

A Critical Analysis of E-commerce Use by Jordanian Travel Agents

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

While e-commerce has become a significant matter with the advancement of the Internet, there have been inadequate empirical research efforts concerning its acceptance in developing countries, specifically in the Middle East area, and more particularly in Jordan. Previous studies investigated e-commerce acceptance and use extensively, by employing different technology acceptance models in developed countries. However, the application of some technology models successful in developed countries, such as the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB) and the Decomposed Theory of Planned Behaviour (DTPB) have been found to be less predictive when tested in developing countries. This suggests that culture and the empirical setting of the study will have an effect on the technology acceptance and use. Moreover, there are limited studies that investigate the technology acceptance in the tourism sector in both the developing and developed countries. As a result, this study has attempted to fill this research gap by creating a developing country model (using Jordan as a research site) and then comparing this model to traditional models which are predominantly Western/developed country- in origin.

Data was collected from 313 travel agencies in the area of Amman through a questionnaire survey, and then the data was analysed through various analytical methods. Data analysis started with the descriptive statistics of the demographic variables, key informants and actual use of the Internet. Then an investigation of the reliability and validity of each construct was conducted using item-to-total correlations and exploratory factor analyses. The results of factor analysis were used as inputs in successive multiple regression analyses. E-commerce use was measured by time and frequency of the Internet use.

The research findings indicate that the adapted Unified Theory of Acceptance and Use of Technology model (UTAUT), which was originally tested in the developed countries, can also explain e-commerce acceptance and use of travel agents. In addition, the study indicates the factors that affect e-commerce adoption in the Jordanian travel agencies, namely performance expectancy, effort expectancy, social

influence, perceived risk, government support, competition and external pressure, facilitating conditions and compatibility. The key influence drivers that have affected the behaviour intention to use e-commerce were the construct of competition and external pressure followed by the performance expectancy construct, then the effort expectancy and finally the facilitating condition constructs.

Furthermore, the results of the analyses revealed that performance expectancy and effort expectancy along with social influence and competition and external pressure and facilitating conditions were significant factors and had a positive influence on the behaviour intention to use e-commerce. In contrast, perceived risk, along with government support and compatibility, were insignificant factors. In addition, the behaviour intention has a significantly positive effect on intended degree of use.

Also, the findings of this study clarify the effects of various moderators on the behaviour intention to use e-commerce. Performance expectancy was not moderated by age and gender. Effort expectancy was moderated by gender with a stronger effect for males, but age did not moderate the relationship between effort expectancy and behaviour intention. Finally, age did not moderate the relationship between social influence and behaviour intention. In contrast, gender moderated this relationship, with a markedly stronger effect for women.

The study contributes to the body of literature in the area of technology acceptance in developing countries and in the hospitality industry. The findings suggested that the UTAUT explains e-commerce acceptance and use in Jordanian travel agencies. It also provides several managerial and methodological implications. The study provides a useful model for managers of travel agencies to evaluate the factors that influence the use of e-commerce. It also provides suggestions to help managers to formulate organizational policies and marketing strategies prior to the use of the e-commerce. The limitations of the study together with directions for future research are also considered.

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Chapter One:

Introduction to the Study

1.0 Introduction

This chapter presents an overview of the research. It justifies the reasons behind conducting this study by: a) providing a brief discussion of the importance of e-commerce; b) discussing the importance of various technology acceptance models; c) illustrating the current situation of information technologies in the developing countries; and d) emphasizing the importance of information technologies in the tourism industry specifically the case of Jordanian travel agencies. It is composed of the following main sections:

- 1.1 **Research Background:** This section briefly illustrates the importance of e-commerce in today's business environment. It discusses the advantages of using e-commerce from the consumers' and the producers' perspectives. Then it briefly reviews some of the major technology behaviour intention models that explain the factors affecting the acceptance and use of various information systems.
- 1.2 **Information Technology in Developing Countries:** This section illustrates the importance of reducing the digital gap between the developed and developing countries. It demonstrates how Arab nations share the same culture, which has an effect on technology adoption and use. The section discusses the importance of understanding the factors behind technology adoption and use in the developing countries.
- 1.3 **Technology Acceptance in the Arab World:** This section discusses how Arab culture affects the acceptance and use of information technology. It incorporates major research on technology acceptance in the Arab context.
- 1.4 **The Focus of the Study:** This section validates the reasons behind choosing Jordan as an example of Middle Eastern countries to investigate the acceptance

and use of e-commerce. It provides a summary of the e-initiatives in the kingdom and the feedback of people towards them.

- 1.5 **Information Technology and the Travel Industry:** The section briefly discusses the importance of information technologies in the travel industry. It discusses the advantages of using e-commerce among travel agencies. It then focuses on the importance of the tourism industry in Jordan and the reasons behind selecting Jordanian travel agencies to investigate the issue of e-commerce acceptance and use.
- 1.6 **Research Objectives:** This section identifies the main research objectives.
- 1.7 **Outline of Methodology:** This section illustrates the steps to evaluate the research conceptual model and to test the research hypotheses. It briefly explains the research design.
- 1.8 **Contribution to Literature:** The section explains how this research effort contributes to the body of existing literature.
- 1.9 **Thesis Structure:** The chapter ends by displaying the structure of the thesis, which determines the main chapters explained in the thesis.

1.1 Research Background

Information Communication Technology (ICT) has revolutionised ways of conducting business around the world. This resulted in expanded markets for the retailers and greater options for the consumers (Chaffey et al., 2003). The usage of the Internet and other telecommunication technologies increased the opportunities for businesses and consumers alike across all sectors (Jalava and Pohjola, 2002). It is believed that e-commerce will ultimately affect all businesses, and the majority of business transactions will be conducted electronically by the year 2050 (Laudon and Traver, 2004).

The importance of e-commerce is evident by the increase in the value of commerce that is transacted electronically. In 2008, Internet sales constituted 9.8% of the value of all sales in the UK, excluding the financial sector. The value of these sales increased from £163.2bn in 2007 to £222.9bn in 2008, according to the Office for National Statistics (2009). Similar growth patterns are evident in economies and business organizations worldwide (Laudon and Traver, 2004). This implies that e-commerce is expected to continue growing at a higher rate, becoming the fastest-growing form of commerce in the World.

From the mid-1990s to 2000 the focus of businesses was on the opportunities that are provided by new Internet capabilities, which are the driving force of e-commerce (Browne et al., 2004). This period was characterized by stunning technological success, as the Internet use grew from a few thousand to billions of e-commerce transactions per year. The rapid growth of this period promoted a belief in retailers that the Internet offers huge marketing opportunities (Hoffman, 2000). Following the dot com crash in 2000, businesses began to use the Internet in addition to their traditional trade activities; creating the notion of "brick and mortar presences" (Hoffman, 2000; Laudon and Traver, 2004). Turban et al. (2002) explained that e-commerce technology will continue to grow through all commercial activities after the dot com crisis. There will be an increase in the amount of consumers and producers using the Internet for their buying and selling activities.

Several studies indicated the advantages of using the advanced information technologies, including e-commerce. E-commerce is establishing new e-markets where different prices are visible for consumers and producers, markets are universal, and commerce is extremely competent (Turban et al., 2000; Laudon and Traver, 2004). It also has a major influence on the organization's relationship with supplier, customers, rivals, and co-workers, in addition to how organizations market their products and services (Chaffey, 2004; Laudon and Traver, 2004). It also allows companies to sustain competitive advantage and improve performance and productivity (Frenzel and Frenzel, 2004). Furthermore, e-commerce allows consumers to immediately access these electronic markets, eliminating geographical and social boundaries (Turban et al., 2000; Turban et al., 2002). It was estimated that in June 2010, 360,985,492 people were using the Internet worldwide for various activities, according to the Internet World Statistics in 2010.

The continuous growth of e-commerce prompted researchers to focus on this technology and to understand the factors behind its evolution. A large number of studies focused on understanding and determining the factors that affect the adoption and use of information technologies (Agarwal and Prasad, 1999; Davis, 1989; Dishaw and Strong, 1999; Gefen and Keil, 1998; Igbaria et al., 1996; Moon and Kim, 2001; Taylor and Todd, 1995a; Venkatesh and Davis, 2000), reflecting the importance of understanding and identifying the main factors that influence the behaviour intention to use e-commerce.

There are two main streams of research focusing on information technology adoption and use. The first stream concentrates on the main drivers that influence individual acceptance and use of technologies, and the second illustrates what occurs after the adoption and use of the information technologies (Beaudry and Pinsonneault, 2005). Specifically, the first flow of studies stresses individuals' attitudes towards technology as a means to predict behaviour intentions and use of technology. The main models used to explain technology acceptance include: the Technology Acceptance Model (TAM) of Davis (1989) and Davis et al. (1989); the Unified Theory of Acceptance and Use of Technology (UTAUT) of Venkatesh et al. (2003); the Diffusion of Innovation Theory (DOI) of Rogers (1969, 1995, 2003); the Decomposed Theory of Planned Behaviour by Taylor and Todd (1995); and the

Task Technology Fit of Dishaw and Strong (1999), Dishaw et al. (2002); Goodhue (1995), and Goodhue and Thompson (1995). These studies were generated from the psychology, sociology and information systems literature.

The factors that affect individuals' adoption and use of innovations were investigated at the organizational level. Researchers tried to identify the variables that induce individuals to adopt and use technologies at different stages of technology diffusion in an organization. Some of these studies include the work of Damanpour (1991, 1996), Grover and Goslar (1993), Frambach and Schillewaert (2002), Gatignon and Robertson (1989) and Zaltman et al. (1973).

Furthermore, researchers supporting the first stream investigated the acceptance and use of various information systems, including e-commerce, at the individual and organizational levels. For example, these researchers attempted to understand e-commerce behaviour by drawing on the TAM from the information systems literature, such as the work of Davis (1989), Venkatesh and Davis (2000), and Moon and Kim (2001).

On the other hand, researchers supporting the second flow of research investigated what takes place after the adoption of information technologies. Some researchers in this area focused their studies on the factors that affect the continuous use of technology, such as the work of Bhattacharjee (2001a, 2001b), wherein he examined a model for continuous behaviour use of e-commerce. In addition, this stream of work points out how people change their skills, knowledge, beliefs, attitudes and work commitment (Majchrzak and Cotton, 1988; Griffith, 1999).

Similarly, Swanson (1982) indicated that information systems researchers use intention models from social psychology as a theoretical base to explain behaviour intention and use of information systems at the individual and organizational levels. Venkatesh et al. (2003) asserted that understanding the determinants of information technologies' use can be divided into two main streams. The first stream focuses on individual acceptance of technology by using intention to use, or use of technology as a dependent variable. The second stream focuses on the variables that affect implementation success at the organizational or national level.

It is imperative to note that both streams of research complement each other. They

provide essential contributions to understand factors affecting technology adoption and use. However, most of these studies investigated the adoption and use of technologies in the context of developed countries, where economic conditions, technological infrastructure and cultural factors are different from the context of developing countries (Montcalgre, 1999). Therefore, it is important to examine these models in the context of developing countries in order to understand the factors that affect e-commerce acceptance and use. Thus, this thesis will develop an appropriate technology acceptance model to explain the determinants of e-commerce use in a developing country.

1.2 Information Technology in Developing Countries

The use of information technologies is vital for the sustainable development of the economies of developing countries. Bowonder et al. (1993) recognized the importance of IT and its implications for developing countries. They argued that the developing countries need to understand the persistent nature of changes created by new IT applications and the consequences of not keeping pace with the changes occurring in the developed world. Lightner et al. (2002) underlined this importance and indicated that with the globalization and the increased use of e-commerce, it is imperative to ensure that these systems can be effectively used across cultural boundaries.

This implies that the global digital gap between the developed and developing countries should decrease. The world is a global market today; both firms and consumers in developed countries would like to exchange information, products and services with their counter parts in the developing countries. Therefore, Elbeltagi et al. (2005) underlined the importance of understanding the drivers behind technology adoption in developing countries to help companies remain competitive in the global market.

The literature on information technology associated with developing countries indicated that there is a high degree of resistance to adopt and use information

technology. The slow pace of IT diffusion in developing countries is due to inadequate business infrastructure, language difficulties, human skills and economic and cultural aspects (Abdul-Gader, 1999; Madu, 1989; Du Plooy and Roodc, 1993).

The effect of culture on technology use has been shown to be significant by various studies. Hofstede (2004) identified five dimensions of national culture that could be used to explain Internet use among countries that share the same culture. These factors are: power distance (that measures how societies accept the unbalanced distribution of power among members); uncertainty avoidance (reflecting the intimidating feelings members of societies experience when they encounter something new); masculinity versus femininity (i.e. assertive/active behaviour versus modest/passive behaviour); and individualism versus collectivism (i.e. societies that value independence versus social-orientated communities).

Low uncertainty and low masculinity are presumed to explain the fast adoption and use of Internet in some European countries. Countries with low to medium uncertainty avoidance, such as New Zealand and Australia, are still leading with respect to usage of IT, whereas countries of high uncertainty avoidance, such as Italy, have been slower adopters. Large uncertainty avoidance and power distance explain the use of Internet in business; "Small power distances mean the values of equality are strong. This is what the Internet stands for: it does not allow for inequality related values such as status, power play, settled positions, rigid structures, authority, and the like" (De Mooij, 2004, p. 253). In addition, De Mooij indicated that the feminine societies have good communication infrastructure, which explains their fast adoption of various communication technology products to improve quality of life.

On the other hand, it is argued that developing countries are increasingly using IT to remedy their development problems (Anandarajan et al., 2002). The World Bank provided huge loans to develop the IT sector in developing countries (Harris and Davison, 1999). However, while the supply of technology is an imperative state to attain the benefits that IT can provide, there are growing indications to suggest that this is not adequate by itself (Al-Gahtani, 2004). Al-Gahtani (2004) insisted that it is essential to understand changes in the behaviour of individuals in order to provide the suitable arrangement with new information technologies in developing nations.

Thus, there is a need for studies to explain behavioural intention and decision to adopt and use information communication technologies in developing countries, especially the Middle East. He also suggested that there are a limited number of studies to explain information systems' adoption and use.

1.3 Technology Acceptance in the Arab World

It is highly acknowledged that organizations in the Arab world are late adopters of the Internet and its applications (Sabri, 2004; Yaseen, 2005; Yaseen, 2008). Although the use of the Internet in the Middle East has been growing, specifically in Jordan, most of the Internet use is concerned with email and chatting (Al Sukkar and Hasan, 2005; Abu Shanab et al., 2010a). Internet World Stats (2011) indicated that for 11 years, between 2000-2011, the annual growth of the Internet users worldwide was 466.5 %, while the Middle East indicated a rate of 1987.0%. This increase of the Internet use would create numerous prospects for Middle Eastern organizations to use the Internet for their business transactions (Abu Shanab et al., 2010a). Despite the increased percentage of the Internet use, recent studies on technology acceptance, such as Al Sukkar and Hasan (2005) and Akour et al. (2006) indicated that Arab people are still reluctant to use and accept Internet use for various economic and cultural reasons. Therefore, it is necessary to understand the factors that affect the adoption of the technology in the Arab world.

Several methods were used to investigate the effect of culture on the acceptance of technology in organizations worldwide. Researchers applied the quantitative methodology to find out and measure national cultural dimensions, such as the work of Traindis' (1982), Hofstede's cultural dimensions (2005) and Straub's (2002) social identity theory. The most frequently used cultural dimensions were the ones introduced by Hofstede (1980, 2001). These cultural dimensions affected the managerial values and human behaviour in different cultures (At-Twajiri and Al-Muhaiza, 1996, Al-Gahtani et al., 2007; Al-Gahtani et al., 2010).

Hofstede and Hofstede (2005) identified that Arab countries are masculine. This implies that men are expected to be more involved in working and earning the income for the family while women are more concerned with taking care of the children and the household. Therefore, the gender role is different in the Arab societies. In contrast, Arab countries scored mid-point along the masculinity/femininity index in the study conducted by At-Twajri and Al-Muwaiza (1996), indicating a score of 46 or higher towards feminism. This could be due to the central Islamic ideology for caring and nourishing of others in society, also characteristic of feminine values. Although women are educated and free to move within the Jordanian society, gender roles are clearly distinguished in Jordanian society, and this is indicated in the low numbers of women in managerial roles, estimated to be 5% by Tzannatos & Kaur (2000). Although some changes are being witnessed, particularly in agriculture and tourism where more and more women occupy more prominent roles, a large-scale upwards shift in women's participation has yet to emerge in society (Tzannatos & Kaur, 2000).

Hofstede (2003) concluded that Arab nations have large power distance and uncertainty avoidance dimensions. The aim of these societies is to control various aspects in their lives to avoid unexpected situations. This implies a rule based society, where leaders are respected and are often powerful and tribal in nature, i.e. in group loyalties will be high and enduring. De Mooij (2004) explained that these societies are late adopters of information technologies as a result of this high uncertainty. Furthermore, Calhoun et al. (2002) found differences between the efforts of collective and individual societies in adopting technology in their attempt to study the effect of culture on Korean and American decision makers. Their results indicated that cultural and social factors affect technology adoption and use.

However, Al-Twajri and Al-Muhaiza (1996) indicated that Arab countries showed a lower power distance score due to the societal level changes since Hofstede's original study. The Gulf Cooperation Council (GCC) countries, and arguably neighbouring Jordan, are well known for their family based culture, central political systems and thus a central power distance culture. The exposure to Western influence and education has seen a dramatic rise in Jordan in recent years and, relative to its Arab counterparts, enjoys a modest number of Westerners within

society; this has resulted in an increase in democratic decision making styles, as opposed to the traditional autocratic systems characterizing Arab societies.

In addition, Hofstede ranked the GCC countries with an individualism index of 52. Islam by its very nature is highly collectivist, emphasizing the rights of the group and the wider community. For instance, people are urged to care for their neighbours and the wider community. Hofstede (1987, p. 12) refers to "the Law of Conservation: old values do not disappear overnight, and often survive in new settings." Jordan's case is also one of high collectivism where family is given prominence and commitment to caring for the wider community is an important function of individual responsibility.

Hofstede's dimensions of culture suggested that Arab countries differ considerably from Western cultures, such as Europe or the U.S. These dimensions were used to test Internet adoption in Jordan. Akour et al. (2005) concluded that power distance and collectivism had significant effect on Internet use, while uncertainty avoidance and masculinity were not significant.

Rosc and Straub (1998) investigated the adoption and use of information technology in the Arab world. They used a cross-sectional survey of 274 Arab workers from five Arab countries (Egypt, Sudan, Jordan, Saudi Arabia and Lebanon). They applied the Technology Acceptance Model (TAM) to assess the diffusion of personal computers and the modified model explained 40% of the actual use. In a further study, Straub et al. (2001) introduced a cultural influence model of information technology in their research on Arab countries. The variables that they used in their model were culturally specific beliefs and values, national IT policies, technological infrastructure and technological acculturation. Their results indicated that Arab culture and beliefs affect the acceptance and use of information technologies. They suggested that Arab leaders are responsible for formulating strategies to develop the technology sector.

In addition, Loch et al. (2003) used the TAM to identify cultural factors that affect the Internet use in Arab countries. They indicated that social norms and the degree of technological acculturation (that is, the degree of contact with other developed

countries that are more advanced in technology) can affect the organizational adoption of the Internet. This indicates that certain Arab countries are very similar in their culture and beliefs. Therefore, the determinants of e-commerce use in one of the Middle Eastern countries, such as Jordan, could be similar to its neighbouring Arab countries.

The technology acceptance models were used in different contexts in the Middle East Area. For example, Al Sukkar and Hasan (2005) used the TAM introduced by Davis (1989) to explain the acceptance of Internet banking in Jordan. They concluded that the TAM would be more useful in the Jordanian context if they include extra variables with the original model, such as the culture dimension of Hofstede's, and trust, to explain technology acceptance on the consumer side, and online service quality variables from the banks' point of view.

In addition, Abu Shanab et al. (2010a) used the Unified Theory of Acceptance and Use of Technology introduced by Venkatesh et al. (2003) to explain Internet banking and customers' acceptance in Jordan. The assessment of the model necessitates the inclusion of the personality dimensions construct to test the behaviour intention of internet banking for the Jordanian consumers. Moreover, Al-Qirim (2007) discussed the main factors that affect the adoption and diffusion of e-commerce in non-government institutions in Jordan. The results of his study indicated that the innovation characteristics (complexity, image, triability, and compatibility) organizational factors (specialization, size and resources) and environmental factors (competition, technology vendors) affected the diffusion of e-commerce in these organizations. He added that the results of his study could benefit other developing countries that have similar cultural and technological infrastructure as Jordan.

Furthermore, a modified form of the Unified Theory of Acceptance and Use of Technology was tested to explain the acceptance and use of desktop computers in Saudi organizations. Al-Gahtani et al. (2007) used the theory of cultural dimensions to compare the acceptance of information technology between North America and Saudi Arabia. They concluded that the model can explain 39.1% of the intention to use, and 42.1% of actual use. In addition, Al-Gahtani et al. (2010) used the Diffusion of Innovations theory introduced by Rogers (2003) to investigate the

factors that affect the acceptance and use of online services for Saudi consumers. Their results indicated that complexity, privacy and compatibility were the most significant factors in this society.

The application of technology acceptance models in the developing countries, and more specifically, the case of the Middle East countries, proved that there is a need to modify the technology acceptance model to account for the different contexts (Al Sukkar and Hasan, 2005). As a result, one of the objectives of this study is to examine whether the Unified theory of Acceptance and Use of Technology is robust in the Arab culture, using Jordan as a research context.

1.4 The Focus of the Study

Jordan is a Middle Eastern country of 6 million people scattered in different parts of the Kingdom. Jordan presents an ideal gateway to the MENA (Middle East and North Africa) region and the rest of the world. It shares borders with six MENA countries: Iraq, Syria, Saudi Arabia, Israel, the Palestinian National Authority Territories and Egypt. The multi-border characteristic of Jordan reinforces its accessibility, giving it competitive leverage over neighbouring “core” MENA countries, whose boundaries are less exposed (AMIR, 2004; INTAJ, 2000).

The majority of the population of Jordan falls into small social groups whose most important characteristic is that they are strongly traditional. Tradition in Jordan, as in all Arab countries, is interwoven with religion. In fact, the two cannot be distinguished from each other, since virtually all tradition is religious and, conversely, all religion is surrounded with tradition. Islamic religion in Jordan is the fundamental motivating force in most phases and aspects of culture, and it is practiced in daily life. The majority of the population is Muslim, with a significant Christian minority (Harris, 1958; Simonis and Finlay, 1997).

There are three social organization divisions in Jordanian society, and in the Middle East in general, namely Bedouin tribes, villagers and urban settlers. These social organizations represent different ways of thinking, virtues and values, which are

rooted in the Islamic tradition. The relative importance of these values varies among the major socioeconomic groups (Patai, 1958, 1983). It is important to note that there has been little academic research on these population cohorts since the early 1980s, which may imply that the social organization has been significantly transformed.

The majority of the Bedouins exist in the eastern and southern part of the Kingdom. The attitudes of the Bedouins to formal religion are indifferent, although they are very traditional. They believe in God, but they have strong beliefs in superstitions concerning supernatural phenomena, some of which could be considered to put them beyond the pale of Islam. The Bedouin tribes are known for their hospitality, generosity, protection of the weak, love of freedom, and pride in their ancestry and the doctrine of forgiveness (Patai, 1958; Simonis and Finlay, 1997).

The villagers live in the northern and middle parts of the Kingdom outside the main cities. They are generally more religious than the Bedouins in terms of adhering to a more sophisticated understanding of Islam. However, a lot of characteristics of the Bedouins are seen in the villagers; the main differentiation is in their attitudes to freedom and leisure. The villagers consider themselves as "slaves of the soil," rendering them sedentary, unlike the nomadic Bedouins (Patai, 1958, 1983).

Westernization and modernization are pronounced in Jordanian towns and cities. The towns dilute the intensity of personal relationships, which are a central feature of life in the village and the Bedouin tribes. Urban occupational diversity and class differentiation contrast with the relative social homogeneity of the village and the tribe. The city dwellers are historically cosmopolitan in contrast of the population in the countryside. In addition, city dwellers were subjected to a generation of Western influence, and new notions of individual liberty and economic competition and independence from their traditional families and social networks (Patai, 1983). It is worth mentioning that the townsman still shares a variety of traditional values with the villagers and nomads, but his fears and anxieties concerning his personal and social status, more familiar to the Western observer, are becoming dominant.

The introduction of technology is mainly witnessed in the urban parts of the Kingdom. Information technology use in Jordan is growing, especially in Amman,

the capital city. This is because of the availability of the infrastructure that facilitates the operation of the technology and the readiness of the city dwellers to accept it. The majority of the population of the cities is young people who look forward to adopting information technologies. The private sector companies and the responsible parties in the government are working together to introduce computers into the country's schools and universities (BBC, 2004; INTAJ and USAID, 2007). As a result, more Jordanians are realizing the importance of information technologies and their importance for personal and business use.

Furthermore, numerous e-initiative projects were implemented to develop the information and communication technologies in different sectors in the Kingdom. The Information Technology Association of Jordan (INTAJ) is cooperating with the private and governmental organizations to improve this sector. For example, these organizations formulate telecommunication policies, develop e-government strategic plans, launched a strategy for Jordan IT industry called "Reach Initiative 1999-2004", formulated a National ICT Strategy of Jordan 2007-2011, and provide technical assistance and advice for improving the technology sector in various industries (INTAJ and USAID, 2007).

Jordan seeks to turn itself into a regional IT leader and globally renowned exporter of IT products and services, making use of its core human capital advantages (INTAJ and USAID, 2007). In January 2000, King Abdullah II represented Jordan at the World Economic Forum in Davos, Switzerland. In setting out his plan to attract international investment, the King presented Jordan's economic agenda, planning to capture the benefits of globalization and the technological revolution. He explained that "It is time to widen the scope of our participation in the knowledge economy from being mere isolated islands on the periphery of progress, to becoming an oasis of technology that can offer the prospect of economies of scale for those who venture to invest in our young available talent" (INTAJ, 2000, p. 6). This reflects the general government support for technology investment and development.

Furthermore, a decision was made by the Crown to introduce computers to 3000 public schools, and 8 public universities and community colleges. This will bring high speed connectivity to 1.5 million Jordanians. In addition, The Ministry of Information and Communication Technologies is implementing e-government

initiatives to respond to the needs of the Jordanian citizens, government institutes and other private entities (Royal Hashemite Court, 2010).

However, Jordan experiences similar challenges that other developing countries encounter in cultivating growth in the ICT industry. The prosperity and growth of Jordan's ICT industry is held back due to the government policies that are deficient in development and implementation. In addition, the average individual in Jordan finds it expensive to buy a computer for personal use. A low percentage of the population can afford to have personal computers. Furthermore, prices of Internet connectivity are high compared to those in other similar countries (Murrar, 2000; INTAJ and USAID, 2007). Therefore, the prohibitive prices for computers and connectivity will definitely affect IT literacy percentage and Internet diffusion among Jordanians.

In addition, there are some cultural issues that deter IT use in Jordan. One of these issues is the resistance to change. Jordanian employees found it difficult to accept automation in their organizations after depending on manual systems (Murrar, 2000; INTAJ and USAID, 2007). Moreover, the Jordanian government and citizens held negative attitudes when the Internet was first introduced to Jordan in the 1990s. They felt that the Internet should be censored to block improper values incoming to the country (Murrar, 2000). However nowadays, both the government and the private sectors are using the Internet for their business operations.

It is acknowledged that individuals and organizations in the developing countries are late adopters of e-commerce. Molla and Licker (2005) urged researchers to understand and examine factors contributing to e-commerce adoption in developing countries. Jordan, as well as many other Middle Eastern countries, realizes this challenge. Jordan lacks studies that identify the factors that contribute to the use of new information communication technologies in different sectors. In fact, Jordan does not have a single study that explains the behavioural intention to adopt and use e-commerce in the tourism sector. Therefore, this thesis will make a significant contribution through the identification of the determinants of e-commerce use in the travel agency sector.

1.5 Information Technology and the Travel Industry

The travel industry is one of the world's largest industries and has a history of being among the first businesses that used information technologies. In the 1970s the travel industry started to use the computer reservation systems (CRS), followed by the global distribution systems (GDS) in the 1980s to book rooms and airline tickets before the introduction of the Internet. Subsequently, travel industries started to use the World Wide Web to allow consumers to acquire travel advice, compare prices, and book their own travel plans (Buhalis and Law, 2008; Buhalis, 2003; Lewis et al., 1998; Copeland et al., 1988; Raymond and Bergeron, 1997).

One of the most advantageous and regular services that the GDSs supply is the ability of small travel agencies to access their databases through the Internet, who would otherwise be unable to pay the expensive fees of GDS. It also permits individuals to check flight and seat availability, and buy tickets (although buyers generally have to acquire them from specific affiliated travel agencies). For example, the airline industry used the Internet to provide direct seat and flight availability to their customers through their GDS systems (Lamfranco, 1996; Vich-i-Martorell, 2004).

The travel industry has a multitude of suppliers and innumerable tourists scattered throughout the globe. Therefore, the most challenging task for this industry is to provide an integrated reservation system for all of the tourism components, namely hotels, transportation, food and beverages, and entertainment in order to obtain all of the advantages of owning a GDS (Wynne et al., 2001). Subsequently, some of the travel reservation systems, such as World Span and Sabre, introduced packaging tools that allow travel agencies to gather some of the tourism components (air, hotel and car rental components) into simple itineraries (Buhalis, 1998).

The World Tourism Organization announced that the crucial point of the Internet success depends on the rapid provision of personalized information and services to consumers. This information should be clear, up-to-date and easy to obtain (WTO, 1988). Therefore, the travel industry should use information technologies to satisfy the various needs and wants of different consumers, and to ensure sustainable

growth.

1.5.1 Travel Agents and Internet Usage

Travel agencies are defined as “outlets at which holidays or other leisure travel products are purchased, including high street retailers and direct selling companies, many of which now operate online” (Mintel International Group, 2004, p. 2). Traditionally travel agents are engaged in three main activities: 1) passing information from suppliers of tourism to customers; 2) selling tickets and processing transactions; and 3) advising customers on their travelling plans (Lewis et al., 1998; Tsai et al., 2005).

The introduction of the Internet and the World Wide Web affected the traditional operations and the distribution channels of the travel agencies. The Internet allows travel agencies to provide consumers with the latest room rates and flight availabilities. In addition, travel agencies can use the Internet to provide consumers with information on travel packages and tourist destinations (Connolly et al., 1998; Tsai et al., 2005). In general, using the Internet in travel agencies provides convenience, efficiency, and accessibility to reach different international markets at a low cost (Ozturan and Roney, 2004).

Similarly, Maurer (2003) explained that the reason the Internet is useful in travel agencies is the fact that enterprises can reach millions of people around the world on a small budget. Travel agencies can target their markets, educate them about products, and then accomplish the selling. He continued to argue that the advent of the Internet as an additional distribution channel for travel services makes travel agents use the new medium to increase efficiency and profitability. Therefore, CRS services are encouraging their travel agency subscribers to use the Internet to compensate for their loss, resulting from companies and individuals who deal directly with vendors (airlines, hotels, car rental companies, and so on). This implies the phenomenon of disintermediation and reintermediation, whereby these travel agencies were able to regain their positions by adopting electronic commerce in their daily activities so as to continue and expand their markets (Chircu and Kauffman, 1999).

Travel and tourism are characterized as being pioneering leaders in applying B2C e-commerce transactions (Foder and Werthner, 2004; Buhalis and Law, 2008). The acceptance of e-commerce in the tourist industry had a tremendous effect on the structure and the methods of operating businesses. The Internet is not only used to obtain information but also is used to order services and products. Users are searching the web and composing their own travel itineraries without visiting travel agency outlets (Zellner, 2002). Online booking accounted for \$153 billion from the US and Europe alone in 2009. The average worldwide growth rate in online booking is 34.6% per annum, according to digital marketing seminar held in Amman by USAID in July, 2010.

The growth of electronic commerce allows individual tourism suppliers to compete more equally with the larger multinational organizations for the global customer (Rimington and Kozek, 1997). On the other hand, it is argued that the use of the Internet will jeopardize the position of travel agents in this industry. Major airlines are selling tickets to their customers directly and are reducing and removing travel agents' commissions (Wang and Cheung, 2004). In addition, the tourism online companies are approaching customers directly and selling them different packages (Zellner, 2002). In this case, travel agencies can benefit more from the Internet transactions by supplying other tourism entities, such as hotels and car rental companies' special deals (Karcher, 1995; Dilts and Prough, 2003). Furthermore, travel agents are advised to improve their use of information technologies and incorporate it with the traditional marketing strategies. Failure to do so will reduce their competitiveness, because they have to negotiate with bigger and more powerful tour operators in the future (Crotts et al., 2000).

Furthermore, Lewis and Talalayevsky (1997) explained the reasons behind the survival of travel agencies in the global markets. They stated that the Internet can offer inexpensive access to electronic commerce, and can provide the small travel agencies with an equal balance with larger businesses. This implies that travel agents can establish their own websites at a low cost, allowing the Internet users to have access to their services. Meanwhile, the prospective traveller who visits the travel agency usually gets effective personal face-to-face service and can benefit from the expertise of the agent and other co-workers. The agent acts as an advisor to the

traveller, such as providing information on which airline to use.

Additionally, travellers prefer to visit travel agencies because they represent more than one supplier, and are committed to undertake a search and evaluation process for the travellers. Some travellers prefer the personal interaction and expect the travel agents to provide them with the needed requirements. In assembling the travel itineraries, the agents might provide the travellers with information that is not yet provided on the Internet. For example, a traveller may not know about a discount recently offered by an airline, which travel agents will be aware of via their connection with suppliers. Travellers may search the Internet and find out their trip itineraries, but the travel agents' role is to purify the information supplied by service providers that travellers are unaware of (Lewis et al., 1998; Lewis and Talalayevsky, 1997). Therefore, travel agents are responsible for integrating and balancing producers' and consumers' interests.

The unique positioning of the travel agencies as an intermediary between producers and consumers should continue to guarantee travel agencies an important role in the travel industry, despite the impact of technological changes and the merging or disappearance of many small travel agencies. Tourism experts in this field argue that travel agencies are expected to grow in number significantly, since their greatest role is to gather and deliver exiting itineraries for their respective clientele (O'Connor, 1999). Bennet (1993) and Frias et al. (2008) explained that travel agencies will remain secure in the industry as long as they reinforce the provision of their advice with the use of Internet technologies.

1.5.2 The Focus on Jordanian Travel Agencies

The tourism sector is the second-largest export industry and foreign currency earner supporting Jordan's balance of payment, after external remittances from Jordanians expatriates. Tourism receipts increased from JD359.9 million in the first quarter of 2009 to JD474.0 million in the first quarter of 2010, an increase of 31.7%. It accounts for approximately 14% of the country's GDP (Ministry of Tourism and Antiquities, 2010). Further to the aforementioned reasons regarding the importance

of information technology in the tourism sector, the study will focus on the Jordanian travel agencies for the following reasons:

Strong Market Growth: Statistics by the Ministry of Tourism and Antiquities and the Central Bank of Jordan have shown an increase in tourism receipts and visitors numbers. Tourism receipts went up from US \$501 million to US \$701 million from the first quarter of 2009 to the same period in 2010, an increase of 39.7%. The number of tourist nights in the first quarter of 2010 accounted for 652,015, 49.2% higher than the 436,994 tourist nights in the first quarter of 2009 (Ministry of Tourism and Antiquities-Statistics Department, 2010). These figures provide an indication of the growing importance of this sector for the Jordanian economy. In addition, they urge the responsible parties in the tourism and hospitality sector to further examine and analyze this sector to maintain its sustainable growth.

Intensive Tourism Investment Projects: In the next five years, Jordan will witness a massive investment in the hospitality sector. Travel and tourism investments are estimated to have a value of JD570.0 million and account for 12.9% of the total investment in 2010. This figure should increase to JD1.397.9 million, i.e. tourism investment should represent 15.4% of the total investment according to the World Travel and Tourism Council (2007). These investments are located in different parts of the Kingdom, such as the Dead Sea, Aqaba, and Amman. Therefore, the role of travel agencies to sell their tourism packages will continue to grow in the future.

Competition: The travel agencies have the third-highest number of outlets in the tourism sector after tourist restaurants and hotels (Ministry of Tourism and Antiquities-Statistics Department, 2010). Jordanian travel agencies are facing the challenges of shrinking airline commissions and the existence of the online travel companies. Their responses to technological challenges are an interesting subject for study. Will they ignore the challenge or will they commit their resources to use e-commerce to sell their travel packages? This study will investigate this issue using

an appropriate technology behaviour intention model applied to the Jordanian travel agencies.

1.6 Research Objectives

The literature indicates that the technology acceptance models and theories are extensively tested in the developed nations. The limited research on technology acceptance in the developing countries indicates conflicting results with regards to the appropriateness and predictive power of these models in the developing countries (Abu Shanab et al., 2010a; Bandyopadhyay and Fraccastoro, 2007; Lin and Bhattacharjee, 2008). Researchers explain that the culture of a specific country and the type of technology investigated are the reasons behind this inconsistency (Steers et al., 2008; Abu Shanab et al., 2010a). Therefore, one of the objectives of this study is to validate and test the appropriateness of the Unified Theory of Acceptance and Use of Technology model in a different culture, more specifically Jordan. The literature indicates that this model has not been extensively tested after it has been developed by Venkatesh et al. (2003). Only two studies used this model in the Arab World, namely the work of Al-Gahtani et al. (2007) and Abu Shanab et al. (2010a).

Furthermore, there is limited research on technology acceptance in the Arab World (Abu Shanab et al., 2010a; Abu Shanab et al., 2010b; Sabri, 2004; Yaseen, 2005). Recent research in the Middle East concentrates on the Internet banking acceptance from the consumers' perspective, such as the work of (Abu Shanab et al., 2010a; Al Sukkar and Hasan, 2005). To this date, there are very limited studies that examine technology acceptance in the tourism industry (Mette Hjalager, 2010; Buhalis and Law, 2008). In fact there is no single study that examines technology acceptance in the tourism industry in the Arab World. Therefore, one of the objectives of this study is to examine the factors that affect e-commerce acceptance in Jordanian travel agencies.

This study examines the possibility of adapting a technology acceptance model

designed in the context of the developed world to a developing nation. Jordan will be used as a case study for this purpose because it experiences similar challenges and opportunities that other Arab countries encounter in their technology acceptance. In this context, the thesis aims to achieve the following objectives:

Theoretical Objectives:

- Create a technology acceptance model, using Jordan as a research site, and then compare this model to the traditional technology acceptance models created in developed countries.
- Identify the factors that affect the behavioural intentions to use e-commerce for travel agents.

Operational Objectives:

- Identify the key influence drivers that affect the behaviour intention to use e-commerce for travel agencies.
- Clarify the relationship between these independent factors and the behaviour intention to use e-commerce.
- Clarify the effects of various moderators on behaviour intention to use e-commerce.
- Clarify the relationship between the behaviour intention to use e-commerce and the intended degree of e-commerce use.
- Measure the intended degree of e-commerce use by the Jordanian travel agencies.

Outcome Objectives:

- Provide a useful model for managers of travel agencies to evaluate the factors that influence the acceptance and use of e-commerce.
- Provide suggestions to help managers to formulate organizational policies prior to the use of the e-commerce.

1.7 Outline of Methodology

A conceptual model and research hypotheses were developed to direct this research effort. The research hypotheses were evaluated using a survey of Jordanian travel agents in the area of Amman. The unit of analysis was the Jordanian travel agencies' owners/senior managers. Data was collected from various kinds of travel agencies to attain variation in responses. The research design was divided into four main phases that is discussed intensively in chapter five.

Phase one deals with the exploratory in-depth semi-structured interviews with informed practitioners, to obtain detailed understanding of e-commerce use, to elaborate upon the constructs included in the proposed conceptual model and to examine the hypothesized linkage between constructs on the basis of the managerial perception. Phase two is concerned with questionnaire development. Measures of the construct of the study are developed on the basis of the extensive review of literature and field interviews with travel agencies' owners/senior managers. Then, the questionnaire was developed and refined by senior academics who have extensive experience in the area of marketing research and Internet marketing. Finally, the questionnaire was examined by personal interviews with owners/senior managers, before the execution of the full-scale survey.

The third phase clarifies the questionnaire administration. The sample of the study was randomly drawn from the list of travel agencies in Amman provided by the Jordan Society of Tourist and Travel Agents. Each of the selected travel agencies was contacted by telephone first in order to set up meetings and verify the correct addresses. The researcher then administered the questionnaire personally. Emphasis was placed on identifying the most appropriate or key informant in each of the travel agencies to complete the survey questionnaire. This requires the inclusion of some questions at the end of the questionnaire to assess the informants' knowledge of e-commerce, involvement in the firm's e-commerce decisions, and confidence in answering the questionnaire (Skarmeas et al., 2002).

The final stage describes the analytical procedure pursued in this study. Initial data analysis starts with the descriptive statistics of the demographic variables, key

informants and Internet use. Then, an investigation of the reliability and validity of each construct is conducted using Fornell and Larcker's (1981) test of constructs validity, item-to-total correlations and exploratory factor analysis. Subsequently, multiple regression analysis is carried out to test the research hypotheses suggested in this study.

1.8 Contribution to Literature

Berthon et al. (2002) classified research effort into eight categories, namely pure replication, context-only extension, method-only extension, theory-only extension, method and context extension, theory context extension, theory and method extension and pure generation. All of these research strategies contribute to literature, and the selection of any research type depends on the particular problem that a researcher wants to tackle. The following is a brief description of these strategies.

Pure Replication: This strategy stresses the pure replication of the theoretical framework, the methodology and phenomenological context. This strategy is still rare, but important in the marketing and information system studies because it turns belief into knowledge.

Context-only Extension: This strategy applies a certain theory and model into different context. This strategy is familiar in marketing and information system studies. Many researchers used theories from the marketing literature and tried to apply it in information system context. For example, Kettinger and Lee (1994) examined the relationship between perceived service quality and user satisfaction with the information system function. In addition, this strategy is used in cross-cultural settings to explain whether theories that project well in one setting will be useful in another cultural setting.

Method-only Extension: This strategy takes an existing theory and context and applies different methodology to test the hypotheses. This methodology is also used

in marketing and information system research.

Theory-only Extension: This strategy applies the same methodology and context of the original work, but adds a new theory to explain the results. An example of this strategy is the work of Dishaw and Strong (1999), wherein they combined the Technology Acceptance Model with the Task Technology Fit Model to explain technology use using the same methodology and same setting.

Method/Context Extension: This strategy applies an existing theory to a new context and method to explain the results.

Theory/Context Extension: This strategy gets an existing method and applies it in a new context, and uses a new theory to explain the results. An example of this strategy is the work of Keil et al. (2000), wherein they used four new theories relatively new to information systems (e.g. self-justification theory, prospect theory, agency theory and approach avoidance theory) to examine the commitment to software projects in the field of software project management.

