798
COMP4	Early Response	20	3.3500	.81273	.18173
	Late Response	20	3.4000	.68056	.15218
COMP5	Early Response	20	3.2000	.95145	.21275
	Late Response	20	3.0000	1.07606	.24061
COMP6	Early Response	20	3.9500	.51042	.11413
	Late Response	20	3.6500	.67082	.15000
COMP7	Early Response	20	4.0000	.00000	.00000
	Late Response	20	4.0000	.56195	.12566
COMPX1	Early Response	20	3.1500	1.08942	.24360
	Late Response	20	3.2500	1.20852	.27023
COMPX2	Early Response	20	3.7500	.63867	.14281
	Late Response	20	3.5000	.88852	.19868
COMPX3	Early Response	20	3.0000	.97333	.21764
	Late Response	20	2.8500	.87509	.19568
COMPX4	Early Response	20	2.9500	1.31689	.29447
	Late Response	20	3.1500	1.18210	.26433
TRIAL1	Early Response	20	2.2500	.78640	.17584
	Late Response	20	2.3492	.81205	.18158
TRIAL2	Early Response	20	2.6000	.68056	.15218
	Late Response	20	2.5500	.94451	.21120
TRIAL3	Early Response	20	2.6000	.68056	.15218
	Late Response	20	2.7500	.85070	.19022
TRIAL4	Early Response	20	3.5000	.76089	.17014
	Late Response	20	3.4500	.68633	.15347
TRIAL5	Early Response	20	3.2000	.52315	.11698
	Late Response	20	3.0500	.68633	.15347
TRIAL6	Early Response	20	2.9000	.71818	.16059
	Late Response	20	2.7500	.85070	.19022
OBSRV1	Early Response	20	3.9000	.44721	.10000
	Late Response	20	3.8500	.48936	.10942
OBSRV2	Early Response	20	4.0500	.39403	.08811
	Late Response	20	3.8000	.69585	.15560
OBSRV3	Early Response	20	4.0500	.39403	.08811
	Late Response	20	3.8500	.74516	.16662
OBSRV4	Early Response	20	3.3000	.73270	.16384
	Late Response	20	3.4500	.68633	.15347
OBSRV5	Early Response	20	4.1000	.44721	.10000

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		20	3.9000	.55251	.12354
	Late Response				
FINANCE1	Early Response	20	3.5500	.82558	.18460
	Late Response	20	3.5500	.68633	.15347
FINANCE2	Early Response	20	2.1000	.64072	.14327
	Late Response	20	2.2500	.85070	.19022
FINANCE3	Early Response	20	3.4305	.86471	.19335
	Late Response	20	3.3551	1.03329	.23105
FINANCE4	Early Response	20	3.3500	.87509	.19568
	Late Response	20	3.4000	.99472	.22243
IT_KNO_EMP1	Early Response	20	3.0500	1.05006	.23480
	Late Response	20	3.2000	1.05631	.23620
IT_KNO_EMP2	Early Response	20	4.0500	.60481	.13524
	Late Response	20	4.1000	.85224	.19057
IT_KNO_EMP3	Early Response	20	4.0000	.32444	.07255
	Late Response	20	3.9000	.64072	.14327
NUM_EMP	Early Response	20	1.1500	.36635	.08192
	Late Response	20	1.3500	.58714	.13129
PD1	Early Response	20	3.1000	1.11921	.25026
	Late Response	20	3.7000	.73270	.16384
PD2	Early Response	20	3.7000	.86450	.19331
	Late Response	20	3.6000	.75394	.16859
PD3	Early Response	20	4.0500	.68633	.15347
	Late Response	20	3.4500	.88704	.19835
PD4	Early Response	20	2.9500	.99868	.22331
	Late Response	20	2.7500	1.06992	.23924
PD5	Early Response	20	3.5500	.82558	.18460
	Late Response	20	3.5000	.60698	.13572
PD6	Early Response	20	3.8655	.81869	.18306
	Late Response	20	3.2000	.69585	.15560
PD7	Early Response	20	3.3000	.73270	.16384
	Late Response	20	3.0000	.79472	.17770
MGMTSUP1	Early Response	20	3.5500	.68633	.15347
	Late Response	20	3.5000	.51299	.11471
MGMTSUP2	Early Response	20	3.4000	.68056	.15218
	Late Response	20	3.3000	.73270	.16384
MGMTSUP3	Early Response	20	3.9000	.64072	.14327
	Late Response	20	3.7000	.65695	.14690
UA1	Early Response	20	3.5500	.68633	.15347
	Late Response	20	3.1500	.93330	.20869
UA2	Early Response	20	3.1000	.78807	.17622
	Late Response	20	3.3500	.81273	.18173

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		N	Mean	Std. Deviation	Std. Error Mean
UA3	Early Response	20	2.9500	.88704	.19835
	Late Response	20	2.7500	1.01955	.22798
ATTD1	Early Response	20	3.6000	.88258	.19735
	Late Response	20	3.8500	.58714	.13129
ATTD2	Early Response	20	3.9500	.75915	.16975
	Late Response	20	4.0500	.75915	.16975
ATTD3	Early Response	20	3.7536	.63443	.14186
	Late Response	20	3.7500	.78640	.17584
ATTD4	Early Response	20	3.8000	.52315	.11698
	Late Response	20	3.9000	.71818	.16059
ATTD5	Early Response	20	4.0000	.32444	.07255
	Late Response	20	3.9500	.68633	.15347
COMPTITVE1	Early Response	20	3.8000	.41039	.09177
	Late Response	20	3.9000	.30779	.06882
COMPTITVE2	Early Response	20	3.8500	.36635	.08192
	Late Response	20	3.8000	.41039	.09177
COMPTITVE3	Early Response	20	3.8500	.48936	.10942
	Late Response	20	3.5000	.76089	.17014
COMPTITVE4	Early Response	20	3.3831	.58502	.13081
	Late Response	20	3.3500	.74516	.16662
COMPTITVE5	Early Response	20	3.8000	.52315	.11698
	Late Response	20	4.0500	.39403	.08811
BUSS_PRSHR1	Early Response	20	3.5000	.68825	.15390
	Late Response	20	3.5500	.88704	.19835
BUSS_PRSHR2	Early Response	20	3.9500	.51042	.11413
	Late Response	20	3.7500	.71635	.16018
BUSS_PRSHR3	Early Response	20	3.7500	.55012	.12301
	Late Response	20	3.6000	.59824	.13377
BUSS_PRSHR4	Early Response	20	4.1500	.36635	.08192
	Late Response	20	4.3000	.73270	.16384
BUSS_PRSHR5	Early Response	20	4.0000	.32444	.07255
	Late Response	20	3.7000	.80131	.17918
CUSTMR_PRSHR1	Early Response	20	2.5000	.82717	.18496
	Late Response	20	2.6500	.93330	.20869
CUSTMR_PRSHR2	Early Response	20	2.7611	.90213	.20172
	Late Response	20	2.6000	.82078	.18353
CUSTMR_PRSHR3	Early Response	20	2.8500	.74516	.16662
	Late Response	20	2.7000	.86450	.19331
GOV_SUPP1	Early Response	20	2.8000	.69585	.15560
	Late Response	20	2.7500	.91047	.20359
GOV_SUPP2	Early Response	20	3.1000	1.29371	.28928