Theory/Method Extension: This strategy applies a new theory and method to an existing context. An example of this strategy is the work of Jackson et al. (1997), which included an extra construct on the Technology of Acceptance (TAM) of Davis et al. (1989), based on the Theory of Reasoned Action to explain intention to use the system. In the theoretical aspect they extended TAM by including extra constructs, and in the methodology aspect they used a confirmatory method of covariance rather than the regression analysis to explain behaviour intention. Finally, on the context aspect they applied the model to a sample of employees in different level of organizations, representing no radical change in this aspect.

Pure Generation: This strategy requires the researchers to apply new theories on different settings, using different methodologies to explain their studies.

Considering the above, this study contributes to the existing body of literature because it has a different contextual setting in comparison with the traditional technology acceptance models which are predominantly Western in origin, it incorporates different constructs that are vital to explain Jordanian and developing economy issues and it illustrates a different methodology for operationalization of

the constructs and testing of the hypotheses.

The purpose of this study is to identify the factors that affect e-commerce use in the Jordanian travel agencies and to create a technology acceptance model using Jordan as a research site then compare this model to the traditional technology acceptance models which are Western/developed countries- in origin. Consequently, the original model of UTAUT developed by Venkatesh et al. (2003) was adapted and applied in the context of developing country, the case of Jordanian travel agencies to explain e-commerce use. Therefore, the study contributes to the literature concerning technology acceptance and use in developing countries and tourism sector.

On the theoretical side, this study presents a new theoretical framework to explain e-commerce use by Jordanian travel agencies. Although the theoretical framework depends on the Theory of Reasoned Action proposed by Fishbein and Ajzen (1975), it incorporates new constructs, namely government support, competitive pressure, and perceived risk to explain intention to use e-commerce. Furthermore, some of the moderating factors, such as experience and voluntariness, were omitted from the model in the current study. This is because the thesis examines the willingness of owners and senior managers of travel agencies to use new technology (e-commerce), which is a phenomenon at a very embryonic stage in Jordan, of which travel agents have little experience.

Finally, the methodological aspect the study demonstrates differences in the approach to measurement and data analysis. Explicitly, the original model operationalized only four of the highest loading items (due to the sample size) for each of the constructs, thus affecting the content validity and leaving some items from important constructs in technology acceptance model, such as the Model of PC utilization (MPCU), which is not used. The current study used all of the items to avoid this problem, unlike the work of Venkatesh et al. (2003), Al Gahtani et al. (2007) and Bandyopadhyay and Fraccastoro (2007). In addition, some root constructs, such as extrinsic motivation in the original model, were operationalized using the same items as other root constructs, i.e., perceived usefulness. The current study avoids this repetition and uses measurement items from the original models. Furthermore, the compatibility construct in the original UTAUT model was

considered a root construct that belongs to facilitating conditions. In contrast, the literature review and the in-depth interviews with travel agents show that this is a separate construct that possesses different dimensions than the compatibility construct in the original model.

In addition, the items used to measure behaviour intention and intended degree of use are different in this study. Behaviour intention is measured by using four items adapted from the work of Looi (2005) and Davis et al. (1989), and intended degree of use is measured by the length of time and frequency of use. The intended degree of use measurement items were adapted from the work of Hong et al. (2006), and Klopffing and McKinney (2004). In contrast, in the original UTAUT behaviour intention was measured using a three-item scale adapted from Davis et al. (1989), and actual use was measured as duration of use via system log

The methods of data analyses and the research design in this study are different than the Unified Theory of Acceptance and Use of Technology (UTAUT) presented by Venkatesh et al. (2003). The current study has a cross-sectional design using multiple regression technique to evaluate the research model and hypotheses. Item-to-total correlation, Fornell and Larcker's (1981) test of validity and principal components analysis are used to check the reliability and validity of constructs. In contrast, Venkatesh et al. (2003) pursued a longitudinal study, using partial least squares technique to empirically evaluate their model. Firstly, they empirically compared eight models of technology acceptance using data from four organizations over a six-month period, with three points of measurement. PLS was used to test all of the eight models and the reliability and validity of the constructs at the three points of measurement. Then they formulated the Unified Theory of Acceptance and Use model (UTAUT) based on the conceptual and empirical similarities across models. Subsequently, they empirically validated the UTAUT based on a data from two additional organizations using the same method.

1.9 Thesis Structure

The structure of the thesis reflects the research process. The final structure of the

thesis is composed of eight chapters.

Chapter one is the introductory chapter, which sets the background of the research. It justifies the reason behind conducting this study. It covers what exactly previous literature has looked at, presents the research gaps, the focus of the study, the research objectives, the outline of research methodology, and the contribution to literature.

Chapter two provides an overview of e-commerce. It starts by giving a brief introduction of the origins and growth of e-commerce and its relation with the Internet, and then describes the various advantages of using the Internet for the e-commerce activities. In addition, it explains the various e-commerce business models and the e-commerce system.

Chapter three presents the literature review focusing on the major technology behaviour intention models and the application of these models to e-commerce. The objectives of this chapter are to underline the importance and current knowledge of the technology models that explain individual behaviour intentions to use the information technologies. The second objective is to identify the gap in the literature and formulate research hypotheses.

Chapter four suggests the conceptual model and research hypotheses. The aim of this chapter is to identify the major variables affecting e-commerce use in Jordanian travel agencies using the literature review and the feedback from the primary interviews with managers of travel agencies in Jordan to confirm the appropriateness of the constructs. The chapter then presents the relationships between the major constructs and formulates hypotheses.

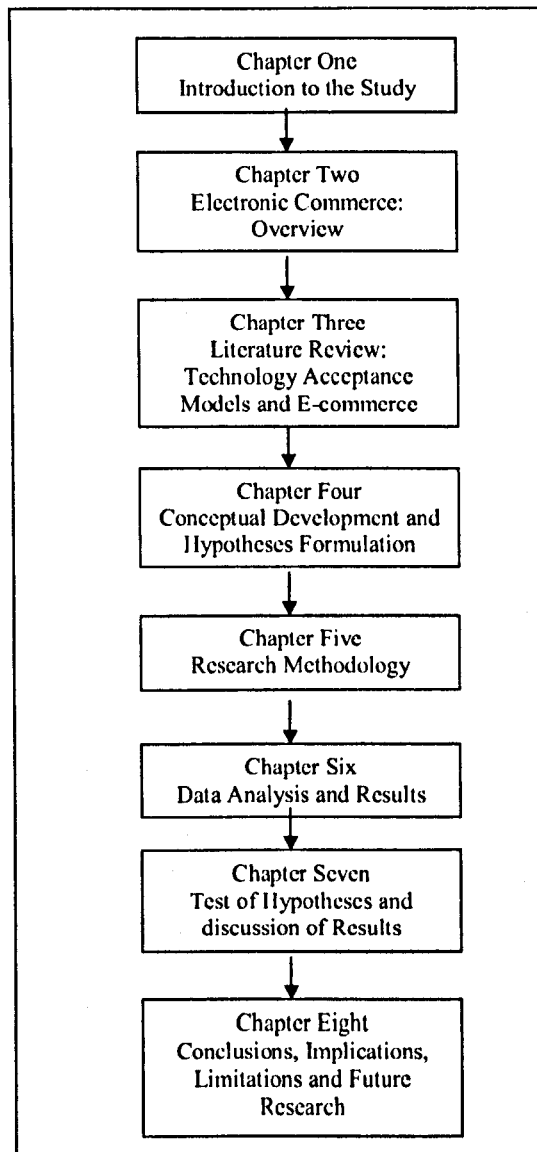
Chapter five describes the research methods and procedures to achieve the objectives of the thesis. It includes an explanation of the research philosophy, the research samples, methods of data collection, validity and reliability issues and ethical concerns.

Chapter six presents the results of the primary data collection.

Chapter seven discusses the general results and those specifically related to the hypotheses. These are then considered in relation to the literature outlined in chapter three.

Chapter eight concludes the results of the research. This chapter suggests different recommendations resultant from the study, and provides the theoretical, methodological and practical contributions of the research. In addition, the chapter presents the limitations of the study and suggests an agenda for further research. Figure 1 illustrates the thesis structure.

Figure 1.1: Thesis Structure



Chapter Two: Electronic Commerce: Overview

2.0 Introduction

The aim of this chapter is to provide an overview of electronic commerce. It provides the different definitions of e-commerce and describes the major e-commerce business models. It discusses the benefits of using e-commerce for organizations. The chapter identifies the precise definition of e-commerce and the e-commerce business model used throughout the study. It is organized in the following sections:

2.1 Definition of Key Terms: This section provides various definitions of e-commerce that is used in different perspectives. It clarifies the relationship between e-commerce and other related terms. Finally, the section identifies the terminology used throughout this study.

2.2 Origins and Growth of E-commerce: This section provides a brief history of the origins and growth of e-commerce and its relationship with the Internet, then explains the advantages of using e-commerce from the organizations' perspectives.

2.3 Drivers of Business Internet Adoption: This section outlines the advantages of using the Internet for organizations and identifies the drivers and barriers of e-commerce use.

2.4 E-commerce Business Models: The section explains the various e-commerce business models and identifies the business model that is used for the purpose of this study.

2.5 Online Retail Activities: This section explains the different kinds of web sites that organizations have and the objectives of these sites.

2.6 Summary: This part provides a summary of the chapter.

2.1 Definition of Key Terms

There are several definitions relating to e-commerce situations. Turban et al. (2002, p. 4) explained that “e-commerce is an emerging concept that describes the process of buying, selling, or exchanging products, services, and information via computer networks, including the Internet,” whereas Chaffey (2002, p. 5) mentioned that many commentators identify e-commerce as “all electronically mediated information exchanges between an organization and its external stakeholders.” This means that e-commerce involves more than buying and selling through the Internet. It includes the financial and informational, electronically mediated transactions between an organization and any other party.

Furthermore, Kalakota and Whinston (1997) explained that e-commerce can be viewed from several perspectives and each is relevant to the business marketer:

1. From a communication view: e-commerce is concerned with the delivery of information, products or services, or payments through electronic means.
2. From a business view: e-commerce is the application of technology in all business transactions.
3. From a service view: e-commerce is a tool that reflects the desire of the firms, customers, and management to decrease the cost of delivering a service. It is a means of improving the quality of service and increasing customer’s satisfaction.
4. From an online view: e-commerce provides a vehicle for buying and selling of products and information on the Internet and other online services.

Researchers clarified the differences between e-commerce, e-business, e-marketing and Internet marketing. Although many people use these terms interchangeably, they are quite different. Chaffey et al. (2003, p. 11) explained that e-business refers to “the transformation of key business processes through the use of Internet

technologies.” Therefore, e-commerce is a subset of e-business. Additionally, Chaffey et al. (2003) clarified that Internet marketing is different from e-marketing. Internet marketing requires a firm to use the Internet and digital technologies to attain marketing objectives, whereas e-marketing is a broader concept requiring a firm to use the Internet, interactive digital TV and mobile marketing with internal technologies, such as customer relationship management or database marketing to achieve marketing objectives.

As these definitions suggest, e-commerce is a comprehensive and a complex term. However, the underlying principle of e-commerce is easy to understand. For the purpose of this study, e-commerce is defined as the use of the Internet as a medium to complete the selling of travel packages using a computer. It deals with individuals who use the Internet for utilitarian purposes rather than entertainment. It is important to note that the term e-commerce and using the Internet to sell tourism services are used interchangeably in this thesis to explain the behaviour intention and actual use of e-commerce. It is important to retain the original terms (e.g. e-commerce, Internet use) in the reviewed technology acceptance models. Therefore, the terms of e-commerce and using the Internet for selling are used synonymously throughout this thesis.

2.2 Origins and Growth of E-commerce

E-commerce applications were developed at the beginning of the 1970s with the innovation of electronic funds transfers, which allowed funds to be transferred electronically, generally in large organizations (Turban and King, 2003; Turban et al., 2002). Then, in the late 1970s and early 1980s, e-commerce was used within more companies in the form of electronic data exchange (EDI) and electronic mail. This procedure reduced the time and cost of conducting businesses (Kalakota and Whinston, 1997).

The system expanded during the late 1980s and early 1990s into a PC-based remote order system. During that period, electronic data interchange (EDI) was introduced

to allow business to exchange commercial documents and conduct commercial transactions across private networks. These transactions were completed within businesses, and then different organizations started using this new application in various fields, ranging from stock trading to travel reservation systems. The appearance and use of Internet-based e-commerce was seen in the mid-1990s. Ever since then, e-commerce has been the fastest growing form of commerce (Turban and King, 2003; Turban et al., 2002; Kalakota and Whinston, 1997).

2.2.1 E-commerce and the Internet

E-commerce was made possible by the development of the Internet and World Wide Web. Therefore, it is imperative to give a brief description of the development and growth of the Internet.

There are various definitions of the Internet and its use. Dann and Dann (2004) stated that the Internet is defined either as a machine to exchange various forms of information, or as a universal system. The distinction between these two views is whether the researchers are focusing on the mechanics of the Internet structure or on knowing how individuals interact by using the Internet systems. O'Connor and Galvin (1997, p. 134) defined the Internet as "a computer network or, more accurately, a collection of interrelated networks which span the globe and which allow users with a PC and the appropriate software to communicate with each other."

The Internet was introduced in 1970 when the US Defence Department connected different military and research institutions by using the Advanced Research Project Agency (ARPAnet). The department managed to establish a standard protocol that permitted the communication between different computer systems. This protocol is known as TCP/IP (transmission control protocol/internet protocol; Dann and Dann, 2004; Deitel et al., 2001). By the end of the 1980s, the National Science Foundation (NSF) used ARPAnet technology to expand their own networks by connecting different campuses and research centres to their own computers. The Internet was used only by government organizations and universities until the beginning of the

1990s, when it was introduced to the public. In 1991, the Commercial Internet Exchange Association was established to support a full commercial Internet connection and to encourage greater business participation.

The Internet is an important element in the marketing strategy of many business marketers. There are two technological elements that are integrated within an Internet strategy. They are the intranet, which is a network within an organization; and extranet, which links business partners such as suppliers, distributors, and customers to the company's internal networks (intranets) over the Internet or through virtual private networks (Chaffey et al., 2003). For the purpose of this study, the researcher focuses on the global Internet as the base of e-commerce. However, it is important to note that both intranet and extranet are used for e-commerce purposes.

2.3 Drivers of Business Internet Adoption

There are several reasons to compel businesses to convert to e-commerce rather than using the traditional forms of commerce. Laudon and Traver (2004) listed the following advantages of e-commerce:

Ubiquity and Global Access:

The special characteristics of e-commerce technology permit organizations to conduct their commercial transactions globally at a convenient time. This feature frees the market from being restricted to physical boundaries, and makes it possible to purchase or sell products from anywhere in the world, creating the notion of market space. Consequently, traditional retailers with a website can have access to a much larger market. In contrast, traditional retailers without websites are restricted to a certain geographical area. They sell their products or services mainly to local consumers (Evans and Wurster, 2000; Dann and Dann, 2004; Turban and King, 2003).

Common Standards:

E-commerce through the Internet allows firms to use a unified way of transaction all over the world. In contrast, traditional commerce varies from one nation to another. Bakos (1997) stated that creating one global marketplace is beneficial to both producers and consumers. Producers will enter the digital market at a lower cost than the traditional one, and they will be able to provide their products and services globally. On the other hand, global consumers find it a more convenient and coherent way to locate suppliers, compare prices, and arrange delivery terms for products, compared to using traditional forms of commerce.

Interactive Network:

E-commerce provides the opportunity for producers to interact with customers in a way similar to direct interaction in traditional commerce. Furthermore, the Internet allows access to producers and consumers on a daily basis at their convenient time (Laudon and Traver, 2004).

Information Solidity:

Firms can obtain a much greater amount of quality and current information through the web than traditional technologies. Sinha (2000) explained that in e-commerce markets, consumers are exposed to an extended range of pricing levels than those found in traditional markets. Moreover, they are able to find out the real cost vendors pay for the merchandise. At the same time, online merchants are able to know more about their customers, divide the market into different segments ready to pay various prices for products and services, and sell the same goods or services to diversified markets at unequal prices. For example, an online merchant can discover consumers' interests in an expensive exotic vacation and prepare an expensive itinerary to sell it to them. Simultaneously, the merchant can use the same vacation itinerary at a lower price to more price sensitive consumers (Shapiro and Varian, 1999).

Personal Service:

E-commerce technologies allow firms to direct their marketing messages to individuals by tailoring the message to an individual's name, appeal, and previous purchases leading to an effective personalization. In addition, using the web allows the firms to customize their products and services according to the needs and wants of their consumers. Customization and personalization are very important aspects to retain and increase potential customers (Turban et al., 2002).

All of these factors encouraged firms to adopt the Internet for several business activities. In addition, Chaffey (2007) explained that businesses adopt e-commerce to achieve higher profits. High revenues are achieved by the increased numbers of customers using the Internet and by the reduction of labour and operating costs.

A recent study by DTI (2002) indicated two major drivers for e-commerce adoption in organizations, namely: a) cost/efficient drivers, which include speed in obtaining supplies, speed in dispatching goods and reduction in operation costs; and b) competitiveness drivers, which include increased customer demand, improved quality of services offered and avoidance of losing business. In contrast, the DTI (2002) survey reported that the set-up costs, the running costs, lack of skills, lack of knowledge and lack of technology were some of the reasons behind not using e-commerce at organizations. Furthermore, Awan (2011, p. 148) indicated that small to medium organizations in the Arab countries had several barriers for e-commerce adoption, such as " a) lack of cost-effective electronic commerce enabled software b) general lack of resources, c) lack of technical skills and training, d) lack of technical skills and training and e) apprehension concerning computer."

2.4 E-commerce Business Models

There are various types of e-commerce models, classified according to the nature of the market relationship and technology-based distinctions (Korper and Ellis, 2001; Laudon and Traver, 2004; Hutt and Spch, 2004). The following is a brief description

of some of these models:

Business to Consumer E-commerce (B2C): This type of e-commerce is concerned with selling products and services directly to the consumers. There are several business models of B2C, the most relevant one for this study being the case of online retailers. They are online retail stores (e-tailers) that offer products to customers all over the world. Some e-tailers are called “clicks and mortar” or “clicks and bricks” if they own a physical store and sell their products and services online. Several other variations of e-tailers exist, such as online versions of direct catalogues, online malls, and manufacturer-direct online sales (Gulati and Garino, 2000). Turban et al. (2002) classified e-tailing business models according to the type of sites that sell directly to consumers. They include direct marketing sites for manufacturers who sell to consumers, pure-play-e-tailers with no physical stores, and the traditional retailers with websites which are referred to as ‘click and mortar’ or ‘click and bricks’.

Business to Business E-commerce (B2B): These are online businesses selling to other businesses. This type of e-business is also known as inter-organizational e-commerce. In this type of e-commerce, businesses are linked with their suppliers and distributors globally in order to exchange documents and process payments in a more efficient and productive manner. B2B e-commerce helps organizations to decrease the cost of purchase orders, production and delivery. Additionally, it helps companies to keep track of their documents and inventories, thus reducing inventory restocking time and improving services in the long run (Kalakota and Whinston, 1997). On the other hand, the intra-organizational e-commerce allows the communication and transfer of documents within the same companies. It is used to enhance communication between managers and their employees through videoconferencing and electronic mail. This system is also used to improve the communication between specific departments, and enhance the services offered to customers (Kalakota and Whinston, 1997).

Consumer to Consumer E-commerce (C2C): This type of e-commerce provides an opportunity for consumers to sell among each other. Consumers prepare the product for the market, and rely on the market maker, such as e-Bay, to provide a catalogue and search engines to help in finding and purchasing the products (Timmers, 1998). In this type of e-commerce, some individuals use numerous auction web sites that permit them to sell their products (King et al., 2009).

Peer to Peer E-commerce (P2P): This type of e-commerce is a particular type of C2C that allows people to exchange CDs, files and computer resources directly, such as kaza.com and napster.com (Laudon and Traver, 2002).

Mobile Commerce (M-commerce): This allows the users to use wireless digital devices to enable transactions on the web, such as cell phones and palm pilots. Nowadays, this version of e-commerce is vital to undertake professional and entertainment activities. It permits the users to perform mobile online banking, online stock trading, online gambling, mobile Internet email and online auctions globally (Laudon and Traver 2002; Chaffey et al., 2003).

It is apparent that all of these models are important and provide vital aspects of e-commerce transactions. However, this thesis is concerned with business to consumer (B2C) e-commerce. In particular, the study investigates the issue of willingness to accept and use e-commerce in bricks and mortar companies (i.e. in the case of Jordanian travel agencies).

2.5 Online Retail Activities

Organizations have various types of e-commerce sites that differ according to their

products/services and type of markets they serve. These include *transactional e-commerce sites*, such as retail sites, travel sites and online banking services. Customers can buy products and services through these sites and read about the company's products. In contrast, organizations may possess *services-oriented relationship-building web sites* through which customers may read about the company's products, but cannot buy them online. The aim of these sites is to stimulate purchase and build relationships. In addition, organizations may have *portal or media sites* that provide information about different topics. These sites may have portals that provide information on the company's website or through links to other sites (Chaffey, 2007; Laudon and Traver, 2004). It is imperative to note that organizations may combine these types of websites according to their target markets.

In the presence of transactional e-commerce sites, researchers identified different imperative issues in the e-commerce system. In general, consumers and producers need a method or instrument to buy or sell online, and then they need to guarantee that nobody can access their private information; finally, they need to be satisfied. Therefore, e-commerce factors include: e-payment, security issues and online order/delivery satisfaction (Whyte, 2001; Turban et al., 2002).

There are different types of online payment methods (Cram, 2001; Turban et al., 2002). Consumers may use their credit or debit cards, e-checks, e-wallets or electronic fund transfers. Whatever method consumers use, the security aspect of payment is crucial (Ince, 2004).

E-commerce and the Internet technologies have important social consequences. The issues of security and the privacy of transferred information through the Internet are vital (Laudon and Traver, 2004). Therefore, firms have to take different precautions to protect the personal information of their customers and reduce the risk of online transactions. Whyte (2001) illustrated that firms are using different methods such as transport layer security and secure socket layers to secure e-payment. On the other hand, consumers are using digital signatures to secure online transactions.

2.6 Summary

This chapter clarified several definitions of e-commerce and indicated the chosen terminologies that will be used throughout the thesis. Then an explanation of the origin and growth of e-commerce was provided. Next, the chapter explained the relationship between the Internet and e-commerce and finally, an explanation of e-commerce models, different types of Internet- and Web-based activities and the advantages of using e-commerce were presented.

Chapter Three:

Literature Review: Technology Acceptance Models and E-commerce

3.0 Introduction

This chapter presents the literature review confirming the importance of e-commerce for business activities that has been discussed in the previous chapter. The chapter provides information on different technology acceptance models and theories that explain factors affecting behaviour intentions and use of e-commerce. The literature in this chapter clarifies the importance of e-commerce and technology acceptance models in the following main sections:

3.1 Diffusion of Innovation Theory: This section explains the diffusion of innovation theory and demonstrates the main variables affecting the individuals' use of information technologies. It describes the innovation diffusion and decision processes. It provides explanation of how the innovation characteristics can influence the adoption of e-commerce. Finally, the section ends by critiquing the diffusion of innovation theory.

3.2 The Theory of Reasoned Action: This part provides a clear explanation of the theory of reasoned action. Then it is followed by a critique and a comparison between the technology acceptance model and the theory of reasoned action. The section describes how the technology acceptance model and the theory of reasoned action can be applied to the e-commerce context.

3.3 The Technology Acceptance Model: The section provides a clear explanation of the major constructs of the technology acceptance model and shows how these construct affect the behaviour intention to use the information technologies.

3.4 The Theory of Planned Behaviour: This part explains the theory of planned behaviour and its main constructs. It emphasises the importance of the perceived behavioural control construct on the use of information technologies. The section ends by a brief critique of the theory.

3.5 The Decomposed Theory of Planned Behaviour: This section offers a clear explanation of the decomposed theory of planned behaviour. It illustrates the major components of the belief constructs developed in the theory of planned behaviour.

3.6 The Combined Theory of Planned Behaviour and Technology Acceptance Model: The section provides a brief explanation of the theory and its main major constructs.

3.7 TAM2: This section presents a clear explanation of TAM2 model. It describes the main factors affecting the construct of perceived usefulness and it also examines the effect of several moderators on the intention and use of information technologies. The section ends by a brief critique of the theory.

3.8 The Motivation Theory: The section recognizes the importance of understanding the motivation behind using the Internet for buying and selling activities. It clarifies the effect of the intrinsic and extrinsic motivations on major constructs, such as perceived usefulness and perceived ease of use, which will eventually influence the use of e-commerce.

3.9 The Social Cognitive Theory: The section provides a thorough explanation of the social cognitive theory. It discusses the major cognitive expectations that will have an effect on the use of e-commerce. Then, discussion of the literature continues to demonstrate the relationship of this theory with other technology acceptance

models.

3.10 The Model of PC Utilization: This segment clarifies Triandis's (1980) interpersonal behaviour theory, which is used as a foundation to explain the PC utilization model. Next, the section illustrates the components of the model and their effect on PC use. The section shows the relationship of this model with other technology behaviour acceptance models.

3.11 The Unified Theory of Technology Acceptance Model: The section explains the major constructs of the model, and illustrates how this model encompasses various constructs from the above mentioned models. Next, this part pinpoints the advantages and disadvantages of the model.

3.12 Concluding Remarks of the Literature Review: This part provides a brief summary of all the major behaviour intention theories and technology acceptance models explained in the literature.

3.13: Limitations of the Literature Review: This section presents the gap in the literature and illustrates how the current study will fill in the gap.

3.14 Research Questions: This part lists the main research questions derived from the literature review.

3.15 Summary: The literature review section ends by providing a summary of the chapter.

3.1 Diffusion of Innovation Theory

One of the most important classical theories that explained the determinants of individuals' acceptance and use of information technology is the theory of diffusion of innovation by Everet Rogers (1995). Rogers (2003, p. 12) defined innovation as "a new idea, practice, or object that is perceived as new by an individual or other unit of adoption." The idea of the originality of a subject determines the human's reaction to it; if the thought seems new to individuals, it is believed to be an innovation.

3.1.1 Variables Affecting Individuals' Adoption

The perceived characteristics of an innovation determine the individuals' willingness to accept or reject it. These characteristics are one of the reasons behind the success or failure of innovations. The perceived characteristics of the innovation that were discussed by Rogers (2003, 1995) are as follows:

Relative Advantage: This is the degree to which an innovation is perceived to offer better advantage than the product that is currently being used by individuals. The level of relative advantage is measured by economic profitability, low cost of use, and decrease in discomfort, decrease in time and effort, social prestige, or other benefits. The type of the innovation affects the relative advantages perceived by the potential adopters.

Compatibility: This is the degree to which a new product is coherent with an adopter's prevailing values, past experience, and needs. In addition, it determines how well an innovation matches and supports the current organization and its environment. An innovation can be compatible or incompatible with socio-cultural

values and beliefs, with previous introduced ideas and with client's need for innovation.

Complexity: This is "the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 1995, p. 16). The more complex the new product is, the more difficult it will be to gain the acceptance of consumers.

Trialability: This reflects the degree to which an innovation can be tried without experiencing a huge financial loss. Rogers (1995) explained that some innovations are difficult to try, therefore they have a slower rate of adoption.

Observability: This indicates the degree to which the outcomes of using an innovation can be visible to friends and social surroundings.

Tornatzky and Klein (1982) asserted that Rogers' characteristics of innovation will influence the adoption decision. They added to them the constructs of communicability, divisibility, profitability and social approval. In their study, Tornatzky and Klein recognized that communicability is closely related to observability, and divisibility is related to triability constructs developed by Rogers in 1995. Moore and Benbasat (1991) included the construct of image as a major determinant of innovation adoption. It is defined as "the degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore and Benbasat, 1991, p. 195). This construct is included in the perceived relative advantage of innovation developed by Rogers.

These characteristics can be used to evaluate the willingness of travel agents to accept the Internet to sell their tourism products to the potential travellers. Simultaneously, these features will affect the consumer's willingness to adopt the Internet for their shopping activities.

3.1.2 Innovation Diffusion

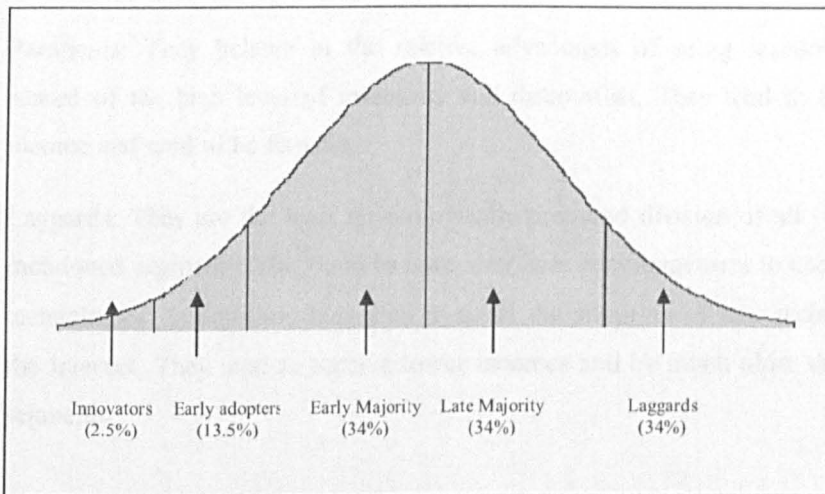
The diffusion of innovation is defined as “the process by which an innovation is communicated through certain channels over time among members of a social system.” (Rogers, 1995, p. 10). The innovation might have been around for a period of time, but still is perceived as new thing in a given market. In addition, Rogers argued that it will be difficult for individuals to accept new ideas even if they have obvious advantages, especially in developing countries. One of the most important reasons for the delay of adoption is the different social norms and values that people may possess. Rogers (2003) clarified that norms are what might be perceived as bearable behaviour and work as behavioural standards for members of a social system and their future actions. They can operate at different levels, from the level of a nation to a local system and within organizations, and when being reflected on the individual’s behaviour they may become a barrier to change, and thus to innovations. Although norms change slowly, it is possible to shape an environment that encourages openness to innovation and experimentation with new ideas (Bharadwaj and Menon, 2000). This implies that marketers can convince their consumers to accept new ideas and products if they do not contradict with their values and traditions.

There are five different categories of innovation adopters classified according to their innovativeness. Rogers (1995) referred to the first category as “innovators”, who are adventurous and willing to bare a huge financial loss if the innovation fails upon the implementation. The innovator has an important role in importing the new ideas and launching them in the traditional system. In contrast, the “early adopters” are a more integrated segment of the local social system than innovators. They are not to be considered far ahead of the average individuals in the social system. Therefore, they are more approachable than the innovators and serve as a model role for many other members in the social system.

The “early majority” adopt new ideas just before the average members of the system. Their position between the very early adopters and relatively late adopters is important link in the diffusion process. These people think about the adoption of new ideas more than the innovators and early adopters. They constitute a large

portion of the members of the social system. However, the “late majority” are more sceptical in adopting new innovations. They accept new ideas because of economic necessity or increasing network pressure from the social unit. Finally, “laggards” are the last in a social system to adopt an innovation. They are very traditional and have to make sure that they will not experience any financial losses or fail if they decide to adopt the innovation.

Figure 3.1: Adopter Categorization on the Basis of Innovativeness



Source: Rogers (1995, p. 262)

Similarly, the technology readiness of a social system affects the adoption of e-services at the organizational level. Colby and Parasuraman (2003) stated that individual innovativeness including (the desire to try out the technology, learn more about it, influence others, and having faith in the ability of technology to provide real benefit) contribute to the technology adoption, while discomfort, insecurity and lack of control over technology will inhibit the adoption.

Depending on these technology readiness factors, Colby and Parasuraman (2003) described five technology segments similar to Rogers’ innovativeness and adopters categories. They are as follows:

Explorers: They are the most ready segment to adopt and use information technologies. They are young and motivated individuals, working in technology fields, and are more likely to be males.

Pioneers: They are greatly enthused to adopt technology, but at the same time are discouraged by the high level of insecurity and anxiety of using the technology.

Sceptics: This group is not very far away from pioneers. They have little motivation but few restrictions to adopt information technologies.

Paranoids: They believe in the relative advantages of using technology but are scared of the high level of insecurity and discomfort. They tend to have a lower income and tend to be females.

Laggards: They are the least technologically prepared division of all of the above-mentioned segments. They tend to have very little encouragement to use information technologies. In addition, they tend to resist the adoption of new technologies like the Internet. They tend to receive lower incomes and be much older than the other segments.

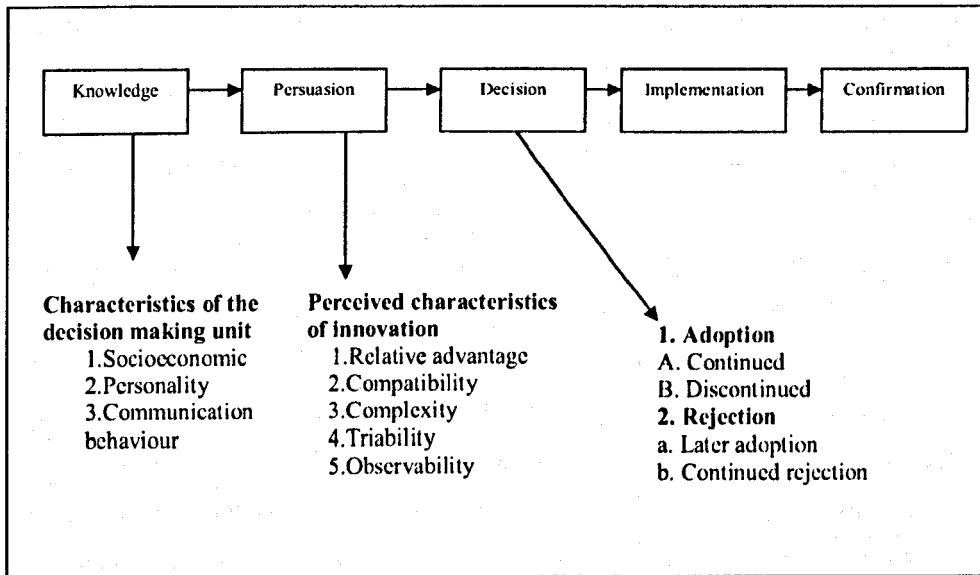
It is apparent that each of these segments adopts technologies at a different rate. Therefore, it is important for managers to understand these categories before adopting new technologies. Wills et al. (1991) clarified that marketers should understand their social system before introducing a new product. They explained that the rate of accepting the new products and the dissemination of the products in the market depends on the values, culture, and the innovativeness of a given society. Understanding individuals' innovativeness is important, because new products must be brought out continuously for firms to survive. In addition, it will help marketers to research their target markets and communicate with them effectively.

3.1.3 The Innovation Decision Process

The innovation decision process "is a process through which an individual or

(decision making unit) passes from first knowledge of innovation to forming an attitude towards an innovation, to a decision to adopt or reject innovation, to implementation and use of new idea, and to confirmation of a decision” (Rogers, 1995, p. 161). Figure (3.2) illustrates the innovation decision process.

Figure 3.2: Stages in the Innovation-Decision Process



Source: Adapted from Rogers (1995, p. 163)

The first step in the innovation decision process is to recognize the existence of the innovation and to understand how it works. It is affected by the personality and the socioeconomic background of individuals. Individuals tend to know about an innovation by accident, or by exposing themselves to new ideas that match their interests, needs and attitudes. Thus, knowing about an innovation creates the motivation to adopt it.

After searching and obtaining enough information about the innovation, individuals start to develop favourable or unfavourable attitudes toward it. Individuals' attitudes depend on the perceived characteristics of the innovation. It is assumed that this persuasion will lead to adoption or rejection of the innovation consistent with the attitude held by individuals. However, Rogers (1995) clarified that sometimes

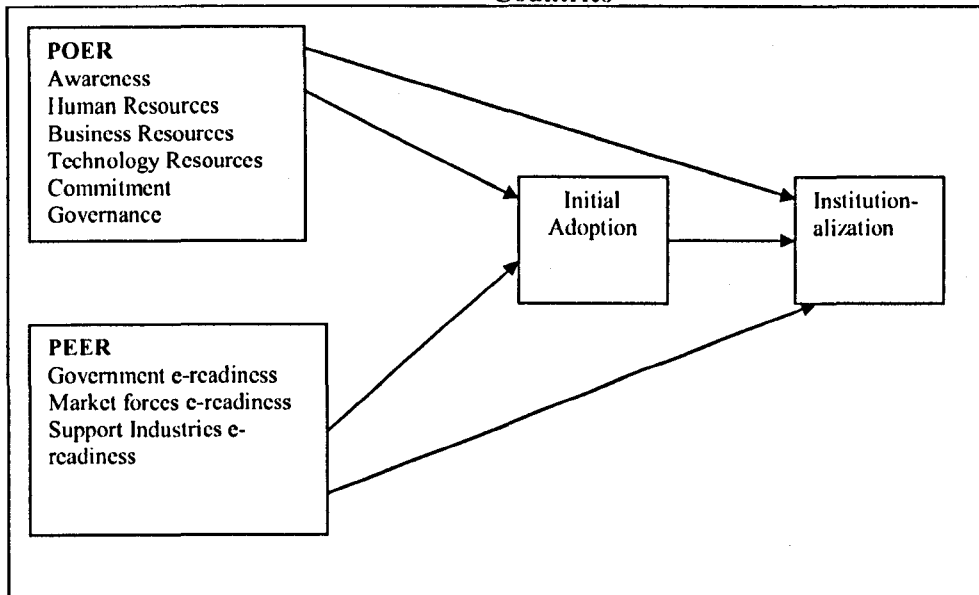
attitudes and actions are different. He explained that the discrepancy between favourable attitudes and actual adoption is found in third world nations. This discrepancy is known as “KAP-gap.” This means that these nations may find that innovations have positive advantages, but they will not adopt them. He explained that this discrepancy occurs because the innovation does not complement the culture or values of the potential adopters in the developing nations.

The decision stage is very important in the innovation decision process. In this stage the adopters choose to adopt or reject the innovation. Rogers (2003) explained that some individuals will adopt the innovation and continue the adoption or discontinue trying it. Therefore, he defined adoption as a “decision to make full use of an innovation as the best course of action available” (Rogers, 1995, p. 171). This definition demonstrates that adoption means the decision and willingness of individuals to continuously use the innovation unless situational variables exist (lack of availability and so on). Thus, the adoption involves both psychological and behavioural commitments to a product over time (Antil, 1988). In contrast, some individuals might decide to reject it and continue to reject it or adopt it at a later stage. Rogers (2003) explained that after the decision is made people will implement the innovation and seek reconfirmation for assessing the choice of implementing the innovation.

3.1.4 Application of Diffusion of Innovation to E-commerce Adoption

The perceived characteristics of innovation, organizational readiness and individual differences are used to explain the adoption of e-services. Molla and Licker (2005) studied the factors that affect e-commerce adoption and use at organizations in developing countries. They stated that perceived organizational e-readiness (POER) and perceived environmental e-readiness (PEER) determine the adoption and use of e-commerce. The following figure illustrates their model:

Figure 3.3: Perceived E-Readiness Model for Businesses in Developing Countries



Source: Molla and Licker (2005, p. 87)

The construct of perceived organizational e-readiness reflects the organization's perception of the advantages and risk of adopting e-commerce. The model shows that organizational e-readiness can affect the initial adoption and institutionalization of e-commerce. The researchers indicated three levels of resources that constitute the POER. These include human, business and technological resources in organizations in developing countries. Human resources indicate the availability of IT skilled people at the organization. Business resources reflect the relationship of the organizations with other external organizations, the financial resources to develop and maintain the e-commerce system and the level of risk an organization can take when adopting e-commerce. The technology resources indicate the availability of the hardware and software in the organizations. Molla and Licker (2005, p. 88) indicated that "the human, technological, cultural and structural readiness could become crucial to either facilitating or impeding initial adoption and subsequent institutionalization of e-commerce." In addition, the support and priorities of the top management to adopt e-commerce will affect the initial and continuous use of e-commerce.

The perceived external e-readiness included the government support to the private and public sector to adopt and use e-commerce. In addition, it included the market forces, which is an indicator for the organizations of whether markets and other organizations are using the e-commerce. If managers of organizations felt that the market and different institutions were ready to use e-commerce, this would influence their decision to adopt it. Finally, the construct included the variable of the "support industries e-readiness." This reflected the availability of inexpensive information technologies, the existence of developed financial structures and the reliability of Internet service providers (Travica, 2002). Molla and Licker (2005) concluded that both organizational e-readiness and environmental e-readiness had an important role in the decision to adopt e-commerce for organizations in developing countries, more specifically the case of South Africa.

Furthermore, Al-Qirim (2007) conducted an exploratory study to investigate the adoption and diffusion of e-commerce in non government organizations in Jordan. He adopted the innovation diffusion theory introduced by Rogers (2003) to explain the determinants/hindrances of e-commerce adoption in Jordan. The results of the study indicated that the innovation characteristics, such as relative advantage, complexity, compatibility, observability, and image determined the use of e-commerce. In addition, the researcher indicated several environmental factors that determined the use of e-commerce, such as weak usage of e-commerce by business partners, lack of e-payment infrastructure, regulations and policies of e-commerce. In addition, Al-Ghaith et al. (2010) investigated the factors that affected the adoption of e-services in Saudi Arabian organizations. The perceived complexity construct was the most influential construct in determining the e-service adoption, followed by the privacy and the compatibility constructs. The quality of the Internet and its relative advantage had an important influence on e-service adoption.

Finally, Slyke et al. (2010) used the innovation diffusion theory to explain the moderating role of gender on consumers' e-commerce adoption. They stated that trust-worthiness, relative advantage, compatibility, ease of use, result demonstrability, visibility and image affect the use intention. The result indicated that gender moderated the relationship between the independent and dependent factors. Men were more influenced by beliefs related to benefit of using e-

commerce. Women were more influenced by the compatibility of e-commerce. However, gender did not moderate the relationship between ease of use, result demonstrability, visibility, image and trustworthiness.

3.1.5 Critique of the Diffusion of Innovation Theory

Rogers's (1995) work on innovation is well-accepted in the literature and is used as an outline for several fields, such as information communication technologies. The criticism of Roger's work is limited to precise details or its usage in specific situations (Lundblad, 2003). Researchers criticized Rogers for his linear innovation diffusion models. Linear models of diffusion of innovation were criticized for not taking into consideration that living systems are unsteady and dynamic (Mansell, 1996).

It is important to have a linear assumption to explain the basic relationships between constructs in a clear and precise method. In some cases researchers may add more interrelated relationships to explain a particular situation, but not to generate a general diffusion of innovation model. Models of innovation could vary depending on the use of innovation and the nature of the innovation. Thus certain situations could be explained by linear or non-linear relationships. This implies that researchers can use linear or non-linear relationships, depending on the particular situation that they are examining.

Abrahamson (1991) criticized the work of Rogers and explained that most of the innovation research assumed that organizations adopt the innovations independently and rationally. He identified other factors, such as forced adoption and fads/fashions that might lead leaders in organizations to adopt innovations. It is important to note that Abrahamson's criticism is discussed in Rogers's work on the diffusion of innovation. Rogers (1995, 2003) identified different factors that affect adoptions at the organizational level. In addition, he classified the innovation process ranging from optional to authoritative. Therefore, researchers can decide whether the adoption is compulsory or voluntarily according to their studies, such as the case of

this current study.

Furthermore, some research efforts had limitations when applying the diffusion of innovation theory in the Middle East area. For example, Al-Qirim (2007) conducted an exploratory study and it was difficult to compare his results with other empirical work on e-commerce acceptance in the Middle East area. He conducted a qualitative research that did not include statistical analyses and did not help statistical comparison among the research variables (Echtner and Ritchie, 2003). Moreover, some of the constructs, such as compatibility, e-services were defined in general, such as the work of Al-Gaith et al. (2010). There is a need to understand the definition of these constructs in details because they can have a different effect on e-commerce intended actual use. The current study avoids this limitation by providing the exact meaning of constructs, such as compatibility.

3.2 The Theory of Reasoned Action

The theory of reasoned action is one of the most important and frequently used theories to explain the adoption and use of information technologies over and above the diffusion of innovation theory. The theory of reasoned action (TRA) is a well-developed and tested behavioural prediction theory that has been used effectively since 1975 to anticipate individuals' behavioural intentions. At the end of the 1970s, the TRA was revised and expanded by Ajzen and Fishbein (1980). The theory posits that attitudes towards behaviour and subjective norms (i.e. the reference group influences on individual's decision making regarding a particular action are vital determinants of behavioural intention and actual behaviour; Fishbein and Ajzen, 1975).

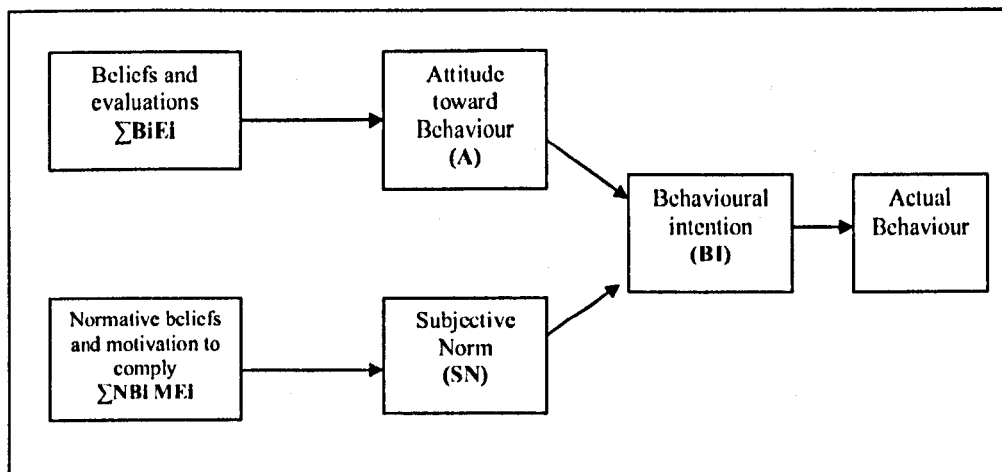
According to TRA, the behaviour intention construct (BI) is a major determinant to pursue any behaviour. The behaviour intention is "a measure of the strength of one's intention to perform a specific behaviour" (Fishbein and Ajzen, 1975, p. 288). The (BI) is affected by individual's attitude (A) towards the behaviour and subjective norm (SN). The attitude (A) is defined as "the individual's positive or negative

feelings about performing the target behaviour” (Fishbein and Ajzen, 1975, p. 216), while (SN) reflects the individuals’ beliefs of what other people will think of their behaviour (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980).

The theory of Reasoned Action suggests that individuals’ attitudes are determined by a set of beliefs. If an individual believes that completing a task will have a positive outcome, he will have positive attitudes towards performing a behaviour, while a person who has a belief that accomplishing a task leads to negative outcomes will have a negative attitude. The set of beliefs that influence individuals’ attitudes towards accomplishing a behaviour is termed “behavioural beliefs” (Fishbein and Ajzen, 1975).

Subjective norms are additional major determinants of beliefs. If individuals believe that most of their referents think that they should perform the behaviour, the perceived social influence will encourage individuals to fulfil the wishes of their social surroundings. In contrast, if individuals believe that their social surroundings reject their intentions to accomplish such behaviour, they will not perform it. Thus, these socially affected beliefs are referred to as normative beliefs (Fishbein and Ajzen, 1975).

Figure 3.4: Theory of Reasoned Action



Source: Adapted by Fishbein and Ajzen (1975)

Fishbein and Ajzen (1975) presented the theory of reasoned action in the following formal equations:

$$BI = A + SN$$

$$A = \sum BiEi$$

The above equation illustrates that the attitude is a summation of (Bi), which is the salient beliefs about the outcome of performing the behaviour (i) multiplied by the evaluation (Ei) of these consequences.

$$SN = \sum NBi MEi$$

The subjective norm is determined by a person's normative belief (NB_i) multiplied by his or her motivation to comply (ME_i).

3.3 The Technology Acceptance Model

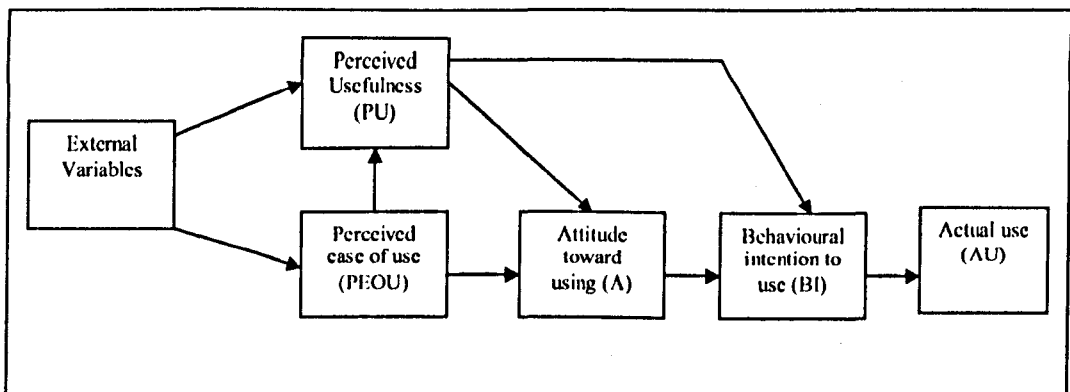
The technology acceptance model (TAM) explained the attitudes and behaviour intentions towards using the computer systems based on the theory of reasoned action (TRA) introduced by Fishbein and Ajzen (1975). The TAM was developed by Davis in 1986 to test the factors that affect the acceptance of information technologies (Davis et al., 1989). Consequently, the model was comprehensively validated using different information systems examined in various situations and subjected to theoretical expansions (Davis, 1989; Davis et al., 1989; Venkatesh and Davis, 2000; Venkatesh et al., 2003; Venkatesh and Morris, 2000). Davis et al. (1989, p. 985) stated that the objective of TAM is to "provide an explanation of the determinants of computer acceptance that is generally capable of explaining the user behaviour across a broad range of end-users computer technologies and user populations, while at the same time being both parsimonious and theoretically justified."

A major aim of TAM was to locate and understand the influence of external factors affecting internal beliefs, attitudes and intentions to use information technologies.

TAM allocated important variables suggested by previous research related to the cognitive and affective determinants of computer acceptance depending on behavioural intention theories for developing the relationships between these variables. For example, the TAM theorized that the effects of external variables (e.g. system characteristics, development process, and training) on intention to use are mediated by two major beliefs: perceived usefulness (PU) and perceived ease of use (PEOU).

The model illustrated the factors that cause people to accept or reject information technologies. Davis (1989, p. 320) identified perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance.” While perceived ease of use “is the degree to which a person believes that using a particular system would be free of effort.” To make it simple, the more useful and easier to use the technology, the more likely the users adopt and use it. PU is concerned with the expected overall impact of system use on job performance, process and outcome, whereas PEOU is related to the use of the system for itself (Davis et al., 1989). Davis et al. (1989) noted the arrows in the TAM model to show the probable causality, as shown in the below figure.

Figure 3.5: Technology Acceptance Model



Source: Davis et al. (1998, P. 985)

The perceived usefulness (PU) and the perceived ease of use (PEOU) constructs

affected the individual's attitudes toward using a computer system. Consequently, the attitude construct (A) would influence the behaviour intention (BI), and in turn, the actual use of the computer system (AU). Davis et al. (1989) concluded that the behavioural intention was an important determinant of the system use. They demonstrated this relationship with the following mathematical equation:

$$BI=A+PU$$

The attitude and behaviour intention relationship determined that people would develop intentions to achieve behaviours if they had positive attitudes toward them, whereas the perceived usefulness and behaviour intention relationship in the model represented a direct effect on behaviour, suggesting that people would form intentions to use information systems if they believed that such systems improve their performance at the work place. The model suggested a weak direct relationship between usefulness and attitude, and a strong direct relationship between usefulness and intention. This was due to the individual's strong intentions to use the system because of its usefulness, even if they held negative attitudes toward using it. According to TAM, perceived usefulness was also influenced by perceived ease of use, because the easier the system was to use, the more useful it could be (Venkatesh, 2000; Dabholkar, 1996; Davis et al., 1989). In addition, attitude was affected by perceived usefulness and perceived ease of use, represented in the following equation:

$$A=PU+PEOU$$

The PEOU construct had a positive effect on attitude and behaviour. Davis et al. (1989) explained that the easier the systems to use, the greater confidence and control individuals have to operate them. This high self-efficacy will influence attitude, effort determination, and motivation due to the natural drives of self-capability and willpower (Bandura, 1982; Deci, 1975). Bandura (1982) and Lepper (1985) explained that there was a positive relationship between self-efficacy and intrinsic motivations. Therefore, Davis et al. (1989, p. 987) stated that "the direct EOU-A relationship is meant to capture this intrinsically motivating aspect of EOU."

Furthermore, the model illustrated the relationship between the external variables

and perceived ease of use on perceived usefulness in the following equation:

$$PU = PEOU + \text{External Variables}$$

The perceived ease of use construct had a direct effect on the perceived usefulness. This is because the easier the system is, the more efficient a person will be. In addition, the equation illustrated that perceived usefulness was affected by external variables in addition to ease of use. People might have two systems in the organization that are equally easy to use, but one produces higher quality than the other. Therefore, the system design could have a direct effect on PU in addition to the PEOU effect. Davis et al. (1989) suggested that researchers can incorporate any external related variables to their model to explain technology use.

The final equation in the model showed the relation between PEOU and external variables. The relationship is illustrated in the following equation:

$$PEOU = \text{external variables.}$$

This implies that external variables, such as training, documentation and further improvements in the system may affect PEOU.

Davis et al. (1989) concluded that behaviour intention was a strong determinant of IT use in their study of information system usage among MBA students. The perceived usefulness construct had both a direct effect on behavioural intention and indirect effect through the attitude construct. Additionally, ease of use demonstrated both a direct effect on behaviour intention, and no indirect effect through attitude or perceived usefulness. However, in their second round of the experiment, the ease of use construct affects behavioural intention through the usefulness variable only. Therefore, the relationship between attitude and behaviour had become insignificant. This meant that the attitude variable did not fully mediate the influence of perceived usefulness and perceived ease of use. As a result, the attitude construct was omitted from the model (Venkatesh and Davis, 1996).

3.3.1 Critique of TRA and TAM

The following represents some major assessments of the theory of TRA and the TAM:

1. The TRA can be used as a fundamental theoretical base to explain the behavioural intention and use in different disciplines. In contrast, the TAM is considered to be less general and designed specifically to explain the behaviour intention and use of information technologies (Davis et al., 1989; Mathieson, 1991; Bagozzi, 2007).
2. Davis et al. (1989) clarified that TAM could evaluate behavioural intention before or after purchasing IT and applying it to the organization. The reason they provided was that the results of the behavioural intention measured after an hour of an orientation to the system correlates with behaviour after a period of time in using the system. This provides managers with an opportunity to evaluate their systems before completely investing in them.
3. The TRA summed up together all beliefs (B_i) multiplied by weights (E_i) in an equation $A = \sum B_i E_i$, whereas the TAM treated perceived usefulness and PEOU as two primary and separate constructs. This would help researchers to compare the relative influence of each belief in determining attitudes and consequently use of information systems. In addition, representing beliefs separately would help the researchers to trace the influence of external variables on each construct. Davis et al. (1989) clarified that separating the variables of usefulness and ease of use into different beliefs provides an opportunity for researchers to focus on studying and measuring one of these variables and to build on it.
4. Davis et al. (1989) realized the importance of combining both the internal and external determinants of use of information technologies in their model. However, they only measured the internal variables, and they highlighted the importance of possibly using the external variables in the model to determine

use of information technologies. Consequently, the TAM provided an opportunity for the researchers to separate internal and external factors that determine behaviour intentions to use information systems. This also could be applicable to the case of the Unified Theory of Acceptance and Use of Technology introduced by Venkatesh et al. (2003). Section 3.11 explains this theory.

5. TAM received critiques as being too parsimonious and not comprehensive (Mathieson, 1991). Furthermore, it did not include the social factor construct that can affect the technology acceptance (Bagozzi, 2007). As a result, a further model (TAM2) was introduced by Venkatesh and Davis (2000) to investigate the effect of this construct. In contrast, the current research conceptual model (UTAUT introduced by Venkatesh et al., 2003) is a comprehensive yet a simple model that is designed specifically to explain technology acceptance and intended use. Besides, the constructs and beliefs in this model are precise and well defined unlike the theory of reasoned action.
6. Most of the studies that used TAM, investigated the acceptance of the information systems from the consumers' perspectives (e.g. Lee et al., 2011; Casalo et al., 2011; Nicolas et al., 2008) especially in the tourism context. In contrast, the acceptance of e-commerce in this study is investigated from the producers' point of view.

3.3.2 Relationship Between TAM and DOI

The technology acceptance model was similar to the diffusion of innovation theory discussed earlier for the following reasons:

1. The two models used the perceived attributes of an innovation as key predictors to explain adoption and use. The relative advantage construct in Rogers' diffusion of innovation theory was very similar to perceived

usefulness construct in the TAM. There are similarities in “relative improvement in performance” in both definitions. In addition, the perceived ease of use in the TAM was similar to the complexity variable in Rogers’ theory (Rogers, 1995; Davis et al., 1989).

2. Both of the models assumed that an innovation is not mandated to the potential users but that the users can adopt or reject an innovation voluntarily (Gallivan, 2001).

However, there were important differences between the two models. The TAM assumed only two characteristics of an innovation, namely PU and PEOU, which influence the behavioural intention and consequent use of the system, while Rogers (1995) identified five characteristics of innovation that affect the adoption and use of innovation. Rogers’ definitions of innovation were based on the perception of the innovation itself, rather than the perception of actual use of an innovation. In contrast, the TAM emphasized the characteristics related to the actual use of the system. These differences are important because attitudes towards an object are different than those towards a particular behaviour relating to that object (Ajzen and Fishbein, 1980). This implies that an individual might have a negative attitude for an innovation, but he or she will use it because it provides various benefits. The relevance of this argument is that innovation diffuses because of the cumulative decisions of individuals to adopt them rather than the perception of innovation by itself (Moore and Benbasat, 1991).

Furthermore, Gallivan (2001) attributed the differences between the two models to the fact that diffusion of innovation theory is formulated to explain adoption and use of innovation in different fields, whereas the technology acceptance model specifically explains information technology adoption.

The TAM was used intensively to investigate technology acceptance in various fields, including banking, education, and the tourism sector. Nicolas et al. (2008) evaluated the effect of various determinants on behaviour intention to adopt advance mobile services by combining the TAM’s constructs with the DOI theory. The results of the study indicated that the traditional determinants of behaviour intention,

perceived usefulness and perceived ease of use can be combined with the DOI constructs, such as social influence and perceived benefits to explain technology adoption and the social influence, should be considered an important antecedent of constructs to determine the behaviour intention.

The Theory of Reasoned Action and the Technology Acceptance Model variables were used to explain the e-commerce acceptance and use. Pavlou (2003) added the construct of perceived risk as an important determinant of the intention of consumers to transact online. He explained that the intention to transact (behavioural intention) required the consumers to submit their private information and conduct business transactions with a company's website. Zwass (2003) explained that the intention to transact aims to include the intention regarding the complete online transaction procedure including the willingness of the consumers to submit their private information and complete the transaction by purchasing the products or services. Hence the intention to transact is a very important construct in business to consumer e-commerce acceptance, because a huge number of customers just visit the retailers' web sites without conducting the actual buying (Pavlou, 2003).

In addition, Beldad et al. (2011) investigated the role of perceived risk and trust in providing personal information for e-government processes. They concluded that the trust in government organizations was negatively affected by risk factors. Furthermore, the provision of personal and private data is affected by the perceived risk. Finally, the degree of experience in using the Internet did not have any influence on risk perception.

The remote and the formal nature of an online setting and the ambiguity of using an open infrastructure for transactions are risk element of using e-commerce. The perceived risk in e-commerce was one of the most important and challenging factors for organizations. Bauer (1960) indicated that perceived risk reflects the consumers' beliefs of potential loss while they are searching for a desired outcome.

Two types of risk and uncertainty were located in the literature: behavioural uncertainty and environmental uncertainty (Bensaou and Venkataman, 1996). Similarly, Ring and Van de Ven (1994) classified risk as either "technology-driven", resulting from the main infrastructure or "relational/behavioural", resulting

from the business activities with retailers. Behavioural uncertainty could exist because organizations had the chance to behave in an unethical manner by taking advantage of the remote and uncontrollable nature of e-commerce. Pavlou (2003) asserted that behavioural risk will lead to:

1. Financial loss leading to an economic risk.
2. Product quality risk (Teo, 2002).
3. Organizations' performance risk as a result of the deficiency in monitoring.
4. Privacy risk.

Environment insecurity could occur because of the volatile feature of the Internet that is difficult to control by the organizations or the consumers. Although the organizations may have an influence on the security of the online transactions (by installing firewalls, encryption), there is still a chance of third party intrusion (Bensaou and Venkataman, 1996). Hence, environmental uncertainties comprise the following:

1. Financial and monetary loss leading to economic risk.
2. Privacy threat as a result of the chance of theft and private information leak.

The intention of consumers to transact depends on their beliefs of web retailers that are partly determined by behavioural and environmental risks. Given the fact the e-commerce environment is not certain, it is expected that perceived risk will lower the consumers' and producers' intentions to use Internet for e-commerce activities.

The technology acceptance model was used to explain the external factors that affect the behaviour intention and use of e-commerce. For example, Yang et al. (2010) identified the characteristics of web-based self-service (WBSS) (i.e., websites where

you can buy products and services online) that affect the perceived usefulness and perceived ease of use constructs in the technology acceptance model. They clarified that the quality of the WBSS responsiveness (i.e., the existence of frequent ask questions and companies' emails), the customized control of the WBSS (i.e., the ability of customers to design the products and services before buying it online) and the response time for a WBSS were major determinants of e-commerce acceptance and use.

Besides, Zhang et al. (2011) examined the consumer repurchase intention in business to consumer (B2C) e-commerce context. They concluded that merchant characteristics (perceived expertise in order fulfilment, perceived web usability and perceived reputation) had a positive impact on the online relationship quality construct. In contrast, merchant behaviour (distrust in vendor behaviour construct) had a negative effect on the online relationship quality construct. In addition, their study revealed that the constructs of the online relationship quality and the perceived web usability had a positive impact on the online repurchase intention construct.

Furthermore, Lee et al. (2011) conducted a study to investigate the moderating role of the positive informational social influence (positive online messages) on the relationship between the perceived usefulness and perceived ease of use constructs and attitudes toward online shopping. In addition, they investigated the role of this moderator on the relationship between attitude toward online shopping and the intention to shop online. They concluded that this moderator (the positive social influence) reinforced the relationship between the constructs in their model.

In the hospitality context, Kim et al. (2009) integrated subjective norms and electronic trust into the TAM model to explain the acceptance of airline business to consumer (B2C) e-commerce websites of two major Korean airlines. Their results provided a general support of the TAM and confirmed its strength in forecasting consumers' intentions to reuse the companies' e-commerce websites for ticket purchasing.

Additionally, Casalo et al. (2011) used the technology acceptance model to investigate the factors that affect the intention of travellers to follow the advice obtained from the online travel community. They concluded that trust in the online

community and perceived usefulness of the online information had a positive impact on travellers' intention to follow the online advice. Furthermore, perceived usefulness was directly affected by the trust of the online community.

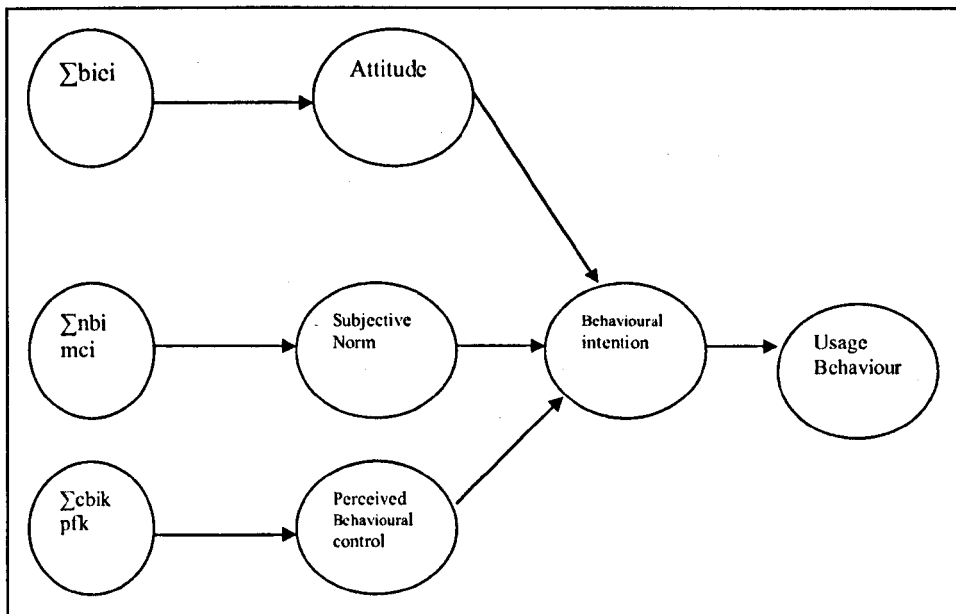
3.4 The Theory of Planned Behaviour

The theory of reasoned action (TRA) was criticized for not taking into consideration circumstances where individuals have no full influence over their behaviour. To remedy this issue, Ajzen (1985, 1991) extended the theory of reasoned action by including another important construct called "perceived behavioural control," which predicts behavioural intention and usage behaviour.

The theory of planned behaviour (TPB) explained that usage behaviour is affected by behavioural intention and perceived behavioural control. The behavioural intention is created by an individual's attitude (A), which describes ones' feelings of favourableness or unfavourableness towards pursuing an action. Subjective norm (SN) describes the feelings of individuals to execute or not to execute an act according to their relative surroundings, and perceived behavioural control (PBC) reveals perceptions of the internal or external limitations on any behaviour an individual wants to pursue (Taylor and Todd, 1995a). It reflects individuals' beliefs about the availability of opportunities and resources to achieve behaviour without any limitations (Ajzen 1985, 1991).

The determinants of behavioural intention are affected by several beliefs. These are known as attitudinal belief (bi), normative beliefs (nbi), and control belief (cbi) that determine attitude, subjective norms and perceived behavioural control correspondingly (Taylor and Todd, 1995a) .

Figure 3.6: Theory of Planned Behaviour



Source: Taylor and Todd (1995a, p. 146)

The underlying beliefs of attitudes, subjective norms and perceived behavioural control can be applied to clarify IT usage (Taylor and Todd, 1995a). Therefore, the same beliefs can be applied to the context of e-commerce. For example, an individual may believe that using the Internet as a selling tool will improve his or her performance (bi), and may consider this a highly desired outcome (ci). Furthermore, individuals may think that their colleagues at work or people in their social surroundings think that they must use the Internet to buy or sell products or services (nbi), but that obeying the desires of the social surroundings is relatively negligible (mci). Finally, an individual may believe that he or she does not have the right skills to use the Internet for selling (Cbik), and that skill is an important determinant of use (pfk).

The model illustrated that attitudes and subjective norms affect the behaviour intention and usage of information system. Attitudes express the individuals' favourableness or unfavourableness to use the information systems, while subjective

norms refer to the people's reaction toward a pursued behaviour. In contrast, neither Davis et al. (1989) nor Mathieson (1991) found a significant relationship between subjective norms and behavioural intention. These outcomes could be a result of the nature of their studies, which investigated where there were no real consequences connected with the behaviour of the sample under study and slight social influence exists to achieve the behaviour (Davis et al., 1992; Hartwick and Barki, 1994). Social norms are found to be important determinants of IT use (Moore and Benbasat, 1993; Hartwick and Barki, 1994). Therefore, when researchers conduct their studies in real circumstances, subjective norms will have an impact on behavioural intention and use. Furthermore, subjective norms have played an important role in the phase of technology implementation. It is believed that it has an important effect before or at the very early phase of technology execution when individuals have only basic experience or knowledge of the system (Hartwick and Barki, 1994).

The new construct of the perceived behavioural control determined the belief of an individual concerning their reach to the internal and external supplies or sources that will enhance or impede the performance of behaviour (Ajzen, 1985, 1991; Ajzen and Driver, 1992; Ajzen and Madden, 1986; Madden et al., 1992). It is proven that the perceived behavioural control includes two major elements, the first being "facilitating conditions" (Triandis, 1980), which emphasise the importance of the availability of time and money or any particular resources to perform a specific behaviour. The second constituent is self-efficacy; which determines the self-assurance of an individual to engage in behaviour (Bandura, 1977, 1982). It is important to note that behavioural intention does not fully mediate the construct of perceived behavioural control. This is because the perceived behavioural control will directly affect usage behaviour (Moore and Benbasat, 1993; Hartwick and Barki, 1994; Taylor and Todd, 1995a). An example of this direct relationship is the existence of individuals who are willing to use the Internet for buying or selling products but lack the knowledge to pursue such behaviour.

The perceived behavioural control construct was an important factor that determines e-commerce use. Pavlou (2003) explained that the relationship between perceived risk and transaction intentions (that is similar to behavioural intention construct) can

be explained by perceived behavioural control. He explained that people would be more willing to use the Internet for buying and selling if they believe that this medium is less risky. Therefore, the element of risk was considered as the perceived behavioural control construct. In fact, Jarvenpaa et al. (1999) suggested that reducing the risk of buying from an Internet store should increase the probability of a consumer purchasing from it.

The theory of planned behaviour was used to explain the adoption of information technology at the organizational level. Harrison et al. (1997) investigated whether the perceived usefulness, social norms and perceived behavioural control variables affected the decision of small business executives to adopt and use information technologies. The results indicated that these factors determined the decision to use information systems. In addition, their study indicated that the firm size and individual characteristics had no effects on the adoption decision.

This model was tested in a broad range of circumstances, disciplines and countries, including hospitality and tourism (Sparks and Pan, 2009). For example, the TPB was applied to Taiwanese travellers' preference of Hong Kong for a travel destination (Lam and Hsu, 2006) and Chinese travellers' attitudes toward international travel (Sparks and Pan, 2009). In addition, Quintal et al. (2010) integrated the perceived risk and perceived uncertainty factors to the TPB to explain intention to visit Australia from Japanese, Chinese and South Korean online samples. The study indicated that subjective norms and the PBC significantly affected intention to visit from the three samples, whereas attitudes were only significant from the Japanese sample. Subjective norms had significant effects on attitudes and perceived behavioural control for the three samples. Perceived risk was found to influence attitudes in South Korean and Japanese samples, while perceived uncertainty affected attitudes in South Korean and Chinese samples, and perceived behavioural control in the Chinese and Japanese samples.

Moreover, the effect of innovativeness on the adoption of e-commerce was tested using the theory of planned behaviour. Crespo and Rodriguez (2008) tested the model on a sample of inexperienced online shoppers. The result of their study indicated that e-commerce acceptance is affected by subjective norms, attitude and personal innovativeness. However, they tested the acceptance of e-commerce in

general and they did not specify buying certain products or services. Using general e-commerce acceptance does not take into consideration the specific attributes of certain products/services; unlike the case of this study.

3.4.1 Critique of the Theory

1. The relationship between the belief structures and the determinants of behaviour intention (A, SN, PBC) are very comprehensive and difficult to understand. This is because the components of the beliefs are numerous and may be not constantly connected to attitude, subjective norms and perceived behavioural control (Ajzen, 1991; Bagozzi, 1981, 1982).

2. The relevant literature indicated that the theory of planned behaviour was tested extensively from the consumers' perspective. Therefore, there is a need to test this theory in the organizational context to investigate whether organizations have different factors that affect the adoption and use of e-commerce like the case of this current study.

3. The belief series linked to attitude are personal and distinct to the experimental circumstances, making it difficult to apply the theory of planned behaviour and to make generalization (Taylor and Todd, 1995a). This is in contrast to the TAM, and to the current research conceptual model which provides a belief set, including the constructs of ease of use, usefulness, performance expectancy, effort expectancy that are consistent and can be generalized for various settings (Davis et al., 1989).

Therefore, Taylor and Todd (1995a) suggested another model to overcome these two limitations. They named their model the decomposed theory of planned behaviour. They recommended a group of constant, decomposed belief structures for the TPB.

3.5 The Decomposed Theory of Planned Behaviour

The decomposed theory of planned behaviour (DTPB) specified the attitudinal, normative and control beliefs originated in the theory of planned behaviour. Taylor and Todd (1995a) explained that clarifying these beliefs will provide a steady set of beliefs which can be applied to different circumstances. In addition, decomposing these beliefs will allow managers to locate specific factors that may influence the adoption and use of information technologies.

The decomposition of these beliefs was derived from the perceived characteristics of innovation (Rogers, 1995, 2003) and from the technology acceptance model, whose construct was also taken from the innovation literature. Therefore, Taylor and Todd (1995a) suggested that perceived ease of use, usefulness, and compatibility were major determinants of the attitudinal beliefs.

Decomposing the normative beliefs was suggested by many researchers in order to locate the exact factor that affects the behavioural intention, rather than taking a sum of beliefs (Burnkrant and Page, 1988; Oliver and Bearden, 1985). Therefore, Taylor and Todd (1995a) also decomposed the subjective norms into peers' influence and superiors' influence that might affect behavioural intention at the organizational level.

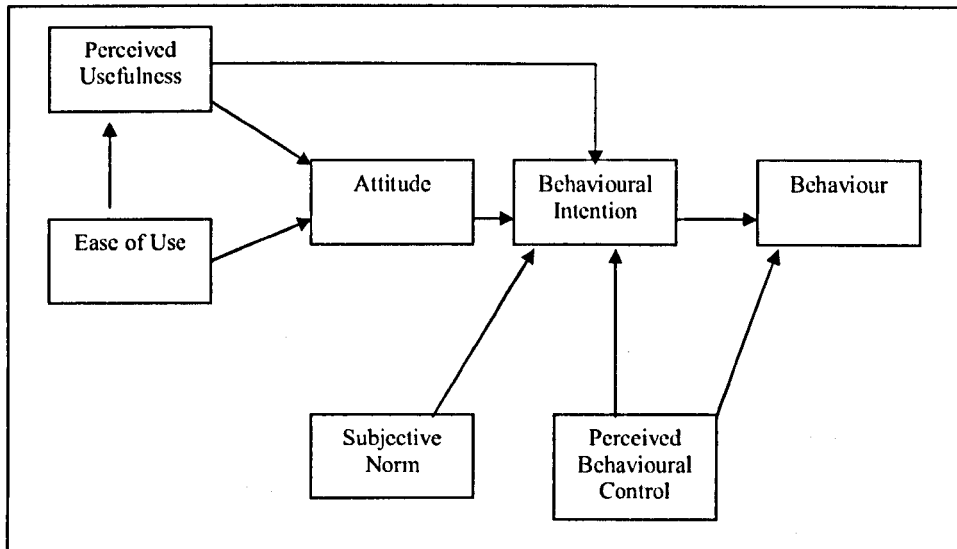
Finally, the control beliefs were decomposed into three major components, including self-efficacy, resource-facilitating conditions and technology facilitating conditions. Taylor and Todd (1995a) used the construct of self-efficacy that was developed by Bandura (1977) and the resource-facilitating conditions construct that was developed by Triandis (1980) in their decomposition of control beliefs. They also added the construct of technology facilitating condition as a factor that affected the perceived behavioural control. The technology facilitating condition construct in IT use included two aspects relating to the availability of time and money to possess or use these technologies and to the technology compatibility issues that may restrict usage. They hypothesized that these constructs would have a positive relationship with the use of information technologies.

This theory was used in the context of the hotel industry. Huh et al. (2009) compared the TAM, the TPB and DTPB to explain employees' behaviour intention to use hotel information system. The result specified that the TAM was more significant if the purpose of the study was to predict intention to use information technology because it is more parsimonious than the other technology models. However, the DTPB was more powerful in explaining the behaviour intention because it illustrated the several beliefs that could influence the attitude, subjective norms and perceived behavioural control constructs.

3.6 The Combined Theory of Planned Behaviour and Technology Acceptance Model

This model combined the constructs of the TAM and the TPB to explain the behaviour intention and use of information systems. The technology acceptance model was designed to measure behavioural intention and use before or after applying the technology system. However, most of the empirical studies that used this model applied it after the system's implementation or used it to test the acceptance and use of common systems, such as word processing (Taylor and Todd, 1995b). Therefore, the researchers used an improved version of the TAM to study whether the technology acceptance model can anticipate the adoption and use of information technology for people with no experience with the system. They tried to prove whether the determinants of IT use are similar for experienced and inexperienced users. In order to investigate this issue, they combined the construct of social influence and behavioural control from the theory of planned behaviour with the two main constructs of TAM to measure IT use for experienced and inexperienced potential users. The model was referred to as the Combined Theory of Planned Behaviour and Technology Acceptance Model (C-TPB-TAM). See figure (3.7).

Figure 3.7: The Combined Theory of Planned Behaviour and Technology Acceptance Model



Source: Taylor and Todd (1995b, p. 562)

The results of Taylor and Todd's (1995b) study showed that there was a stronger connection between behavioural intention and behaviour for the experienced users than the inexperienced ones. This is coherent with the belief that experienced users recall the knowledge that they obtained from past experiences to develop their intentions (Fishbein and Ajzen, 1975). The inexperienced users identified different constructs that affect their intention and use of information technologies. They focused on perceived usefulness and lessen the importance of control factors on their intention to use the system. In addition, their results indicated that these models can be applied to investigate the adoption and use of new systems before implementing them. However, their study was empirically tested on students. Therefore, generalization could be limited because the subjective norms and perceived behavioural control would have a different influence in an organizational setting (Taylor and Todd, 1995b).

Casalo et al. (2010) integrated the TPB, the TAM, and the social identity theory (that shows how a person identifies with others) to explain the intention of individuals to participate in online travel communities, to use the firm's services and

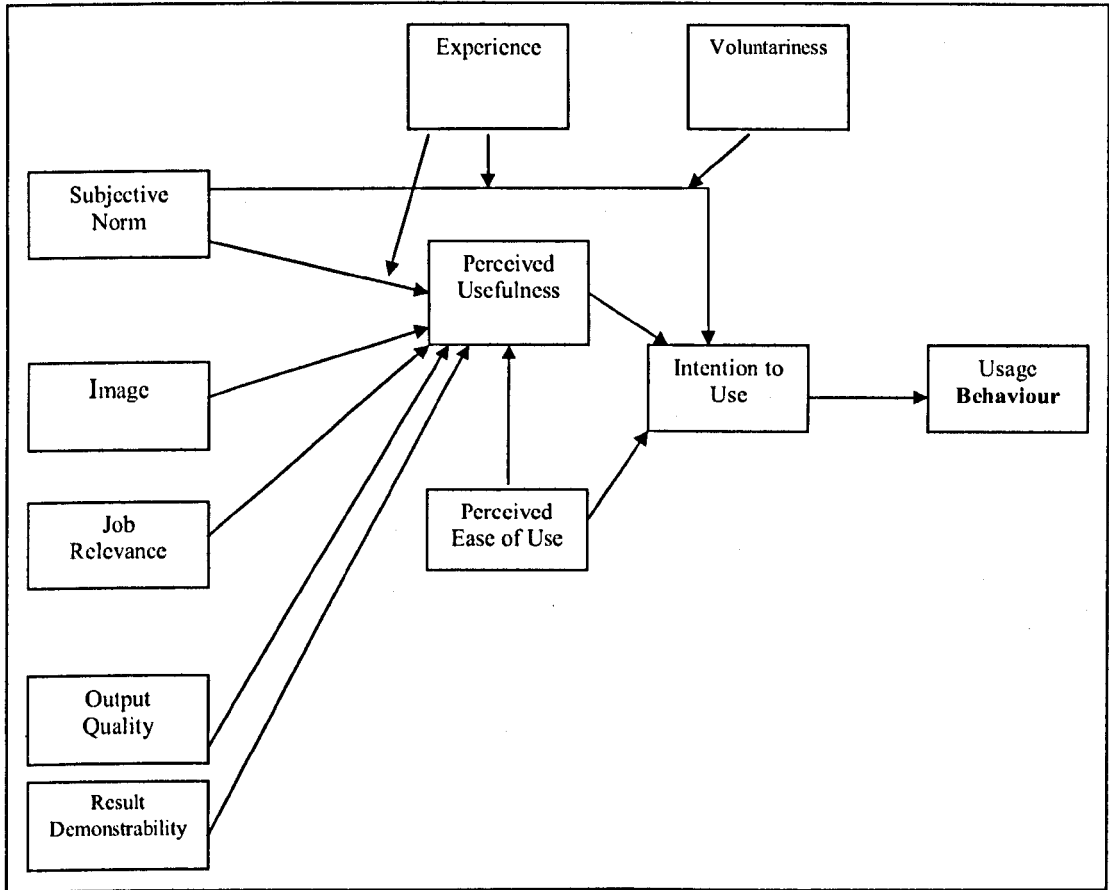
to recommend these services to others. The results indicated that the selected theories provided a suitable model for explaining the intention to participate, and consequently this intention had a positive impact on the intention to use the firm's services and to recommend them for others.

3.7 TAM2

The perceived usefulness construct in the previously discussed models had a consistent effect on behaviour intention and use of information systems. Therefore, researchers intended to understand the determinants of this construct and how its effect on intention and use changes with experience.

Venkatesh and Davis (2000) introduced TAM2, an extension of the technology acceptance model composed of different variables that were used to explain the use of information systems in different organizations. This model included social influence variables (subjective norm, voluntariness and image) and "cognitive instrumental variables" (job relevance, output quality, result demonstrability and perceived ease of use). TAM2 was tested using longitudinal data collected from four different organizations. Two of the selected organizations used the new systems on voluntary basis and the other two organizations used the systems on mandatory basis. Figure (3.8) illustrates TAM2 model:

Figure 3.8: TAM 2



Source: Venkatesh and Davis (2000 p. 188)

The results indicated that TAM2 expanded TAM by identifying that subjective norm had both direct and indirect effects on intention to use the information systems. The subjective norm affected perceived usefulness through the concepts of internalization and identification (Venkatesh and Davis, 2000). Internalization takes place when social factors influence people to use the system so as to gain benefits for themselves only, while identification refers to the gain in social status that is caused by using the system.

In addition, the outcome of the study indicated a significant direct relationship between subjective norm and intention to use the system for mandatory setting only. The reason behind this direct relationship was that people intended to use a

particular systems depending on the influence of their social surroundings, even if they hold negative attitude toward the behaviour and its consequences. This result contradicts the findings of Mathieson (1991) and Davis et al. (1989), who found no significant direct relationship between the subjective norms and intention to use the system.

The model illustrated further variables that influence the perceived usefulness constructs. For example, Venkatesh and Davis (2000, p. 191) indicated that the job relevance which is defined as “the individual perception regarding the degree to which the target system is applicable to his job.” had a significant effect on perceived usefulness. Furthermore, the quality and the tangibility of the systems proved to have a significant effect on perceived usefulness.

3.7.1 Critique of the Theory

Venkatesh and Davis (2000) acknowledged some limitations of their study, including:

1. The sample size had been less than 50 participants in each of the four longitudinal studies unlike the case of the current study that improves the external validity by enlarging the sample size.
2. A great number of the constructs were measured with only two items unlike the case of this study.
3. They used self-reported measures of use instead of objective measures.

In addition, the moderating variables were used to explain the relationship between one independent construct which is the subjective norm and the perceived usefulness and intention to use. The researchers excluded the other independent variables from this moderating effect without any reasoning. In

contrast, the current study used a large sample to explain e-commerce acceptance. In addition, all the constructs in the current study were measured with at least four items. Besides, although most of the technology acceptance models/theories were used to explain technology acceptance in different contexts, the literature indicated that this model was not extensively used to explain technology acceptance specifically in the Arab world (Abu Shanab et al., 2010a).

3.8 The Motivation Theory

The motivation theory of Deci's (1975) was used to explain the determinants of Internet use. There are two kinds of motivations that influence the individuals to perform behaviour, namely, the intrinsic and extrinsic motivations. A user will have an extrinsic motivation if he or she is expecting a reward or benefit as an outcome of using the system. On the other hand, the intrinsic motivation is related to the benefits of using the system by itself (Brief and Aldag, 1977; Van Der Heijden, 2004).

In general, the information systems are divided into utilitarian and hedonic systems. The utilitarian systems are performance-oriented and have a strong correlation with extrinsic motivations. In contrast, the hedonic systems are entertainment-oriented and have a strong correlation with intrinsic motivation (Van Der Heijden, 2004). The construct of perceived usefulness revealed extrinsic motivations, since perceived usefulness was related to improved performance or efficiency resulting from using the Internet for selling services (Davis et al., 1989; McCloskey, 2004). In contrast, the enjoyment construct suggested the extent to which fun can be obtained when using the system. Therefore, perceived enjoyment is related to intrinsic motivations. Thus when using the system for practical objectives, extrinsic motivations are the better predictors of intention to use than intrinsic motivations. Similarly, for pleasure systems, intrinsic motivations are stronger than extrinsic motivations in determining the intention to use.

Therefore, people use the Internet for entertainment and to achieve tasks at

organizations (Atkinson and Kydd 1997). These differences are important to consider when examining the use of Internet for selling purposes. The hedonic features of the Internet suggest that perceived ease of use is a stronger interpreter to user acceptance. Atkinson and Kydd (1997) found the major effect of ease of use on the usage of the Internet for entertainment reasons. Their study indicated no significant effect for ease of use to predict Internet usage for utilitarian-related purposes.