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	Late Response	20	3.7000	.86450	.19331
GOV_SUPP3	Early Response	20	3.0122	.67230	.15033
	Late Response	20	2.8162	.71173	.15915
GOV_SUPP4	Early Response	20	2.6466	.59123	.13220
	Late Response	20	2.9500	.60481	.13524
GOV_SUPP5	Early Response	20	2.4500	.60481	.13524
	Late Response	20	2.7500	.78640	.17584
GOV_SUPP6	Early Response	20	2.1481	.67423	.15076
	Late Response	20	2.1154	.55387	.12385
GOV_SUPP7	Early Response	20	2.0500	.51042	.11413
	Late Response	20	2.0000	.64889	.14510

Independent Samples Test

		Levene's Test for Equality of		t-test for Equality of Means					95% Confidence Interval of the	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Years_TA	Equal variances assumed	.152	.699	.000	38	1.000	.00000	.22653	-.45859	.45859
	Equal variances not assumed			.000	38.000	1.000	.00000	.22653	-.45859	.45859
Travel_Type	Equal variances assumed	.141	.709	-1.000	38	.324	-.15000	.15000	-.45366	.15366
	Equal variances not assumed			-1.000	32.679	.325	-.15000	.15000	-.45529	.15529
Age	Equal variances assumed	.574	.453	.395	38	.695	.10000	.25288	-.41193	.61193
	Equal variances not assumed			.395	37.352	.695	.10000	.25288	-.41222	.61222
Education_LVL	Equal variances assumed	.550	.463	-.370	38	.714	-.05000	.13524	-.32378	.22378
	Equal variances not assumed			-.370	37.764	.714	-.05000	.13524	-.32383	.22383
Internet_Level	Equal variances assumed	.274	.604	-.425	38	.673	-.10000	.23508	-.57590	.37590
	Equal variances not assumed			-.425	37.426	.673	-.10000	.23508	-.57614	.37614
RA1	Equal variances assumed	1.179	.284	.578	38	.567	.15530	.26889	-.38904	.69964
	Equal variances not assumed			.578	36.746	.567	.15530	.26889	-.38965	.70025
RA2	Equal variances assumed	.365	.549	.844	38	.404	.25000	.29625	-.34972	.84972
	Equal variances not assumed			.844	37.998	.404	.25000	.29625	-.34972	.84972
RA3	Equal variances assumed	.151	.700	.186	38	.853	.05000	.26828	-.49310	.59310
	Equal variances not assumed			.186	37.845	.853	.05000	.26828	-.49318	.59318
RA4	Equal variances assumed	1.079	.306	.000	38	1.000	.00000	.23842	-.48265	.48265
	Equal variances not assumed			.000	36.740	1.000	.00000	.23842	-.48319	.48319

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RA5	Equal variances assumed	4.547	.039	-.658	38	.515	-.15000	.22798	-.61152	.31152
	Equal variances not assumed			-.658	31.043	.515	-.15000	.22798	-.61494	.31494
RA6	Equal variances assumed	.154	.696	-.565	38	.575	-.13080	.23143	-.59930	.33771
	Equal variances not assumed			-.565	37.949	.575	-.13080	.23143	-.59932	.33773
RA7	Equal variances assumed	.097	.758	.575	38	.569	.10000	.17396	-.25217	.45217
	Equal variances not assumed			.575	36.414	.569	.10000	.17396	-.25267	.45267
RA8	Equal variances assumed	.046	.831	.307	38	.760	.10000	.32566	-.55926	.75926
	Equal variances not assumed			.307	37.985	.760	.10000	.32566	-.55927	.75927
RA9	Equal variances assumed	.134	.716	-.188	38	.852	-.05000	.26532	-.58711	.48711
	Equal variances not assumed			-.188	37.962	.852	-.05000	.26532	-.58713	.48713
RA10	Equal variances assumed	.011	.918	-.225	38	.823	-.05000	.22213	-.49968	.39968
	Equal variances not assumed			-.225	37.708	.823	-.05000	.22213	-.49979	.39979
COMP1	Equal variances assumed	2.201	.146	.477	38	.636	.15000	.31435	-.48637	.78637
	Equal variances not assumed			.477	37.069	.636	.15000	.31435	-.48689	.78689
COMP2	Equal variances assumed	5.008	.031	-.312	38	.757	-.05000	.16018	-.37427	.27427
	Equal variances not assumed			-.312	30.958	.757	-.05000	.16018	-.37671	.27671
COMP3	Equal variances assumed	.177	.676	-.160	38	.873	-.05000	.31183	-.68126	.58126
	Equal variances not assumed			-.160	37.820	.873	-.05000	.31183	-.68136	.58136
COMP4	Equal variances assumed	1.280	.265	-.211	38	.834	-.05000	.23703	-.52985	.42985
	Equal variances not assumed			-.211	36.863	.834	-.05000	.23703	-.53033	.43033
COMP5	Equal variances assumed	.012	.914	.623	38	.537	.20000	.32118	-.45020	.85020
	Equal variances not assumed			.623	37.439	.537	.20000	.32118	-.45052	.85052
COMP6	Equal variances assumed	4.847	.034	1.592	38	.120	.30000	.18848	-.08157	.68157
	Equal variances not assumed			1.592	35.477	.120	.30000	.18848	-.08246	.68246

COMP7	Equal variances assumed	2.923	.095	.000	38	1.000	.00000	.12566	-.25438	.25438
	Equal variances not assumed			.000	19.000	1.000	.00000	.12566	-.26300	.26300
COMPX1	Equal variances assumed	.369	.547	-.275	38	.785	-.10000	.36382	-.83652	.63652
	Equal variances not assumed			-.275	37.598	.785	-.10000	.36382	-.83678	.63678
COMPX2	Equal variances assumed	2.280	.139	1.022	38	.313	.25000	.24468	-.24533	.74533
	Equal variances not assumed			1.022	34.497	.314	.25000	.24468	-.24699	.74699
COMPX3	Equal variances assumed	.058	.811	.513	38	.611	.15000	.29267	-.44249	.74249
	Equal variances not assumed			.513	37.578	.611	.15000	.29267	-.44271	.74271
COMPX4	Equal variances assumed	.109	.743	-.505	38	.616	-.20000	.39570	-1.00105	.60105
	Equal variances not assumed			-.505	37.565	.616	-.20000	.39570	-1.00136	.60136
TRIAL1	Equal variances assumed	.118	.733	-.392	38	.697	-.09919	.25277	-.61089	.41252
	Equal variances not assumed			-.392	37.961	.697	-.09919	.25277	-.61091	.41254
TRIAL2	Equal variances assumed	2.384	.131	.192	38	.849	.05000	.26031	-.47698	.57698
	Equal variances not assumed			.192	34.540	.849	.05000	.26031	-.47872	.57872
TRIAL3	Equal variances assumed	2.402	.129	-.616	38	.542	-.15000	.24360	-.64315	.34315
	Equal variances not assumed			-.616	36.253	.542	-.15000	.24360	-.64393	.34393
TRIAL4	Equal variances assumed	.184	.670	.218	38	.828	.05000	.22913	-.41385	.51385
	Equal variances not assumed			.218	37.603	.828	.05000	.22913	-.41401	.51401
TRIAL5	Equal variances assumed	.332	.568	.777	38	.442	.15000	.19297	-.24064	.54064
	Equal variances not assumed			.777	35.506	.442	.15000	.19297	-.24155	.54155
TRIAL6	Equal variances assumed	2.591	.116	.603	38	.550	.15000	.24895	-.35396	.65396
	Equal variances not assumed			.603	36.960	.550	.15000	.24895	-.35443	.65443
OBSRV1	Equal variances assumed	.407	.528	.337	38	.738	.05000	.14824	-.25009	.35009
	Equal variances not assumed			.337	37.696	.738	.05000	.14824	-.25017	.35017