Using the constructs of the TAM to predict the use of the Internet has yielded different results. Some studies concluded that the construct of usefulness dominates enjoyment (Cheung et al., 2000; Teo et al., 1999). In contrast, other studies indicated that the enjoyment construct is more significant than usefulness to predict behaviour intention and use of Internet (Moon and Kim, 2001; Van der Heijden, 2003). Thus, clarifying the underlying tasks, and whether they are hedonic or utilitarian, will explain the mixed results.

The hedonic and utilitarian motives were used to investigate online shopping process. Kim and Eastin (2011) performed a study to test the effect of hedonic motivation on consumer online shopping. It was concluded that the hedonic motivation was an important determinant of online buying. Moreover, the hedonic motivation construct had a positive impact on pre-purchase browsing time and online buying frequency. Finally, their study suggested a positive relationship between perceived credibility of product information and e-shopping frequency.

Similarly, Vazquez and Xu (2009) concluded that both utilitarian and hedonic motives had a positive effect on e-shopping. However, Ellison et al. (2007) stated that some of these studies had contradicting results because they did not introduce the factors of age, gender and income that would affect the motivation for e-shopping. In addition, the samples of these studies were drawn from college students who are extensively involved in online transactions.

3.9 The Social Cognitive Theory

The social cognitive theory (SCT) is an additional vital theory that discussed the behaviour intention and actual use of information technologies besides the theory of reasoned action, the theory of planned behaviour and the motivation theory. It is considered to be one of the extensively accepted and empirically validated theories that explain individuals' behaviour in the information systems field. Bandura (1986) explained that it is more probable for people to perform tasks that will result in positive outcomes than those which may lead to adverse results. The result expectations were explored in many of the information systems studies (e.g. Davis, 1989; Davis et al., 1989; Venkatesh, et al., 2003; Rogers, 2003). Furthermore, Bandura (1986) clarified that a belief in one's capabilities for achievement (self-efficacy) will affect a) the selection of certain action to achieve; b) the struggle and determination exercised by individuals to remedy any issues encountered while performing a task ; and c) the skilfulness to carry out a task.

The social cognitive theory (SCT) is based on the reciprocal exchange between three elements, including individual, environmental and behavioural. This means that environmental factors such as social pressures, personal factors, such as personality, and behaviour are jointly determined. Individuals select the environment that they live with, in addition to being affected by their surroundings. Furthermore, behaviour is influenced by cognitive and personal factors, and in turn, behaviour affects these same factors (Bandura, 1977, 1978, 1982, 1986). It is difficult to explain the reciprocal relationship of the social cognitive theory, but it is useful to investigate how this theory has useful insights into the cognitive, affective and behavioural reaction of individuals to clarify the use of information technologies.

Two main cognitive expectations affect behaviour in the social cognitive theory. The first array of expectations is correlated to outcomes and the second is related to the concept of self-efficacy. The outcome expectations influenced people to undertake behaviour resulting in positive outcomes and neglect behaviours that had possibly negative results. The construct of self-efficacy was defined as the "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills that one

has but with judgments of what one can do with whatever skills one possesses” (Bandura, 1986, p. 391).

Therefore, computer self-efficacy was related to the opinions of an individual’s ability to use a computer. It would not be linked to what individuals performed in the past, but rather with the feelings that individuals hold for what they can achieve in the future (Compeau and Higgins, 1995b). Thus, Internet self-efficacy would explain an individual’s perception of his or her ability to use the Internet to accomplish tasks in the future (i.e., using the Internet for selling products).

Bandura’s definition of self-efficacy implied three interrelated scopes: “magnitude”, “strength”, and “generalizability”. The amount of self-efficacy one has determines how well a person can accomplish a difficult task. People with high levels of self-efficacy can solve and accomplish difficult tasks more than those who hold low self-efficacy. This result is very similar to Venkatesh and Davis’s (1996) study on the effect of self-efficacy on the perceived ease of use construct. They concluded that a user with high self-efficacy is more willing to learn and use a difficult system than a person who has a low self-efficacy.

The strength of self-efficacy was referred to the level of confidence one has to perform a task. Individuals with a weak sense of self-efficacy would be frustrated if they faced any difficulty in their task and consequently would have less confidence in their capabilities. In contrast, people who had a strong sense of self-efficacy would not be affected by difficult tasks, and would retain their sense of self-efficacy and solve whatever issues they encounter in their activities. Finally, generalizability meant that a person’s self-efficacy would be restricted to certain circumstances. Some individuals think that they are capable of achieving tasks under certain conditions but others can perform under different circumstances (Bandura, 1986).

The self-efficacy dimensions were used to explain different use of information systems, such as the computer self-efficacy studies developed by Compeau and Higgins (1995a, 1995b). Therefore, these dimensions can be used to explain the use of the Internet for selling services. For example, individuals with high self-efficacy believe that they can use the Internet to sell products more than those with lower self-efficacy. Furthermore, those people with high self-efficacy in using the Internet

will have more confidence about their capabilities to productively perform different tasks. In addition, certain people might find it difficult to sell products if they use different computer systems or software packages that they are not familiar with.

The social cognitive theory was used to explain the acceptance of e-business. Li et al. (2011) used this theory to investigate user satisfaction of e-business in small to medium Enterprises (SMEs). In their model, they tested how the system characteristics (e.g. information quality, system quality and service quality) affect the constructs of outcome expectations and computer self-efficacy. In addition, they investigated the effect of computer self-efficacy on the outcome expectation construct and the effect of these two constructs on user satisfaction.

The results indicated that the system characteristics had a positive effect on outcome expectations and computer self-efficacy. Furthermore, the computer self-efficacy had a positive effect on outcome expectations. Finally, the computer self-efficacy and the outcome expectations constructs had a positive effect on information system satisfaction.

3.9.1 The Relationship of the Social Cognitive Theory with other Technology Acceptance Theories

It is apparent that these theories and models present different beliefs which determine the behaviour intention and use of information technologies and thus e-commerce. The perceived characteristics of an innovation discussed by Rogers (2003), and the perceived usefulness and ease of use in TAM, behavioural beliefs and outcome expectation of the theory of planned behaviour, and self-efficacy and outcome expectations of social cognitive theory, were all termed as net benefits (Scddon, 1997). However, Compeau et al. (1999) stated that the TAM and the DOI emphasized the beliefs individuals hold regarding the positive results of using the information technologies, while the SCT and the TPB suggested different beliefs that affect behaviour, regardless of the perceived outcomes.

The theory of planned behaviour provided the construct of perceived behavioural control, acknowledging that individuals might find it difficult to pursue certain

behaviour, even if they believe that it will result in a positive advantage. This is due to the deficiency of certain resources and the inadequate technology facilitating conditions (Thompson et al., 1991) or their limited ability and self-efficacy (Taylor and Todd, 1995a). Similarly, the social cognitive theory gave importance to the concept of self-efficacy, realizing that our anticipations of positive results of pursuing behaviour might be worthless if we suspect our abilities to accomplish the behaviour originally.

The social cognitive theory posits different types of relationships among its constructs than the DOI, the TAM and the TPB. These theories proposed a unidirectional relationship, whereby the external environment factors will affect cognitive beliefs, which will then affect attitudes and behavioural intention to use the information systems. In contrast, the social cognitive theory illustrates a reciprocal relationship between a person, his environment and the behaviour (Compeau et al., 1999). However, it is difficult to measure this reciprocal relationship in different studies in information technologies, because it is important to identify the dependent and independent variables.

It is imperative to know that the addition of perceived behavioural control and self-efficacy beliefs are crucial to emphasize that the adoption and use of e-commerce is not only related to convincing people of the benefits derived from the technology, it must also highlight the importance of encouraging individuals to have the right skills and confidence to achieve their tasks successfully.

3.10 The Model of PC Utilization

One of the models used to explain acceptance and use of information technologies was the model of personal computer utilization (MPCU) introduced by Thompson et al. (1991). This is an important model to explain the adoption and use of e-commerce, because the computers are the base through which individuals use the Internet, and the investigated construct can be applied to an e-commerce context.

The model of PC utilization depends on Triandis' (1980) theory of interpersonal

behaviour. Triandis (1971) explained that attitude includes cognitive, affective, and behavioural aspects. The cognitive components of attitude include beliefs that present what people think about a subject, issue, person or an idea. The affective component of attitude shows the positive or negative attitudes of a person towards the new idea. Behavioural intentions express what individuals want to accomplish in the future. Later, Triandis (1980) suggested more variables that can influence behavioural intention and thus actual behaviour. These variables include habits, social factors, perceived consequences and facilitating conditions.

According to Triandis' (1980) behavioural theory, there are various variables that affect the use of personal computers. Thompson et al. (1991) operationalized all of the attitudes components, with the exception of the behaviour intention and habit constructs, to examine PC utilization (see figure 3.9). They stated that affect is an important determinant of PC use. The construct of affect is defined as "the feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act"(Triandis, 1980, p. 211). Thompson et al. (1991) concluded that the higher the affect, the higher the use of PC.

The second factor that affected the use of personal computers is the construct of perceived consequences. Thompson et al. (1991) proposed three dimensions of perceived consequences. Two of the dimensions were related to the near future, including the constructs of complexity and job fit. The third dimension was related to the long term consequences of using the PC.

The complexity construct was similar to the construct of perceived ease of use and complexity in the diffusion of innovation theory discussed by Rogers (1995, 2003). Therefore, Thompson et al. proposed a negative relationship between the complexity and use of personal computers. The perceived job fit is defined as "the extent to which an individual believes that using a PC can enhance the performance of his job" (Thompson et al., 1991, p. 128). This definition is very much related to the construct of perceived usefulness in TAM and compatibility construct of Tornatzky and Klein (1982) in their study of innovation adoption.

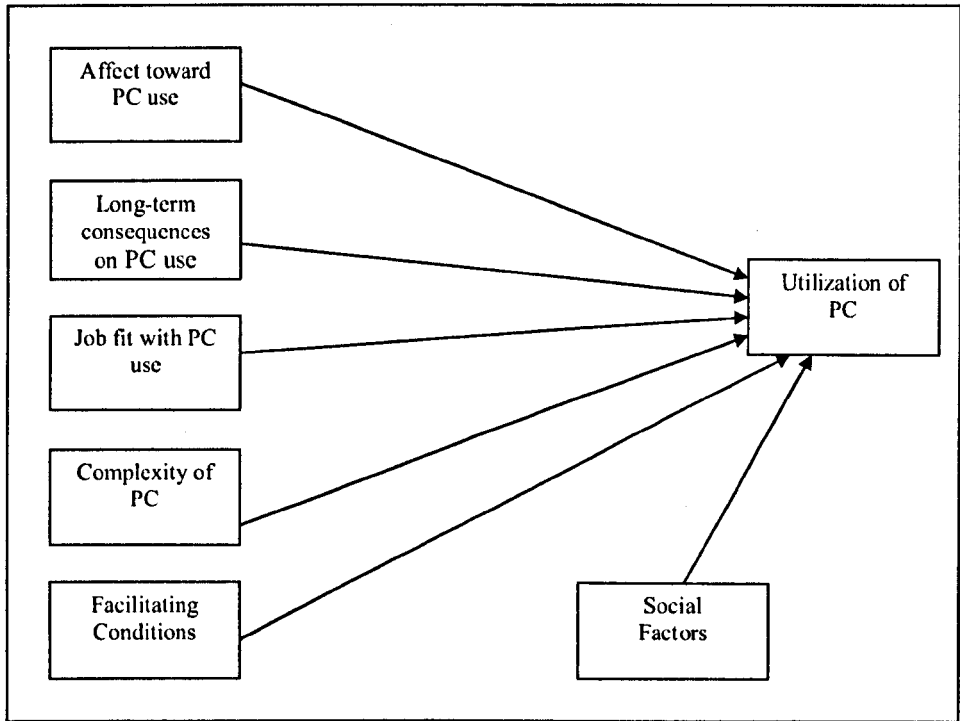
The third dimension was the long-term consequence construct, which is slightly similar to the perceived usefulness. The long-term consequence construct is defined

as consideration of the “outcomes that have a pay off in the future, such as increasing the opportunity to change job and increase the opportunities of having a more meaningful work.” (Thompson et al., 1991, p. 129).

Facilitating conditions were important factors that determine the use of personal computers in the model. Triandis (1980) described these conditions as factors that exist in the environment that smooth the progress of an action. In the PC perspective, these conditions included the availability of training and technical support when needed (Thompson et al., 1991). These conditions were very similar to the construct of the perceived behavioural control that was developed in the theory of planned behaviour (Ajzen, 1985). However, when this variable was operationalized, it showed a negative effect on PC use unlike the theory of planned behaviour.

The term of “social norm” was expanded to social factors by Triandis (1980) to include norms, roles and values. Norms referred to what people believe their social surroundings expect them to perform in a certain situation, whereas roles are what people in a position think of other people’s opinion about their behaviour, and values are the core from which individuals operate or react and are based on a system of beliefs and ideas shared within a certain culture. Thompson et al. (1991) concluded that social factors had a positive effect on PC utilization. Their results echoed the work of Rogers (1995, 2003) on the effect of social factors on innovation adoption. Furthermore, their outcomes were consistent with the theory of planned behaviour and reasoned action that proved the positive relationship between social factors and actual behaviour. Figure (3.9) illustrates the variables affecting the usage of personal computers.

Figure 3.9: Model of PC Use



Source: Thompson et al. (1991, p. 131)

It is worth mentioning that, until now, the model of PC utilization was not used to examine e-commerce acceptance or the acceptance of information systems in general. However, Terzis and Economidies (2011) investigated the factors that affect male and female students' behaviour intention to use computer based assessment (CBA) that is slightly similar to the model of PC utilization. They concluded that perceived ease of use and perceived playfulness were important factors for women more than men. In addition, the perceived usefulness and the perceived playfulness were the most important factors that affected male students. However, it is important to note that the sample of this study was a student sample that had different motivations and experience in IT intended actual use and acceptance than the sample of this current study.

3.10.1 The Relationship of PC Model with other Technology Behaviour Acceptance Models

The PC model was based on Triandis' (1980) theory that incorporated many of the constructs used in the theory of reasoned action, but it is more refined. This is because the theory of reasoned action developed by Fishbein and Ajzen (1975) considered all beliefs that a person had about an act or behaviour, whereas Triandis differentiated between the present and future beliefs in pursuing behaviour. The present beliefs happen at the moment of the action, while the future beliefs relate to the future consequences of pursuing an act (Triandis, 1980).

The technology acceptance model (TAM) illustrated technology behavioural acceptance in a way similar to the components of attitudes discussed by the model of PC utilization. The cognitive components of the attitudes in TAM include the two beliefs of perceived usefulness and perceived ease of use. The affective components was the attitude itself describing whether individuals like or dislike using information systems, and finally the behavioural aspect was represented in the behavioural intention that leads to the use of the system. However, the PC model did not operationalize the construct of behaviour intention to measure the use of PC.

Both Triandis' (1980) and Davis et al. (1989) did not include general beliefs in their models, like the theory of reasoned action. However, Triandis' theory managed to include more constructs to better explain the actual behaviour or use and it clarified the meaning of attitude in a more detailed manner than Davis et al. (1989) model.

3. 11 The Unified Theory of Technology Acceptance Model

The above discussion demonstrated several models that explained the acceptance and use of information technologies. Researchers may select a model to study and ignore the contribution of others. Therefore, Venkatesh et al. (2003) developed a unified model in order to have one comprehensive view of technology acceptance and use. They named their model the Unified Theory of Acceptance and Use of

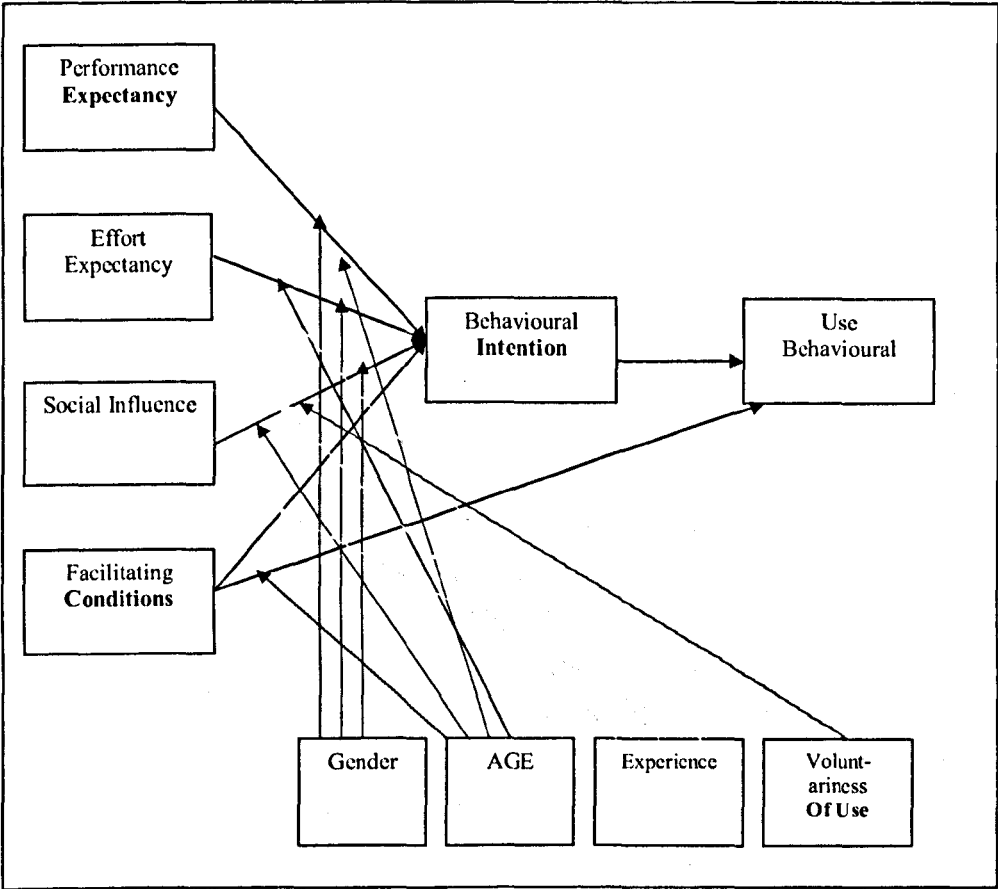
Technology (UTAUT) that combined the constructs of the following 8 models:

1. The theory of reasoned action (TRA)
2. The technology acceptance model (TAM)
3. The motivational model (MM)
4. The theory of planned behaviour (TPB)
5. The combined technology acceptance model and the theory of planned behaviour (C-TAM-TPB)
6. The model of PC utilization (PCU)
7. The diffusion of innovation theory (DOI)
8. The social cognitive theory (SCT)

The researchers empirically compared and tested these models in a longitudinal study on four different departments in different organizations. The participants were familiarized to a new technology in their departments, and then a questionnaire was distributed at three points during the study (post-training, one month, and three months after implementation of the systems). The measurement scales were modified from the initial models. As a result, the models presented differences of between 17-53% in the users' intentions to use information technology.

Then Venkatesh et al. (2003) formulated a unified model called the unified theory of acceptance and use of technology (UTAUT), based on the empirical similarities among the eight tested models. The proposed model suggested four key factors that affect the behaviour intention and consequently the use behaviour, and four moderators of major relationships. The unified model was then examined using the initial records and was proven to surpass the 8 individual models. Finally, UTAUT was verified with information from two new organizations and the results showed similarities. The following figure illustrates the unified theory of acceptance and use of technology.

Figure 3.10: The Unified Theory of Acceptance and Use of Technology



Source: Venkatesh et al. (2003, p. 447)

3.11.1 The Unified Theory of Acceptance and Use of Technology Constructs

The unified theory of acceptance and use of technology demonstrated four major constructs that affected the behaviour intention and use of information systems. Venkatesh et al. (2003) explained that these key constructs, namely performance expectancy, effort expectancy, social influence and facilitating conditions were taken from the previous technology behaviour intention models. The major constructs were moderated by four variables including, gender, age, experience and voluntariness, as figure (3.10) illustrates.

Performance Expectancy is defined as “the degree to which an individual believes that using the system will help him or her to attain gains in job performance.”(Venkatesh et al., 2003, p. 447). The researchers incorporated five root constructs from different models that belonged to this key construct. These include perceived usefulness resulting from TAM/TAM2 and C-TAM-TPB, extrinsic motivations from the theory of motivation, job fit from MPCU, relative advantage from the DOI, and outcome expectations adopted from SCT. The performance expectancy construct was found to be the strongest determinant of behaviour intention and use when comparing each individual model. It continued to be the most influential in both voluntary and mandatory settings. Furthermore, the performance expectancy was theorized to be moderated by age and gender.

Effort Expectancy is clarified as the level of easiness experienced when using the information systems. Venkatesh et al. (2003) used three root constructs of the individual models in effort expectancy. These were the perceived ease of use from the TAM/TAM2, complexity variable from MPCU, and ease of use from the innovation diffusion theory. The effort expectancy construct was moderated by gender, age and experience.

Social Influence is the extent to which individuals believe that important people in

their society believe that they should make use of the new information systems. This concept was related to subjective norms in the theories of TRA, TAM2, TPB/DTPB AND C-TAM-TPB and it was also termed as social factors in MPCU and was used as a concept of image in the diffusion of innovation theory. Venkatesh et al. (2003) theorized that gender, age, voluntariness, and experience moderated the relationship between social influence and behavioural intention, and stated that the effect would be stronger for older females in mandatory circumstances at the beginning stage of their experience.

Facilitating Conditions is defined as “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003, p. 453). This definition encapsulated variables existing in four different models: perceived behaviour control used in the TPB/DTPB, C-TAM-TPB, facilitating conditions from the MPCU and compatibility from the IDT. Venkatesh et al. theorized that facilitating conditions would not have a significant influence on behaviour intention. In addition, they theorized that the relationship between facilitating conditions and usage was moderated by age and experience, and the influence was stronger for older employees with higher experience.

Some of the major constructs, such as attitude and self-efficacy were excluded from the unified technology acceptance model. Venkatesh et al. (2003) excluded the constructs of attitude and self-efficacy from their model because they did not have a direct influence on behaviour intention. They concluded that the attitude construct only presents a significant impact on behaviour intention when incorporating the theory of motivation, the theory of reasoned action, the theory of planned behaviour and the decomposed theory of planned behaviour. However, attitude had no significant effect on behaviour intention in the cases of C-TAM- TPB, MPU and SCT. Self-efficacy had a significant effect on behaviour intention in the social cognitive theory only. However, self-efficacy and anxiety were proven to be indirect variables affecting the intention to use and were fully mediated by ease of use in

Venkatesh (2000) study. Therefore, Venkatesh et al. (2003) suggested that self-efficacy and anxiety had no direct effect on intention when using the construct of effort expectancy.

3.11.2 Strengths of the UTAUT

1. The model identified similarities among the eight frequently used models of technology acceptance and integrated them into one model, the UTAUT. It incorporated 32 root constructs and four moderators as the determinants of intention behaviour.
2. The UTAUT provided four key constructs and four key moderators that affect behavioural intention.
3. From these key constructs, root constructs were used to examine the effect on behaviour intention to use a system.
4. Most of the key relationships in the model were moderated.

(Venkatesh et al., 2003)

3.11.3 Weaknesses of the UTAUT

1. The sample that was used in the study was small. The researchers collected data from four organizations and selected a sample of around 50 respondents from each organization (Venkatesh et al., 2003).
2. The researchers tested the model on four different industries. Each industry may have different use of the information systems that would affect the motivations and the determinants of using the technology.
3. Venkatesh et al. (2003) stated that one limitation in their study was concerned with the scale used to measure the core constructs. They

operationalized each of the core construct in the UTAUT by using the highest loading items from each of the relevant scales. They stated that this would affect content validity.

4. The model did not clarify the definition of the use construct. For example, it did not specify whether it was a temporary use or a continuous use of information technologies.
5. Some of the root constructs were measured by using the same items of measurement used for other constructs. For example, the extrinsic motivation was measured using the same items of perceived usefulness.
6. The researchers did not use actual measures of usage in measuring the construct of use behaviour.

3.12 Critique of the Unified Theory of Acceptance and Use of Technology

The UTAUT was validated and examined in different fields and settings. However, the literature indicated the scarce application of the UTAUT in the hospitality and tourism field, particularly in e-commerce. In addition, the literature indicated the scarce application of the UTAUT in the context of the Arab World; with the exception of the study by Al-Gahtani et al. (2007) in Saudi Arabia and Abu Shanab et al. (2010a) in the banking sector in Jordan.

Al-Gahtani et al. (2007) measured the effect of the UTAUT in explaining the behaviour intention and the use of computers in Saudi's organizations. They used the four constructs used in the original UTAUT introduced by Venkatesh et al. (2003). However, they substituted the social influence construct by subjective norms and they used four and three items to measure each construct without clear explanation for choosing these specific items. They concluded that performance expectancy and subjective norms affected the system use. In contrast, facilitating conditions and effort expectancy had no significant effect.

In addition, Abu Shanab et al. (2010a) investigated the factors that affect consumers'

acceptance of Internet banking in Jordan. They replicated and extended the UTAUT to examine its applicability in Jordan. They investigated the effect of performance expectancy, effort expectancy, social influence and personality dimensions (Personal innovativeness, perceived trust, and perceived risk) on the behaviour intention. However, they excluded the construct of actual use and substituted it by behaviour intention, and some of their constructs were measured by only two items that is not adequate to measure a construct.

In the context of the developing countries, Gupta et al. (2008) examined the adoption of ICT in government institutions in India. They investigated the effect of performance expectancy, effort expectancy, and social influence on the behaviour intention to use the technology. Furthermore, they investigated the effect of facilitating conditions on user behaviour and did not explain how they measured the user behaviour. In their investigation, they used the structural equation modelling to validate five of the major constructs and then used multiple regression analyses for each construct separately using only four measuring items. They found out that performance expectancy, effort expectancy, social influence and facilitating conditions had a positive impact on ICT use, and that gender did not moderate these relationships with behaviour intention.

Bandyopadhyay and Franccastoro (2007) examined the effect of culture through the social influence variable of the UTAUT on users' acceptance of Prepayment Metering System (new innovation in India). In their investigation, they used only three constructs (performance expectancy, effort expectancy and social influence) to test the acceptance of the new technology on a consumer sample. The researchers excluded actual use and facilitating conditions constructs without any justification. The results indicated high discriminant validity between some of the constructs, such as performance expectancy and effort expectancy. Their results indicated that social influence, performance expectancy and effort expectancy were significant determinants of behaviour intention to use the new system.

In addition, Neufeld et al. (2007) integrated the charismatic leadership theory with the UTAUT to examine the role of leaders influencing user adoption of information technology in seven organizations. They used only three items to measure each construct. They concluded that the leadership characteristic was positively

associated with increased performance expectancy, effort expectancy, social influence and facilitating conditions perceptions of the system users.

Furthermore, Im et al. (2011) conducted a cross-culture comparison study using the UTAUT model. They examined the UTAUT using data from Korean and American college students and office workers to accept the MP3 player and Internet Banking. The results suggested that the effect of effort expectancy construct on the behaviour intention and the effect of behaviour intention construct on actual use were greater for the American sample. However, they used a student sample that has a different perception on the IT use. In addition, they used three items to measure each construct thus jeopardising the content validity.

With reference to e-commerce use, Qingfei et al. (2008) used the UTAUT to propose a model to understand mobile commerce acceptance and use in China from the consumer perspective. They incorporated different constructs, such as trust, privacy protection, and cost and user satisfaction in their revised model. They also introduced system and information quality, demographic variables and Chinese culture as moderating factors rather than experience and voluntariness.

In addition, Guo (2010) conducted an exploratory study to determine the factors affecting users in B2C e-commerce environment. He criticized the UTAUT and TAM for excluding the threat appraisal and perceived coping appraisal constructs in their models. The threat appraisal deals with the psychological threats encountered in e-commerce transactions and the perceived coping appraisal is concerned with the users' perceived control over the Internet transactions. These factors affect performance expectancy and consequently behaviour intention in his proposed model. However, the model excludes all the other constructs in the original UTAUT without any explanation.

In the education sector, Anderson et al. (2006) examined the drivers for Tablet PCs (a new technology that is used in higher education) acceptance by business faculties using the UTAUT. Their results highly validated the UTAUT and suggested that performance expectancy and voluntariness were the strongest drivers of technology acceptance when applying the model to business faculty in higher education. Furthermore, Robinson (2006) used the UTAUT to test students' behaviour towards

using administrative and instructional technology tools in South-Western University. The results indicated that the students' attitudes and intention to use technology were affected by performance expectancy, effort expectancy and social influence.

The previous discussion illustrates that the UTAUT has not been extensively tested in the Arab world. In addition, the literature indicated that there is limited use of the UTAUT in the tourism sector and in examining e-commerce acceptance. There is an indication that the results of the UTAUT have been conflicting due to the technology being investigated, the methodology of data analyses and the culture of a specific country. To be more specific, results of the UTAUT in the developing countries have been inconsistent (Abu Shanab et al., 2010a; Lin and Bhattacharjee, 2008). Therefore, there is a need to examine the UTAUT in Arab countries, such as the case of Jordan.

3.13 Concluding Remarks of the Literature Review

It is apparent from the review of literature that technology acceptance models depend on various theories to explain the use of information technologies (see appendix 1). The major theories that were used are:

- A) The diffusion of innovation theory
- B) The theory of reasoned action
- C) The theory of planned behaviour
- D) Triandis' theory of behaviour intention
- E) The social cognitive theory
- F) The motivation theory

The diffusion of innovation theory was mainly explained by Rogers (1995, 2003).

He suggested that the innovation characteristics (e.g. relative advantage, complexity, compatibility, triability and observability) determined the adoption and use of innovations. He added that individuals or decision units at organizations were influenced by these characteristics in addition to other important factors, such as the social factors.

The theory of reasoned action illustrated important constructs that determined actual behaviour. Fishbein and Ajzen (1975) suggested that attitudes and subjective norms affected behaviour intention and in turn, this construct determined actual behaviour. The construct of behaviour intention was a precise measurement of the willingness and intention of a person to pursue behaviour. This construct was used in every model to determine the use of information systems.

The theory of planned behaviour introduced by Ajzen (1985, 1991) extended the theory of reasoned action by including an extra major construct that was the perceived behavioural control. The construct of perceived behavioural control took into consideration some circumstances where individuals had no control over their behaviour. It emphasized on the necessities of having some resources or access to the behaviour that individuals intend to pursue.

The interpersonal behaviour theory presented by Triandis' (1971, 1980) suggested that attitude includes cognitive, affective, and behavioural aspects. The cognitive components of attitude included beliefs that determine the individuals' opinions about a subject, an issue and new ideas. The affective component confirmed the positive or negative attitudes of a person toward a new idea. Finally, the behavioural intentions expressed what individual wants to perform in the future.

The social cognitive theory was presented in the work of Bandura (1977, 1978, 1982, 1986). In his theory, Bandura (1986) suggested that two main cognitive prospects affected behaviour, namely, the outcomes expectations and the self-efficacy constructs. The outcome expectations meant that people would tend to behave in a certain way if they believed that the behaviour had positive outcomes. The self-efficacy construct measured people's judgments in their capabilities to perform certain behaviour.

Finally, the motivation theory suggested that individuals' intentions to perform a

specific behaviour were affected by their intrinsic and extrinsic motivations. The intrinsic motivations were related to the benefits of using the information systems per se. However, extrinsic motivations related to the expected rewards or benefits of using the information systems.

Researchers used these theories as a background to explain the adoption and use of information technologies. Consequently, most of the proposed technology acceptance models used the behaviour intention construct as a mediating variable between the independent variables and the dependent variable, or used it as a dependent variable by itself. However, the model of PC utilization explained the use of technology without operationalizing the behaviour intention construct. This implies that these models share the same underlying concept in explaining information technology use. They added to knowledge by examining different information systems, introducing different independent variables or conducting different methodology in examining the constructs.

The most frequently cited model was the technology acceptance model, originally developed by Davis in 1986 (Davis et al., 1989). Their model suggested that the two main beliefs (e.g. perceived usefulness and perceived ease) affected individuals' attitudes. The attitude construct would determine the behaviour intention and consequently the use of information technology. Later, the construct of attitude was omitted from the model because it did not fully mediate the independent variables (Venkatesh and Davis, 1996). This means that the construct of perceived usefulness and perceived ease of use had a direct effect on behaviour intention without the moderating effect of attitude. For example, people intend to use an information system even if disinclined to do, so because they find it useful.

Another important model that explained the use of information technologies was the combined theory of planned behaviour and the technology acceptance model. This model used the independent constructs of TAM (perceived usefulness, perceived ease of use) and the independent constructs of the theory of planned behaviour (subjective norms, perceived behavioural control) to explain the behaviour intention and use of information technology. The technology acceptance model was extended to TAM2 to explain the use of information technologies. Venkatesh and Davis (2000) explained how independent variables (perceived usefulness, perceived ease

of use, subjective norms, image, job relevance, output quality and result demonstrability) affected intention to use and usage behaviour of information technologies. To be specific, their model illustrated the major determinants of perceived usefulness and how the perceived usefulness construct affect intention to use information technologies. Furthermore, they showed in their model the moderating effect of experience and voluntariness between subjective norms and intention to use.

Furthermore, the model of PC utilization explained how different independent variables affected the use of personal computers. Thompson et al. (1991) concluded that the constructs of (long term consequences of PC use, job fit with PC, complexity, social factors) had a significant positive effect on PC utilization. In contrast, the affect construct had no significant effect on PC use and facilitating conditions had a negative effect on PC utilization.

Finally, the unified theory of acceptance and use of technology operationalized various independent constructs from the aforementioned behaviour technology models. Venkatesh et al. (2003) used the independent constructs of (performance expectancy, effort expectancy, social influence and facilitating conditions) to explain the behaviour intention and use of information systems. In addition, they used the moderating variables of gender, age, experience, and voluntariness to explain technology use.

These theories and models were used to explain the behaviour intention and use of e-commerce. For example, the diffusion of innovation theory explained the behaviour intention and use of e-commerce at the organizational level. It showed how different independent variables affect individuals and decision makers in organizations to adopt and use e-commerce.

3.14 The Limitations of the Literature Review

The literature review indicated that the technology acceptance models/theories were extensively used to explain the intention to accept and use specific technologies in

the developed countries more than the Arab countries (Akour et al., 2005; Al Sukkar and Hasan, 2005; Al Gahtani et al., 2007; Abu Shanab et al. 2010). Therefore, the current research validates The Unified Theory of Acceptance and Use of Technology in the context of the Arab world, the case of Jordanian travel agencies. The UTAUT was chosen because it is a simple model and integrates eight fragmented theories of technology acceptance into one comprehensive model that can explain e-commerce intended degree of use by Jordanian travel agents.

The researcher concluded the following key gaps from the review of literature:

1. Most of the technology acceptance models and theories have been extensively tested in the developed countries. The literature lacks technology acceptance models that explain technology adoption and use in the developing countries. More specifically, the literature lacks technology models that explain technology acceptance in the Arab world. The results of the technology acceptance models in the developing countries revealed conflicting outcomes. Researchers suggested that the differences in the results were due to the culture of the specific countries where the models have been tested (Steers et al., 2008; Abu Shanab et al., 2010a; Bandyopadhyay and Fraccastoro, 2007). Therefore, it is important to conduct this study so as to determine the validity of the UTAUT in the developing countries, using Jordan as a research context. Furthermore, the review of literature indicated that there is a limited number of studies that tested the UTAUT in the Middle East area with the exception of the work of Al-Gahtani et al. (2007) and Abu Shanab et al. (2010a). This implies that additional investigation must be carried out to ensure the applicability and the robustness of the UTAUT in the Arab World.
2. The available literature lacks technology models that explain the use of e-commerce in the hospitality and tourism context especially from the producers' perspectives. Therefore, the current study bridges the gap by developing a technology acceptance model, using Jordan as a research

context, and then comparing this to traditional technology acceptance models which are predominantly Western/ developed country-in origin. In addition, the model examines the factors that affect the intended degree of e-commerce use by Jordanian travel agencies.

Developing a technology acceptance model for travel agencies in Jordan is important to better understand the process of technology acceptance not only in Jordan but more importantly in the Middle East/Arab world. The cultural dynamics that characterise one tourism system compounded with the unique organisational features within one country's tourism system should also be factored in designing any new framework to facilitate an understanding of a technology acceptance model in any country (Harahsheh, 2010; Buhalis, 1998; Doolin et al., 2002).

Jordan has an established and developed tourism industry, yet it lacks a framework that examines the factors that affect the adoption and use of e-commerce within the travel agencies sub-sector. A technology acceptance model that is developed within the cultural context of Jordan, would better serve the tourism industry and boards across the region. Tourism planners, boards, and business owners of the various tourism sub-sector(s) within this geographic region, should be able to apply technology acceptance models that are based on regional factors which are more applicable to their markets and consumers. Thereafter, the use of Western based models would be at kept at minimal.

3. Each of the major constructs in the original UTAUT was operationalized by using only four of the highest loading items from each scale, thus affecting the content validity and leaving some items from important constructs in technology acceptance models, such as the model of PC utilization not used (Venkatesh et al., 2003). In addition, some of the root constructs (extrinsic motivations) in the original model were measured with the same items of other root constructs (performance expectancy). This will also affect the content validity. Consequently, all of the available research using UTAUT used the same or even fewer items to measure the core construct without giving any explanation, such as the work of Gupta et al. (2008),

Bandyopadhyay and Fraccastoro (2007). The current study is the only study that used all of the original items to test the major constructs in the UTAUT thus improving the reliability of the measurement and the content validity.

4. From a methodological perspective, most of the research using the UTAUT in the developing countries, did not consider the specific cultural characteristic of their society. Most of the researchers who did consider the effect of culture on technology acceptance used Hofstede's cultural dimensions which have themselves received some criticisms, such as the work of Al-Gahtani et al. (2007), Straub et al. (1997) and Bandyopadhyay and Fraccastoro (2007). However, this study considered the specific characteristics of the Jordanian business society that is traced to Arab Islamic culture. The study indicated the importance of the in-depth interviews that is lacking in most of the studies that use the technology acceptance models and theories. Depth interviews in cross cultural research are important to identify the exact meaning of a construct, to capture the domain of each construct investigated in the model, and to include important constructs that could affect the results of the model (Craig and Douglas, 2005). To be more explicit, the construct of facilitating conditions in the original UTAUT introduced by Venkatesh et al. (2003) included the root constructs of perceived behavioural control, compatibility and facilitating conditions. However, the depth interviews with the senior managers/owners of the travel agents indicated that compatibility and facilitating conditions are two separate constructs that affect the intended degree of e-commerce use and the perceived behaviour control was not an issue and therefore omitted from the model. In addition, the items that measure compatibility and behaviour intention is different from the original model due to the depth interviews with the Jordanian travel agents.

5. The samples that were investigated in these studies in the organizational contexts were either small or students' samples which would affect the generalization of the results. In contrast, the thesis improves the external validity by enlarging the sample of the study for the proposed research model. In addition, it improves the content validity by improving the reference of the items measuring certain constructs in the conceptual model.

By asking key respondents directly involved in the facilitation and initiation of technology, this study goes beyond using non representative samples as has often been the case in previous studies. Travel agents as a sub-sample represent a sound platform for the study of tourism technology acceptance as it increases the level of generalizability. The findings of this study will have better acceptance amongst the industry's subsector given the fact that the study's respondents are the travel agents themselves (the suppliers), and the factors studied are specific to their markets' and companies' cultures and working ethos. This essentially makes the findings of this study more useful, adaptable, portable, and thus more impactful to its target audience.

6. The technology acceptance models could explain behaviour intention and use of information technologies before and after implementing them in organizations. Most of the technology models were used in an artificial environment to examine the acceptance and use of new systems. This will influence the effect of certain variables on the acceptance of technology. For example, when researchers conduct their study in real circumstances, subjective norms and social influences will have a real effect on the acceptance of technology. Rogers (2003) explained that people in the third world countries might have a positive attitude towards an innovation but they will not adopt it because it does not complement the culture or the values of these nations. However, the thesis examines the willingness to use new technology (e-commerce) which is a phenomenon at a very embryonic stage in Jordan. Therefore, the timing of measurement is very important in this study. The research will examine the proposed research conceptual model prior to the introduction of e-commerce to the Jordanian travel agencies. This will provide managers with an opportunity to evaluate the system before completely investing in it.

3.15 Research Question

From the above discussion, this thesis aims to answer the following research questions to fill gaps in literature and to achieve the thesis objectives in relation to the context of Jordanian travel agencies. The questions are:

1. Can the existing technology acceptance models of developed nations explain e-commerce acceptance in developing nations (using Jordan as a research context)?
2. What are the drivers behind the willingness to use e-commerce by Jordanian travel agencies?
3. What are the key influence drivers that affect the behaviour intention to use e-commerce for travel agencies?
4. What is the relationship between these independent factors and the behaviour intention to use e-commerce?
5. What is the relationship between the behaviour intention to use e-commerce and the intended degree of e-commerce use?
6. How can we measure the intended degree of e-commerce use by Jordanian travel agencies?
7. What are the moderators that affect the relationship between the independent variables and behaviour intention to use e-commerce?
8. What are the effects of these moderators on the relationship between the independent variables and behaviour intention to use e-commerce?
9. Is it possible to provide a useful model for managers of travel agencies to evaluate the factors that influence the acceptance and intended degree of e-commerce use?
10. Is it possible to provide suggestions to help managers to formulate

organizational policies prior to the use of the e-commerce at their organizations?

Hence, the proposed research is an important step to fill in the gap in literature and to answer the above mentioned research questions.

3.16 Summary

The aim of this chapter is to provide a clear explanation of the major technology acceptance models/theories presented in the literature. The chapter explained how the theories/models were used to explain technology acceptance in different fields. Then it focused on the acceptance of e-commerce in the hospitality context. In addition, the chapter presented a critique of these models. Finally, the chapter ended by providing a summary of these models, highlighting the limitation in the literature and stating the research questions

Chapter Four:

Conceptual Development and Hypotheses Formulation

4.0 Introduction

This chapter aims to present the proposed research model based on the various technology acceptance models that were discussed in the literature review. It aims to generate the research hypotheses based on the literature review and the in-depth interviews with senior managers of travel agencies explained in the next chapter. Thus, the chapter is organized in the following main sections:

4.1 Conceptual Model: This section clarifies the technology acceptance model derived from the literature review to explain the actual use of e-commerce for travel agencies. It explains the reasons behind selecting the unified theory of acceptance and use of technology (UTAUT) introduced by Venkatesh et al. (2003). Additionally, it discusses the modifications that were made to the model to be more applicable to the context of e-commerce use in the Jordanian culture.

4.2 Research Constructs and Research Hypotheses: This section explains the major constructs that determine the behaviour intention to use e-commerce and the role of the moderating variables. It formulates research hypotheses for each of the following constructs:

4.2.1 Performance Expectancy: The section provides the definition of this construct and indicates various root constructs that are included in this definition. It illustrates the role of moderating variable that affect the relationship between performance expectancy and behaviour intention.