OBSRV2	Equal variances assumed	3.143	.084	1.398	38	.170	.25000	.17881	-.11199	.61199
	Equal variances not assumed			1.398	30.049	.172	.25000	.17881	-.11516	.61516
OBSRV3	Equal variances assumed	3.089	.087	1.061	38	.295	.20000	.18848	-.18157	.58157
	Equal variances not assumed			1.061	28.855	.297	.20000	.18848	-.18558	.58558
OBSRV4	Equal variances assumed	.002	.966	-.668	38	.508	-.15000	.22449	-.60445	.30445
	Equal variances not assumed			-.668	37.839	.508	-.15000	.22449	-.60452	.30452
OBSRV5	Equal variances assumed	.006	.940	1.258	38	.216	.20000	.15894	-.12177	.52177
	Equal variances not assumed			1.258	36.419	.216	.20000	.15894	-.12222	.52222
FINANCE1	Equal variances assumed	.518	.476	.000	38	1.000	.00000	.24007	-.48599	.48599
	Equal variances not assumed			.000	36.773	1.000	.00000	.24007	-.48652	.48652
FINANCE2	Equal variances assumed	1.680	.203	-.630	38	.533	-.15000	.23814	-.63209	.33209
	Equal variances not assumed			-.630	35.308	.533	-.15000	.23814	-.63330	.33330
FINANCE3	Equal variances assumed	.821	.371	.250	38	.804	.07541	.30128	-.53451	.68532
	Equal variances not assumed			.250	36.855	.804	.07541	.30128	-.53513	.68594
FINANCE4	Equal variances assumed	.629	.433	-.169	38	.867	-.05000	.29625	-.64972	.54972
	Equal variances not assumed			-.169	37.393	.867	-.05000	.29625	-.65004	.55004
IT_KNO_EMP1	Equal variances assumed	.007	.935	-.450	38	.655	-.15000	.33305	-.82422	.52422
	Equal variances not assumed			-.450	37.999	.655	-.15000	.33305	-.82422	.52422
IT_KNO_EMP2	Equal variances assumed	1.859	.181	-.214	38	.832	-.05000	.23368	-.52306	.42306
	Equal variances not assumed			-.214	34.266	.832	-.05000	.23368	-.52475	.42475
IT_KNO_EMP3	Equal variances assumed	4.037	.052	.623	38	.537	.10000	.16059	-.22510	.42510
	Equal variances not assumed			.623	28.143	.538	.10000	.16059	-.22888	.42888
NUM_EMP	Equal variances assumed	7.001	.012	-1.292	38	.204	-.20000	.15475	-.51327	.11327
	Equal variances not assumed			-1.292	31.847	.206	-.20000	.15475	-.51527	.11527

PD1	Equal variances assumed	3.962	.054	-2.006	38	.052	-.60000	.29912	-1.20554	.00554
	Equal variances not assumed			-2.006	32.759	.053	-.60000	.29912	-1.20874	.00874
PD2	Equal variances assumed	.000	1.000	.390	38	.699	.10000	.25649	-.41925	.61925
	Equal variances not assumed			.390	37.310	.699	.10000	.25649	-.41956	.61956
PD3	Equal variances assumed	5.800	.021	2.392	38	.322	.60000	.25079	.09231	1.10769
	Equal variances not assumed			2.392	35.747	.322	.60000	.25079	.09125	1.10875
PD4	Equal variances assumed	.575	.453	.611	38	.545	.20000	.32727	-.46252	.86252
	Equal variances not assumed			.611	37.821	.545	.20000	.32727	-.46263	.86263
PD5	Equal variances assumed	.539	.467	.218	38	.828	.05000	.22913	-.41385	.51385
	Equal variances not assumed			.218	34.896	.829	.05000	.22913	-.41521	.51521
PD6	Equal variances assumed	.167	.685	2.770	38	.209	.66553	.24026	.17915	1.15190
	Equal variances not assumed			2.770	37.038	.209	.66553	.24026	.17874	1.15232
PD7	Equal variances assumed	.085	.772	1.241	38	.222	.30000	.24170	-.18931	.78931
	Equal variances not assumed			1.241	37.752	.222	.30000	.24170	-.18941	.78941
MGMTSUP1	Equal variances assumed	1.834	.184	.261	38	.796	.05000	.19160	-.33787	.43787
	Equal variances not assumed			.261	35.179	.796	.05000	.19160	-.33890	.43890
MGMTSUP2	Equal variances assumed	.007	.933	.447	38	.657	.10000	.22361	-.35267	.55267
	Equal variances not assumed			.447	37.795	.657	.10000	.22361	-.35275	.55275
MGMTSUP3	Equal variances assumed	1.089	.303	.975	38	.336	.20000	.20520	-.21540	.61540
	Equal variances not assumed			.975	37.976	.336	.20000	.20520	-.21541	.61541
UA1	Equal variances assumed	1.635	.209	1.544	38	.131	.40000	.25905	-.12441	.92441
	Equal variances not assumed			1.544	34.900	.132	.40000	.25905	-.12595	.92595
UA2	Equal variances assumed	.444	.509	-.988	38	.330	-.25000	.25314	-.76245	.26245
	Equal variances not assumed			-.988	37.964	.330	-.25000	.25314	-.76247	.26247

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
UA3	Equal variances assumed	1.140	.292	.662	38	.512	.20000	.30219	-.41174	.81174
	Equal variances not assumed			.662	37.287	.512	.20000	.30219	-.41213	.81213
ATTD1	Equal variances assumed	5.009	.031	-1.055	38	.298	-.25000	.23703	-.72985	.22985
	Equal variances not assumed			-1.055	33.063	.299	-.25000	.23703	-.73221	.23221
ATTD2	Equal variances assumed	.000	1.000	-.417	38	.679	-.10000	.24007	-.58599	.38599
	Equal variances not assumed			-.417	38.000	.679	-.10000	.24007	-.58599	.38599
ATTD3	Equal variances assumed	.675	.417	.016	38	.987	.00358	.22593	-.45380	.46096
	Equal variances not assumed			.016	36.373	.987	.00358	.22593	-.45447	.46163
ATTD4	Equal variances assumed	.181	.673	-.503	38	.618	-.10000	.19868	-.50221	.30221
	Equal variances not assumed			-.503	34.734	.618	-.10000	.19868	-.50345	.30345
ATTD5	Equal variances assumed	3.964	.054	.295	38	.770	.05000	.16975	-.29365	.39365
	Equal variances not assumed			.295	27.088	.771	.05000	.16975	-.29825	.39825
COMPTITVE1	Equal variances assumed	3.233	.080	-.872	38	.389	-.10000	.11471	-.33221	.13221
	Equal variances not assumed			-.872	35.237	.389	-.10000	.11471	-.33281	.13281
COMPTITVE2	Equal variances assumed	.669	.419	.406	38	.687	.05000	.12301	-.19902	.29902
	Equal variances not assumed			.406	37.521	.687	.05000	.12301	-.19913	.29913
COMPTITVE3	Equal variances assumed	7.627	.009	1.730	38	.092	.35000	.20229	-.05951	.75951
	Equal variances not assumed			1.730	32.422	.093	.35000	.20229	-.06184	.76184
COMPTITVE4	Equal variances assumed	1.284	.264	.156	38	.877	.03307	.21184	-.39577	.46192
	Equal variances not assumed			.156	35.973	.877	.03307	.21184	-.39657	.46271
COMPTITVE5	Equal variances assumed	3.964	.054	-1.707	38	.096	-.25000	.14645	-.54647	.04647
	Equal variances not assumed			-1.707	35.309	.097	-.25000	.14645	-.54721	.04721
BUSS_PRSHR1	Equal variances assumed	1.285	.264	-.199	38	.843	-.05000	.25105	-.55823	.45823
	Equal variances not assumed			-.199	35.791	.843	-.05000	.25105	-.55926	.45926