4.2.2 Effort Expectancy: The section indicates the definition of this key construct

and the related root constructs. Also, it illustrates the role of moderators on the relationship between this construct and behaviour intention.

4.2.3 Social Influence: The definition of this construct is provided along with the related root constructs that have an effect on behaviour intention and use of e-commerce. Furthermore, the effect of moderators on this construct is discussed.

4.2.4 Perceived Risk: This section identifies different types of perceived risk encountered when using e-commerce. It also describes the effect of age and gender on the relationship between perceived risk and the behaviour intention to use e-commerce.

4.2.5 External Factors: This part explains the effect of government agencies and the competitive pressure on the behaviour intention to use e-commerce at the Jordanian travel agencies.

4.2.6 Organizational Factors: This section identifies the impact of facilitating conditions and the compatibility of using the Internet with the values, belief and needs of the agencies.

4.2.7 Behaviour Intention to Use E-commerce: The section provides the definition of this mediating construct and illustrates its direct positive relationship with the intended degree of e-commerce use.

4.3 The Proposed Research Model: The section illustrates the research conceptual model. The section discusses the importance of testing the research model through the initial in-depth interviews with the travel agencies. The aim of these interviews is to modify the model and to add practical contribution to the Jordanian agencies.

4.4 Summary: This part provides a summary of the chapter.

4.1 Conceptual Model

The thesis adapts and modifies the unified theory of acceptance and use of technology (UTAUT) introduced by Venkatesh et al. (2003), to explain the factors that affect e-commerce use by the Jordanian travel agencies. This model was chosen to address electronic commerce acceptance and use because of its comprehensiveness, and the existence of a strong theoretical background supporting it. In addition, Venkatesh et al. (2003) asserted that their model can be used before introducing the technology systems to organizations like the other technology acceptance models.

Modifications were made to the model to provide a comprehensive understanding of the factors that contribute to e-commerce acceptance and use for the travel agents. These amendments were made based on the ten in-depth interviews with the Jordanian travel agents and on the review of literature. The in-depth interviews are important to assess the validity of the model in the context of Jordanian culture (see chapter five). This is consistent with Craig and Douglas's (2005) suggestion, that in-depth interviews are crucial in order to understand individuals' attitudes in their cultural setting. Furthermore, Fowler (1993) suggested that the research models and theories must be customized to the context and type of the innovation is examined. In addition, the modification of the model is important because many researchers acknowledged that no single theory or model can perfectly address the question of acceptance and use of new technologies (Hardgrave and Johnson, 2003). Previous research found that a combination of elements from different models produce better results than when using a single model (Taylor and Todd, 1995a). Hardgrave and Johnson (2003) suggested that combining various constructs from different models form a stronger and more effective explanatory model.

Using the UTAUT to examine the acceptance and the intended degree of e-commerce use for travel agencies necessitated changes to the model. Firstly, the construct of use needed to be more clearly defined and measured. Researchers investigated different ways to buy and sell products over the Internet. Some people use the Internet to search for products and prices, then process the buying or selling

manually (McCloskey, 2004). Therefore, the motivations and barriers for these people are different from the motivations of the people willing to process the entire transaction online. Hence, the intended degree of e-commerce use construct in this model means the completion of the selling process online. This includes the acceptance of the personal and financial information of the travellers online to complete the selling transactions.

The second change was concerned with incorporating different constructs from the initial in-depth qualitative interviews with the travel agents. These constructs include perceived risk, government support, competitive pressure and compatibility. Subsequently, the empirical data was integrated with the appropriate literature to develop a range of hypotheses as it is discussed in this chapter. A detailed description of the qualitative techniques that were used in the in-depth interviews to develop the research model and hypotheses is discussed in chapter five.

4.2 Research Constructs and Research Hypotheses

The following section explains the major constructs that determine the behaviour intention to use e-commerce and the role of moderating variables. Several ad verbatim quotes from the exploratory in depth-interviews are provided for each construct to justify the proposed hypotheses.

4.2.1 Performance Expectancy

Performance expectancy is defined as “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003, p. 447). From the review of literature, it is apparent that this definition is similar to the definitions of perceived usefulness construct in the Technology Acceptance Model, the Combined Technology Acceptance Model with the Theory of Planned Behaviour, and TAM2, extrinsic motivation construct in the Motivation Model, job-fit variable in the Model of PC Utilization, relative advantage construct in the Diffusion of Innovation Theories and outcome expectations in the Social Cognitive Theory. All of these constructs proved to be major determinants of behavioural intention and use of information systems.

The perceived usefulness construct indicates positive impacts on behaviour intention to use information technologies. It is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). The construct has a positive direct effect on behaviour intention to use the information systems in the technology acceptance model, the combined technology acceptance model with the theory of planned behaviour, and TAM2. The direct effect is due to the beliefs of individuals that using the system will enhance their job performance, regardless of their personal attitudes toward it.

The extrinsic motivation construct has a parallel definition as the performance expectancy construct. The extrinsic motivation construct indicates a positive impact on behaviour intention to use the information systems. Davis et al. (1992, p. 1112) indicated that people intend to perform task “because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself.” Furthermore, Van Der Heijden (2004) indicated that extrinsic motivations are important determinants of the use of the utilitarian systems and their main objective is to increase performance.

Additionally, several models illustrated the positive relationship between the constructs related to performance expectancy and behaviour intention to use the information systems. Thompson et al. (1991) specified that the job fit construct has a positive impact on the PC use. The job fit “measures the extent to which an individual

believes that using a PC can enhance the performance of his job or her job” (Thompson et al., 1991, p. 129). The relative advantage construct in the diffusion of innovation theory indicates that the positive characteristics of the innovation affect its adoption. The relative advantage is defined as the “degree to which an innovation is perceived as better than the idea it supersedes” (Rogers, 1995, p. 15). Therefore, the higher the advantages that are gained from the system use, the faster the decision to adopt will be.

Finally, the outcome expectations from using the system affect the individuals’ intentions to use it. These expectations enhance the performance of individuals at organizations and affect their sense of accomplishments (Compeau and Higgins, 1995b). It is imperative to note that the perceived usefulness construct proved to have a consistent positive effect on behaviour intention and use of information technologies in all of the technology behaviour intention models.

Researchers concluded that age and gender moderate the relationship between performance expectancy and behaviour intention (Venkatesh et al., 2003). Minton and Schneider (1980) indicated that men are more highly task-oriented than women, and tend to achieve more than them. Venkatesh and Morris (2000) concluded that men’s decisions to use technology are influenced by their higher perception of technology’s usefulness. Furthermore, men are more willing to use the Internet for shopping rather than women (Burke, 2002; Li et al., 1999). However, some researchers suggested that accomplishment differences derive from the gender roles that individuals are socialized to, rather than being biologically determined (Lynott and McCandless, 2000; Lubinski et al., 1983). This implies that the culture that people are raised in can affect their transaction behaviour. Therefore, it is expected that in a masculine culture, men will be more likely to use the Internet for performance and achievements. This is consistent with the findings of Hofstede and Hofstede (2004) and De Mooij (2004) that in masculine societies, performance and achievement are important values.

Similarly, age has a moderating effect on the relationship between performance expectancy and behavioural intention. Hall and Mansfield (1995) stated that young men tend to achieve more because they are motivated by the extrinsic rewards. In addition, Andrisani et al. (1978) and Rabinowitz and Hall (1981) suggested that younger workers tend to be more interested in task-related outcomes, job

achievements, and extrinsic rewards at organizations. In the information technology context, Morris and Venkatesh (2000) asserted that younger workers accept technology more than older people. Therefore, the effect of performance expectancy is moderated by gender and age. Several ad verbatim quotes from the in-depth interviews support the arguments developed above.

"It will give us a chance to enhance our productivity and performance at the agency. Using the Internet will allow us to be exposed to wider client base while doing work at the office." (Travel Agent, A)

"It is more efficient and productive to use the Internet to sell tourism packages than the traditional way of selling tourism packages." (Travel Agent, C)

"There are many advantages of using the Internet to sell tourism packages. It can save time, money, increase the productivity, convenient and increase my market share." (Travel Agent, A)

"It is easy, cheap, you can access it anytime, and it is fast. You obtain the information immediately." (Travel Agent, C)

"I think males consider the Internet more effective to do business more than females." (Travel Agent, C)

"Males are more productive; females are using the Internet for personal use at the company. I always go and check on them and make jokes. Men look for efficient means to improve their performance at the company I would say up to 45 years' old, people are aware and interested in the Internet, after 45 years I would say that people don't like to use it. They have no interest to use

the Internet to show or sell the tourism packages to the customers The older generation don't like to search for information. The younger people are more specific and more detailed-oriented, more efficient and productive, and have interest in it, to show and sell the tourism services." (Travel Agent, C)

Hence, the following hypotheses are proposed:

H1: Performance expectancy will have a significant positive relationship with behaviour intention to use e-commerce.

H1a: Performance expectancy will have a significant positive relationship with behaviour intention to use and the strength of the positive relationship will be greater for males than females.

H1b: Performance expectancy will have a significant positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for younger than older respondents.

4.2.2 Effort Expectancy

Effort expectancy is defined as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p. 450). This definition is related to the definition of perceived ease of use in Technology Acceptance Model, TAM2, and Motivational Model; complexity construct in the Model of PC Utilization and the Diffusion of Innovation Theory; and ease of use construct in the Decomposed Theory of Planned Behaviour, and the Combined Technology Acceptance Model with Theory of Planned Behaviour.

The perceived ease of use construct has a positive impact on behaviour intention to use the information systems in TAM. It is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis 1989, p. 320).

The perceived ease of use construct has a direct positive effect on behaviour intention to use the system in TAM2.

The perceived ease of use was operationalized in the e-commerce context. Pavlou (2003, p. 108) indicated that Internet use and “a web interface that is perceived as facilitating the transaction process and easy to operate” is likely to be accepted. He explained that the perceived ease of use construct has a positive effect on the intention to transact. In the context of e-commerce, the perceived ease of use construct means the perceived ease of the complete transaction, including dealing with an order, and receiving payment (McCloskey, 2004; Pavlou 2003; Monsuwe et al., 2004). Issues of ease of using a particular e-commerce web site and the web site design are not the objectives of this thesis.

Furthermore, the motivational model suggested that the construct of perceived ease of use has a direct effect on intention to use the information system, because it improves or impedes the individual’s hedonic experience. The perceived ease of use construct has a stronger effect on intention to use more than perceived usefulness for hedonic information systems only. The construct affects the perceived usefulness in adding utilitarian significance (Van Der Heijden, 2004).

The complexity construct is explained in the model of PC utilization and the diffusion of innovation theory. It is defined as “the degree to which an innovation is perceived as difficult to understand and use” (Rogers, 1995, p. 16). Thompson et al. (1991) indicated the negative relationship between the complexity construct and the PC use. Furthermore, Rogers (1995) concluded that complexity of an innovation is negatively related to the rate of adoption of an innovation in a social system.

Finally, the ease of use construct was applied in the decomposed theory of planned behaviour and the combined technology acceptance model with the theory of planned behaviour. Taylor and Todd (1995a, p. 152) defined the concept as “the degree to which an innovation is perceived to be difficult to understand, learn or operate.” The construct has a positive indirect effect on the behaviour intention through the perceived usefulness construct. Their definition is similar to the definition of ease of use in the combined technology acceptance model with the theory of planned behaviour developed by Taylor and Todd (1995b). Their results indicated that the ease

of use construct indirectly affects behaviour intention and behaviour through the perceived usefulness.

Venkatesh and Morris (2000) and Venkatesh et al. (2000) suggested that women are more strongly influenced by the perception of ease of use than men. In addition, Morris and Venkatesh (2000) and Kleijnen et al. (2003) discussed that younger people find it more easy to use the information technologies than older people. Jones and Hubona (2005) found that age is negatively associated with users' perceived ease of use of email and word processor. Therefore, it is justifiable to assume that younger people find it easier to use the Internet for buying and selling than older people. The effect of effort expectancy on behavioural intention is expressed in the following verbatim quotes of the in-depth interviews:

"Using the Internet to sell tourism packages is not a complicated issue. For sure we will use it in the future." (Travel Agent, C)

"In general staff found it easy and interesting to use the Internet; therefore, we won't be hesitant to use it." (Travel Agent, C)

"We don't think it is difficult for us to use it. I am sure all the travel agencies will use it in the future." (Travel Agent, B)

"Females are weak in technology in general. They are also weak in the language, tools of the computer and Internet. Males are more interested in the Internet, games and electronics. Therefore, they find it easier to use and more useful for them. Younger people are more fresh, older people have no tolerance to learn it. They write things on the paper and they give it to the secretary to send it through email." (Travel Agent, B)

Therefore the following hypotheses are proposed:

H2: Effort expectancy will have a significant positive relationship with behaviour intention to use e-commerce.

H2a: Effort expectancy will have a significant positive relationship with behaviour intention to use and the strength of the positive relationship will be greater for males than females.

H2b: Effort expectancy will have a significant positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for younger than older respondents.

4.2.3 Social Influence

Social influence is defined as “the degree to which an individual perceives that important others believe he or she should use the new system” (Venkatesh et al., 2003, p. 451). Three constructs are related to this definition: the first construct is subjective norm in the theories of Reasoned Action, Theory of Planned Behaviour and the Decomposed Theory of Planned Behaviour, and Combined Technology Acceptance Model with the Theory of Planned Behaviour, TAM2. The second construct is social factors in the model of PC Utilization, and the third construct is image in the Diffusion of Innovation Theory.

The theory of reasoned action suggested that a subjective norm has an effect on behaviour intention and actual use. Subjective norm is defined as the “person’s perception that most people who are important to him think he should or should not perform the behaviour in question” (Fishbein and Ajzen 1975, p. 302). Therefore, the definition of this construct is related to the social influence definition. The construct is affected by the perceived expectations of individuals’ social surroundings or relevant referent groups “normative beliefs” and the motivations of individuals to fulfil these prospects. These normative beliefs were deconstructed by Taylor and Todd (1995a) into specific groups, such as peers, superiors and subordinates at the organizational level. The subjective norm in both theories has a direct positive effect on behaviour intention and use of information systems.

The combined technology model with the theory of planned behaviour and TAM2 operationalized the construct of subjective norm. The combined technology model with the theory of planned behaviour suggested that the subjective norm for inexperienced users has a greater influence on behaviour intention and use of information systems more than for experienced users (Taylor and Todd, 1995b). This result is similar to Hartwick and Barki's (1994) research on information systems use. The construct also has a positive effect on behaviour intention and use for experienced users. It is worth mentioning that the moderating effect of experience is not illustrated in the proposed model because of the newness of e-commerce in the Jordanian travel agencies and because experience is generally modelled longitudinally, which was not practical in this study.

Venkatesh and Davis (2000) indicated three social influences that affect the intention to use information systems: the construct of subjective norm, image and voluntariness to use the system. The subjective norms have a direct influence on intention to use the information system for mandatory context only. The explanation for this was that users are influenced more by their superiors who want them to use the system more than by the influence of the usefulness gained from using the system. Therefore, users use the system regardless of their attitude or the usefulness obtained from using the system.

The social construct proved to have a positive relationship on the use of information systems in the model of PC utilization. It is defined as "the individual's internalization of the reference groups' subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (Triandis, 1980, p. 210). Adding to this, Thompson et al. (1991) proved that the social construct has a positive relationship with the use of PCs.

Finally, the social influence was examined in the diffusion of innovation theories. The characteristics of an innovation, such as compatibility and image, have positive effects on the adoption and use of the innovation. The construct of image has a positive impact on behaviour intention and use of the information systems. It is defined as "the degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore and Benbasat 1991, p. 195). Therefore, improving the

organization's image is one of the reasons behind using the new system in different firms.

The social effect is strong at the very early stage of introducing the information systems, when individuals have little information about them (Agarwal and Prasad, 1997; Taylor and Todd, 1995a; Venkatesh and Davis, 2000). In addition, women are more influenced by social norms than men in using information technologies (Venkatesh et al., 2000; Venkatesh and Morris, 2000). Rhodes (1983) and Morris and Venkatesh (2000) also clarified that older people tend to be more influenced by social norms than younger people. Therefore, the following quotations support the above arguments:

"The Internet will help us to appear as a civilized and developed office and one step ahead of travel agents in an era where the development in IT sector is very fast otherwise I will be a classical person or a stand still person." (Travel Agent, B)

"If other people use the Internet to sell tourism products, we should use it. In this society our biggest concerns or the biggest concern of our competitors is to copy a successful thing." (Travel Agent, B)

"Our direct relations with customers, public relation and the reputation of the office are the best marketing campaign you make in your life. This is why it is important to use the Internet because it will give a reputation among others that we are developed and up to date." (Travel Agent, A)

"Jealousy is there in Jordan. Females are more affected by the social factors than males. I will tell you an example: I have an employee who came over last week and said why this company is using this new reservation programme and

we are not using it. Males don't care about their surroundings. They are more practical." (Travel Agent, B)

"We do care about our social surrounding. The competition is high and it affects our staff. Of course, females express their feelings more than males and talk more so they care more about social issues, males are more practical. Older people in the agency always compare themselves with others. They care more about the reputation and image of the travel agency,,,They do care because they want to secure their positions. In contrast, younger people don't care about others, especially the young generation nowadays. Some of them have very high self-confidence and are very sure of their performance." (Travel Agent, A)

Hence, the following hypotheses are developed:

H3: Social influence will have a significant positive relationship with behaviour intention to use e-commerce.

H3a: Social influence will have a significant positive relationship with behaviour intention to use, and the strength of the positive effect will be greater for females than males.

H3b: Social influence will have a significant positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for older than younger respondents.

4.2.4 Perceived Risk

Perceived risk is an important factor that affects the individual's confidence in their decisions. Risky conditions can be those where the chances of the outcomes are not

clear or known (Im et al., 2007). Risk is argued to be a multidimensional construct (Tsaour et al., 1997). For example, Cunningham (1967) and Bettman (1973) developed a plan for identifying the dimensions of risk. Cunningham suggested that certainty and the consequences of an act as two dimensions of the risk factor, while, Bettman suggested that there are two types of risk: the inherent risk and the handled risk. Moutinho (1987) classified the tourists' risks into five dimensions: functional risk, physical risk, financial risk, social risk and psychological risk. Rochl and Fescenmaier (1992) classified tourists' risk into seven items: equipment risk, financial risk, physical risk, psychological risk, satisfaction risk, social risk and time risk.

Furthermore, there are two types of risks that are identified in the literature that affect individuals' use of the Internet for business practices. The first risk is environmental risk, which is related to the nature of the Internet. This could lead to psychological risk, when individuals feel tensed, uncomfortable and socially isolated when using the Internet (Hassan et al., 2006). The second risk is behavioural risk, which reflects the opportunities of misusing the personal information in the system. These risks affect individuals' intention to use e-commerce (Ring and Van de Ven's, 1994). Hence, the current study focuses on the financial and psychological risk as indicated by the literature and the interviewed travel agents.

There are various security issues that are vital for organizations that use e-commerce. The company needs to know that consumers will not change the pages on their website, or disturb their server while searching their site. Furthermore, organizations need to ensure that the network connection is free from third-party disruption, and the communicated information between the producers and consumers has not been changed. If these issues are not addressed, the producers will not have a positive intention to use the e-commerce in their business or shopping transactions (Turban et al., 2002).

Researchers concluded that consumers are less likely to use e-commerce because they are concerned about the disclosure of their financial and personal information (Hoffman and Novak, 1999; Bellman et al., 1999). Their conclusion is parallel to Han and Noh's (1999) results on the willingness of individuals to submit their personal information online. The researchers concluded that low information security has a negative impact on e-commerce usage. This is comparable to McCloskey and

Whitely's (2001) conclusion that web users find it risky to give their credit card information online. Therefore, this financial risk will affect the intention of organizations to use the Internet to sell tourism packages to their customers.

The diffusion of innovation theory developed by Rogers (1995, 2003) indicated that certain segments of society, such as innovators, are very adventurous and willing to bear risks more than other segments. Colby and Parasuraman (2003) indicated that young males are the most techno-ready individuals and are willing to adopt technologies more than females. In contrast, females are more paranoid and scared to use the information technologies because of the insecurity issues. This implies that young males are greater risk takers than females, and are more willing to deal with financial and personal information on the net. The following verbatim quotes support the perceived risk argument:

"We always have payment issues. People are reluctant to provide their credit card information online." (Travel Agent, C)

"We can't guarantee the credit card information, we prefer bank transfer, it is safer than receiving it online." (Travel Agent, C)

"The fact of selling tourism packages online makes me feel uncomfortable. Although I buy things online but we don't use it at the agency." (Travel Agent, B)

"If we receive the credit card information online, we will be tensed all day until we make sure that we have received the money." (Travel Agent, A)

"Males use the Internet more than females and they take it as a hobby, therefore they are subject to risk taking more than females. They also like to be challenged and they like to take risky decisions. So even if they see it as

risky, they will go for it, while females are more scared to use it."
(Travel Agent, A)

"In general, younger people take more risks, so they will be more likely to introduce technology to their firms when they become managers." (Travel Agent, B)

Hence, the following hypotheses are proposed:

H4: Perceived risk will have a significant negative relationship with behaviour intention to use e-commerce.

H4a: Perceived risk will have a significant negative relationship with behaviour intention to use and the strength of the negative relationship will be greater for females than males.

H4b: Perceived risk will have a significant negative relationship with behaviour intention to use e-commerce and the strength of the negative relationship will be stronger for older than younger respondents.

4.2.5 External Factors

Several external factors affect the intention of individuals to use e-commerce in their organizations, such as government support, competition and external pressure.

Government agencies play a vital role in setting policies that facilitate or hinder the use of e-commerce in developing nations. Government support is defined as the extent to which government facilitates conditions in order to adopt new technologies (Calantone et al., 2006; Looi, 2005). This ranges from lowering the cost of using the Internet and setting up e-commerce facilities to developing e-commerce laws for different sectors and informing people on the advantages of using e-commerce in business activities (Calantone et al., 2006; Looi, 2005). Thriving Internet businesses

receive greater support from the government specifically in providing advice and various information on the use of e-commerce, advising on international trade, providing general support and acting as a role model for the use of e-commerce (Castleman et al., 2000; Tigre, 2003).

Different studies indicated the significant role played by the government to support the use of e-commerce. A study on the adoption and use of Internet indicated that government endorsement was one of the major factors affecting the use of the Internet in Singapore (Goh, 1996). In another similar study, Wong (2003) indicated that the continuous government support in Singapore contributed to the diffusion and adoption of e-commerce in different sectors. This is supported by the following quotations from the in-depth interviews:

"Government approval and support is essential for us. The government does not provide any guidelines. We still don't have fully developed e-commerce laws. Banks have it and we don't. I don't know the reason." (Travel Agent, A)

"The role of the responsible government agencies is very minor or let's say is not clear. They are distributing computers to schools, supporting different sectors but not the tourism. We are very behind" (Travel Agent, B)

"We do accept payment on the net but it is completely our responsibility. There are no laws to protect us The government has to act as a role in using the e-commerce. We are small private companies and we need support." (Travel Agent, C)

"The rules and regulations in Jordan regarding this issue did not keep up with the development of the e-payment in the Western world. The government did not set any laws to protect both parties the travel agents and the travellers. We

don't have laws for emails. It is not a legal proof in the court if any problem occurs." (Travel Agent, A)

Hence, the following hypothesis is developed:

H5: Government support will have a significant positive relationship with behaviour intention to use e-commerce.

Furthermore, competitive and external pressures are important factors that affect the adoption of innovation at organizations (Kimberley and Evanisko 1981, Link and Bozeman 1991, Looi, 2005; Hsu et al., 2006). It is rivalry that encourages firms to be more innovative and to increase the rate of innovation adoption (Premkumar and Roberts, 1999). Research on communication technologies indicated that the existence of these technologies is a necessity to compete in the market place (Premkumar et al., 1994). For example, many organizations adopted new communication technologies due to the demand of their consumers and business partners to improve their various business transactions. In addition, organizations created electronic links with their suppliers to reduce their operation cost and communicate more efficiently with other business partners (Premkumar and Roberts, 1999).

Moreover, Porter and Millar (1985) identified five competitive factors that affect the adoption of new technologies in organization so as to gain competitive advantage. These factors include: a) the bargaining power of suppliers; b) the bargaining power of customers; c) the threat of substitute products or services; and d) rivalry among competitors. They suggested that organizations that adopt new technologies, such as (IT) can change their competitive environment in several ways:

1. Adopting information technologies can modify the structure of the organization, and therefore adjust the rules of competition.

2. Adopting information technologies can create competitive advantage for organizations by providing them with new methods to do better than their rivals.
3. Adopting new information technologies can generate new businesses often from within the current business activities of the firms.

Therefore, when a business exists in a competitive environment, individuals feel a higher pressure to be more innovative and adopt new technologies. The following are different ad verbatim quotes to support the above argument:

"We went online because everybody is using the Internet for travel and tourism. Consumers are more educated and more demanding, so we have to communicate with them electronically. Otherwise, it is a matter of a hit and they will leave us to other competitors." (Travel Agent, B)

"Our customers and business partners are using the Internet to communicate with us. We cannot ignore this fact. There are so many hits on our websites and customers, especially foreigners are filling out our online reservation forms." (Travel Agent, C)

"All the travel agencies are using the Internet for different activities. For example, Emails, chatting, reservations, searching for new destinations, providing information for customers. We cannot but use it. We will be out of market/out of date if we don't use it. Now we have e-tickets, and we are printing out the itinerary and sending it through email to our customers." (Travel Agent, A)

Hence, the following hypothesis is developed:

H6: Competitive pressure will have a significant positive relationship with behaviour intention to use e-commerce.

4.2.6 Organizational Factors

The organizational factors relate to two major constructs that affect the use of e-commerce at the travel agencies, namely facilitating conditions and compatibility.

Resource-facilitating conditions refer to the availability of the financial and technology resources at an organization that have a positive effect on the intention to use the technology system (Taylor and Todd, 1995a). They are defined as the “objective factors, out there in the environment, that several judges or observers can agree make an act easy to do” (Triandis 1980, p. 205). Thompson et al. (1991) clarified that these facilitating conditions, such as providing assistance to PC users when they face difficulties, have a positive effect on PC use. Venkatesh et al. (2003, p. 453) defined the facilitating conditions as “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.” Therefore, the existence of these resources has an effect on the use of the new system in the organization.

The resource-facilitating conditions construct parallels the definition of behavioural control construct. It is defined as “the amount of requisite opportunities and resources (e.g. time, money, skills,..) someone possesses to be able to carry out the course of action in question” (Harrison et al., 1997, p. 177). The perceived behavioural control construct includes the availability of the technological, the organizational resources and personal skills that eliminate barriers for using information technologies. It has a direct positive effect on the behaviour intention and the use of information technologies in the following theories: the theory of planned behaviour, the decomposed theory of planned behaviour, the combined technology acceptance model with the theory of planned behaviour and the social cognitive theory. The construct

was operationalized in the e-commerce models, such as the perceived e-readiness model and the e-commerce acceptance model.

The theory of planned behaviour introduced the construct of perceived behaviour control to explain the intention and use of information systems (Taylor and Todd, 1995a). The perceived behavioural control “reflects perceptions of internal and external constraints on behaviour” (Taylor and Todd 1995a, p. 149). The construct determines the beliefs of individuals concerning their access to internal and external resources that facilitate or prevent the behaviour to take place (Ajzen, 1985, 1991). The construct includes two primary elements: the first is “facilitating conditions”, which emphasises the importance of availability of time and money or any specific resources to perform a task (Triandis, 1980); and the second is the construct of self-efficacy, introduced in the social cognitive theory by Bandura (1977, 1982), which indicates self-confidence and assurance in performing any action. Taylor and Todd (1995a) concluded that perceived behavioural control has a positive impact on the behaviour intention, and the actual use of information systems.

The construct of control beliefs in the theory of reasoned action were decomposed into three major components, including self-efficacy, resource-facilitating conditions and technology facilitating conditions. Taylor and Todd (1995a) used the construct of the resource-facilitating conditions construct that was developed by Triandis (1980) in their decomposition of control beliefs. They also added the construct of technology facilitating condition as an element of the perceived behavioural control. The technology facilitating conditions construct in IT use includes two aspects relating to the availability of time and money to possess or use these technologies and to the technology compatibility issues that may restrict usage. They concluded that these constructs have a positive relationship with the use of information technologies.

The construct of resource-facilitating conditions was operationalized in the e-commerce context. Molla and Licker (2005) emphasized the importance of the availability of business resources and technology resource to adopt e-commerce at an organizational level in the case of the developing countries. Business resources indicate the availability of the financial resources that are necessary to conduct e-commerce activities, while technology resources refer to the availability of software and hardware to accomplish e-commerce activities. In addition, they indicate that the

availability of skilful human resources in the information systems field encourage the adoption of e-commerce at organizations.

The proposed research model illustrates that the resource-facilitating conditions construct has an effect on the behaviour intention and actual use of the system. The direct relationship between facilitating conditions and behaviour intention suggests that the availability of financial, technological and human resources will have a positive effect on the intention to use e-commerce and this will affect their actual use indirectly. The following ad verbatim quotes support the above argument:

*"We have enough terminals and updated reservation systems at the agency."
(Travel Agent, B)*

*"We do have specialized people to solve any technical problems we face."
(Travel Agent, C)*

"The financial resources are available to buy the hardware, software and to train people. A lot of tour operators offer us an access to their reservation system. In addition, we are members of different reservation systems outside Jordan." (Travel Agent, A)

Hence the following hypothesis is developed:

H7: Facilitating conditions will have a significant positive relationship with behaviour intention to use e-commerce.

In addition to the facilitating condition construct, compatibility of the technology with the values, needs and culture is an important factor that affects the adoption of new technologies at organizations. Rogers (1995, p. 15) defined compatibility as "the

degree to which an innovation is perceived as being consistent with the existing values....” He clarified that when the innovation is well-matched with the values and the culture of a certain society, it will be adopted easily. Similarly, Tornatsky and Klien (1982) concluded that the compatibility of the innovation with the users’ norms have a positive influence on the adoption.

There are various definitions of compatibility in the literature. Moore and Benbasat (1991) defined compatibility as the degree to which a new technology is considered to be consistent with the values, needs and past experience of individuals, while Agarwal and Karahanna (1998) defined it as the degree to which an innovation is perceived as being consistent with the existing work practice, with the preferred work style, with prior experience, and with values. Furthermore, Plouffe et al. (2001) defined it as the degree to which an innovation is perceived as being consistent with the adopter’s preferences and habits. Moreover, some researchers included this construct as a dimension of perceived behavioural control, such as the scholarly work of Taylor and Todd (1995a). Despite the different definitions of compatibility, all the researchers agreed that this construct has a positive effect on the behaviour intention to use the innovation. The following quotes from the in-depth interviews support the above argument:

"We have to believe in e-commerce and use it to stay competitive in the market. We are still not used to it but it is inevitable." (Travel Agent, B)

"The personal touch is very much in need in this country. There are a lot of things that you need to explain and elaborate for the Jordanian, especially different packages, like honeymooners." (Travel Agent, C)

"If you look at our website, there is no way that people can get all the information they need, especially if they need tailored packages. We just entice them with the pictures and we want people to send us inquiries and visit our agency. It is better for both the travellers and us." (Travel Agent, A)

Hence the following hypothesis is developed:

H8: Compatibility with values, beliefs and preferred work practices will have a significant positive relationship with behaviour intention to use e-commerce.

4.2.7 Behaviour Intention

Behaviour intention is defined as a “measure of strength of one’s intention to perform a specific behaviour” (Fishbein and Ajzen, 1975, p. 288) and is a useful predictor of how individuals will behave in the future. There are various types of individual behaviour intentions in the literature. These include purchase intention, selling intention, and spending intention, which reflect how much money individuals intend to spend on products and services; and search intention, which implies the intention that is dedicated to search for products or services (Blackwell et al., 2001). This study will focus on the intention of travel agents to use e-commerce at their agencies for selling tourism packages.

It is vital to underline that there are some limitations in predicting the behaviour intention of individuals. The individuals’ behaviour is sometimes affected by daily habits that are stronger than their intention to pursue something in the future. These intentions are sometimes measured by behavioural expectations that assess the likelihood of pursuing behaviour. In addition, the predictive accuracy of the behaviour intention depends on the length of the forecasting period with longer periods proving a less accurate the measure of behaviour intention (Blackwell et al., 2001). However, these extraneous issues are not the focus of the thesis. Blackwell et al. (2001, p. 286) confirmed that “despite these limitations, consumer intentions may still be a company’s best bet for predicting future behaviour.” Consequently, this will affect organization managers in their intention to use the new innovation.

Behaviour intention is considered as an important mediator in the relationships between the independent variables and the use of the information systems. From the review of literature, all of the technology intention models illustrated the positive

relationship between behaviour intention and intended use. The following verbatim quotes indicate the intention of the travel agencies for the use of e-commerce.

"Yes, we are willing to use the Internet to sell tourism packages, and we are working on it right now. It will work out for the Jordanian market, and for the Middle East. We have a lot of hits and email inquiries on our website from Jordanian and foreign travellers. This shows you that there are some people who are browsing." (Travel Agent, A)

"Our next step is to provide all our products, prices and availability on the Internet. It is working more for the incoming tours to Jordan and domestic tourism. We are working with an IT company to apply it for the outbound segment." (Travel Agent, C)

"I will need to develop my website but I am not sure what to do with it....The problem is not with us, we need to know if we have enough customers to use it." (Travel Agent, B)

Hence, the research hypothesis is as follows:

H9: Behaviour intention has a significant positive relationship with the intended degree of e-commerce use.

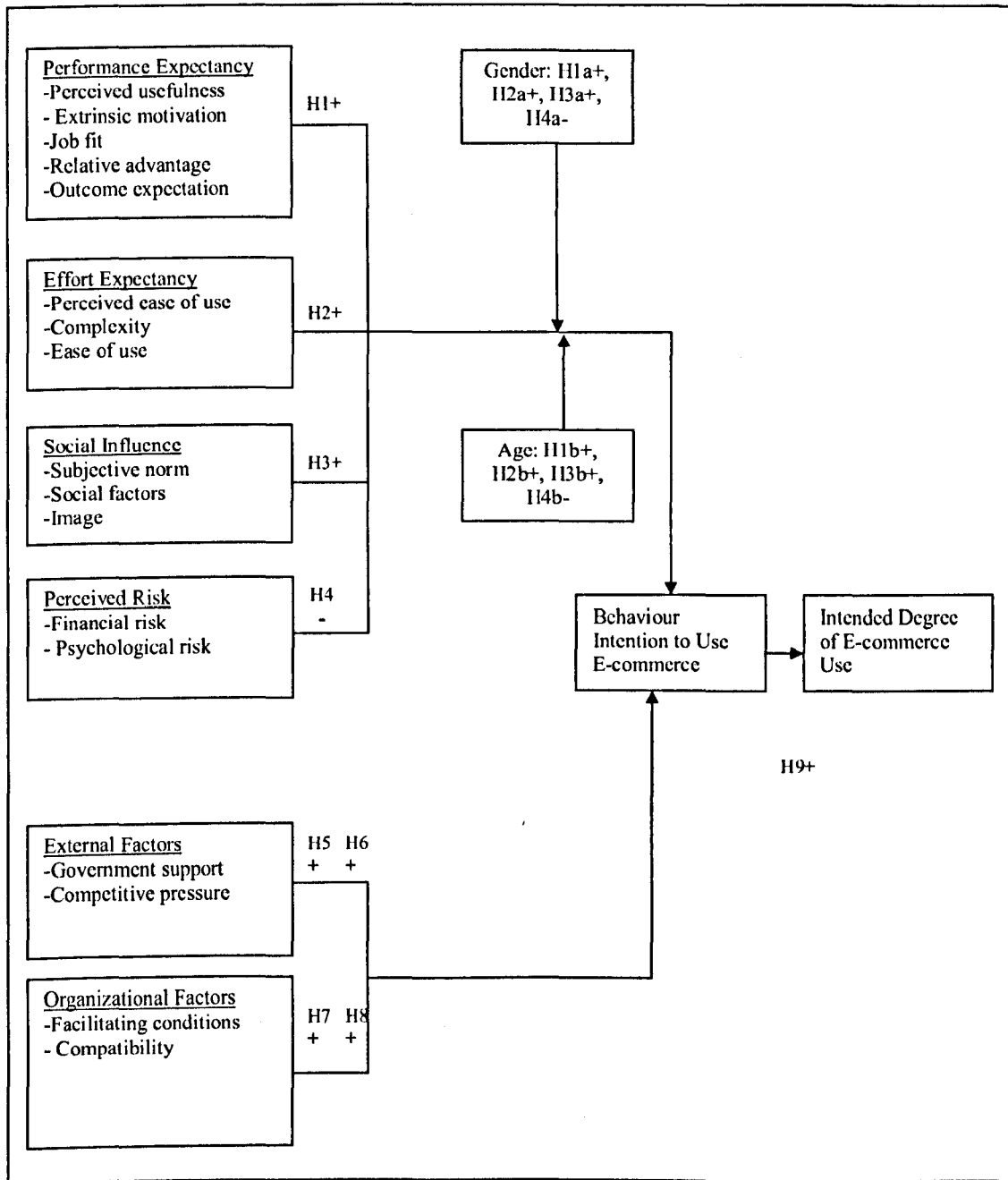
4.3 The Proposed Research Model

After the review of literature and the in-depth interviews, the research conceptual model was proposed. The model is partially based on the qualitative interviews and the review of literature. The model in figure (4.1) demonstrates six major constructs,

namely performance expectancy, effort expectancy, social factors, perceived risk, external factors and organizational factors that are direct determinants of behavioural intention and consequently intended degree of e-commerce use. It also illustrates the role of two key moderators (gender and age) in the relationship between the independent key constructs (performance expectancy, effort expectancy, social factors and perceived risk) and the mediating variable (behavioural intention).

The proposed research model was tested and verified using a small sample of ten travel agencies during the in-depth interviews. The meetings were conducted with senior managers/ owners who are responsible for strategic marketing and operational decisions. Necessary adjustments were made and added to the model upon the completion of the initial in-depth interviews. The preliminary interviews modified the proposed research model and enhanced the methodology and the results of the study. The initial interviews added practical and academic contribution in the context of Arab countries. Details of the initial interviews will be discussed in the next chapter.

Figure 4.1: Conceptual Framework



4.4 Summary

The chapter presented the conceptual model of the study based on the literature review and the initial interviews with the Jordanian travel agencies. The research constructs were explained in details and the research hypotheses were formulated. The next chapter will illustrate the appropriate methodology for examining the conceptual model and testing the research hypotheses.

Chapter Five: Research Methodology

5.0 Introduction

This chapter discusses the research design adopted and methodology used to test the research hypotheses that were formulated in the previous chapter. It provides information on the research design that was used to obtain the information to answer the research questions and test the hypotheses. The chapter is organized in the following sections:

5.1 The Research Philosophy: This section discusses various research philosophies and indicates the research philosophy that has been followed in this current study.

5.2 The Research Design: This section discusses the various research design used in the social science research and describes and justifies the specific approaches used in this research.

5.3 The Research Setting: This section provides information about the sample of travel agencies and justifies the selection of agencies located in the Amman area.

5.4 Phases of the Study: This section provides detailed explanation of the phases of the research methodology according to the research design. The main phases are as follows:

5.4.1 Phase One: Initial Exploratory Interviews: This section provides information on the travel agents who participated in the initial interviews, and describes the interviews and the objectives behind conducting them. The section ends by outlining

the analytical techniques used to interpret the interview transcripts and with presentation of the results.

5.4.2 Phase Two: Developing the Questionnaire: This section provides information on the structure of the questionnaire used by the travel agents. It illustrates how the research constructs were operationalized and identifies the appropriate indicators that measure individual constructs. Finally, it provides detailed information on the procedure that was followed to develop and pre-test the questionnaire.

5.4.3 Phase Three: Administering the Questionnaires: This section provides information on how the sample was selected and how the interviews were arranged.

5.4.4 Phase Four: Analytical Procedures: This section describes the various analytical techniques that were used to test the data. It starts with an assessment of the validity and reliability of the measures. It then describes the statistical methods, such as the exploratory factor analysis and regression analyses used in the study.

5.5 Ethical Considerations: This section outlines some ethical considerations that were addressed in the research.

5.6 Summary: The section provides a brief summary of the chapter.

5.1 The Research Philosophy and Approach

The philosophical foundation refers to the specific paradigm being implemented to guide the researcher through the research process. A paradigm "represents a worldview that defines, for its holder, the nature of the world, the individual's place in it, and the range of possible relationships to that world and its parts" (Guba and Lincoln 1994, p. 107). Indeed the actual paradigm adopted can be any set of ideas, or world view, used by the researcher or a community of researchers to generate knowledge (Remenyi et al., 2003). Easterby-Smith et al. (2002) propose that understanding philosophical issues is critical to better guide and design the research, and to understand the parameters and the accompanying assumptions that the researcher can operate within. It is the combination of the researchers' beliefs and philosophical foundations that define their judgments and perspectives of the universe that subsequently form the "research paradigms."

It is important to understand the philosophical foundation of scientific and social science research because they determine the methodology and methods adopted by researchers to investigate any phenomena. Researchers need to examine the nature of being or existence, i.e. the ontology, and their relationship with it, i.e. epistemology (Guba and Lincoln, 1994). The epistemological approach to research is the researchers' beliefs or "worldview" (Creswell, 2009, p. 6) and often this is not always explicit (Easterby-Smith et al., 2008, p. 63). Crotty (1998) suggested that epistemology drives the research, and is the starting point which leads to the underlying theoretical perspective which then informs the methodology and methods selected. Indeed it is this logic that has led to the divide between positivist and interpretivist paradigms.

Two main research paradigms are generally recognized as dominant in marketing research contexts are the positivist paradigms, often adopting quantitative approaches, and interpretivistic paradigms, often adopting qualitative approaches (Creswell, 1994; Hussey and Hussey, 1997; Easterby-Smith et al., 2002). The positivist approach is generally related to determining laws and relationships that serve to predict reality; this theory-testing logic underpins the positivist paradigm. In contrast, the social

interpretivist paradigm deals with unearthing social life and constructing social meaning, this theory-generation approach serves to underpin this paradigm.

The positivist paradigm is linked to discovery, hypotheses, experiments and generally the verification or validation or otherwise of causal assumptions (Easterby-Smith et al., 2008). Social reality is assumed to be external and objective, and data-driven logic is the underlying rationale for shaping knowledge (Creswell, 2009). Positivists search for fixed and universal laws that control behaviour (Gill and Johnson, 1997; Saunders et al., 2003). They advocate quantitative, deductive research approaches with a highly constructed methodology to allow for replication.

In contrast, the interpretivist philosophy stresses that the world is made of subjective social interactions, and that the researcher is part of the social world. Therefore, the role of the interpretivist is to have a deep understanding of the individual's own interpretation of the world as the basis of behaviour. The interpretivist adopts the inductive research approach to fully understand phenomena from the participants' point of views. The focus in qualitative research is on understanding rather than explanation. There is little or no assumption on a priori knowledge or a pre-existing reality and priority is given to the creation of meaning rather than testing pre-assumptions of meaning (Remenyi et al., 1998; Saunders et al., 2003).