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BUSS_PRSHR2	Equal variances assumed	3.798	.059	1.017	38	.316	.20000	.19668	-.19816	.59816
	Equal variances not assumed			1.017	34.339	.316	.20000	.19668	-.19956	.59956
BUSS_PRSHR3	Equal variances assumed	1.388	.246	.825	38	.414	.15000	.18173	-.21790	.51790
	Equal variances not assumed			.825	37.736	.414	.15000	.18173	-.21798	.51798
BUSS_PRSHR4	Equal variances assumed	6.828	.013	-.819	38	.418	-.15000	.18317	-.52082	.22082
	Equal variances not assumed			-.819	27.941	.420	-.15000	.18317	-.52525	.22525
BUSS_PRSHR5	Equal variances assumed	16.279	.000	1.552	38	.129	.30000	.19331	-.09133	.69133
	Equal variances not assumed			1.552	25.066	.133	.30000	.19331	-.09807	.69807
CUSTMR_PRSHR1	Equal variances assumed	.370	.547	-.538	38	.594	-.15000	.27886	-.71452	.41452
	Equal variances not assumed			-.538	37.459	.594	-.15000	.27886	-.71479	.41479
CUSTMR_PRSHR2	Equal variances assumed	.078	.782	.591	38	.558	.16115	.27272	-.39095	.71324
	Equal variances not assumed			.591	37.666	.558	.16115	.27272	-.39111	.71340
CUSTMR_PRSHR3	Equal variances assumed	.789	.380	.588	38	.560	.15000	.25521	-.36664	.66664
	Equal variances not assumed			.588	37.191	.560	.15000	.25521	-.36701	.66701
GOV_SUPP1	Equal variances assumed	1.267	.267	.195	38	.846	.05000	.25624	-.46873	.56873
	Equal variances not assumed			.195	35.550	.846	.05000	.25624	-.46990	.56990
GOV_SUPP2	Equal variances assumed	5.958	.019	-1.725	38	.093	-.60000	.34793	-1.30434	.10434
	Equal variances not assumed			-1.725	33.148	.094	-.60000	.34793	-1.30774	.10774
GOV_SUPP3	Equal variances assumed	1.085	.304	.895	38	.376	.19599	.21892	-.24720	.63918
	Equal variances not assumed			.895	37.877	.376	.19599	.21892	-.24725	.63922
GOV_SUPP4	Equal variances assumed	.861	.359	-1.604	38	.117	-.30336	.18912	-.68621	.07950
	Equal variances not assumed			-1.604	37.980	.117	-.30336	.18912	-.68622	.07951
GOV_SUPP5	Equal variances assumed	.442	.510	-1.352	38	.184	-.30000	.22183	-.74908	.14908
	Equal variances not assumed			-1.352	35.651	.185	-.30000	.22183	-.75005	.15005

GOV_SUPP6	Equal variances assumed	1.176	.285	.168	38	.868	.03272	.19511	-.36226	.42770
	Equal variances not assumed			.168	36.620	.868	.03272	.19511	-.36275	.42819
GOV_SUPP7	Equal variances assumed	.618	.436	.271	38	.788	.05000	.18460	-.32371	.42371
	Equal variances not assumed			.271	36.003	.788	.05000	.18460	-.32439	.42439

Appendix B-2

Univariate outliers with an absolute standard z

Descriptive Statistics

	N	Minimum	Maximum
Zscore(RA1)	226	-2.11345	1.69514
Zscore(RA2)	226	-2.35424	1.30252
Zscore(RA3)	226	-2.75431	1.38173
Zscore(RA4)	226	-1.97096	1.31023
Zscore(RA5)	226	-4.10725	1.48455
Zscore(RA6)	226	-2.88151	1.23764
Zscore(RA7)	226	-2.68712	1.25104
Zscore(RA8)	226	-1.89196	1.88162
Zscore(RA9)	226	-2.02049	1.45860
Zscore(RA10)	226	-2.41789	1.25828
Zscore(COMP1)	226	-2.18568	1.43310
Zscore(COMP2)	226	-2.60664	1.40085
Zscore(COMP3)	226	-1.85556	1.57320
Zscore(COMP4)	226	-2.20081	1.63179
Zscore(COMP5)	226	-1.65999	1.63810
Zscore(COMP6)	226	-2.65074	1.51226
Zscore(COMP7)	226	-2.34665	1.49641
Zscore(COMPX1)	226	-1.52061	1.74846
Zscore(COMPX2)	226	-1.82128	1.49147
Zscore(COMPX3)	226	-1.55484	1.88177
Zscore(COMPX4)	226	-1.42719	1.79826
Zscore(TRIAL1)	226	-1.35203	2.61844
Zscore(TRIAL2)	226	-1.40370	2.62368
Zscore(TRIAL3)	226	-2.01885	2.13000
Zscore(TRIAL4)	226	-2.77393	1.53713
Zscore(TRIAL5)	226	-2.46456	2.09775
Zscore(TRIAL6)	226	-2.05876	2.31953
Zscore(OBSRV1)	226	-3.85424	1.25461
Zscore(OBSRV2)	226	-4.29802	1.28017
Zscore(OBSRV3)	226	-4.27145	2.25339

Zscore(OBSRV4)	226	-1.99668	1.46781
Zscore(OBSRV5)	226	-2.83992	1.30883
Zscore(FINANCE1)	226	-2.26958	1.40730
Zscore(FINANCE2)	226	-1.23459	2.61125
Zscore(FINANCE3)	226	-2.17188	1.60947
Zscore(FINANCE4)	226	-2.33923	1.48591
Zscore(IT_KNO_EMP1)	226	-1.37555	1.92660
Zscore(IT_KNO_EMP2)	226	-3.97612	1.10792
Zscore(IT_KNO_EMP3)	226	-3.19085	1.33745
Zscore(NUM_EMP)	226	-.60244	4.50324
Zscore(PD1)	226	-2.57598	1.28937
Zscore(PD2)	226	-2.02060	1.42586
Zscore(PD3)	226	-1.84405	1.55435
Zscore(PD4)	226	-1.22472	2.66508
Zscore(PD5)	226	-2.24492	1.61738
Zscore(PD6)	226	-1.67212	1.69964
Zscore(PD7)	226	-1.23876	2.22875
Zscore(MGMTSUP1)	226	-3.27044	1.64882
Zscore(MGMTSUP2)	226	-3.12475	1.43030
Zscore(MGMTSUP3)	226	-2.87985	1.41616
Zscore(UA1)	226	-2.16431	1.54636
Zscore(UA2)	226	-2.81629	1.46525
Zscore(UA3)	226	-1.84519	1.70204
Zscore(ATTD1)	226	-3.30896	1.05790
Zscore(ATTD2)	226	-3.36283	1.07512
Zscore(ATTD3)	226	-2.95800	1.17622
Zscore(ATTD4)	226	-3.18350	1.14167
Zscore(ATTD5)	226	-3.11100	1.07559
Zscore(COMPTITVE1)	226	-5.28406	1.35960
Zscore(COMPTITVE2)	226	-4.54569	1.51523
Zscore(COMPTITVE3)	226	-3.00415	1.54485
Zscore(COMPTITVE4)	226	-2.63260	1.45891
Zscore(COMPTITVE5)	226	-3.99296	1.29201
Zscore(BUSS_PRSHR1)	226	-2.19856	1.43446
Zscore(BUSS_PRSHR2)	226	-3.75750	1.43635
Zscore(BUSS_PRSHR3)	226	-2.60166	1.55364
Zscore(BUSS_PRSHR4)	226	-2.93117	.98283
Zscore(BUSS_PRSHR5)	226	-2.28184	1.20849
Zscore(CUSTMR_PRSHR1)	226	-1.54505	2.24523
Zscore(CUSTMR_PRSHR2)	226	-1.64773	2.06479
Zscore(CUSTMR_PRSHR3)	226	-1.44006	2.36641

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Zscore(GOV_SUPP1)	226	-1.66488	2.36798
Zscore(GOV_SUPP2)	226	-2.90766	1.18088
Zscore(GOV_SUPP3)	226	-1.70301	2.67146
Zscore(GOV_SUPP4)	226	-1.96577	2.46082
Zscore(GOV_SUPP5)	226	-1.70737	2.42522
Zscore(GOV_SUPP6)	226	-.91805	4.23953
Zscore(GOV_SUPP7)	226	-.96601	3.91806
Valid N (listwise)	226		

Appendix B-3

Pearson's Correlation

		Composite_RA	Composite_COMP	Composite_COMPX	Composite_TRIAL	Composite_OBSRV	Composite_FINANCE	Composite_IT_KNO_EMP	Com
Composite_RA	Pearson Correlation	1	.711**	-.573**	.187**	.573**	-.168*		.163*
	Sig. (2-tailed)		.000	.000	.007	.000	.016		.019
	N	206	206	206	206	206	206		206
Composite_COMP	Pearson Correlation	.711**	1	-.564**	.217**	.567**	-.180**		.254**
	Sig. (2-tailed)	.000		.000	.002	.000	.010		.000
	N	206	206	206	206	206	206		206
Composite_COMPX	Pearson Correlation	-.573**	-.564**	1	-.238**	-.396**	.100		-.114
	Sig. (2-tailed)	.000	.000		.001	.000	.153		.101
	N	206	206	206	206	206	206		206
Composite_TRIAL	Pearson Correlation	.187**	.217**	-.238**	1	.247**	-.174*		.236**
	Sig. (2-tailed)	.007	.002	.001		.000	.012		.001
	N	206	206	206	206	206	206		206
Composite_OBSRV	Pearson Correlation	.573**	.567**	-.396**	.247**	1	-.062		.207**
	Sig. (2-tailed)	.000	.000	.000	.000		.376		.003
	N	206	206	206	206	206	206		206
Composite_FINANCE	Pearson Correlation	-.168*	-.180**	.100	-.174*	-.062	1		-.039

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	Sig. (2-tailed)	.016	.010	.153	.012	.376			.577
	N	206	206	206	206	206	206		206
Composite_IT_KNO_EMP	Pearson Correlation	.163*	.254**	-.114	.236**	.207**	-.039		1
	Sig. (2-tailed)	.019	.000	.101	.001	.003	.577		
	N	206	206	206	206	206	206		206
Composite_PD	Pearson Correlation	-.045	.045	.057	-.044	.014	-.218**		-.068
	Sig. (2-tailed)	.516	.521	.413	.531	.845	.002		.331
	N	206	206	206	206	206	206		206
Composite_MGMTSUP	Pearson Correlation	.477**	.428**	-.386**	.227**	.469**	-.134		.278**
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.056		.000
	N	206	206	206	206	206	206		206
Composite_UA	Pearson Correlation	.556**	.492**	-.528**	.224**	.313**	-.101		.178*
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.149		.011
	N	206	206	206	206	206	206		206
Composite_ATTD	Pearson Correlation	.660**	.552**	-.406**	.033	.463**	-.125		.187**
	Sig. (2-tailed)	.000	.000	.000	.637	.000	.074		.007
	N	206	206	206	206	206	206		206
Composite_COMPTITVE	Pearson Correlation	.260**	.121	-.118	.213**	.428**	-.077		.034
	Sig. (2-tailed)	.000	.084	.092	.002	.000	.270		.627
	N	206	206	206	206	206	206		206
Composite_BUSS_PRSHR	Pearson Correlation	.357**	.343**	-.200**	.145*	.510**	-.009		.121
	Sig. (2-tailed)	.000	.000	.004	.037	.000	.901		.083
	N	206	206	206	206	206	206		206
Composite_CUSTMR_PRSHR	Pearson Correlation	.409**	.468**	-.401**	.333**	.444**	-.223**		.159*

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.001		.023
	N	206	206	206	206	206	206		206
Composite_GOV_SUPP	Pearson Correlation	.063	.097	-.128	.120	-.032	-.015		.157[*]
	Sig. (2-tailed)	.369	.164	.067	.085	.651	.830		.024
	N	206	206	206	206	206	206		206
NUM_EMP	Pearson Correlation	.261[**]	.120	-.048	-.027	.262[**]	-.052		.071
	Sig. (2-tailed)	.000	.086	.496	.698	.000	.456		.307
	N	206	206	206	206	206	206		206

Appendix B-4

Factor analysis

Table A6.1 Total Variance explained of Attributes of Innovation

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.815	37.750	37.750	5.086	19.563	19.563
2	2.173	8.357	46.107	4.423	17.013	36.577
3	1.886	7.252	53.359	2.509	9.652	46.228
4	1.725	6.636	59.995	2.177	8.374	54.603
5	1.477	5.679	65.674	2.058	7.917	62.519
6	1.221	4.697	70.371	2.041	7.851	70.371
7	.919	3.534	73.905			
8	.818	3.147	77.051			
9	.716	2.752	79.803			
10	.641	2.466	82.269			
11	.561	2.159	84.428			
12	.485	1.866	86.295			
13	.466	1.793	88.087			
14	.393	1.511	89.598			
15	.348	1.337	90.935			
16	.327	1.256	92.191			
17	.302	1.161	93.352			
18	.293	1.126	94.477			
19	.249	.959	95.437			
20	.228	.877	96.314			
21	.203	.781	97.095			
22	.189	.729	97.824			
23	.182	.701	98.524			
24	.147	.565	99.089			
25	.133	.511	99.599			
26	.104	.401	100.000			

Extraction Method: Principal Component Analysis.

Figure B6.1 Scree Plot of Attributes of Innovation
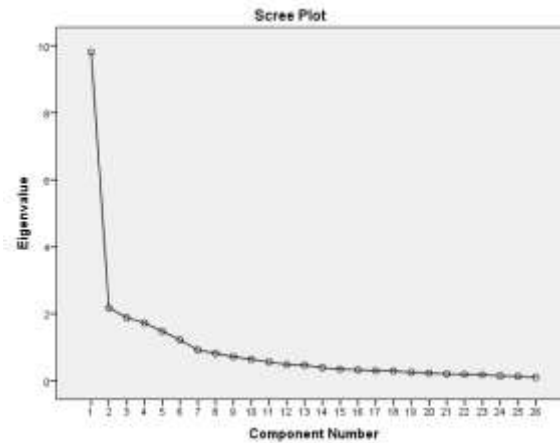
Table A6.2 Total Variance explained of Attributes of Innovation

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.987	24.836	24.836	1.953	24.415	24.415
2	1.851	23.132	47.969	1.849	23.111	47.526
3	1.033	12.917	60.885	1.069	13.359	60.885
4	.902	11.280	72.165			
5	.702	8.771	80.936			
6	.545	6.814	87.750			
7	.504	6.303	94.053			
8	.476	5.947	100.000			

Extraction Method: Principal Component Analysis.