Indeed, within tourism research, a positivist approach has dominated as it has traditionally been used to explain the cause and effect relationships in tourist behaviour (Echtner & Ritchie 1991, 2003; Jenkins 1999; Prayag and Ryan 2010). The benefits of positivist approach for this current research context are numerous. A positivist approach and associated quantitative methodologies have successfully allowed the mapping of inter-relationships between study variables specifically relevant to tourism research (Finn *et al.* 2000; Jennings 2001; Echtner and Ritchie 2003). Easterby-Smith et al. (2002) provide a useful differentiation between positivist and interpretivist approaches and the key issues in their differentiation are summarized below in Table 5.1.

Table 5.1: The Positivist and Interpretivist Paradigms

	Positivist Paradigm	Interpretivist Paradigm
Basic Beliefs	<ul style="list-style-type: none"> * World is external and objective * Observer is independent * Science is value free 	<ul style="list-style-type: none"> * World is socially constructed and subjective * The observer is part of what is observed * Science is driven by human interest
The Researcher's Role	<ul style="list-style-type: none"> * Focus on facts * Locate causality between variables * Formulate and test hypotheses (deductive approach). 	<ul style="list-style-type: none"> * Focus on meanings * Try to understand what is happening * Construct theories and models from data (inductive approach)
Methods Include	<ul style="list-style-type: none"> * Operationalizing concepts so that they can be measured * Using large samples from which to generalize to the population * Quantitative methods 	<ul style="list-style-type: none"> * Using multiple methods to establish different views of a phenomenon * Using small samples investigated in depth or over time * Qualitative methods

Adapted from: Easterby-Smith et al. (2002, p. 30)

As stated above, the two research paradigms have research methodologies associated with them. These are the quantitative and qualitative methodologies. Creswell (1994, p.1-2) defined quantitative research as “an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true.” By contrast, he defined qualitative research as “an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting.” These definitions assert that there are substantial and major differences between how data is collected in each approach. Strauss and Corbin (1990, p. 19) identified the goal of qualitative research as “to gain novel and fresh slants on things about which quite a bit is already known” and also adding that “qualitative methods can give the intricate details of phenomena that are difficult to convey with quantitative methods”.

On the other hand, Malhotra and Brisk (2007) proposed that quantitative research seeks to quantify data usually through statistical analysis and seeks to give insights

and information about specific issues. Rust (1993) proposed that the main differences between qualitative and quantitative approaches are more about the purpose of the analysis rather than the method of data gathering. He added that qualitative research answers how things happen whereas quantitative research deals with how often things happen. Table 5.2 summarises the main differences between the two approaches:

Table 5.2: Qualitative Versus Quantitative Research

	Qualitative Research	Quantitative Research
Objective	To obtain qualitative understanding of the underlying reasons and motivations.	To quantify the data and generalize the results from the sample to the population in interest.
Sample	Small number of non-representative cases	Large number of representative cases.
Data Collection	Unstructured.	Structured.
Data Analysis	Non-statistical	Statistical
Outcome	Develop an initial understanding	Recommend a final course of action

Source: Malhotra (2004, p. 137)

Saunders et al. (2003) indicated that business and management researchers often use a mixture of positivist and interpretivist methods based on both positivist and interpretivist foundations. The current research mainly follows the positivist philosophy through the application of a deductive approach, which collects data to test the hypotheses. The deductive approach is chosen because it allows explanations of relationships between variables, and the collection of quantitative data in a relatively short period of time (Saunders et al., 2003). In addition, a deductive study uses a highly structured methodology that can be replicated to ensure reliability (Gill and Johnson, 1997). The final reason for choosing a deductive approach is the issue of generalization which derives from large samples which can be obtained relatively quickly (Malhotra, 2004).

The study also uses an interpretivist approach in conducting preliminary qualitative research on a small number of travel agents in Jordan. The researcher used semi-structured face-to-face interviews to interact with the participants. These interviews allowed confirmation of the appropriateness of the conceptual model and the identification of any cultural modifications that needed to fit the Jordanian travel agencies context. Consequently, this may require the hypotheses to be modified according to the suggestions of the travel agents. This is consistent with Campbell et al.'s (1982) clarification, that in-depth interviews help marketing researchers to provide studies that represent the real world and simple marketing models that are useful for decision makers in organizations.

The qualitative and quantitative research methodologies complement each other and are essential to be used in marketing research. Reliance on one methodology is not effective to support decision-making (Malhotra and Birks, 2007). The qualitative approach can indicate new insights to the research process that cannot be indicated or developed by the quantitative approach. Meanwhile, the quantitative research design can test hypotheses, validate the measurement of variables and validate the research instruments used in quantitative research (Malhotra and Birks, 2007; Creswell, 2007).

As stated above, there are advantages in employing more than one method in the marketing research (Saunders et al., 2003). First, using qualitative research before developing the questionnaire will allow a deeper understanding of the research problems. In addition, it will reassure the researcher that the most important issues are addressed. The second benefit of using multi-methods is that it permits triangulation to "ensure that the data are telling you what you think they are telling you" (Saunders et al., 2003, p. 99).

Greene and McClintock (1985) indicate the importance of triangulation in social science research. They describe triangulation as the use of different sources of data, theories and methods to test and investigate an observable fact. Denzin (1970) divided triangulation into four types, namely:

1. Data triangulation: In this type of triangulation, different data sources are employed with reference to time, space or person. This type of triangulation was applied in this research because the researcher obtained information from different types of travel agencies and the questionnaires were administered at different times.

2. Investigator triangulation: This requires different researchers taking part in the study and analyzing the data. The current study used a second qualified researcher for the verification of the qualitative analysis explained in section 5.4.1.3.

3. Theory triangulation: This requires the researcher to use various theories to analyze the research. This type of triangulation was not applied in this study.

4. Methods triangulation: This requires the researcher to use different methods of data collection and analyses. This type of triangulation was applied in this study by using the quantitative and qualitative research methodologies and using the required analytical procedure for each approach as explained in this chapter.

5.2 The Research Design

Malhotra (2004) stated that the research design is an outline for carrying out sound marketing research. The purpose of the research design is to find the most suitable methods to answer the research problems and test hypotheses. Formulating the research design requires the researcher to conduct a literature review, to carry out a qualitative research, to set the method for collecting quantitative data, to decide on the measurement scaling procedure and questionnaire design, to specify the sampling size and to plan the data analysis. All of these steps will be explained in the research phases in this chapter.

There are three major types of research design described in the social science literature namely; exploratory, descriptive and causal (Churchill, 1995; Malhotra, 2004; McGivern, 2006). Exploratory research focuses on gaining ideas and insights on a research problem for which there is relatively limited existing knowledge (Churchill, 1995, Malhotra, 2004). Therefore, exploratory research is used to investigate the research problem, develop hypotheses and establish priorities for further research design, such as descriptive and causal studies to empirically test the research model and hypotheses. Researchers in the social sciences can use secondary data and primary data in exploratory research. The most commonly used methods in

exploratory research are expert surveys, pilot surveys, focus groups and in-depth interviews (Malhotra, 2004, Bagozzi et al., 2002).

Descriptive research is used to provide an accurate snapshot of some aspect of the social environment, such as the frequency of occurrence of a specific incident, the proportion of the various socioeconomic and demographic characteristics of the research respondents, or the nature of the relationship between the variables used in the research (Churchill, 1995, Aaker et al., 2004, Malhotra, 2004). In general, descriptive research is either cross-sectional or longitudinal. Cross-sectional designs involve collection of information from any sample of the population only once, whereas longitudinal studies involve a fixed sample of population elements that is measured repeatedly (Malhotra, 2004).

Causal research emphasises cause and effect relationships between variables. While descriptive research shows that the variables are associated in the research setting, the causal research goes beyond that in explaining the direction of causality (Malhotra and Birks, 2003, Churchill, 1995). In general, causal research can be conducted in laboratories, wherein investigators artificially create the surroundings, or in field experiments, in which the research setting is natural (Malhotra, 2004).

The selection of an appropriate research method is an important decision in the marketing research process. The selection of the research design in this research depends on the research setting, the objective of the research, research problem and the research hypotheses. The researcher uses several research designs because different methods serve different purposes and the result from one method can be used by another (Aaker et al., 2004).

Exploratory research was conducted at the early stage of the research using information acquired from secondary and primary sources. The secondary sources included information obtained from text books, articles, magazines, the World Wide Web and computerized databases (Malhotra and Birks, 2003). Much of the information obtained from secondary data sources is presented in the review of literature. It discusses the factors that affect the behavioural intention to use e-commerce by organizations. Secondary data was used because it is readily available, cheap and helps to identify the research problems (Malhotra, 2004; Saunders et al., 2003).

In addition, primary data was obtained through in-depth interviews with ten travel agents in Jordan (see phase one of the study). The researcher felt the need to conduct these interviews, because most of the reviewed literature was in the context of the developed countries. The researcher wanted to understand the factors that affect e-commerce use by the Jordanian travel agents. Therefore, the in-depth interviews and the review of literature helped in understanding the research setting, the major constructs that affect the use of e-commerce, and the usefulness of the research conceptual model.

A descriptive research design using the survey method followed the exploratory phase. The survey method was used because it facilitates the collection of detailed and precise information about probability and non-probability sampling. In addition, the topics covered and the questions that may be included in a survey are wide ranging. Besides this flexibility, surveys can be a very efficient data gathering technique because numerous research questions can be gathered in one large-scale survey (Singleton and Straits, 1993). These factors support the use of survey method for the study.

Questionnaires were collected personally from the Jordanian Travel agencies. The questionnaires included descriptive information about the travel agents, including their agencies and the type of technology they use in their agencies (see phase three of the research). A cross-sectional approach to data collection was used. A detailed discussion of the findings is provided in the data analysis chapter.

5.3 The Research Setting

There are approximately 460 travel agencies in Jordan, 330 of which are located in the area of Amman (Jordan Society of Tourist and Travel Agents, 2007). The travel agencies are classified into three main types: A, B and C. Type A agencies arrange inbound and outbound tourism. In addition, they are responsible for arranging tours inside the Kingdom. Type B agencies deal with inbound tourism and organize all the tours inside Jordan, and type C agencies organize outbound tourism, and sell the

tourism packages that are organized by type A agencies. This type of agency is mainly responsible for ticketing.

The research hypotheses developed in this study were tested by a survey method covering a large sample of 320 senior managers and/or travel agency owners from the three types of agencies in the area of Amman. The selection of the sample size was based on the guide for the minimum sample size required from various sizes of population at 95% level of confidence, with a 1% margin of error, as recommended by Saunders et al. (2003). According to Saunders et al. (2003), researchers need to select at least a sample size of 291 respondents from a population size of 300 in order to achieve a 95% level of certainty at 1% margin of error. Hence, the selected sample size in this study achieves the requirement of an appropriate sample size. In addition, this number accounts for more than 50% of the total travel agencies in that area, which has implications for analytical requirements, such as the use of regression analysis by SPSS package. The objective of choosing a large sample is to allow rigorous analysis of data and enhance the generalizability of the results (Malhotra, 2004; Saunders et al., 2003; Churchill, 1995).

The researcher used a simple random sample of different travel agencies listed in the registered Jordanian travel agencies' list from the Jordan Society of Tourist and Travel Agents, under the auspices of the Ministry of Tourism and Antiquities in Jordan. Amman was chosen because of the existence of different types of travel agencies in that area. In addition, the owners and decision makers in these travel agencies have longer experience in the market than the rest of the owners of travel agencies scattered in different parts of the Kingdom.

5.4 Phases of the Study

Following the initial exploratory interviews with the travel agencies, the questionnaire was developed and tested on the travel agencies' sample. Subsequently, the questionnaires were distributed to travel agencies and analyzed afterwards. The following illustrates the phases of the study that reflect the research design (discussed above).

5.4.1 Phase One: Initial Exploratory Interviews

The research adopted a qualitative approach to heighten appreciation of the determinants of e-commerce use by Jordanian travel agencies. In-depth semi-structured interviews with informed practitioners were used to obtain a detailed understanding of the travel agents' attitudes towards e-commerce and the factors that influence usage levels. The objectives of these interviews were to:

- 1 Understand the nature of the operations in the Jordanian travel agencies.
- 2 Understand the current use of the Internet among Jordanian travel agencies.
- 3 Identify factors that facilitate or hinder the willingness of travel agents to use the Internet for selling travel packages and discover the reasons behind these factors.
- 4 Elaborate upon the constructs that were included in the proposed conceptual model.
- 5 Identify suitable indicators for measuring each of the model constructs.
- 6 Examine the hypothesized linkage between constructs on the basis of the managerial perceptions.

Subsequently, the empirical data was integrated with the appropriate literature to develop a range of hypotheses as illustrated in chapter four.

5.4.1.1 Sample Selection

A judgmental sample that is based on the judgment of the researcher to select the most proper knowledgeable and professional interviewees was used to enhance the depth and the quality of collected data (Malhotra, 2004). Following discussions and guidance from the manager of the Jordan Society of Tourist and Travel Agents, personnel from ten travel agencies were selected for in-depth interviews. The participants were major travel agency owners and senior managers who were responsible for the marketing and operational decision making, who had detailed

knowledge and understanding of the sector. This is consistent with the recommendation of Malhotra (2004), that in-depth interviews should be conducted with professional and knowledgeable people to allow for a deeper understanding of the research problem.

5.4.1.2 The Interviews

There are several forms of qualitative interviews a researcher could follow to obtain important and in-depth information from the interviewees (Creswell, 2007). These are: a) informal conversational interviews, b) general interview guide method, and c) standardized open-ended interviews (Gall et al., 2003). Choosing a particular interview design depends on the objectives of the interviews and the experience of the interviewers (Creswell, 2007). The informal conversational interviews do not require the researchers to follow a specific guideline to ask the questions during the interviews. Interviewers rely on the interaction and the participation of the participants to formulate their questions as the interviews move forward (McNamara, 2009). Creswell (2007) indicated that this method of interviews produce information that is difficult to code due to the inconsistency of the interview questions.

The general interview guide approach depends on having a guide for questions to ask in the interviews, thus the interviews are more structured than the informal types of interviews. Following this approach ensures the collection of the same general information from each participant and yet allows a degree of freedom and flexibility for the interviewer to ask more questions to obtain necessary information. This approach helps the interviewers to extract similar themes from the interview transcripts (Mcnamara, 2009; Creswell, 2007). Thus, the current study followed the general interview guide approach.

The standardized open-ended interviews are structured interviews where the interviewer asks the same questions for each of the participants. In this approach the interviewer encourages the interviewees to answer their open-ended questions fully and the interviewers ask probing questions to follow up on the given information (Creswell, 2007). This type of interviews generates data that is difficult to code because of the inconsistency and the richness of the responses. In addition, it requires

a qualified researcher to go thoroughly through the responses for extracting themes and codes.

Kvale (1996) indicated that researchers needed to prepare for their qualitative interviews before conducting them. He identified seven stages a researcher recommended to follow in the qualitative interviews (Kvale, 1996, p. 88):

1. **Thematizing:** Develop the purpose of the study and describe the concept of the topic to be investigated before the interviews starts.
2. **Designing:** Plan the design of the study, taking into consideration all seven stages, before the interview starts.
3. **Interviewing:** Conduct the interviews based on an interview guide and with a reflective approach to the knowledge sought.
4. **Transcribing:** Prepare the interview material for analysis.
5. **Analyzing:** Decide on the method of appropriate analysis.
6. **Verifying:** Ensure the generalizability, reliability and validity of the interview findings.
7. **Reporting:** Communicate the findings of the study and the methods applied in a form that lives up to scientific criteria, takes the ethical aspects of the investigation into consideration, and that results in a readable product.

All of these recommendations were followed as explained in the following paragraphs.

The interviews were conducted during October 2006, and lasted between one and two hours. The researcher interviewed ten travel agencies and felt the interviews reached "theoretical saturation", which is the stage that new interviews did not produce new themes (McCracken, 1988). At the beginning of each interview, the purpose and the importance of the research was explained. The researcher then asked general questions, such as "Do you have an Internet connection?", "Do you have a website at your agency?", "For how many years have you been connected?" and "Can you tell me about the current use of the Internet at your agency?" Then the researcher

encouraged the travel agents to talk freely about their attitude towards the Internet use at their agencies.

After asking the general questions, the researcher used the general interview guide approach to direct the process of the interviews (Malhotra, 2004; Creswell, 2007). Some of the questions were closed-questions, such as "Please indicate how frequently you use the following marketing communication channels?" and some were open-ended questions regarding the general use of the Internet at the agencies and the motivation behind using it. The consequent direction of the interviews was determined by the answers of the interviewees. The researcher asked different types of questions recommended by Kvale (1996, p. 133-135) that helped in developing the research conceptual model and hypotheses explained in chapter four. These questions are:

1. Introducing questions: "Can you tell me about the general use of the Internet at your Agency?" and "When did you establish your website?"
2. Follow-up questions: Direct questioning to expand on and clarify what has just been said, nodding, paraphrasing and repeating significant words and phrases such as, competitive, useful to use, "Could you explain what you mean by usefulness?" or "Could you describe what you mean Competitive?"
3. Probing questions: "Could you say something more about that?", "Do you have further examples of this?", "Why do you say that you are not interested to sell products online?", and when interviewees stated that certain actions were not part of our culture, "Can you tell me how it doesn't go with our culture?", "You said, social surroundings, can you explain more?". Probing questions helped the researcher to get clear responses and clarify hidden issues (Sayre, 2001). They extend beyond follow up questions in that they attempt to gauge at a layer beneath the obvious, for e.g. "If you say competitive means staying in the market, then how does that relate to e-commerce adoption?"
4. Specifying questions: "Do you think males/females have the same or different reaction towards using the Internet for selling tourism products at your agency?" or "Do you feel that the Jordanian Government and the responsible parties are playing an important role in promoting e-commerce use? ", " What

is the general attitude of your employees regarding the use of the Internet to sell tourism packages?". For the specific questions, probing was used to get a clearer picture of the responses. For example, "Why do you say that females have positive/negative attitude?"

5. Direct questions: "If you were asked to use the Internet for selling tourism packages, what are the motivations and drawbacks behind using it?", "Why did you decide to go online?", "Are you willing to use e-commerce in the future?", "What are your future plans", "Do you feel you will face difficulties, or would it be an easy process?", "If e-commerce laws are implemented, would you sell online?", and "Do you feel you have the necessary resources to adopt e-commerce?"
6. Indirect questions: "Why do you think other agencies will use or will not use the Internet for selling tourism packages?"
7. Silence: This technique will give the interviewee a chance to rest, think, and break the silence by providing important information.

Furthermore, several techniques were used during the in-depth interviews to investigate the intention of the travel agents for the intended use of e-commerce. These techniques were the laddering technique, symbolic analysis and free elicitation (Malhotra, 2004; Echtner and Ritchie, 2003). The laddering technique is "a technique for conducting depth interviews in which a line of questioning proceeds from product characteristics to user characteristics" (Malhotra, 2004, p.149). The laddering technique examines the motivation behind using or purchasing a specific product. Laddering techniques offered a way to probe individuals' deep underlying psychological and emotional reasons that affect their behaviour (Malhotra, 2004). Probing was used along with the laddering technique to further investigate the answers by interviewees. For example, when the researcher asked "Why do you prefer or dislike using the Internet to sell tourism products?" responses were related to the Internet characteristics, such as "I use the Internet because of its several advantages". Then the researcher asked "What are these advantages?" And how they are important for you?"

The symbolic analysis was also used to investigate the factors that affect e-commerce intended use by the Jordanian travel agents. Malhotra (2004, p.149) defined the symbolic technique as "a technique for conducting depth interviews in which the symbolic meaning of objects is analyzed by comparing them with their opposites." Questions asked included, "What would it be like if you could no longer use the Internet for selling tourism services?" Answer: "I would depend on face-to-face interaction but it is less prestigious for the company."

In addition, the researcher used the free elicitation technique introduced by Gerald Zaltman in the early 1990's. This qualitative technique allowed getting the hidden knowledge from the respondents. It is widely used in tourism research, marketing and social sciences to allow for construct elicitation (Reilly, 1990; Jenkins 1999; Echtner and Ritchie, 2003). In the free elicitation technique, the researcher asked open-ended question, such as "Please name some anticipated obstacles that come to your mind when you decide to sell the tourism products online?" Then the responses are coded into similar categories. This technique has the advantage of allowing respondents to record the factors that influence the intended use of e-commerce that are most important to *them*, not to the *researcher's* predetermined constructs found in the literature. These techniques were used interchangeably to obtain the most information from the interviewees.

Next, the researcher showed the research conceptual model to the interviewees. The model constructs were checked to ensure relevance in the Jordanian cultural context. The researcher asked "interpreting questions" suggested by Kvale (1996) to ensure that the research conceptual model represented what the interviewees have expressed in the interviews with regards to e-commerce use. For example, the researcher asked "Does the construct of perceived usefulness cover what you have just expressed? Furthermore, similar questions were used to cover each construct of the model, and the interviewees were encouraged to clarify their answers and provide any suggestions. In addition, the interviewees were asked to comment on the hypothesized relationship between constructs in the model and the pragmatic logic supporting the structure of the proposed conceptual model. This approach added face validity to the conceptual model and thus greater accuracy in terms of constructs being incorporated and any interrelationships being proposed.

Written notes were used to record information, because participants were not comfortable with the use of a tape recorder. The output was transcribed based on the notes gauged, and subsequently agreed with the interviewees. While a general structure was used to ensure key issues were addressed, all the questions were designed to allow participants to use their own language and expressions, and to allow for further discussions and probing. The use of the aforementioned techniques facilitated the flow of interviews as well as generated a richer dimension of responses. Flexibility is important in the in-depth interviews (Thompson, 2000) and allows for a cross comparative approach within the interview, shifting from one theme to theme as they arise from the respondent's perspective.

All interviews were conducted in English and transcribed the same day, except for one interview that was conducted in Arabic. The researcher translated the content of this interview into English and asked a bilingual translator to back-translate it to Arabic to avoid discrepancies (Kvale, 1996; Malhotra, 2004). Thematic analysis was used to analyse the data. A number of themes were identified as recurring within the sample. Lincoln and Guba's (2000) one third rule assumes that if a theme reoccurs in at least one third of the respondent sample then that warrants it to be deemed into significantly observed entity within the sample. Similarly, the same rule can be used for establishing inter-relationships between constructs. Since similar patterns began emerging after respondent seven, the saturated theoretical sample had been reached and thus no further interviews or analysis resumed. The following section explains the analysis of the in-depth interviews.

5.4.1.3 Analysis

Because of the creative nature of the research, the aim was to thematically analyse the data and organise them in a meaningful and valid form. Template analysis, as recommended by Crabtree and Miller (1999), was the chosen approach. The first stage of the analysis was to identify a priori themes based on the extant literature. The themes arising from this first stage of analysis were defined as performance expectancy, effort expectancy, social factors, perceived risk, competitive pressure, government support, facilitating conditions and compatibility. The second stage involved reading through two of the interviews line-by-line to identify the sections or

the specific words that related to a particular theme. If the data did not belong to an existing theme, a new theme was created. In addition, the researchers developed and coded sub-themes that were relevant to a priori or new themes.

The third stage required the production of an initial template after reading the first four transcripts. This was subsequently applied to all ten interview transcripts. Analysis was conducted independently by two researchers following a full explanation of the coding process and appropriate training. Comparisons were then made and any inconsistencies resolved.

The results of the interviews indicated that the travel agencies use different marketing communication channels to promote and sell their tourism products. The most frequent electronic medium of communication used was email, followed by the company's website. Out of the printed media; brochures and newspapers were highly used by travel agencies. Furthermore, word-of-mouth was used as a powerful marketing tool, while billboards, catalogues and telephone were not in common use.

All the travel agencies have been connected to the Internet since the 1990s, and have established their websites since the year 2000. The most frequent use of the Internet was for the dispatch and receipt of emails and online reservations, including hotel reservations and ticketing. The travel agents used the Internet to obtain information about different destinations, to chat, and to get immediate responses from other tour operators or from their customers. In addition, the Internet was used to provide detailed information for the tourism packages to a wide range of customers through the companies' websites.

All of the travel agencies possessed informative websites written in English language. Their websites included contact information about the travel agencies, information on the company's activity, information about different packages offered for sales and information about different tourists' destinations. Only six of the travel agents had an online enquiry form, and the remainder received enquiries through email. It was not a common practice to provide pricing information on websites, and only four of them had hyperlinks. The websites were not highly interactive and did not permit any transaction processing.

It is important to note that the travel agents do not completely sell the tourism packages on the Internet. The customer fills out the reservation request on the agencies' websites or sends an email to the travel agents. The travel agents process the authorization of the credit card manually, and deliver the service to the travellers.

The field interviews indicated that the proposed conceptual model is credible in representing the factors that affect e-commerce intended actual use by Jordanian travel agencies. The interviews helped the researcher to use appropriate measures for the research constructs and to make sure that the travel agencies' managers/owners could clearly understand all items employed to capture the constructs in the model.

5.4.2 Phase Two: Developing the Questionnaire

After conducting the exploratory study and developing the conceptual model, attention focused on the method for measuring the model constructs and designing the questionnaire.

5.4.2.1 Operationalization of the Constructs

Operationalization of a construct requires specifying the way in which a particular construct can be measured. Constructs are abstractions that help the researcher to understand the world. Researchers in the social science are trying to measure these abstractions by connecting the abstract concepts in the mind of the investigator with empirical indicators in order to understand the world and actions that take place in it (Bagozzi, 1984). Therefore, social science researchers are confronting a challenge to identify suitable indicators to successfully capture the domain of specific constructs.

The measurements of the constructs were derived from the extensive review of literature. In addition, the field interviews (described in phase one of the study) helped the researcher to identify the appropriate indicators that measure the specific constructs. The review of literature and the field work suggested that most measures of the constructs in the model can be adapted and used in this research. Therefore, a

broad set of indicators (items) were generated to measure the model constructs. These items were submitted to a group of experts in multi-cultural and multi-lingual contexts to comment on their clarity and suitability. This procedure minimized construct bias and item bias that could occur due to the application of measurement developed in a Western culture to an Eastern culture without careful amendments (Mitchell, 1996; Van De Vijver and Hambleton, 1996; Geisinger, 1994). The items that survived this procedure were those incorporated in the questionnaire and represented the measures for the constructs used in this research. Appendix 3 illustrates the operationalization of the constructs.

5.4.2.2 Questionnaire Design

After identifying and validating measures appropriate to the cultural context, a structured questionnaire for the travel agencies was developed. The questionnaires have four main components (see appendix 4). The first component is the cover letter that includes the objectives of the research, the ethical aspects of the research and the instructions for answering the questions. The second part includes some questions regarding the general use of the Internet at the travel agencies. The third part includes the main questions related to the research issues. The fourth section consists of demographic questions, such as age, gender, level of education and questions on participants' knowledge and familiarity of e-commerce at their organizations.

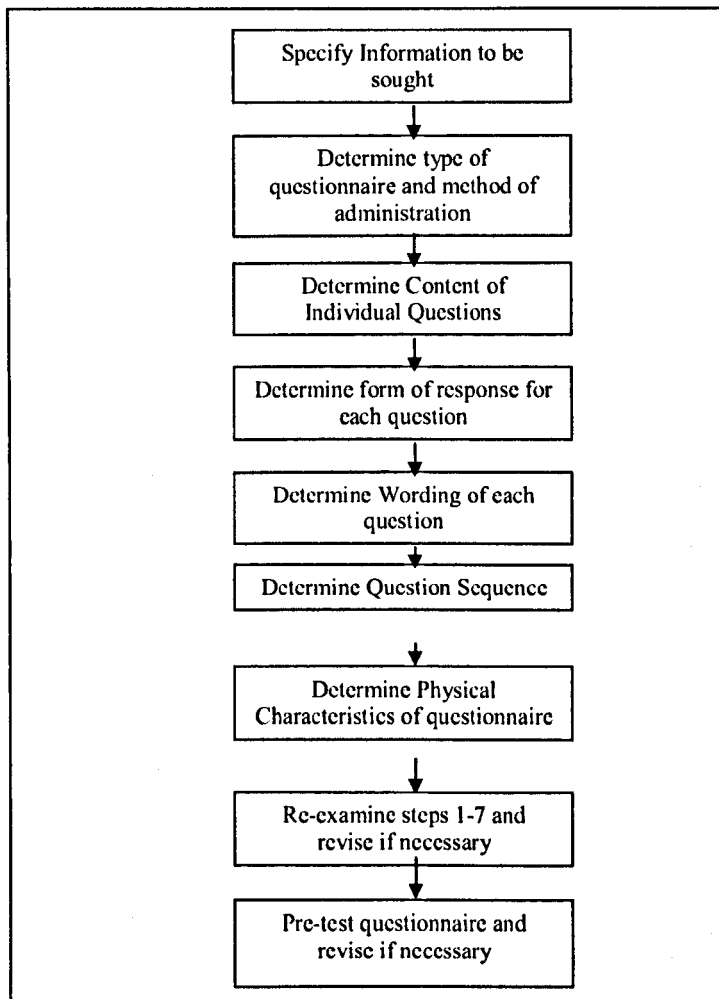
The structured questionnaire has specified response options for the measurement scales. Likert scales were used, including seven categorized answers, ranging from "strongly disagree" to "strongly agree". Churchill (1996) found a direct positive relationship between the number of options provided for the respondents and the scale reliability. The increasing number of the response options allows discrimination between respondents and therefore improves reliability (Nunnally and Bernstein, 1994). Furthermore, Weiers (1988) indicated that participants may encounter difficulties in answering 9-point scales due to cognitive limitations; hence this research adopted the 7-point Likert scale format.

The issue of the questionnaire design is crucial in marketing research (Churchill, 1995; Malhotra and Birks, 2003; Malhotra, 2004). Churchill (1995) stated that

developing a questionnaire is an art and requires the researcher to go through several check lists before the final distribution of the questionnaire. Figure 5.1 illustrates the procedures that were followed in the development of the questionnaire.

The first step in designing the questionnaire was concerned with specifying the information needed for the research. This required having a clear understanding of the research problem and the research questions. It necessitated listing the research hypotheses and the research constructs that were developed earlier in a table, and collecting information for each of the construct and hypotheses. Furthermore, this stage involved identifying the right people (e.g. managers/owners of travel agencies) who are able and willing to provide the required information. In accordance with recommendations by Skarmeas et al. (2002), four questions were added to the questionnaire to assess the quality and appropriateness of respondents.

Figure 5.1: Procedure for Developing the Questionnaire



Source: Adapted from Churchill (1995)

The next step was concerned with determining the type of questionnaire and method of administration. The type of data to be collected and the culture of the country could affect the type of the questionnaire and the administration process (Churchill, 1995). Consequently, a structured survey was used to interview senior managers and owners of travel agencies in the area of Amman. Survey research can be conducted through personal face-to-face interviews, telephone interviews and self-administered questionnaires, usually delivered and returned by mail (Singleton and Straits, 1993).

The most appealing method for this sample was face-to-face interviews for the following reasons:

1. A desire to achieve a high response rate, which would not be achieved by mailing out questionnaires for this particular study. A high response rate means less bias introduced into the data as a result of non-participation (since non-participants may differ in some views from participants).
2. Relatively long interviews were necessary to complete this study, which cannot be done by the phone or the mail. Face-to-face interviews make the questions more interesting for the participants, are less expensive than the phone calls, and have a higher response rate than mailing.
3. Fear of strangers and desire for privacy are important issues behind conducting face-to-face interviews with Jordanian travel agencies rather than the other mentioned methods.
4. Face-to-face interviews allow further explanation when the participants feel that the questions are ambiguous.

The third step was concerned with the content of each individual question. Each of the model constructs had a set of questions to sufficiently cover the information needed to capture this construct. As a result, the required information was covered by each question in the questionnaire.

Next, the form of response for each question was determined. All of the questions were close-ended with different choices of response. Some of the questions were multichotomous in which respondents were asked to choose the alternative that most closely corresponds to their position in the subject. Other questions were dichotomous, in which respondents were asked to indicate which of the two alternative responses relate to them (e.g. "Do you have a website?"). Furthermore, seven-point Likert scales were used to capture the responses. These scales are considered to be a prominent method to measure attitudes in marketing research (Nunnally and Bernstein 1994; Churchill, 1995, McGivern, 2006).

Concerning the wording of individual questions, high consideration was given to using simple words; and avoiding confusing, leading, double-barrelled and general questions (Malhotra and Birks, 2003; Churchill, 1995). Consequently, a simple questionnaire was developed that encouraged the respondents to answer it with less time and effort.

Specifying the sequence of individual questions was a crucial concern in designing the questionnaire. The questionnaire started with simple, general and interesting questions that encouraged the respondents to complete them. Then, sensitive questions were placed towards the end of the questionnaire (Churchill, 1995; Malhotra, 2004). Furthermore, questions were classified according to their content similarity to enhance the logical flow and the overall design of the questionnaire.

With respect to the layout and the physical characteristics of the questionnaire, a professional layout that signifies the importance of the research and encourages the respondents' cooperation was designed (Churchill, 1995; Malhotra, 2004). A professional cover letter that included the title of the research project, aim of the study, graphic artwork, brief content of the questionnaire, the sponsors of the study, confidentiality of responses and importance of participation were included in the questionnaire.

Furthermore, an attempt was made to keep the size of the questionnaire relatively small in order to increase the response rate (Malhotra and Birks, 2003). In total, the length of the questionnaire was seven pages, including the cover page. The questionnaire was divided into four parts. The first part was the cover letter, the second part included general questions on e-commerce use at the travel agencies, the third part included questions pertaining to the study constructs and the fourth part included questions on the participants' background.

Consequently, the questionnaire was revised and re-examined to ensure that the questions were not confusing, ambiguous, offensive or leading (Churchill, 1995). The first draft of the questionnaire was developed and submitted to four senior academics with extensive experience in marketing research for comments regarding the clarity of questions, instructions and the questionnaire design. Several amendments were made to ensure the clarity and the overall format of the questionnaire. Furthermore, six senior academics, who served as expert judges, familiar with research in the fields of

e-commerce and marketing, were asked to assess whether the items used in the questionnaire capture the dimension of each construct of the conceptual model. This procedure enhanced the content validity and enabled the researcher to do the necessary amendments before initiating pretesting in the field (Mitchell, 1996). Furthermore, this method is consistent with Zaichkowsky's (1985) recommendations to improve the content validity of the questionnaires. All of the academics agreed that only one of the items was not representative. Subsequently, the item was removed and only the representative items were included.

Finally, the revised questionnaire was pre-tested in personal face-to-face interviews with 17 managers/owners of the travel agencies in Amman who had considerable experience in this field according to the recommendation of the Manager of Jordan Society of tourist and Travel Agents. Separate meetings were arranged with the participants who were informed about the objectives of the interviews. The agents were encouraged to comment on the questions and to "think aloud" while answering the questionnaires. The respondents' comments were recorded and analyzed after the interviews. The respondents were subsequently requested to state any problems encountered while answering the questions. Their responses provided the researcher with an idea of the reliability of the research and have ensured the suitability of the terminologies and instructions employed in the questionnaire (Saunders et al., 2003).

In addition, an internal consistency test was conducted to ensure reliability. The internal consistency measures the reliability of the responses across either all the questions or a subgroup of the questions in the surveys (Mitchell, 1996). The Cronbach's alpha was used to measure the reliability of internal consistency. The results showed that the constructs had high reliability scores, since in general marketing and management fields, reliability coefficients of .70 or greater are appropriate results (Nunnally and Bernstein, 1994). Table 5.1 indicated that the construct of performance expectancy had the highest value of Cronbach's alpha, while the construct of compatibility indicated the lowest value of .691, which is very close to .70. Consequently, all of the items were retained for further analysis. The results are as follows:

Table 5.3: The Reliability Test of Separate Constructs Measures

Construct	Items	Cronbach's Alpha
Performance Expectancy	24	.972
Effort Expectancy	13	.695
Social Influence	8	.813
Perceived Risk	5	.944
Government Support	4	.929
Competitive Pressure	4	.915
Facilitating Conditions	3	.814
Compatibility	3	.691
Behaviour Intention	4	.934

5.4.3 Phase Three: Administering the Questionnaire

After pretesting and refining the questionnaires, a list of 330 travel agencies in the area of Amman was prepared. All of the travel agencies were organized alphabetically in a list with the names of the owners or operating managers and contact addresses, then each of the travel agencies was assigned a number and entered through statistical software (Excel) that randomly selected 320 travel agencies (using simple random sample technique). Each of the selected travel agencies was contacted by telephone in order to set up the meetings and to verify the correct names and addresses. After multiple telephone calls, all of the travel agents were ready to participate with an exception of three travel agents. Two of the travel agents were going out of business, and one did not provide the reason for not participating. This decreased the total sample to 317. Given that only three travel agents did not participate from the desired sample, we can conclude low levels of non-response error (Malhotra, 2004).

Prior to each meeting, the appointments were confirmed so as to make sure that the right person would be available and ready to participate. Face-to-face interviews were conducted and questions were answered prior to leaving the meeting. All of the questionnaires were conducted at the work place and numbered immediately after completing the interviews.

5.4.4 Phase Four: Analytical Procedures

This section presents the analytical procedures that were employed to test the collected data. It starts with the assessment of validity and reliability measures, and then it describes the various analytical techniques used to test the collected data.

5.4.4.1 Assessment of Validity

Validity refers to the extent to which the variables that were used in the research truly reflect what is going on in the real world. Any scale or measuring instrument that precisely measures what was intended to be measured is said to have validity. (Malhotra, 2004; Churchill, 1995; Robson, 2002). Therefore, the indicators should capture the domain of the constructs so as the empirical findings will reflect the real picture and benefit business specialists (Hair et al., 2006; Churchill, 1995). There are different types of validity that were considered before testing the hypotheses in this research.

The first type of validity is referred to as content validity, which is concerned with the degree to which a measurement can adequately cover an important aspect of the construct (Malhotra, 2004; Nunnally and Bernstein, 1994). The content validity was achieved through an extensive review of literature and through a thorough investigation of how other people defined the domain of the constructs represented in the research model (see chapters two and three). Then a large number of items that broadly represented the range of attitudes that were related to the constructs was formulated (Churchill, 1995). Furthermore, the measures of the constructs were presented to senior academics who have an extensive knowledge in the area of e-commerce, marketing research, marketing and travel agencies managers who served as expert judges and agreed on the constructs and measurement employed in this research. This process increased the content validity, and it is widely used in marketing research (Zaichkowsky 1985; Malhotra, 2004).

The second type of validity is referred to as convergent validity, which shows the extent to which different independent measurement procedures for the same construct

have a relationship (Churchill, 1995; Malhotra, 2004). Convergent validity was estimated through conducting the exploratory factor analysis as per the recommendations of Premkumar and Roberts (1999). Evidence of convergent validity is provided when items have significant factor loading of 0.50 or above (Wang and Cheung, 2004; Premkumar and Roberts, 1999). As illustrated in chapter six, the results of the exploratory factor analysis for the model constructs indicated large and significant loading of all items on their constructs. This provided an indication of convergent validity in this research.

The third type of validity is referred to as discriminant validity, which is concerned with the degree to which a construct is different from other constructs in the study. It requires that a measure does not correlate too high with other measures it is supposed to differ from (Nunnally and Bernstein 1994; Churchill, 1995). Subsequently, the correlation matrix between constructs was used to examine discriminant validity. According to this method, low to moderate correlations between a construct and each of the other study constructs indicate the presence of discriminant validity. The correlation matrix presented in chapter six illustrates that correlations among items of the same construct are higher than those across different construct, which is an indication of discriminant validity. Furthermore, the results of the exploratory factor analysis provided evidence of discriminant validity. Finally, a more robust test of validity and construct reliability suggested by Fornell and Larcker (1981) was performed. A detailed discussion of the construct validity is provided in chapter six.

5.4.4.2 Assessment of Construct Reliability

The concept of reliability refers to “the extent to which a scale produces consistent results if repeated measurements are made on the characteristic” (Malhotra, 2004, p. 267). The most common reliability coefficient used for assessing internal consistency is Cronbach’s alpha. The value of alpha is an indication of the inter-correlations among a set of items used to measure a construct. Alpha values can range from 0 to 1 and the values of .70 or greater is accepted in marketing research (Nunnally and Bernstein, 1994, Peterson 1994).

The researcher calculated the internal consistency of the construct through calculating both Cronbach's alpha values for each construct and item-total correlation (Nunnally and Bernstein, 1994). A detailed discussion of the result is provided in chapter six.

5.4.4.3 Data Analysis

Various statistical techniques were used to achieve the objective of this research and to test its hypotheses. The first step in the data analysis focused on the frequency distribution for the demographic items considered in the research. The primary purpose was to get descriptive information about the participants and to examine the extent to which there was a difference in responses. The next step in the analysis procedure was formulating a correlation matrix to examine correlation coefficients between the construct and provide evidence of validity. Then, exploratory factor analysis was conducted to purify and minimize the items used to measure the constructs. Also, this procedure provided evidence of validity of measures. Furthermore, Cronbach's alphas were computed to assess the internal consistency reliability of the scales extracted, and multiple regression analyses were used to test the effect of the various independent variables on the mediating and dependent variables. The regression analyses tested the hypotheses and the results illustrated how strongly each component affected behaviour intention to use e-commerce by the size and sign of the coefficient. Below is a justification of using the discussed statistical method with The Unified Theory of Acceptance and Use of Technology (UTAUT).

5.4.4.4 Data Analysis and the UTAUT

A review of the current literature in the field of technology acceptance that used the UTAUT model indicated that a variety of data analysis techniques were utilized. However, there was a little difference between techniques in studies using survey methods and studies using experimental methods. For instance, Wang and Yang (2005) used multiple regressions and hierarchical regressions in their research to

determine the role of personality traits in the acceptance of online stock exchange. Carlsson et al. (2006) used multiple regressions to examine the factors affecting the adoption of mobile devices and services. Al-Gahtani et al. (2007) used multiple regressions to determine the factors that affect behaviour intention and use of desktop computer applications. Other researchers used Partial Least Squared (PLS) analysis, such as the work of (Knutson, 2005; and Anderson et al., 2006).

Furthermore, the UTAUT model was used in experimental design research and various analytical techniques were used, such as t-tests, Wilcoxon-Mann-Whitney test. For example, Biemans et al. (2005) used t-test to compare control and treatment group in their acceptance of medical teleconferencing application utilizing the UTAUT model. In addition, Saini et al. (2005) used Mann Whitney techniques in their research, and Ristola et al. (2005) employed t-tests in their research on the consequences of mobile usage time on the perception of mobile devices.