Figure B6.2 Scree Plot of Organisational Factors
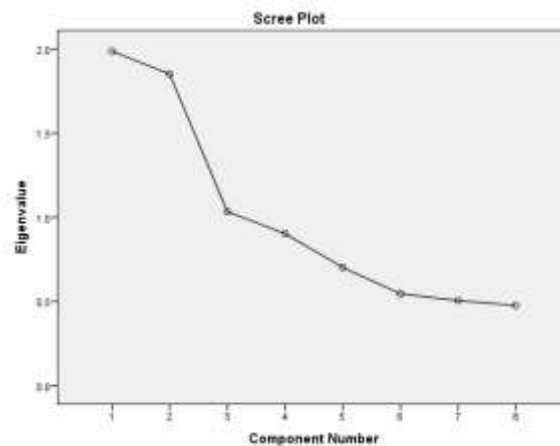
Table A6.3 Total Variance explained of Managerial Factors

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.420	33.875	33.875	3.287	20.547	20.547
2	3.157	19.731	53.606	3.113	19.456	40.003
3	1.445	9.030	62.635	2.581	16.131	56.134
4	1.082	6.761	69.396	2.122	13.262	69.396
5	.843	5.271	74.667			
6	.750	4.687	79.354			
7	.603	3.769	83.123			
8	.517	3.232	86.355			
9	.497	3.104	89.459			
10	.378	2.363	91.822			
11	.334	2.088	93.910			
12	.246	1.538	95.448			
13	.237	1.481	96.929			
14	.196	1.222	98.151			
15	.159	.994	99.145			
16	.137	.855	100.000			

Extraction Method: Principal Component Analysis.

Figure B6.3 Scree Plot of Managerial Factors
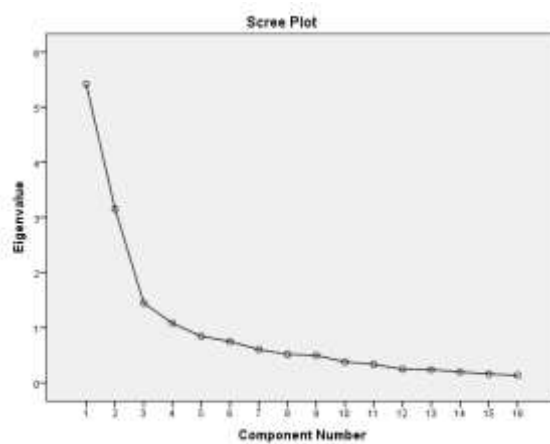
Table A6.4 Total Variance explained of Environmental Factors

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.177	26.107	26.107	2.608	16.302	16.302
2	2.440	15.249	41.356	2.374	14.839	31.141
3	1.593	9.956	51.312	2.253	14.080	45.222
4	1.369	8.559	59.871	1.805	11.282	56.503
5	1.060	6.623	66.493	1.598	9.990	66.493
6	.959	5.996	72.489			
7	.759	4.744	77.233			
8	.661	4.129	81.362			
9	.583	3.641	85.003			
10	.527	3.292	88.295			
11	.398	2.486	90.780			
12	.392	2.448	93.228			
13	.336	2.099	95.327			
14	.306	1.911	97.238			
15	.242	1.512	98.749			
16	.200	1.251	100.000			

Extraction Method: Principal Component Analysis.

Figure B6.4 Scree Plot of Environmental Factors

Scree Plot
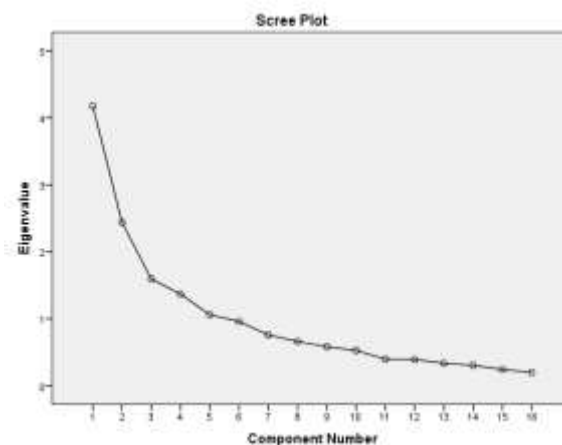
Table A.6.5 Comparison of AVE and Correlations with other Constructs

| Construct Name	Relative Advantages	Compatibility	Complexity	Trialability	Observability	Financial Support	Employee's IT Knowledge	Firm Size	Power Distance	Top Management Support	Uncertainty Avoidance	Manager's Attitude	Competitive Pressure	Business/Partner Pressure	Customer pressure	Government Support
Relative Advantages	**0.71**															
Compatibility	0.711	**0.75**														
Complexity	-0.573	-0.564	**0.84**													
Trialability	0.187	0.217	-0.238	**0.80**												
Observability	0.573	0.567	-0.396	0.247	**0.91**											
Financial Support	-0.168	-0.180	0.100	-0.174	-0.062	**0.77**										
Employee's IT	0.163	0.254	-0.114	0.236	0.207	-0.039	**0.76**									
Firm Size	0.261	0.120	-0.048	-0.027	0.262	-0.052	0.071	**0.88**								
Power Distance	-0.045	0.045	0.057	-0.044	0.014	-0.218	-0.068	0.137	**0.79**							
Top Management	0.477	0.428	-0.386	0.227	0.469	-0.134	0.278	0.257	-0.122	**0.79**						
Uncertainty Avoidance	0.556	0.492	-0.528	0.224	0.313	-0.101	0.178	0.155	-0.084	0.547	**0.72**					
Manager's Attitude	0.660	0.552	-0.406	0.033	0.463	-0.125	0.187	0.383	0.025	0.530	0.556	**0.78**				
Competitive Pressure	0.260	0.121	-0.118	0.213	0.428	-0.077	0.034	0.139	-0.204	0.464	0.258	0.354	**0.81**			
Business/Partner Pressure	0.357	0.343	-0.200	0.145	0.510	-0.009	0.121	0.125	0.151	0.424	0.248	0.464	0.444	**0.81**		
Customer Pressure	0.409	0.468	-0.401	0.333	0.444	-0.223	0.159	0.234	0.135	0.337	0.410	0.388	0.285	0.373	**0.80**	
Government Support	0.063	0.097	-0.128	0.120	-0.032	-0.015	0.157	0.002	0.159	0.058	0.218	0.050	-0.216	0.091	0.006	**0.77**

Note : 1. Bold values refers to square root of average variance extracted from observed constructs

2. Other values refers the correlations between constructs

Appendix B-5

Multinominal Logisrt Regression Results

Table A.6.6 Parameter Estimates , The reference category : e-window

adoption_level[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
e-window	Intercept	-21.006	9.389	5.005	1	.025			
	Composite_RA	1.472	.710	4.299	1	.038	4.356	1.084	17.507
	Composite_COMP	1.287	.855	2.264	1	.132	3.622	.677	19.365
	Composite_COMPX	-.331	.499	.439	1	.508	.718	.270	1.911
	Composite_TRIAL	1.468	.780	3.538	1	.060	4.339	.940	20.024
	Composite_OBSRV	2.827	.975	8.408	1	.004	16.899	2.500	114.243
	Composite_FINANCE	-.851	.808	1.107	1	.293	.427	.088	2.083
	Composite_IT_KNO_EMP	-1.488	.793	3.524	1	.060	.226	.048	1.068
	Composite_PD	-.711	.668	1.133	1	.287	.491	.133	1.819
	Composite_MGMTSUP	-.444	.882	.254	1	.615	.641	.114	3.615
	Composite_UA	-1.448	.671	4.655	1	.031	.235	.063	.876

		B	S.E.	Wald	df	Sig.	Exp(B)		
	Composite_ATTD	-1.286	.901	2.037	1	.154	.276	.047	1.616
	Composite_COMPTITVE	-.413	.700	.347	1	.556	.662	.168	2.611
	Composite_BUSS_PRSHR	2.758	.773	12.719	1	.000	15.772	3.464	71.817
	Composite_CUSTMR_PRSHR	.611	.607	1.010	1	.315	1.841	.560	6.056
	Composite_GOV_SUPP	3.523	1.118	9.937	1	.002	33.878	3.790	302.812
	[NUM_EMP=1.00]	1.102	1.108	.989	1	.320	3.009	.343	26.389
	[NUM_EMP=2.00]	-1.014	.000	.	1	.	.363	.363	.363
	[NUM_EMP=3.00]	0[b]	.	.	0	.	.	.	.
	Intercept	2.359	2408.356	.000	1	.999			
	Composite_RA	1.891	.771	6.011	1	.014	6.626	1.461	30.044
	Composite_COMP	-.043	.863	.003	1	.960	.958	.176	5.202
	Composite_COMPX	-1.641	.561	8.571	1	.003	.194	.065	.581
	Composite_TRIAL	1.324	.776	2.912	1	.088	3.757	.821	17.183
e-interactivity	Composite_OBSRV	4.538	1.116	16.524	1	.000	93.512	10.486	833.924
	Composite_FINANCE	-1.802	.765	5.555	1	.018	.165	.037	.738
	Composite_IT_KNO_EMP	-1.125	.850	1.751	1	.186	.325	.061	1.719
	Composite_PD	-1.619	.699	5.363	1	.021	.198	.050	.780
	Composite_MGMTSUP	-1.254	.901	1.937	1	.164	.285	.049	1.669

	B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Composite_UA	-.435	.702	.384	1	.536	.647	.163	2.564
Composite_ATTD	-1.659	.931	3.178	1	.075	.190	.031	1.179
Composite_COMPTITVE	1.229	.784	2.456	1	.117	3.416	.735	15.882
Composite_BUSS_PRSHR	2.478	.758	10.672	1	.001	11.913	2.694	52.672
Composite_CUSTMR_PRSHR	.990	.653	2.302	1	.129	2.692	.749	9.679
Composite_GOV_SUPP	3.021	1.131	7.130	1	.008	20.504	2.233	188.248
[NUM_EMP=1.00]	-20.608	2408.334	.000	1	.993	1.122E-009	.000	.^{c}
[NUM_EMP=2.00]	-21.889	2408.335	.000	1	.993	3.117E-010	.000	.^{c}
[NUM_EMP=3.00]	0^b	.	.	0	.	.	.	.

a. The reference category is: e-connectivity.

b. This parameter is set to zero because it is redundant.

c. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

Table A.6.6 Parameter Estimates , The reference category is: e-window

adoption_level[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
e-connectivity	Intercept	21.006	2730.552	.000	1	.994			
	Composite_RA	-1.472	.710	4.299	1	.038	.230	.057	.923
	Composite_COMP	-1.287	.855	2.264	1	.132	.276	.052	1.476
	Composite_COMPX	.331	.499	.439	1	.508	1.392	.523	3.704
	Composite_TRIAL	-1.468	.780	3.538	1	.060	.230	.050	1.064
	Composite_OBSRV	-2.827	.975	8.408	1	.004	.059	.009	.400
	Composite_FINANCE	.851	.808	1.107	1	.293	2.341	.480	11.414
	Composite_IT_KNO_EMP	1.488	.793	3.524	1	.060	4.427	.937	20.929
	Composite_PD	.711	.668	1.133	1	.287	2.036	.550	7.542
	Composite_MGMTSUP	.444	.882	.254	1	.615	1.560	.277	8.792
	Composite_UA	1.448	.671	4.655	1	.031	4.254	1.142	15.850
	Composite_ATTD	1.286	.901	2.037	1	.154	3.619	.619	21.169
	Composite_COMPTITVE	.413	.700	.347	1	.556	1.511	.383	5.958

	B	Std. Error	Wald	df	Sig.	Exp(B)	Lower	Upper
Composite_BUSS_PRSHR	-2.758	.773	12.719	1	.000	.063	.014	.289
Composite_CUSTMR_PRSHR	-.611	.607	1.010	1	.315	.543	.165	1.786
Composite_GOV_SUPP	-3.523	1.118	9.937	1	.002	.030	.003	.264
[NUM_EMP=1.00]	-1.102	2730.536	.000	1	1.000	.332	.000	.[b]
[NUM_EMP=2.00]	1.014	2730.536	.000	1	1.000	2.756	.000	.[b]
[NUM_EMP=3.00]	0[c]	.	.	0	.	.	.	.
Intercept	23.364	6.928	11.374	1	.001			
Composite_RA	.419	.695	.365	1	.546	1.521	.390	5.935
Composite_COMP	-1.330	.723	3.386	1	.066	.264	.064	1.090
Composite_COMPX	-1.310	.390	11.291	1	.001	.270	.126	.579
Composite_TRIAL	-.144	.417	.120	1	.730	.866	.383	1.959
Composite_OBSRV	1.711	.707	5.851	1	.016	5.534	1.384	22.132
Composite_FINANCE	-.951	.578	2.707	1	.100	.386	.124	1.200
Composite_IT_KNO_EMP	.363	.539	.453	1	.501	1.437	.500	4.131
Composite_PD	-.908	.509	3.177	1	.075	.403	.149	1.095
Composite_MGMTSUP	-.810	.610	1.764	1	.184	.445	.135	1.470
Composite_UA	1.013	.540	3.520	1	.061	2.753	.956	7.932
Composite_ATTD	-.373	.742	.253	1	.615	.689	.161	2.950

e-interactivity

Composite_COMPTITVE	1.641	.607	7.302	1	.007	5.161	1.570	16.969
Composite_BUSS_PRSHR	-.281	.569	.243	1	.622	.755	.247	2.306
Composite_CUSTMR_PRSHR	.380	.472	.648	1	.421	1.462	.580	3.687
Composite_GOV_SUPP	-.502	.677	.551	1	.458	.605	.161	2.279
[NUM_EMP=1.00]	-21.710	.740	860.486	1	.000	3.729E-010	8.743E-011	1.591E-009
[NUM_EMP=2.00]	-20.875	.000	.	1	.	8.590E-010	8.590E-010	8.590E-010
[NUM_EMP=3.00]	0[c]	.	.	0	.	.	.	.

a. The reference category is: e-window.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c. This parameter is set to zero because it is redundant.

Appendix C-1

Operationalisation of the constructs used in this research

Construct	Label	Measures	Adopted from
		E-commerce Adoption Level	
Level 00 (Non Adopter)	LVL00	- Our company is not connected with the internet.	Molla and Licker (2004)
Level 0 (e-connectivity)	LVL01	- Our company connected to the internet with only e-mail but no website.	Molla and Licker (2004)
Level 1 (e-window)	LVL1	- Our company has a static website that present company's information and advertise its products with one way communication using e-mail and without any interactivity.	Molla and Licker (2004)
Level 2 (e-interactivity)	LVL2	- Our company has an interactive website that accepts online orders, queries, forms, and e-mails from customers and suppliers but online payment is not integrated on the website.	Molla and Licker (2004)
Level 3 (e-transaction)	LVL3	- Our company accepts online transition through website that allows buying and selling products and services to customers and suppliers including customer services.	Molla and Licker (2004)
Level 4 (e-enterprise)	LVL4	-Our company has a website connected with computer systems that allows our company to do the most of business processes such as accounting system, inventory system, CRM, and any traditional paperwork to electronic one.	Molla and Licker (2004)
		Attributes of Innovation	
Relative Advantage	RA1	E-commerce reduces the company's overall operating cost.	-Kamaroddin et al.(2009)
	RA2	E-commerce helps our company to expand market share.	-Ifinedo (2011)
	RA3	E-commerce helps company to increase customer base.	
	RA4	E-commerce increases company's sales and revenues.	
	RA5	E-commerce creates new channel for advertising.	
	RA6	E-commerce enfances company's image.	
	RA7	E-commerce increases company's competitive advantage	
	RA8	E-commerce improves customer services and satisfaction	