Moreover, some researchers employed structural equation modelling using AMOS or PLS. For example, Bandyopadhyay and Fraccastoro (2007) used the UTAUT model to explore the effect of performance expectancy, effort expectancy and social influence on the behaviour intention to use the Prepayment Metering System-an information technology based innovation in India. However, their study had several limitations. First, although the researchers used the complete dimensions of each construct, they have reduced the total number of construct that constitute the original model without justification. Therefore, simplifying their model allowed them to use structural equation modelling however it jeopardized their contribution to literature. Second, the discriminant validity between the performance expectancy and effort expectancy was inadequate in their model.

It is worth mentioning that structural equation modelling using AMOS was considered to be applied in this research. Having used this method in the confirmatory factor analysis stage, the researcher had to establish within-construct error covariance and between construct error covariance in order to improve χ^2 . However, this procedure is not recommended since it shows lack of discriminant validity (Hair et al., 2006). Furthermore, using structural equation modelling introduced a complicated model that was not beneficial for academia or for the Jordanian travel agencies. Therefore, it was necessary to use the original model and to integrate the contribution

of the travel agents rather than using a simplified model and ignoring the contribution of the Jordanian travel agencies. Therefore, regression analysis was employed in order to test the complete model and add contribution to literature.

In addition, scholars who used PLS, a structural equation modelling procedure, had some limitations in their scale. For example, Anderson et al. (2006) used four dimensions for each construct used in Venkatesh et al.'s (2003) original UTAUT model, and Neufeld et al. (2007) used three dimensions of each construct without any justification for the elimination of the fourth dimension. However, Venkatesh et al. (2003) mentioned that there were some limitations concerning the scale used to measure the construct in their model. The researchers operationalized each construct by using the highest loading items from each of the respective scale. This affected content validity, since some of the items from the technology acceptance models were not included in their respective construct. Hence, Venkatesh et al. (2003, p. 468) suggested that "the measures for UTAUT should be viewed as preliminary and future research should be targeted at more fully developing and validating appropriate scales for each of the constructs with an emphasis on content validity, and then revalidating the model or extending it with new measures."

Therefore, the UTAUT was used in a various research fields, and various data analysis techniques were used to test the model. Although Venkatesh et al. (2003) used the PLS as the data analysis technique in their original model, this research used the multiple regressions to test the model. PLS is suggested for analysis of data acquired from relatively small sample since it has the capacity to conduct bootstrapping technique (Gupta et al., 2008; Barclay et al., 1995). The use of multiple regressions to validate and test the UTAUT is an appropriate methodology for this study. The existing literature provides an indication that there are a variety of statistical techniques that are used in survey methodology to test the UTAUT.

5.5 Ethical Considerations

Following the recommendations of Malhotra (2004), Saunders et al. (2003) and Zikmund (2003), several ethical research issues were considered while conducting this research, including:

1. Respondents having the right to be informed about the purpose of the study. For this purpose, the researcher provided the respondents with the questionnaire that included the purpose of this study in its cover letter.
2. Providing the respondents the right of privacy and confidentiality, as stressed in the cover letter of the questionnaires.
3. The need for honesty in collecting the data and objectivity in reporting it.

5.6 Summary

In this chapter the research philosophies in conducting social science research were discussed, and then an explanation of the research phases was presented. The use of exploratory interviews, operationalization of the research constructs, developing and administering the questionnaire were explained. Furthermore, the various statistical techniques were explained and justified. The following chapter presents the descriptive analysis, the correlation matrix between the study construct and the exploratory factor analysis results.

Chapter Six:

Data Analysis and Results

6.0 Introduction

The previous chapter described the research design and methodology employed to meet the purpose of the research. The aim of this chapter is to provide the results of the descriptive analysis. In addition, the chapter aims to purify and validate the measurement scales through exploratory factor analysis and reliability analysis. These analyses are important to conduct prior to testing the research hypotheses. The chapter is composed of the following main sections:

6.1 Data Preparation: This section explains the procedures that were followed for screening and cleaning the data before analysis. This includes checking data entry errors, verifying informants' quality and checking for outliers.

6.2 Descriptive Analysis: This section provides the results of the descriptive statistics of the sample. It illustrates the degree of familiarity of the respondents with e-commerce issues at the travel agencies, and then explains the demographic characteristics of the sample of travel agents. The section then presents the descriptive statistics relating to the use of the Internet by travel agencies.

6.3 Exploratory Factor Analysis: This part explains the exploratory factor analysis and the objectives behind conducting it. It illustrates the major steps for performing the factor analyses that comprises checking the assumptions, factor extraction and rotation and the interpretation of the results.

6.4 Reliability Assessment: This part explains the reliability results relating to the various items used in the research and why certain items were excluded from the research model.

6.5 Construct Validity: This section explains the chosen techniques for testing convergent and discriminant validity for the research constructs. The section illustrates the validity and reliability of the constructs.

6.6 Correlation Analysis: The aim of this section is to examine the suitability of the data for further analysis and to illustrate the direction and the strength of the relationship between different constructs in the research model.

6.7 Summary: This section provides a brief summary of the chapter.

6.1 Data Preparation

Screening and cleaning the data set are essential steps before starting the analyses. A total of 317 questionnaires were collected, and several checks were made to ensure the suitability of the data for the analysis. First, errors that could emerge when entering the data were checked. This required a check of each of the variables for scores that were out of range (that is, not within the range of possible scores). For example, if gender was coded 1=male and 2=female, the check ensured no other scores were entered (Pallant, 2007). Then, the number of valid cases and missing cases were verified and the results showed no missing cases. Next, the quality of information provided by respondents in terms of knowledge, confidence familiarity and decision making regarding e-commerce issues at the travel agencies was checked, and scores below the mean were deleted, following the recommendation of Skarmcas et al. (2002). As a result four cases were deleted, decreasing the sample size to 313. Section 6.2.1 illustrates this procedure.

Subsequently, the coding for the statements that had reversed scales was amended to ensure that all scales were similarly recorded. This recoding was essential to ensure that all the dimensions of the same variable had the same meaning and could be averaged (Janssens et al., 2008; Pallant, 2007). Finally, a test for the existence of outliers was made, and the results did not show major problems that can affect the regression analysis in a large sample (Pallant, 2007; Janssens et al., 2008). Section 7.2 illustrates this procedure in more detail. After checking for errors in the data file and cleaning the data, the descriptive analyses were conducted.

6.2 Descriptive Analyses

The characteristics of the respondents were reported through frequency tables for categorical variables. Descriptive statistics were used to provide information on the informant quality, to describe the demographic characteristics of the respondents, and to provide analysis of the use of Internet.

6.2.1 Informant Quality

The questionnaires were distributed to 317 travel agents in the area of Amman. At the end of the questionnaire, four questions were added to validate the quality of responses. These questions were related to the familiarity of the respondents with the issues addressed in the questionnaire, the knowledge of e-commerce issues at the travel agencies, the confidence in answering the questions and the level of responsibility for business decision regarding information technology. A seven-point scale, ranging from very low (1) to very high (7), was used to measure the responses for each question. A total of four questionnaires were eliminated from the final research sample (n= 313), because they showed a value less than four, which is the midpoint of the scale for each question. This procedure was recommended by several scholars (e.g. Heide and Weiss, 1995; Skarmcas et al., 2002).

Table 6.1 illustrates the responses of the key informants after eliminating four of the questionnaires. The results indicated that the majority of the respondents have a good knowledge of e-commerce, show a high degree of confidence when answering the questionnaire and have a very high level of decision making regarding information technologies at the travel agencies. This is not surprising since all the respondents are senior managers/owners of the travel agencies.

Table 6.1: Key Informant Quality

Informant Quality	Frequency	Percent
Degree of Familiarity		
Very Low	0	0
Low	0	0
Somewhat low	0*	0
Neutral	15	4.8
Somewhat High	39	12.5
High	146	46.6
Very High	113	36.1
Total	313	100.0
Degree of Knowledge		
Very Low	0	0
Low	0	0
Somewhat low	0**	0
Neutral	9	2.9
Somewhat High	34	10.9
High	87	27.8
Very High	183	58.5
Total	313	100.0
Degree of Confidence		
Very Low	0	0
Low	0	0
Somewhat Low	0	0
Neutral	2	.6
Somewhat High	28	8.9
High	68	21.7
Very High	215	68.7
Total	313	100.0
Level of Decision Making		
Very Low	0	0
Low	0	0
Somewhat Low	0	0
Neutral	1	.3
Somewhat High	26	8.3
High	72	23.0
Very High	214	68.4
Total	313	100.0

*the value is zero after taking out three cases

**the value is zero after taking out one case

6.2.2 Demographic Characteristics of the Respondents

Table (6.2) illustrates the demographic profile of the travel agents. The results revealed that a high percentage of the senior managers/owners of the travel agencies are males. This is not surprising because: a) the percentage of males working in this industry is higher than females; b) the majority of the senior positions are given to males, since they own or they have a partnership in the agencies; and c) Jordan is a masculine society, and males are the major breadwinners for their families. The majority of the owners/senior managers have completed university degrees. Furthermore, the analysis illustrated that a high percentage of the travel agents are above 43 years old. This is not unexpected, since the target sample is senior managers/owners of travel agencies.

Table 6.2: Demographic Characteristics of the Respondents

Demographic	Frequency	Percent
Gender		
Male	262	83.7
Female	51	16.3
Total	313	100.0
Age		
25-30	27	8.6
31-36	24	7.7
37-42	44	14.1
43-48	67	21.4
49-54	64	20.4
55 and more	87	27.8
Total	313	100.0
Education Level		
High school	23	7.3
2 years college	84	26.8
4years college	197	62.9
Masters	8	2.6
Doctorate	1	.3
Total	313	100.0

6.2.3 Characteristics of the Travel Agencies

Table 6.3 indicates that a high percentage of the travel agencies are relatively new to the market, and few companies have been running for over 30 years. The percentages correspond closely to the list of the registered travel agencies published by Jordan Society of Tourist and Travel Agents in 2007. This association offers further confidence about the representativeness of the sample, and therefore the generalizability of the sample. Moreover, 47.6 % of the respondents employ from 1 to 5 employees, and 39.0 % of the respondents employ from 6 to 9. This representation is acceptable and consistent with the minimum number of the required employees in the Jordanian travel agencies (according to the laws of Ministry of Tourism and Antiquities), thus providing further confidence about the representativeness of the sample and the generalizability of the results.

Table 6.3: Characteristics of the Travel Agencies

Items	Frequency	Percent
Year of Establishment		
5 years	71	22.7
6-9 years	80	25.6
10-19 years	73	23.3
20-29years	29	9.3
30-39 years	25	8.0
40-49 years	19	6.1
50-59 years	10	3.2
60 + years	6	.18
Total	313	100.0
Number Of Employees		
≤ 5	149	47.6
6-9	122	39.0
10-14	29	9.3
15-19	8	2.6
20-24	3	1.0
25+	2	.6
Total	313	100.0

6.2.3 Descriptive Analysis on the Use of Internet

Respondents were asked to identify the number of hours spent using the Internet at their agencies, their Internet experience, the frequency of Internet use, whether they own a website at their agencies, and the time limit for setting up a website in the event that they did not have one. The results in table 6.4 indicate that a high percentage of the respondents use the Internet for the entire working day at their agencies (from 7 to 8 hours). Furthermore, the majority of the respondents use the Internet more than once a day. Moreover, most of the respondents have from 7 to more than 10 years of experience with the Internet. This is an acceptable result, since the Internet was introduced to Jordan in the early 1990s, and the majority of the travel agents are relatively new to the market. In addition, the results revealed that more than 50% of the respondents own a website. It is interesting to note that 21.4% of the travel agents who do not own a website have no definite plans to establish one, while 18.2 % of the travel agents have plans to establish a website within a year.

Table 6.4: Use of Internet

Use of Internet	Frequency	Percent
Number of Hours		
<3	8	2.6
3-4	29	9.3
5-6	57	18.2
7-8	200	63.9
9 +	19	6.1
Total	313	100.0
Years of Experience		
<4	15	4.8
4-6	68	21.7
7-9	110	35.1
10+	120	38.3
Total	313	100.0
Frequency of Use		
Less than once a month	1	.3
Once a month	1	.3
A few times a month	2	.6
A few times a week	3	1
About once a day	12	3.8
More than once a day	294	93.9
Total	313	100.0
Ownership of website		
Yes	179	57.2
No	134	42.8
Total	313	100.0
Timeline		
within one year	57	18.2
within 2 to 5 years	2	.6
no define plans	67	21.4
will not do it	8	2.6
Total	134	42.8

6.3 Exploratory Factor Analysis

Factor analysis is a generic name denoting a family of statistical techniques primarily concerned with the reduction and summarization of observed variables in terms of common underlying dimensions or factors (Pallant, 2007). The main objective of factor analysis is to obtain a way of condensing information contained in a number of original variables into a smaller set of factors with a minimum loss of information. Furthermore, factor analysis can also be used to reduce a large number of related variables to a more manageable number, before using them in other analyses, such as multiple regression or multivariate analysis of variance (Pallant, 2007).

Factor analysis encompasses a variety of different related techniques. The first technique is referred to as the principal components analysis (PCA) and the second method is the factor analysis (FA). Although both approaches often produce similar results, researchers differ in which approach to use. Stevens (1996) admitted a preference for principal components analysis, because it is psychometrically sound, simpler mathematically, and avoids problems associated with factor analysis. However, Tabachnick and Fidell (1996, p.664) confirmed that if researchers were interested in “theoretical solution uncontaminated by unique and error variability, FA is the choice. If on other hand you want an empirical summary of the data set, PCA is a better choice.” Stevens (1996) suggested several advantages when using PCA, including its robust psychometrical resolution and being mathematically easier to determine. Therefore, principal components analysis (PCA) is applied in this research.

Factor analysis was used in this research for several reasons. It was used to identify several factors that explain the correlations among a set of variables, to reduce a large number of related variables to a smaller set of variables that can be used in the multiple regression analysis, and to purify and validate the measurement scales (Malhotra, 2004; Janssens et al., 2008). Several steps were followed in conducting the exploratory factor analysis. The first step required assessment of the suitability of the data for factor analysis. The second step involved choosing a method to extract factors and determining the number of factors that can be used to best represent the interrelation among the set of variables. The final stage necessitated choosing an

orthogonal or oblique rotation and the interpretation of the result. The following section explains these procedures.

6.3.1 Stage One: Assessment of the Suitability of the Data for Factor Analysis

The first step in conducting the factor analysis was to assess the suitability of data for analysis. This stage was concerned with identifying an adequate number of cases and considering the strength of the relationship among the variables. Tabachnick and Fidell (1996) recommended a sample size of 300 items, while Nunnally (1978) recommended a 10 to 1 ratio, i.e. 10 cases for each item to be factor analyzed. Thus, it was concluded that the sample of the study (313) was suitable for the factor analysis technique.

The second issue in this stage was concerned with the strength of the inter-correlations among the items. Tabachnick and Fidell (1996) suggested an inspection of the correlation matrix for evidence of coefficients greater than (0.3). Therefore, if a variable had weak or non-significant correlations with other variables, it would indicate that the variable may be excluded from the analysis. Correlation analysis was carried out to investigate interrelationships among variables (see section 6.3). Variables with correlation coefficients below 0.3 were removed (Hair et al., 1998, Green et al., 1988, Janssens et al., 2008).

Furthermore, two statistical measures were employed to assess the factorability of the constructs: Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were used. The Bartlett's test of sphericity provides "the statistical probability that the correlation matrix has significant correlation among at least some of the variables" (Hair et al., 1995, p. 374). For a factor analysis to be considered suitable, the test should be significant ($P < .05$). In addition, Kaiser (1974) indicated that KMO values greater than 0.6 are acceptable. The results of the exploratory factor analysis proved that these two measures were in the accepted range.

6.3.2 Stage Two: Factor Extraction

Factor extraction determines the smallest number of factors that can be used to represent the inter-relations among the set of variables. The most commonly used technique is the principal component analysis (PCA). This analysis provides factor scores that explain a maximum feasible share of variance. This means that the first factor extracted explains the largest part of the total variance, and the second factor explains the second largest portion of the variance till the end of the extracted factors (Janssens et al., 2008). Moreover, there are several techniques to determine the number of factors to retain: the Kaiser's criterion, the scree plot and an amount of expected factors based on literature and theory (Janssens et al., 2008; Field, 2005). Using the Kaiser's criterion, only factors with an eigenvalue of 1.0 or more are kept for further investigation. The scree plot involves plotting each of the eigenvalues of the factors and inspecting a point where the shape of the curve change direction and become horizontal. Catell (1966) recommended retaining all the factors above the elbow or break in the plot. This method is used in cases where too many factors may be extracted using eigenvalue analysis.

The number of factors was determined based on Kaiser's criterion of eigenvalue and amount of expected factors stated in literature to complement the analysis. The eigenvalue criterion is the most commonly used technique in determining the number of factors to be extracted (Hair et al., 1995). In determining the number of factors, factors with eigenvalues of greater than 1.0 were kept for further analysis, and factors less than 1.0 were considered insignificant. A value of 0.5 for factor loading was chosen as a cut-off point, as recommended by Hair et al. (1995) and Janssens et al. (2008).

6.3.3 Stage Three: Factor Rotation and Operationalization of the Independent Variables

There are several rotational techniques available when using the exploratory factor analysis. The orthogonal and oblique rotations are the most commonly used forms of

rotation (Pallant, 2007). Moreover, each type is subdivided even further into 'varimax' and 'equamax,' leading to orthogonal rotation, while 'promax' is an example of oblique rotation. The most commonly used technique is the varimax method, which minimizes the number of variables that have high loading on each factor, thus simplifying the explanation of the factors (Malhotra, 1996; Janssens et al., 2008). Therefore, this technique was applied in this study. In the end, the researcher's own knowledge of the variables from the review of literature in relation to the subject being explored was used to label the retained factors (Janssens et al., 2008).

There are several methods for using the factors identified in the exploratory factor analysis. The result of the analysis can be used to calculate factor scores and summated variables (Hair et al., 1995; Janssens et al., 2008). The researcher employed a summated variable approach, in which a variable was created by summing all variables that belongs to a specific factor and then averaging them. The result of the averaging was used for further analysis, such as the multiple regressions. However, the calculation of summated scale must be preceded by a reliability analysis, and determined further by the calculation of Cronbach's alpha (Janssens et al., 2008; Hair et al., 1995). This procedure is illustrated in section 6.5.1.

It is worth highlighting that the calculation of the summated scale required the recoding of some variables that had opposite meaning to the other dimensions that belongs to the same factor (Janssens et al., 2008). For example, the dimensions of case of use and complexity constructs were inversed to have the same meaning of perceived ease of use construct (see appendix 4).

6.4 Assessment of Reliability

The concept of reliability refers to "the extent to which a scale produces consistent results if repeated measurements are made" (Malhotra, 2004, p. 267). There are three main methods for assessing the reliability of the constructs: (1) test-retest reliability; (2) internal consistency; and (3) alternative forms (Malhotra, 2004). A high proportion of the marketing researchers indicated that the internal consistency measures are the most useful techniques for assessing reliability (Churchill, 1995; Peterson 1994). The

internal consistency is identified as the 'the reliability within single testing occasions' (Green et al., 1988, p. 254). There are two methods to assess the internal consistency, namely item-to-total correlation and Cronbach's alpha co-efficient (Green et al., 1988).

The internal consistency of the constructs was evaluated by calculating both Cronbach's alpha values for each factor and item-to-total correlations for each item. Janssens et al. (2008) recommended values of Cronbach's alpha larger than .80 in order to allow the researcher to summate the scale without any item removal. However, if the value of Cronbach's alpha ranges between .60-.80, the researcher should remove items with the lowest item-total correlation and watch carefully the increase of Cronbach's alpha. A very low increase of Cronbach's alpha (e.g. .02) with the elimination of more than four items is not justifiable. In general, the calculation of Cronbach's alpha requires a minimum number of three items, and the value of Cronbach's alpha is very sensitive for the number of items included in the analysis. Having a large number of variables may improve and inflate the value of Cronbach's alpha. Hence, running factor analysis before calculating Cronbach's alpha is usually recommended. Furthermore, common threshold values for item-to-total correlations range from 0.30 and 0.60 (Green et al., 1988). The following section illustrates the results of factor analysis and internal consistency.

6.4.1 Principle Component Analysis and Reliability Results

Table 6.5 presents the results of the rotated factor scores of each construct theorized in the research model. The accepted criteria of eigenvalue greater than 1.0, factor loadings greater than 0.5, and a well-explained factor structure were considered in the analysis (Carmines and Zeller, 1979; Janssens et al., 2008). The items loaded on ten factors that directly mapped with the theorized constructs. Only two items from the performance expectancy loaded separately (oc3 and oc4), raising doubts about whether they were separate variables. However, based on the results from prior research that clearly identified that these items belong to performance expectancy, it was decided not to consider them as two separate variables.

Table 6.5: Exploratory Factor Analysis for Research Constructs

Items	Performance Expectancy	Effort Expectancy	Social Factor	Risk	Competitive Pressure	Compatibility	Government Support	Facilitating Conditions	Outcome Expectancy	Intended Degree of Use	Behaviour Intention	Job fit
Ra2	.862	.115	.078	-.118	.162	-.014	-.082	.067	.068	.057	-.142	.023
Ra5	.843	.135	.104	.042	.173	.025	-.080	.055	.038	.063	-.149	.127
Ra3	.825	.182	.122	-.030	.083	.034	-.075	.039	.088	.118	-.144	.087
Pu2	.817	.290	.052	.048	.118	.071	-.024	.137	.085	-.010	.191	.011
Pu5	.810	.293	.090	-.051	-.002	-.014	-.085	.052	.060	.040	.208	-.006
Pu3	.799	.293	.012	-.004	.151	.035	-.015	.134	.092	-.084	.198	-.027
Ra4	.786	.114	.131	.011	.083	-.005	-.096	-.004	-.105	.058	-.327	.027
Ra7	.770	.206	.156	.065	.211	-.046	-.207	.078	-.070	.185	-.024	.041
Em1	.769	.263	.045	-.045	.034	.055	.085	.044	.170	.095	.182	-.028
Ra6	.769	.163	.172	.004	.183	-.024	-.263	.045	.138	.076	-.084	.059
Pu4	.764	.340	.006	.013	.070	.012	.058	.175	.079	.035	.225	-.050
Pu1	.764	.252	.045	.005	.181	.117	-.086	.106	.067	.022	.241	.016
Em3	.720	.188	.044	-.030	.167	.037	.132	.170	-.149	.121	-.173	.072
Ra1	.716	.149	.146	-.091	.074	-.003	-.078	-.057	-.215	.144	-.342	.050
Jf2	.700	.221	.092	-.005	.063	.020	.060	.097	.104	-.009	.124	-.006
Oe2	.697	.242	.168	.003	.006	.062	.003	.087	.285	.063	-.021	.041
Oe1	.678	.219	.213	-.065	.098	.065	-.086	.224	.141	.136	-.041	.074
Em4	.639	.152	.022	-.095	.177	-.055	.144	.131	-.255	.154	-.211	.275
Jf3	.606	.180	.085	-.373	-.083	.229	.133	.152	.163	.018	-.105	-.085
Org7	.492	.046	.185	.062	.449	-.058	-.144	.343	.114	.118	-.011	.256
Jf4	.436	.280	.114	-.375	-.226	.169	-.108	.180	.041	.278	.293	.620
Bi4	.434	.180	.291	-.052	.395	.047	-.120	.148	-.050	.404	.527	.109
Bi3	.361	.233	.206	.024	.422	.074	-.127	.123	-.010	.312	.514	.059
Bi2	.329	.245	.222	-.084	.320	.071	-.124	.203	-.014	.366	.507	.047
Bi1	.278	.180	.291	-.052	.395	.047	-.120	.148	-.050	.404	.501	.109
Eou1	.225	.823	-.158	-.167	.028	.146	.061	.063	-.080	.059	.035	.012
Comp2	.250	.823	-.055	-.089	-.017	.047	-.049	-.019	.023	.074	.066	.349
Comp4	.190	.818	-.147	-.087	.051	.053	-.009	.088	-.096	.055	-.041	.301
Eou2	.235	.803	-.100	-.148	.062	.033	-.022	.135	-.051	.125	.079	.018
Comp3	.137	.799	-.208	-.137	.011	.071	.001	.073	.047	-.010	.069	.192
Eou3	.309	.795	-.182	-.214	-.006	.056	.079	.039	-.077	.073	.040	-.032
Comp1	.239	.779	-.028	-.042	-.003	-.001	-.161	.024	.020	.070	.049	.372
Peou2	.379	.767	-.104	-.127	.123	.034	.131	.095	.169	-.011	-.016	-.199
Peou6	.445	.747	-.096	-.122	.076	.111	.140	.031	.114	.004	-.123	-.172
Peou3	.405	.739	-.121	-.154	.095	.117	.217	.030	.141	.011	-.050	-.225
Peou1	.400	.734	-.139	-.182	.056	.122	.174	.033	.145	.050	-.016	-.155
Peou4	.392	.731	-.176	-.090	.164	.081	.137	.058	.192	.064	-.022	-.175
Peou5	.437	.704	-.127	-.145	.138	.100	.207	.082	.133	-.021	-.152	-.167
Image1	.203	-.109	.841	.006	.175	.046	.098	.099	.020	.043	-.100	-.031
Image2	.154	-.053	.820	.031	.119	.026	.103	.093	-.069	.045	-.176	-.093

Sf3	.239	-.223	.808	.086	.035	.085	-.018	.007	.125	-.019	.130	.006
Sf2	.143	-.285	.804	.140	.155	-.020	-.104	.016	.008	-.029	.006	.041
Sf1	.050	-.251	.727	.257	.209	-.195	-.124	.028	-.118	-.006	.000	-.007
Sn2	.120	-.232	.720	.266	.102	-.022	-.145	-.005	-.030	.141	.022	.215
Sn1	.093	-.269	.681	.251	.130	-.067	-.253	.035	-.007	.130	.078	.163
Image3	.149	-.056	.638	-.072	-.090	.106	.262	.073	.267	.071	.047	-.037
Risk3	-.096	-.377	.190	.766	.026	-.104	-.102	.029	-.141	.040	.135	-.031
Risk2	.082	-.132	.078	.750	.157	-.180	-.241	.047	-.152	.072	-.188	.102
Risk4	-.171	-.442	.243	.707	-.054	-.097	.024	-.001	-.127	.002	.057	-.023
Risk5	-.071	-.429	.278	.669	.066	-.153	-.051	.036	.057	.039	.055	-.093
Risk1	-.006	-.228	.274	.617	.068	-.166	-.317	.028	-.120	.018	-.164	.001
compp1	.488	.087	.223	-.006	.672	-.049	-.089	.051	-.069	.011	-.080	.071
Compp3	.430	.122	.314	.120	.653	-.077	-.160	.133	-.085	.075	-.097	.041
Compp2	.454	.151	.320	.014	.645	-.063	-.164	.201	.026	.080	.015	.015
Compp4	.333	.117	.264	.118	.523	-.219	-.164	.182	-.044	.093	-.029	.215
Org3	.066	.130	.009	-.128	-.020	.932	.189	.008	.032	.001	-.002	-.004
Org6	.044	.105	.009	-.118	-.042	.911	.180	.015	.080	-.025	-.001	-.027
Org4	.062	.168	.029	-.135	-.016	.902	.204	-.006	.078	.038	-.021	-.034
Em2	.214	.184	-.076	-.257	-.312	.439	.170	.067	.079	-.047	.159	-.071
Govs3	-.177	.180	-.020	-.115	-.116	.232	.806	-.025	.188	-.018	-.037	.051
Govs1	-.044	.096	.031	-.190	-.166	.303	.796	.005	.055	.064	.059	-.112
Govs2	-.193	.173	-.040	-.192	-.102	.310	.783	-.048	.197	.004	-.012	-.051
Org1	.275	.144	.135	.020	.022	.014	-.081	.819	.001	.039	-.030	-.048
Org2	.389	.095	.044	.027	.237	-.006	.062	.749	-.002	.147	.073	.134
Org5	.302	.201	.102	.009	.266	.058	.031	.532	.210	.065	-.080	.178
Oe3	.294	.176	.092	-.174	-.042	.143	.213	.049	.756	.099	-.061	-.021
Oe5	.324	.079	.055	-.234	.034	.118	.210	.080	.749	.127	.007	-.044
Compp5	.247	.108	.062	.199	.308	-.082	-.357	-.018	-.428	.200	-.176	-.076
Auf	.248	.025	.087	.155	.267	-.015	-.027	.115	-.029	.749	.057	.034
Aut	.277	.241	.096	-.019	-.099	-.007	.124	.050	.276	.677	-.085	-.028
Govs4	.178	.044	.202	.216	.250	.003	-.180	.256	.110	-.063	-.413	-.093
Jf1	.265	.201	.109	.021	.261	-.116	-.060	.155	-.031	.007	.047	.461
Eigen Value	23.810	12.450	5.343	2.674	1.925	1.822	1.701	1.580	1.296	1.190	1.079	1.004
Var. Explain	21.797	14.381	8.397	5.180	5.040	4.813	4.599	3.222	3.215	2.641	2.168	2.150

Notes: KMO measure of sampling adequacy: .925 ; Sig .000 ; Cumulative Variance 77.604

The following explains each factor resulting from the exploratory factor analysis and the internal consistency results.

Factor 1: Performance Expectancy

The performance expectancy construct consists of five root constructs, namely perceived usefulness (PU), extrinsic motivation (EM), job fit (JF), relative advantage (RA) and outcome expectation (OE). Nineteen items loaded heavily upon this factor, which was the largest, accounting for 21.80% of total variance. Only three items belonging to this construct (oc3, oc5 and Jb4) loaded separately. However, it was decided to include these factors with performance expectancy following the advice of previous researchers (Venkatesh et al., 2003; Bandyopadhyay and Fraccastoro, 2007; Anderson et al., 2006; Gupta et al., 2008). Furthermore, only two dimensions did not load on this factor, giving values lower than the cut-off point (jf1, cm2). Therefore, it was decided to exclude these two dimensions from further analysis.

Internal reliability assessment was undertaken for the performance expectancy dimensions. Table (6.6) shows a high Cronbach's alpha of a value .97 after deleting jf1 and cm2. The Item- to total correlation of cm2 was .24 that is lower than .3 cut off point. However, the Item to total correlation of jf1 was .34 that is slightly higher than .3. Furthermore, it is worth mentioning that these two items did not load on the performance expectancy construct when running the factor analysis and had low correlation (less than .03) with other variables. Therefore, they were excluded from the regression analysis. Furthermore, given the fact that an alpha value of 0.97 is greater than 0.80, the result should be considered very good and a summated scale may be calculated based on these 22 items (Janssens et al., 2008).

Table 6.6: Internal Reliability Assessment for Performance Expectancy Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
pu1	.798	.963
pu2	.856	.963
pu3	.829	.963
pu4	.812	.963
pu5	.833	.963
Em1	.805	.963
Em2	.238	.962
Em3	.735	.964
Em4	.635	.965
jf2	.720	.964
jf3	.674	.964
jf4	.596	.965
ra1	.680	.964
ra2	.865	.962
ra3	.843	.963
ra4	.741	.964
ra5	.842	.963
ra6	.799	.963
ra7	.789	.963
oe1	.769	.964
oe2	.764	.964
oe3	.439	.967
oe4	.449	.967

Note: Cronbach's Alpha = .965 * and N=22

* On removal of item em2 and jf1

Factor 2: Effort Expectancy

Effort expectancy consists of three root constructs: perceived ease of use (PEOU), complexity (COMP) and ease of use (EOU). All of the dimensions of this construct loaded heavily on this factor giving values ranging from .70 to .82. Therefore, all of the dimensions were retained for further analysis. The total variance explained by this factor was 14.38%, which was the second influential variable after performance expectancy. Furthermore, given the high internal reliability of the scale (see table 6.7), with an alpha co-efficient .97 (larger than .80), elimination of items with the purpose to increase alpha was not considered necessary, and the summated scale can be calculated immediately (Janssens et al., 2008).

Table 6.7: Internal Reliability Assessment of Effort Expectancy Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
peou1	.870	.970
peou2	.875	.970
peou3	.870	.970
Peou4	.860	.970
Peou5	.854	.970
Peou6	.877	.970
Comp1	.746	.972
Comp2	.821	.971
Comp3	.802	.971
Comp4	.817	.971
Eou1	.866	.970
Eou2	.831	.971
Eou3	.875	.970

Note: Cronbach's Alpha = .973 and N=13

Factor 3: Social Influence

Social Influence consists of three root constructs: subjective norms (SN), image (IMAGE) and social factor (SF). Principal components analysis revealed the presence of eight items loading strongly on this factor. The total variance explained by this factor was 8.40%. Furthermore, the internal consistency analysis showed a high Cronbach's alpha .93. Therefore, it was decided to retain all the dimension of this construct. In addition, the analysis presented in table 6.8 permitted the summation of the dimension of the social influence factor.

Table 6.8: Internal Reliability Assessment of the Social Influence Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
Sn1	.736	.918
Sn2	.780	.915
Sf1	.752	.917
Sf2	.849	.910
Sf3	.814	.912
image1	.817	.912
image2	.749	.917
image3	.525	.934

Note: Cronbach's Alpha = .927 and N=8

Factor 4: Perceived Risk

Perceived risk consists of two root constructs: financial risk (risk1, risk2) and psychological risk (risk 3, risk4, risk5). Five items loaded heavily upon this factor, with values ranging from .62 to .77. Therefore, this item scale had high reliability and was retained. The factor accounted for 5.18% of the total variance. Table 6.9 shows the high internal reliability of this scale.

Table 6.9: Internal Reliability Assessment of the Risk Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
Risk1	.682	.894
Risk2	.680	.895
Risk3	.851	.856
Risk4	.824	.863
Risk5	.752	.882

Note: Cronbach's Alpha = .901 and N=5

Factor 5: Competitive Pressure

Competitive pressure includes five items (compp1, compp2, compp3, compp4 and compp5). Only four items loaded heavily upon this factor, with values of 0.67 (compp1), 0.65 (compp3), 0.65 (compp2) and 0.52 (compp4) respectively. The factor accounted for 5.04% of the total variance. The item compp5 was deleted from further analysis because it did not load on its expected factor; it showed a low item-total correlation value and a low value of inter-item correlation. After deleting the item of compp5, Cronbach's alpha value increased from .88 to .91. Table 6.10 illustrates the results of the internal reliability assessment.

Table 6.10: Internal Reliability Assessment of Competitive Pressure Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
compp1	.778	.899
compp2	.767	.869
compp3	.797	.859
compp4	.581	.921
Compp5	.465	.913

Note: Cronbach's Alpha* = .913 and N=4

*on removal of item compp5

Factor 6: Compatibility

The compatibility construct consists of three items (org3, org4 and org6). Three items loaded on this factor with values of .93 (org3), .91 (org6) and .90 (org4). Therefore, this item scale had high reliability and was retained. The factor accounted for 4.81% of the total variance. Furthermore, all items in the compatibility scale had high internal reliability, as shown in table 6.11.

Table 6.11: Internal Reliability Assessment of Compatibility Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
org3	.962	.917
org4	.931	.941
Org6	.895	.973

Note: Cronbach's Alpha = .963 and N=3

Factor 7: Government Support

Government support was measured by four items (govs1, govs2, govs3, govs4). Only three items had loadings greater than 0.50. The item of govs4 did not load on this factor and it was excluded from further analysis. The factor accounted for 4.60% of the total variance. The internal consistency results supported the exclusion of this item. The value of Cronbach's alpha increases from .73 to .93 after the

deletion of gov4 item. Table (6.12) illustrates the results of the internal reliability assessment of government support items.

Table 6.12: Internal Reliability Assessment of Government Support Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
govs1	.812	.933
Govs2	.911	.843
Govs3	.848	.903
Govs4	-.191	.926

Note: Cronbach's Alpha = .926* and N=3

* On removal of item gov4

Factor 8: Facilitating Conditions

Facilitating conditions include three items (org1, org2 and org5). All of the items loaded on this factor with values ranging from .53 to .82. Therefore, this items scale had high reliability and was retained for further analysis. The factor accounted for 3.22% of total variance. The internal reliability analysis showed a high Cronbach's alpha of .80. Therefore, it was decided to retain all of the items.

Table 6.13: Internal Reliability Assessment of Facilitating Condition Items

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
org1	.636	.726
org2	.738	.615
org5	.557	.818

Note: Cronbach's Alpha = .796 and N=3

Factor 9: Intended Degree of Use

Intended degree of e-commerce use include two items (Auf, Aut). The two items loaded on this factor with values of .75 (Auf) and .68 (Aut). Therefore, this item scale had high reliability and was retained. The factor accounted for 2.64% of the total variance.

Factor 10: Behaviour Intention

Behaviour intention contains four items BI1, BI2, BI3 and BI4. The analysis revealed that all the dimensions loaded on this factor giving a total variance of 2.17%. The reliability analysis revealed a high Cronbach's alpha score .94 (see table 6.14). Therefore, it was decided to retain all the factors for further analysis.

Table 6.14: Internal Reliability Assessment of Behaviour Intention

Factor	Corrected I-T Correlation	Cronbach's Alpha if item deleted
bi1	.841	.924
bi2	.863	.917
bi3	.869	.916
bi4	.848	.923

Note: Cronbach's Alpha = .939 and N=4

In conclusion, the results of the exploratory factor analysis and item-to-total correlation supported the omission of four items from further analysis, namely Jf1, em2, gov54 and comp5. The elimination of these variables will improve the reliability of the scale.

6.5 Construct Validity

Several methods were used to assess the validity of the constructs. Principal components analysis was employed to evaluate the convergent and the discriminant validity in this research. Convergent validity is indicated if items have significant factor loading of .50 or above. Testing discriminant validity requires checking the cross-loading of items on more than one factor. This procedure was used in several studies which investigated the adoption and use of information technology, such as Premkumar and Roberts (1999), Seyal et al. (2004) and Abu Shanab et al. (2010a). Table 6.5 illustrates that all items loaded highly on their associated constructs, but not others, thus showing sufficient convergent and discriminant validity.

Furthermore, the correlation between the independent research constructs was used to evaluate discriminant validity. Table 7.1 in chapter seven does not show a very high correlation between the independent constructs providing evidence of discriminant validity.

A more robust test of discriminant validity was employed using the method recommended by Fornell and Larcker (1981). This procedure suggests that discriminant validity exists when the variance shared between two constructs (i.e., the square of their intercorrelations) is lower than the average variance extracted (AVE) in the items forming the constructs. The AVE is the average percentage of variation indicated among constructs (Hair et al., 2006). To calculate the discriminant validity, the researcher calculated the standardized item loadings and error terms for every item and construct in the conceptual model. Then, the researcher calculated the individual AVE for every construct and compared this with the squared correlation matrix as illustrated in table 6.15.

Table 6.15 illustrates the squared correlation matrix and the validity for each of the constructs in the conceptual model. The variance extracted (VE) is the average squared factor loading (see appendix 5). The VE should be .5 or above to indicate convergent validity which is the case of all the constructs in table 6.15. In addition, the VE estimates for two factors are greater than the square of the correlation between the two factors and thus provide evidence of discriminant validity (Hair et al., 2006). Furthermore, the AVE values ranged from .50 to .64. These figures are all within the acceptable levels ($\geq .50$), and illustrate a sufficient AVE score (Hair et al., 2006). Furthermore, all squared correlations were lower than the AVE for each construct. This provides evidence of discriminant validity among the constructs in this study (Hair et al. 2006; Fornell and Larcker, 1981). Finally, construct reliability (CR) values ranged from .72 to .83 that provides evidence of adequate convergence or internal consistency (Hair et al., 2006).

Table 6.15: Squared Correlation Matrix (ϕ^2)

Measures	X	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Performance expectancy	X1	1									
Effort expectancy	X2	.36**	1								
Social influence	X3	.05**	.08**	1							
Perceived risk	X4	.05**	.31**	.19**	1						
Government support	X5	0.00	.04**	.02**	.16**	1					
Competitive pressure	X6	.35**	.07**	.20**	0.02*	.11**	1				
Facilitating conditions	X7	.31**	.13**	.05**	0.00	0.00	.26**	1			
Compatibility	X8	.03**	.07**	0.00	.13**	.24**	0.01*	.01	1		
Behaviour intention	X9	.47**	.17**	.13**	0.00	.03**	.47**	.29**	.00	1	
Intended degree of use	X10	.19**	.08**	.04**	0.00	0.00	0.12**	0.12**	.05**	.23**	1
VE	$\frac{(\sum_{i=1}^n \lambda_i^2)}{n}$	.68	.79	.71	.67	.82	.74	.93	.71	.80	.68
AVE	$\frac{(\sum_{i=1}^n \lambda_i^2)}{(\sum_{i=1}^n \lambda_i^2) + (\sum_{i=1}^n \epsilon_i)}$	.50	.50	.51	.56	.50	.50	.64	.51	.50	.54
CR	$\frac{(\sum_{i=1}^n \lambda_i)^2}{(\sum_{i=1}^n \lambda_i)^2 + (\sum_{i=1}^n \epsilon_i)}$	.83	.75	.75	.72	.75	.80	.77	.76	.80	.70

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

6.6 Correlation Analysis

The correlation coefficient provides an indication of the direction and strength of association between two variables. Pearson's correlation coefficient was used, because it is regarded as the most appropriate indicator of association between variables that are measured on the basis of interval or ratio scale (Field, 2005). A correlation coefficient can have values of between -1 and +1. The closer the correlation to +1, the stronger the correlation. If the correlation is zero or very close to zero, then there is no association between the variables. If the correlation is positive, the two variables have a positive relationship (i.e., as one increases, the other also increases). Conversely, if the correlation is negative, the two variables have a negative relationship (i.e., as one increases, the other decreases).

The correlation analysis was applied to provide an initial picture of the interrelationships amongst the dimension of the constructs of the conceptual model that are to be examined in the regression analysis. Furthermore, the correlation analysis was employed to assess the suitability of data for the exploratory factor analysis. The results do not raise major concerns about the existence of very low correlations between large numbers of variables. Some variables (jfl, cm2, comp5, gov4) showed low correlations (less than 0.3), and were dropped from the final analysis (Hair et al., 1998, Janssens et al., 2008). This procedure confirmed the exclusion of these items from further analyses as the result of the exploratory factor analyses suggested. The following tables illustrate the correlation between variables.