	RA9	E-commerce improves business relationship with suppliers	
	RA10	E-commerce enables us to perform our operation more quickly	
Compatibility	**COMP1**	E-commerce is compatible with our company's IT infrastructure	Kamaroddin et al.(2009) Scupola (2001) Limthongchai and Speece (2002) Ifinedo (2011)
	COMP2	E-commerce is compatible with our company's current software and hardware	
	COMP3	E-commerce is compatible with all aspects of our business operations	
	COMP4	E-commerce is compatible with our current business operations/processes	
	COMP5	E-commerce is compatible with the existing values and mentality of the people in our company	
	COMP6	E-commerce is compatible with suppliers' and customers' ways of doing business .	
	COMP7	E-commerce applications fit into our working style	
Complexity	**CMPX1**	E-commerce applications are too complicated to understand and use.	Kamaroddin et al.(2009) Limthongchai and Speece(2002)
	CMPX2	Lack of appropriate tools to support e-commerce applications.	
	CMPX3	Company lacks adequate computer systems to support e-commerce activities	
	CMPX4	E-commerce applications is too complex for our business operations	
Trialability	**TRL1**	Our company could access to a free trial before making a decision to adopt e-commerce	Kamaroddin et al.(2009). Limthongchai and Speece(2002)
	TRL2	Our company has the opportunity to try a number of e-commerce applications before making a decision	
	TRL3	Our company can try out e-commerce on a sufficiently large scale	
	TRL4	Our company is allowed to use e-commerce on a trial basis long enough to see its true capabilities	
	TRL5	It is easy to our Company to get out after testing a e-commerce	
	TRL6	The start-up cost for using e-commerce is low	
Observability	**OBSV1**	There are so many computers that people in our company can access to use Internet and e-commerce	Kamaroddin et al.(2009). Limthongchai and Speece(2002) Chong (2006)
	OBSV2	Many of our competitors in the market have started using e-commerce.	
	OBSV3	Many of our partners and suppliers in the market have started using e-commerce.	
	OBSV4	E-commerce improve visibility to connect with customers at any time	
	OBSV5	E-commerce shows improved results over doing business the traditional way.	
		Organisational Factors	
Firm Size	**FRMSZ**	Number of employee in your company	Noor and afif (2011)
Financial Barriers	**FBR1**	The cost required to implement e-commerce applications are too high for us	Tan (2010)
	FBR2	The cost for internet access is expensive.	

		FBR3	Company has sufficient budget to maintain e-commerce system.	Alam and Noor (2009).
		FBR4	E-commerce applications require an additional cost to train employees in how to use these applications.	Kim (2004)
				Ghobakhloo et al . (2011)
	Employees' IT Knowledge	EMIT1	Employees in our company have lack necessary knowledge and understanding of e-commerce.	Kamaroddin et al.(2009).
		EMIT2	Employees in our company are computer literate	Thong et al.(1999)
		EMIT3	Our company has IT support staff	
			Managerial Factors	
	Power Ditsa nce	PD1	Managers share information with employees	Filley et al (1971)
		PD2	It is often necessary for the supervisor to emphasize his or her authority and power when dealing with subordinates	Hasan and Ditsa (1999)
		PD3	Managers should be careful not to ask the option of subordinates too frequently	Sabri (2012)
		PD4	Manager should avoid socializing with his or her subordinates of the job	
		PD5	Subordinates should not disagree with their manager's decisions	
		PD6	Managers should not delegate difficult and important tasks to their subordinates	
		PD7	Managers should make most decisions without consulting subordinates	
	Top Management Support	MGTS1	I am willing to provide necessary resources for e-commerce adoption.	Jones (2001)
		MGTS2	I am interested in the use of electronic commerce in our operations	To and Ngai (2007)
		MGTS3	Our business has a clear vision on electronic commerce technologies	Masrek et al (2008)
	Uncertainty Avoidance	UA1	I am willing to take risk to adopt e-commerce application in his business.	Kollmann et al.(2009)
		UA2	I am able to accept change from traditional business process to electronic one.	Chen and McQueen(2008)
		UA3	I tolerate to accept an ambiguous and uncertain situation to adopt e-commerce	Kamaroddin et al.(2009).
	Manager's Attitude toward e-commerce adoption	ATT1	I have fun interacting with the Internet	Gardner and Amoroso (2004)
		ATT2	Using the web provides me with a lot of enjoyment.	Crespo and Bosque (2008)
		ATT3	I like the idea of adopting e-commerce in my company	Casalo et al. (2011)
		ATT4	I think that e-commerce will be adopted in most of SMEs in the near future.	

	ATT5	I think adopting e-commerce would beneficial to my company	
		Environmental Factors	
Competitive Pressure	CMPR1	The rivalry among companies in the industry my company is operating in is very intense	Thong and Yap(1995) cited in Ghobakhloo et al .(2011)
	CMPR2	Some of our competitors have already adopted e-commerce	Ifinedo (2011)
	CMPR3	Our firm is under pressure from competitors to adopt Internet/e-business technologies	
	CMPR4	It is easy for our customers to switch to another company for similar services without any difficulty	
	CMPR5	Our customers are able to easily access to several existing products/services in the market which are different from ours but perform the same functions	
Business/ Partner Pressure	BPPR1	Our company depends on other firms that are already using e-commerce.	Grandon and Pearson (2004)
	BPPR2	Many of our suppliers and business partners are already adopted e-commerce.	AlQirim (2007)
	BPPR3	Our industry is pressuring us to adopt e-commerce	
	BPPR4	Our suppliers and business partners' demands for better communication and data interchange are pressuring us to adopt e-commerce.	Safuu et al. (2008) cited in Ghobakhloo et al .(2011)
	BPPR5	Our partners are demanding the use of e-commerce in doing business with them.	Ifinedo (2011)
Customer Pressure	CSPR1	Our customers are requesting us to adopt e-commerce	Adapted from Al-Somali et al .(2011)
	CSPR2	Our company may lose our potential customers if we have not adopted e-commerce.	Ifinedo (2011)
	CSPR3	Our company is under pressure from customers to adopt e-commerce.	
Government Support	GOVSUP1	Government plays an important role in promoting e-commerce within SMEs	
	GOVSUP2	The telecommunication infrastructure and availability of internet technology (ADSL,Cable,wireless) encouraged our company to adopt e-commerce .	Seyal and Rahim(2006)
	GOVSUP3	The government agencies offers training and educational programs to our company to adopt e-commerce	Thatcher et al (2006)
	GOVSUP4	Existing governmental legislation in e-commerce in terms of buyer /seller protection encouraged us to adopt e-commerce	Tan and Eze (2008) Gibbs et al. (2003)
	GOVSUP5	Government is providing us loans facilities to to adopt e-commerce.	Ifinedo (2011)
	GOVSUP6	The government is active in setting up the facilities to enable Internet commerce	
	GOVSUP7	The government has an effective laws to combat cyber crime	

		General Information of travel agency	
Travel Agency Type		The type of travel agency	Developed by researcher
Travel Agency Age		The number of years has your company operate business.	
Manager/Owner Education Level		The highest education that you have	
Manager/Owner Age		The age of owner/manager	