Table 6.16: Correlation between Performance Expectancy Dimensions

Measures	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	13X	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	
pu1	X1	1																							
pu2	X2	.826(**)	1																						
pu3	X3	.798(**)	.896(**)	1																					
pu4	X4	.783(**)	.796(**)	.836(**)	1																				
pu5	X5	.739(**)	.789(**)	.770(**)	.808(**)	1																			
em1	X6	.734(**)	.748(**)	.744(**)	.760(**)	.737(**)	1																		
em2	X7	.238(**)	.192(**)	.228(**)	.244(**)	.227(**)	.228(**)	1																	
em3	X8	.603(**)	.631(**)	.606(**)	.640(**)	.588(**)	.629(**)	.135(*)	1																
em4	X9	.479(**)	.518(**)	.540(**)	.556(**)	.545(**)	.448(**)	.096	.752(**)	1															
jf1	X10	.370(**)	.364(**)	.344(**)	.284(**)	.299(**)	.272(**)	-.095	.315(**)	.386(**)	1														
jf2	X11	.605(**)	.675(**)	.612(**)	.637(**)	.648(**)	.682(**)	.183(**)	.526(**)	.407(**)	.278(**)	1													
jf3	12X	.509(**)	.529(**)	.521(**)	.533(**)	.524(**)	.555(**)	.444(**)	.528(**)	.426(**)	.113(*)	.571(**)	1												
jf4	13X	.443(**)	.500(**)	.477(**)	.526(**)	.561(**)	.498(**)	.424(**)	.421(**)	.349(**)	.072	.511(**)	.796(**)	1											
ra1	X14	.502(**)	.561(**)	.509(**)	.450(**)	.534(**)	.505(**)	.058	.635(**)	.582(**)	.268(**)	.472(**)	.451(**)	.385(**)	1										
ra2	X15	.690(**)	.710(**)	.693(**)	.663(**)	.721(**)	.686(**)	.106	.683(**)	.590(**)	.317(**)	.622(**)	.559(**)	.461(**)	.731(**)	1									
ra3	X16	.677(**)	.713(**)	.676(**)	.626(**)	.717(**)	.645(**)	.120(*)	.583(**)	.532(**)	.347(**)	.585(**)	.500(**)	.437(**)	.701(**)	.852(**)	1								
ra4	X17	.540(**)	.623(**)	.580(**)	.546(**)	.626(**)	.529(**)	.062	.623(**)	.570(**)	.263(**)	.509(**)	.452(**)	.353(**)	.747(**)	.759(**)	.793(**)	1							
ra5	X18	.696(**)	.723(**)	.708(**)	.674(**)	.701(**)	.660(**)	.103	.620(**)	.640(**)	.363(**)	.582(**)	.491(**)	.371(**)	.654(**)	.832(**)	.836(**)	.781(**)	1						
ra6	X19	.658(**)	.709(**)	.682(**)	.608(**)	.681(**)	.641(**)	.041	.556(**)	.518(**)	.341(**)	.593(**)	.454(**)	.358(**)	.634(**)	.772(**)	.777(**)	.682(**)	.811(**)	1					
ra7	X20	.637(**)	.724(**)	.665(**)	.611(**)	.715(**)	.617(**)	.017	.594(**)	.586(**)	.347(**)	.601(**)	.397(**)	.383(**)	.654(**)	.768(**)	.792(**)	.723(**)	.808(**)	.812(**)	1				
oe1	X21	.668(**)	.661(**)	.632(**)	.619(**)	.612(**)	.619(**)	.213(**)	.578(**)	.471(**)	.377(**)	.531(**)	.521(**)	.445(**)	.560(**)	.696(**)	.698(**)	.592(**)	.683(**)	.671(**)	.665(**)	1			
oe2	X22	.610(**)	.648(**)	.621(**)	.620(**)	.633(**)	.629(**)	.268(**)	.522(**)	.433(**)	.228(**)	.588(**)	.556(**)	.456(**)	.519(**)	.669(**)	.703(**)	.570(**)	.630(**)	.638(**)	.619(**)	.710(**)	1		
oe3	X23	.293(**)	.347(**)	.340(**)	.356(**)	.344(**)	.393(**)	.313(**)	.235(**)	.165(**)	.035	.332(**)	.501(**)	.468(**)	.135(*)	.311(**)	.327(**)	.191(**)	.285(**)	.278(**)	.161(**)	.366(**)	.468(**)	1	
oe4	X24	.317(**)	.341(**)	.341(**)	.354(**)	.335(**)	.431(**)	.291(**)	.271(**)	.173(**)	.014	.309(**)	.503(**)	.442(**)	.125(*)	.378(**)	.342(**)	.182(**)	.298(**)	.313(**)	.187(**)	.370(**)	.439(**)	.867(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Note: Pu = perceived usefulness, em= extrinsic motivation, jf= job fit, ra= relative advantage, oe=outcome expectation

Table 6.17: Correlation between Effort Expectancy Dimensions

Measures	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	
peou1	X1	1												
peou2	X2	.883(**)	1											
peou3	X3	.879(**)	.893(**)	1										
peou4	X4	.831(**)	.878(**)	.877(**)	1									
peou5	X5	.842(**)	.841(**)	.874(**)	.840(**)	1								
peou6	X6	.844(**)	.852(**)	.869(**)	.856(**)	.909(**)	1							
comp1	X7	.608(**)	.604(**)	.557(**)	.571(**)	.555(**)	.603(**)	1						
comp2	X8	.671(**)	.651(**)	.641(**)	.653(**)	.628(**)	.680(**)	.857(**)	1					
comp3	X9	.639(**)	.663(**)	.657(**)	.663(**)	.626(**)	.654(**)	.698(**)	.788(**)	1				
comp4	X10	.637(**)	.640(**)	.646(**)	.648(**)	.631(**)	.660(**)	.764(**)	.852(**)	.825(**)	1			
eou1	X11	.748(**)	.722(**)	.728(**)	.713(**)	.719(**)	.745(**)	.681(**)	.728(**)	.756(**)	.762(**)	1		
eou2	X12	.697(**)	.715(**)	.681(**)	.680(**)	.680(**)	.693(**)	.696(**)	.715(**)	.692(**)	.734(**)	.828(**)	1	
eou3	X13	.765(**)	.753(**)	.747(**)	.744(**)	.746(**)	.749(**)	.655(**)	.729(**)	.734(**)	.734(**)	.873(**)	.851(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Peou= perceived ease of use, comp= complexity, eou= ease of use

Table 6.18: Correlation between Social Influence Dimensions

Measures		X1	X2	X3	X4	X5	X6	X7	X8
sn1	X1	1							
sn2	X2	.848(**)	1						
sf1	X3	.724(**)	.721(**)	1					
sf2	X4	.666(**)	.739(**)	.775(**)	1				
sf3	X5	.653(**)	.617(**)	.637(**)	.785(**)	1			
image1	X6	.538(**)	.572(**)	.592(**)	.733(**)	.733(**)	1		
image2	X7	.496(**)	.537(**)	.561(**)	.639(**)	.649(**)	.894(**)	1	
image3	X8	.298(**)	.400(**)	.303(**)	.453(**)	.553(**)	.591(**)	.533(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Sn= subjective norms, Sf= social factors

Table 6.19: Correlation between Risk Dimensions

Measures		X1	X2	X3	X4	X5
risk1	X1	1				
risk2	X2	.708(**)	1			
risk3	X3	.631(**)	.646(**)	1		
risk4	X4	.545(**)	.543(**)	.843(**)	1	
risk5	X5	.526(**)	.505(**)	.724(**)	.802(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Risk 1, Risk2 = financial risk Risk3, Risk4, Risk5= psychological risk

Table 6.20: Correlation between Government Support Dimensions

Measures		X1	X2	X3	X4
govs1	X1	1			
govs2	X2	.825(**)	1		
govs3	X3	.744(**)	.882(**)	1	
govs4	X4	-.170(**)	-.196(**)	-.171(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Govs= Government Support

Table 6.21: Correlation between Competitive Pressure Dimensions

Measures		X1	X2	X3	X4	X5
Compp1	X1	1				
Compp2	X2	.804(**)	1			
Compp3	X3	.775(**)	.839(**)	1		
Compp4	X4	.567(**)	.666(**)	.757(**)	1	
Compp5	X5	.346(**)	.387(**)	.479(**)	.458(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Compp= Competitive pressure

Table 6.22: Correlation between Facilitating Condition Dimensions

Measures		X1	X2	X3
Org1	X1	1		
Org2	X2	.693(**)	1	
Org5	X3	.449(**)	.573(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Org1= financial resources, org2= technological resources, org5= human resources

Table 6.23: Correlation between Compatibility Dimensions

Measures		X1	X2	X3
Org3	X1	1		
Org4	X2	.948(**)	1	
Org6	X3	.905(**)	.861(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Org3= compatibility with needs, org4= compatibility with values,
org6=compatibility with preferred work practice

Table 6.24: Correlation between Behaviour Intention Dimensions

Measures		X1	X2	X3	X4
Bi1	X1	1			
Bi2	X2	.814(**)	1		
Bi3	X3	.780(**)	.804(**)	1	
bi4	X4	.760(**)	.784(**)	.827(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Bi= Behaviour intention

6.7 Summary

The aim of this chapter was to clarify how the collected data was used and analysed. First, data screening and cleaning were performed, which required checking for possible errors in data entry, for outliers, and for the quality of respondents who completed the questionnaires. Then, descriptive analysis of the respondents, the travel agencies and the use of the Internet was provided. Next, several analyses were conducted to purify the scales used in this research. This required a check of the correlation matrix, exploratory factor analysis and internal consistency analysis. Furthermore, evidence of convergent and discriminant validity was provided. The next chapter will deal with the hypotheses testing and discussion of the results.

Chapter Seven: Test of Hypotheses and Discussion of Results

7.0 Introduction

The aim of this chapter is to test and evaluate the research model and the hypotheses after the validation of the research constructs in chapter six. The chapter explains the analysis strategy for testing the hypotheses and discusses the results. Consequently, this chapter achieves the research objectives by: 1) Creating a technology acceptance model for developing countries and then comparing it to the existing technology acceptance model developed in the developed economies using Jordan as a research site; 2) identifying the drivers that affect the behaviour intention to use e-commerce at the agencies; 3) clarifying the relationship between the independent variables and behaviour intention to use e-commerce; 4) identifying the contribution of each of the independent variables on behaviour intention to use e-commerce; 5) clarifying the effect of various moderators on the relationship between the independent variables and behaviour intention to use e-commerce; 6) testing the relationship between the behaviour intention and the intended degree of e-commerce use; and 7) measuring the intended degree of e-commerce use in the Jordanian travel agencies. Hence, the chapter is divided into the following sections:

7.1 Regression Analyses: This section explains the different techniques that are used in conducting the regression analysis. It explains the reason behind choosing the standard multiple regression using the Enter Method technique to test the research hypotheses.

7.2 Checking the Assumptions: This part explains the various assumptions that the researcher tested before conducting the regression analyses. This includes sample size, multicollinearity and singularity and checking for outliers, normality and linearity.

7.3 Interpretation of the Critical values of R^2 Statistics: This section explains the critical values of R^2 that are considered in evaluating the results of the regression analyses. It illustrates the significant values of R^2 according to different assumptions.

7.4 Evaluating the Research Model and Testing the Hypotheses: This section presents the research hypotheses and the result of the regression analyses. It evaluates the research model and tests the relationships between the independent and dependent variables. Furthermore, the section presents the effect of the moderators on the relationship between the independent and dependent variables.

7.5 Measuring Intended Degree of Use: The section illustrates the intended degree of e-commerce use at the Jordanian travel agencies. The section examines the existence of the indirect relationship between the independent variables and the intended degree of use.

7.6 Discussion: This section discusses the overall results of the regression analysis. The results are discussed in relation to previous work and findings reported in the literature.

7.7 Summary: This section provides a summary of the chapter.

7.1 Regression Analyses

Multiple regression analyses were used after conducting the exploratory factor analyses and verifying the internal consistency of the scales. Regression analysis explained how much of the variance in the dependent variable can be explained by the independent variables. Also, it gave an indication of the relative contribution of each independent variable on the dependent variable. The test allowed determining the statistical significance of the results, both in terms of the model itself, and the individual independent variables (Pallant, 2007). Therefore, the use of multiple regression helped in testing the research hypotheses and achieving the research objectives.

There are three main kinds of multiple regression: standard, hierarchical and stepwise. The standard multiple regression, the most frequently used, was selected as being the most suitable method for this research. This type of multiple regression is appropriate when the researcher has a set of variables and wants to know how much variance in a dependent variable (e.g. behaviour intention) is able to be explained as a group. Furthermore, the standard multiple regression illustrates the predictive power of each of the independent variable entered in the analysis (Field 2005; Pallant, 2007). Such a scenario was felt to be well-aligned with the research objectives presented in chapter one.

In hierarchical multiple regression, the independent variables are entered in the equation in a particular order determined by the researcher, based on theoretical consideration (Pallant, 2007). This method was not chosen, since there were not enough theoretical grounds (substantial literature from developing countries using the UTAUT model) upon which to influence the sequencing of independent variables into the research model. This method would be used had the researcher wished to know how well a specific variable within the model predicted behaviour intention to use e-commerce. However, the objective of the study is to assess the overall predictive power of the model and the relative contribution of each of the independent variable.

The stepwise multiple regression allows one to enter a list of independent variables into the program and then permit the program to select which variables it will enter,

and in which sequence they go into the equation, based on a specified statistical measures (Field, 2005; Pallant, 2007). There are several problems associated with using this method. Tabachnick and Fidell (2001) criticized stepwise regression based on the fact that decisions about inclusion and order of entry of variables are made exclusively on statistical criteria. Therefore, this method was not applied.

The researcher followed two major steps in running the regression analysis. The first step involved checking the assumptions of multiple regression, and the second required testing the hypotheses. Linear multiple regression from the SPSS package version 15 was used, using the Enter Mode. The results of the regression facilitated evaluation of the model and the contribution of each independent variable on the dependent variable, and the testing of the hypotheses. The following sections explain the steps for pursuing multiple regression.

7.2 Checking the Assumptions

Before running the regression analyses, several assumptions were checked including: sample size, multicollinearity and singularity, outliers and normality. The following explains these assumptions:

A) Sample size

Selecting the right sample size is important for the generalizability of the research results. Different authors tended to provide various guidelines concerning the number of cases required for multiple regression. Stevens (1996, p.72) recommended that “for social science research, about 15 subjects per predictor are needed for a reliable equation.” Tabachnick and Fidell (1996) provided a formula for the required sample size: $N > 50 + 8m$ (where m = number of independent variables). The regression analysis was applied on a sample of 313 travel agents, which is within the required sample size.

B) All of the relevant variables must be taken into consideration

All of the independent variables must enter the regression equation, and failure to include them will bias the regression results. An inspection of the ZPRED, ZRESID graph, in addition to the intuition of the researcher and the results of the previous research, may indicate a possible lack of independent variables (Janssens et al., 2008). The Scatterplot presented in appendix 6 shows no pattern suggesting unmissing independent variables in the model. Furthermore, rigorous literature review, together with qualitative interviews with the travel agents, ascertained the inclusion of the factors that influence the behaviour intention to use e-commerce.

C) Dependent and independent variables must be at least interval scaled

The scales used in the questionnaire were the seven-point Likert scales, and are thus, ordinal scales. However, the notion of equal appearing intervals allows the seven-point Likert scales or more possible alternatives to be treated as interval scales (Janssens et al., 2008; Field, 2005).

D) Linear relationship between the independent and dependent variables

An inspection of the Scatterplot presented in appendix 7 shows that there is a linear relationship between the independent variables and the dependent variable (behaviour intention). The graph does not show a pattern (e.g. a parabola) that suggests a non-linear relationship (Janssens et al., 2008; Field 2005).

E) Residuals

The residuals must have the subsequent characteristics: 1) independence; 2) normality; and 3) homoscedasticity (Janssens et al., 2008; Field, 2005; Pallant, 2007). Independence means that all of the participants should complete the questionnaires separately, without any influence from any other respondents, which was achieved in this study. Furthermore, the regression analysis provides Durbin-Watson Statistics that examine the independence of residuals. If this value is between 1 and 3, the

residual will be independent. The Durbin Watson value was 1.906, indicating the independence of residuals.

The normal residual distribution is indicated from the standardized residual diagram and the residual histogram illustrated in appendices 7 and 8. In the normal probability plot, the points lay in a reasonably straight diagonal line, from bottom-left to top-right, suggesting that the residuals are more or less normally distributed (Janssens et al., 2008; Pallant, 2001).

Homoscedasticity implies that “the residual has the same variance for every value of the independent variable” (Janssens et al., 2008 p. 157). The existence of a pattern in the Scatterplot of the standardized residuals implies the presence of heteroscedasticity. Patterns which clearly denote deviation from the homoscedasticity assumption include the triangle, which opens to the left or right, and the diamond shape (Janssens et al., 2008; Field, 2005). The residuals should be roughly rectangularly distributed, with most of the scores condensed in the centre (point zero), which is the case in the Scatterplot presented in appendix 6, indicating the existence of homoscedasticity in this study.

F) Outliers

Outliers are cases that differ considerably from the major trend of the data (Field, 2005). The existence of too many outliers can affect the values of the estimated regression coefficients, and therefore can cause the model to be biased. There are many statistical analyses to check for the existence of the outliers. The existence of the outliers can be detected from the Scatterplot, and a more formal analysis is the use of Casewise diagnostics table presented in appendix 9.

Tabachnick and Fidell (1996) suggested that outliers are standardized residuals of more than 3.3 or less than -3.3. The Scatterplot presented in appendix 6 shows the existence of few outliers in the data set. Further analysis for Casewise Diagnostics-illustrating outliers outside a standard deviation of 3 was carried out (see appendix 9). This process provides a table with the cases outside the range of 3.3 and -3.3 (outliers). The respondents in rows 19, 33, 55 and 58 are thus outliers, and the Scatterplot provides visual confirmation of this. Researchers agreed that with large

samples such as the sample of this study (313), it is not uncommon to find a number of outlying residuals. If a few outliers were found, it would be unnecessary to omit them (Janssens et al., 2008; Pallant, 2004). Researchers should not expect more than 5% of cases to be less than -3.3 or greater than 3.3. Thus the assumption of the inexistence of outliers was met (Tabachnick and Fidell, 1996; Field, 2005; Pallant, 2007).

G) Multicollinearity

This assumption involves the relationship between the independent variables. Multicollinearity occurs when there is a strong correlation between the independent variables ($r = 0.7$ or more; Pallant, 2007; O'Brien, 2007). The correlation table (7.1) illustrates that the correlation between each of the independent variables is not too high. The highest correlation between independent variables is 0.598 (between effort and performance expectancy). Furthermore, the results indicated that the independent variables have at least some relationship with the dependent variable (above .3 preferably). All of the independent variables showed a correlation higher than .3 except government support and perceived risk. Therefore, one can conclude that the correlation between the independent variables is not high, suggesting the inexistence of multicollinearity.

In addition to the calculation of the bivariate correlations, there are other techniques used to indicate the existence of multicollinearity, such as the variance inflation factor (VIF) and tolerance statistics ($1/VIF$). The VIF shows whether a predictor has a strong linear relationship with other predictors. Myers (1990) suggested that a value of 10 is problematic. However, Bowerman and O'Connell (1990) indicated that if the average VIF is greater than 1, then multicollinearity may exist. Furthermore, tolerance values of below 0.1 indicate serious problems, although Menard (1995) suggested that values below 0.2 are problematic. The collinearity diagnostics presented in appendix 10 reveal no major concerns for the existence of multicollinearity. Therefore, the data used to test the research model does not violate this assumption.

Table 7.1: Correlation between the Independent Research Construct

Measures	X	X1	X2	X3	X4	X5	X6	X7	X8	X9
Performance expectancy	X1	1								
Effort Expectancy	X2	.598**	1							
Social Influence	X3	.225**	-.283**	1						
Perceived Risk	X4	-.226**	-.561**	.434**	1					
Government Support	X5	-.049	.204**	-.151**	-.403**	1				
Competitive Pressure	X6	.593**	.265**	.448**	.135*	-.337**	1			
Facilitating conditions	X7	.554**	.358**	.225**	-.043	-.057	.514**	1		
Compatibility Behaviour	X8	.174**	.266**	-.037	-.359**	.492**	-.117*	.081	1	
Intention	X9	.686**	.411**	.362**	-.023	.170**	.687**	.543**	.068	1

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

7.3 Interpretation of the Critical Values of R² Statistics

The results of the multiple regression are interpreted by the value of R Square, the coefficient of determination, or the squared correlation coefficient and the adjusted R square (Malhotra, 2004; Hair et al., 1998). The R² explains how much of the variance in the dependent variable (behaviour intention to use e-commerce) is explained by the independent variables. However, when a small sample is used, the value of R² can provide an optimistic overestimation of the true value in the population. Therefore, it is advised to use the value of the adjusted R² to provide a better estimation of the population (Tabachnick and Fidell, 1996).

There are various interpretations of the R² statistic found in the literature. Tabachnick and Fidell (2001) reported the use of tables for assessing the critical values of R² based on the sample size and the number of independent variables, for the value to be considered significant at either p-value .05 or p-value .01 level. Furthermore, Pallant (2007) stated that an adjusted R value of .45 is respectable when compared to some of the results reported within journals. Sudman and Blair (1998) labelled an R² value of .09 as “fairly weak,” and stated that an R² value of .3 or larger is considered to be “moderately strong” by a large number of researchers.

7.4 Evaluating the Research Model and Testing the Hypotheses

After checking the regression assumptions, multiple regression analyses were carried out using the Enter Method to evaluate the model and to test the research hypotheses, namely:

H1: Performance Expectancy will have a positive relationship with behaviour intention to use e-commerce.

H2: Effort expectancy will have a positive relationship with behaviour intention to use e-commerce.

H3: Social influence will have a positive relationship with behaviour intention to use e-commerce.

H4: Perceived risk will have a negative relationship with behaviour intention to use e-commerce.

H5: Government support will have a positive relationship with behaviour intention to use e-commerce.

H6: Competitive pressure will have a positive relationship with behaviour intention to use e-commerce.

H7: Facilitating conditions will have a positive relationship with behaviour intention to use e-commerce.

H8: Compatibility with values belief and preferred work practice will have a positive relationship with behaviour intention to use e-commerce.

H9: Behaviour intention will have a positive relationship with the intended degree of e-commerce use.

The results indicated a significant model ($F_{8, 304} = 62.639$, $P < .0005$, $R^2 = .622$, Adjusted $R^2 = .612$). The significant variables emerged from the results are shown below:

Predictor Variables	Standardized Coefficients Beta	Sig
Performance Expectancy	.287	.000
Effort Expectancy	.170	.004
Social Influence	.159	.001
Competitive Pressure	.322	.000
Facilitating conditions	.116	.010

The results indicated that five of the independent variables are strong predictors of the criterion variable (behaviour intention to use e-commerce) in the model, hence supporting H1, H2, H3, H6 and H7 hypotheses. Furthermore, the results illustrated the contribution of each factor on the behaviour intention to use e-commerce. This share is explained by the value of the standardized regression coefficient “size of beta”. The largest beta value in the standardized coefficient column is 0.322, which belongs to the competitive pressure factor. This means that this variable makes the strongest unique contribution in explaining the dependent variable, when the variance explained by all other variables in the model is controlled for. This is followed by performance expectancy (.287), then effort expectancy (.170), social influence (.159) and finally facilitating conditions (.116).

In contrast, the perceived risk, government support and compatibility constructs are not significant predictors in the model; hence H4, H5 and H7 are not supported. The following illustrates the results of these predictor variables:

Predictor variables	Standardized Coefficients Beta	Sig
Perceived Risk	.019	.702
Government Support	-.066	.144
Compatibility	.046	.277

7.4.1 The Relationship Between Behaviour Intention and Intended Degree of E-commerce Use

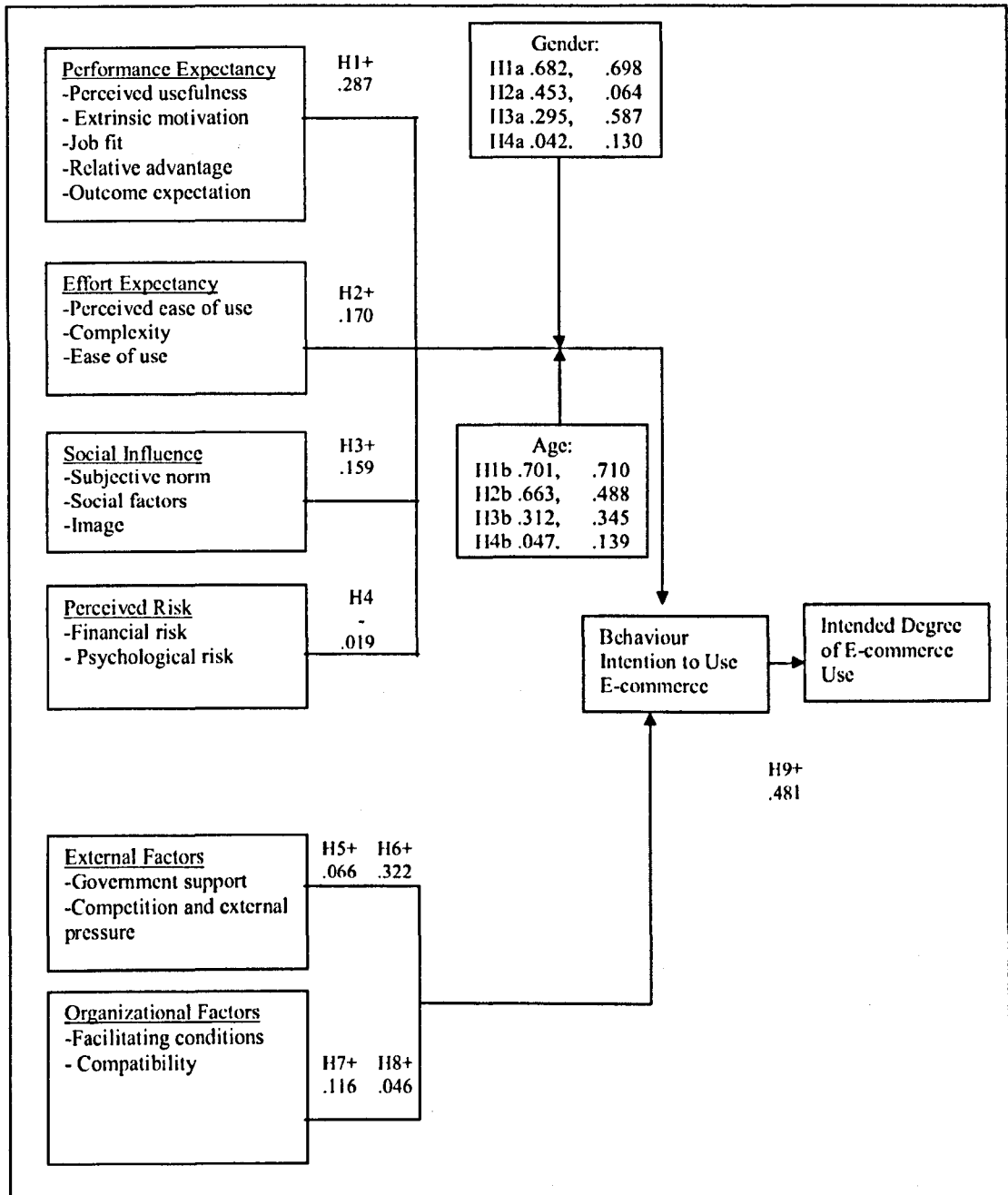
In order to test the relationship between the behaviour intention to use e-commerce and Intended degree of e-commerce use, a bivariate regression analysis was carried out. As the name indicates, this analysis is used when we need to analyze the relationship between an independent variable (behaviour intention to use e-commerce) and a dependent variable (intended degree of use). The results of the analysis indicate a significant relationship between the two variables ($F_{1, 311}=93.849$, $P < .0005$, $R^2 = .232$, Adjusted $R^2 = .229$). The beta value in the standardized regression coefficient is .481. This means that behaviour intention contributes around .481 in explaining the

dependent variable (intended degree of e-commerce use). Thus the results support H9 hypothesis that indicates a positive relationship between behaviour intention and intended degree of e-commerce use.

Predictor variables	Standardized Coefficients Beta	Sig
Behaviour Intention	.481	.000

Figure (7.1) illustrates the research conceptual model and the contribution of each independent variable and moderator on the criterion variable.

Figure 7.1: Conceptual Framework



The standardized coefficient beta values for performance expectancy=.287, effort expectancy=.170, social influence=.159, perceived risk=.019, government support=.066, competitive pressure=.322, facilitating conditions=.116, compatibility=.046, behaviour intention=.481. The standardized coefficient beta values for the gender moderators: males performance expectancy=.682, females performance expectancy=.698, males effort expectancy=.453, females effort expectancy=.064, males social influence=.295, females social influence=.587, males perceived risk=.042, females perceived risk=.130. The standardized beta values for age moderators: young group performance expectancy=.701, old group performance expectancy=.710, young group effort expectancy=.663, old group performance expectancy=.488, young group social factors=.312, old group social factors=.345, young group perceived risk=.047, old group perceived risk=.139.

7.4.2 Testing the Moderating Effect

A moderator variable is defined as one which “affects the nature of the relationship between two other variables” (Schmitt and Klimoski, 1991, p. 18). There are two major analytical approaches to identify the moderating effect: (1) moderated multiple regression analysis (MMRA); and (2) subgroup analysis (Sharma et al., 1981). The MMRA is scarcely used in marketing-related studies (Sharma et al., 1981). Carte and Russell (2003) critically assessed moderation tests using MMRA techniques and urged researchers to use the ΔR^2 as an index of moderator effect size. The results of the MMRA analysis indicate the moderator effect size after checking the significant change in R^2 . However, this method is recommended when moderators are presented in interval scale which is not the case of this current study. As a result, subgroup analysis was applied to identify the unique contribution of the moderating effect of age and gender on the relationship between independent variables (performance expectancy, effort expectancy, social influence and perceived risk) and behaviour intention to use e-commerce.

The subgroup analysis is used more often in marketing research (Sharma et al., 1981). Using this approach, the sample has to be split into subgroups on the basis of a third variable, the hypothesized moderator (gender and age). The gender and age variables were collapsed into two groups namely, male, female, younger group, and older group. After the sub-grouping was made, the researcher ran regression analysis and a group comparison using the standardized coefficients beta values were used to determine the effects of the moderators for the significant relationships. Then, to calculate the significance of the difference between two correlations from independent samples, the researcher followed the following steps:

1. Converting the correlations into Z scores using the table of Fisher’s z-score transformation of Pearson’s r.
2. Computing the standard error of difference between the two correlations using the following equation:

$$SE = \sqrt{\left(\frac{1}{n_1} - 3 \right) + \left(\frac{1}{n_2} - 3 \right)}$$

Where n_1 and n_2 are the sample sizes of the independent samples

3. Dividing the difference of the two z-scores by the standard error.

4. If the Z value for the difference calculated in step 3 is 1.96 or higher, the difference in the correlations is significant at the .05 level (Blalock, 1972). The following illustrates the results of the subgroup analyses.

7.4.2.1 Performance Expectancy

Performance expectancy is defined as “the degree to which an individual believes that using the system will help him or her to attain gains in job Performance” (Venkatesh et al., 2003, p. 447). From the review of literature and the qualitative interviews, two sub-hypotheses were generated for this construct, namely:

H1a: Performance expectancy will have a positive relationship with behaviour intention to use and the strength of the positive relationship will be greater for males than females.

H1b: Performance expectancy will have a positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for younger than older respondents.

In order to test the above hypotheses, the researcher sub-grouped the respondents and ran regression analysis to investigate the effect of moderators on the relationship between the independent variable and the criterion variable. Table 7.2 illustrates the results of the sub-group regression analyses. It shows that there is a trivial difference between the values of standardized coefficient beta and R^2 for gender and age moderators. In addition, both moderators have a significant relationship. Therefore, the significance of difference between the two correlation coefficients from the independent samples (males, females, younger group and older group) was computed.

To compute the significance of difference between two correlations from independent samples, such as a correlation for males against a correlation for females, the researcher calculated the Z-score conversions of the two correlations were 0.8291 and 0.8673 respectively, for a difference of 0.0382. The SE estimate was $\text{SQRT} [(1/255) + (1/48)] = \text{SQRT} [0.0039215+0.0208333] = .01573365$. The Z value of the difference is therefore $0.0382/0.01573365 = .2428$, much smaller than 1.96, and thus not significant at the .05 level.

In addition, the significance of the difference between the younger and older respondents was calculated. The Z-score conversions of the two correlations were 0.8673 and 0.8872 respectively, for a difference of 0.0199. The SE estimate was $\text{SQRT} [(1/48) + (1/148)] = \text{SQRT} [0.0208333+0.00675675675] = 0.166102$. The Z value of the difference is therefore $0.0199/0.166102 = 0.119$, less than 1.96 and thus not significant at the .05 level. Thus the results indicate the rejection of both hypotheses H1a and H1b.

Table 7.2: Sub-group Regression Analyses for Performance Expectancy and Behaviour Intention

Moderators	Measures	Standardized Coefficients Beta	R ²	Adjusted R ²	Sig
Males	PE → BI	.682	.465	.463	.000
Females		.698	.487	.477	.000
Younger group	PE → BI	.701	.491	.481	.000
Older group		.710	.505	.501	.000

PE = Performance Expectancy, BI = Behaviour Intention

7.4.2.2 Effort Expectancy

Effort expectancy is defined as “the degree of ease associated with the use of the system” (Venkatesh et al., 2003, p, 450). From the review of literature and the qualitative interviews, two sub- hypotheses were generated for this construct namely:

H2a: Effort expectancy will have a positive relationship with behaviour intention to use and the strength of the positive relationship will be greater for males than females

H2b: Effort expectancy will have a positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for younger than older respondents.

In order to test the above hypotheses, the researcher sub-grouped the respondents and ran regression analysis to investigate the effect of moderators on the relationship between the independent variable and the criterion variable. Table 7.3 indicates a significant relationship for males only. With regards to the age moderator, both groups moderate the relationship between the predictor and the criterion variable, with the younger group showing a slightly higher R^2 .

The significance of difference between the younger and older respondents was calculated after splitting the sample into younger and older groups and running the regression. The Z- score conversions of the two correlations were 0.7928 and 0.5361 respectively, for a difference of 0.2567. The SE estimate was $\text{SQRT} [(1/48) + (1/148)] = S \text{ SQRT} [0.0208333+0.00675675675] = 0.166102$. The Z value of the difference is therefore $0.2567/ 0.166102 = 1.545$, less than 1.96, and thus not significant at the .05 level. Thus the results indicate the acceptance of hypothesis H2a and the rejection of hypothesis H2b.

Table 7.3: Sub-Group Regression Analyses for Effort Expectancy and Behaviour Intention

Moderators	Measures	Standardized Coefficients Beta	R^2	Adjusted R^2	Sig
Males	EE → BI	.453	.205	.202	.000
Females		.253	.064	.045	.074
Younger group	EE → BI	.663	.440	.428	.000
Older group		.488	.238	.233	.000

EE = Effort Expectancy, BI = Behaviour Intention

7.4.2.3 Social Influence

The social influence is defined as “the degree to which an individual perceives that important others believe he or she should use the system” (Venkatesh et al., 2003, p, 451). From the review of literature and the qualitative interviews, two sub-hypotheses were generated for this construct:

H3a: Social influence will have a positive relationship with behaviour intention to use and the strength of the positive relationship will be greater for females than males.

H3b: Social influence will have a positive relationship with behaviour intention to use e-commerce and the strength of the positive relationship will be greater for older than younger respondents.

In order to test the above hypotheses, the researcher sub-grouped the respondents and ran regression analysis to investigate the effect of moderators on the relationship between the independent variable and the criterion variable. Table (7.4) indicates a significant relationship for both gender and age moderators. The values of R^2 and the standardized coefficient beta for females are higher than males. With regards to age moderator, both groups moderate the relationship between the predictor and the criterion variable with older group showing a slightly higher R^2 .

To compute the significance of difference between two correlations from males and females, the researcher calculated that the Z-score conversions of the two correlations were 0.3095 and 0.6777 respectively, for a difference of 0.3682. The SE estimate was $\text{SQRT} [(1/255) + (1/48)] = \text{SQRT} [0.0039215+0.0208333] = .01573365$. The Z value of the difference is therefore $0.3682/0.1573365 = 2.3398$, greater than 1.96, and thus significant at the .05 level.

Furthermore, the significance of the difference between the younger and older respondents was calculated. The Z- score conversions of the two correlations were 0.3205 and 0. 3541 respectively, for a difference of 0.0336. The SE estimate was $\text{SQRT} [(1/48) + (1/148)] = \text{SQRT} [0.0208333+0.00675675675] = 0.166102$. The Z

value of the difference is therefore $0.0336 / 0.166102 = 0.2022$, less than 1.96, and thus not significant at the .05 level. Thus the results indicate the acceptance of hypothesis H3a and the rejection of hypothesis H3b.

Table 7.4: Sub-Group Regression Analyses for Social Influence and Behaviour Intention

Moderators	Measures	Standardized Coefficients Beta	R ²	Adjusted R ²	Sig
Males	SI → BI	.295	.087	.083	.000
Females		.587	.344	.331	.000
Younger group	SI → BI	.312	.097	.079	.026
Older group		.345	.119	.113	.000

SI = Social Influence, BI = Behaviour Intention

7.4.2.4 Perceived Risk

There are different types of risks that can affect organizations' use of e-commerce, such as the financial and psychological risks (Turban et al., 2002). From the review of literature and the qualitative interviews two sub-hypotheses were generated for this construct:

H4a: Perceived risk will have a negative relationship with behaviour intention to use, and the strength of the negative relationship will be greater for females than for males.

H4b: Perceived risk will have a negative relationship with behaviour intention to use e-commerce, and the strength of the negative relationship will be stronger for older than for younger respondents.

In order to test the above hypotheses, a regression analysis was performed after sub-grouping the sample for each moderator. The results were insignificant for the age and gender moderators ($P > .05$ level). Consequently, the above two hypotheses were rejected, as the following results indicate.

Table 7.5: Sub-Group Regression Analyses for Perceived Risk and Behaviour Intention

Moderators	Measures	Standardized Coefficients Beta	R ²	Adjusted R ²	Sig
Males	PR → BI	.042	.002	-.002	.500
Females		.130	.017	-.003	.364
Younger group	PR → BI	.047	.002	-.018	.743
Older group		.139	.019	.013	.089

PR = Preserved Risk, BI = Behaviour Intention

7.5 Measuring Intended Degree of E-commerce Use

Intended degree of use is measured by the frequency of using the Internet to sell tourism products and services online and the time spent on using the Internet. Table 7.6 illustrates that 78.9% of the travel agents will use the Internet from 6-10 times a day to sell tourism services. Furthermore, almost 50% of the sample will use it around 5 hours a day. None of the respondents indicated a rejection to use e-commerce at their travel agencies. These high percentages of use provide an indication of the e-commerce acceptance by the travel agents.

Table 7.6: Frequency of Using the Internet

Items	Frequency	Percent
Frequency of Use		
Not at all	0	0.0%
1-2 times a month	2	0.6%
1-2 times a week	2	0.6%
1-2 times a day	11	3.5%
3-5 times a day	12	3.8%
6-10 times a day	247	78.9%
More than 10 times a day	39	12.5%
Time		
Never use	0	0.0%
Shorter than 15 min	1	0.3 %
15-30 min	7	2.2 %
30 min 2 hrs	15	4.8%
From 2-3 hours a day	24	7.7%
From 4-5 hours a day	147	47.0%
Longer than 5 hours	119	38.0%

7.5.1 Further Analysis of Intended Degree of E-commerce Use

Further analysis of the relationship between the independent variables and intended degree of use was conducted to investigate whether there is a strong direct effect between the models predictors and intended degree of e-commerce use. Subsequently, the eight independent variables were regressed against intended degree of e-commerce use, and the results indicate a weak R^2 value (.240). Thus the reduced direct association between the independent variable and intended degree of use, supported the fact that behaviour intention is at least one of the mediators in the relationship between the independent variables and intended degree of use (Bennett, 2000; Baron and Kenny, 1986). Furthermore, the analysis indicated that only performance expectancy has a significant relationship with intended degree of e-commerce use and ($B=.266$). The following indicates the results:

Predictor variables	Standardized Coefficients Beta	Sig
Performance Expectancy	.266	.001
Effort Expectancy	.144	.083
Social Influence	.093	.185
Perceived Risk	.109	.120
Government Support	.111	.085
Competitive Pressure	.088	.256
Facilitating Conditions	.094	.139
Compatibility	.031	.609

Note: $R^2=.240$, Adjusted $R^2=.220$, $F_{8,304}=11.981$, $P<.0005$

7.6 Discussion

There are two main research objectives in this study: firstly, to create a technology acceptance model for developing countries (using Jordan as a research site) then to compare this model to traditional models which are predominantly developed in Western countries; and secondly, to identify the key drivers of influence that affect the behaviour intention to use e-commerce by Jordanian travel agencies. Subsequently, the results are discussed in relation to previous work and findings reported in the literature in separate sub-sections as follows: overall findings, competitive pressure, performance expectancy, effort expectancy, social influence, facilitating conditions, government support, compatibility and perceived risk.

7.6.1 Overall Findings

Drawing from the technology acceptance models and behaviour intention theories found in the literature (e.g. Venkatesh et al., 2003; Davis et al., 1989, Taylor and Todd, 1995a; Fishbein and Ajzen, 1975; Bandura, 1977), along with the exploratory interviews with managers of travel agencies, a conceptual model of factors affecting e-commerce use tested in a cross-sectional study on Jordanian travel agencies' owners/managers was proposed.

The results of the multiple regression analyses indicated a significant model and supported most of the theorized hypotheses. The results indicated that hypotheses 1, 2, 3, 6, 7 and 9 are supported. That is, performance expectancy, effort expectancy, social influence, competitive pressure, facilitating conditions and behaviour intention. In contrast, hypotheses 4, 5 and 8 were rejected (perceived risk, government support and compatibility). Furthermore, the results pointed out that age and gender did not affect the relationship between performance expectancy, perceived risk and behaviour intention. However, gender affects the relationship between social influence and behaviour intention and the relationship between effort expectancy and behaviour intention, but not age moderator. Table 7.7 provides a summary of the findings.

Table 7.7: Hypotheses Conclusions

Hypothesis Number	Independent Variables	Dependent Variables	Moderators	Results
H1	Performance Expectancy	Behaviour Intention	None	Accept
H1a	Performance Expectancy	Behaviour Intention	gender	Reject
H1b	Performance Expectancy	Behaviour Intention	Age	Reject
H2	Effort Expectancy	Behaviour Intention	None	Accept
H2a	Effort Expectancy	Behaviour Intention	Gender	Accept with effect stronger for males
H2b	Effort Expectancy	Behaviour Intention	Age	Reject
H3	Social Influence	Behaviour Intention	None	Accept
H3a	Social Influence	Behaviour Intention	Gender	Accept with effect stronger for women
H3b	Social Influence	Behaviour Intention	Age	Reject
H4	Perceived Risk	Behaviour Intention	None	Reject
H4a	Perceived Risk	Behaviour Intention	Gender	Reject
H4b	Perceived Risk	Behaviour Intention	Age	Reject
H5	Government support	Behaviour Intention	None	Reject
H6	Competitive Pressure	Behaviour Intention	None	Accept
H7	Facilitating conditions	Behaviour Intention	None	Accept
H8	Compatibility	Behaviour Intention	None	Reject
H9	Behaviour Intention	Intended Degree of Use	None	Accept

Considering all of the results, it was concluded that the UTAUT, which was originally proposed and tested in developed countries, can also explain e-commerce adoption in Arab countries, such as Jordan. The modified UTAUT explained 62% of intention to use variance, and 23% of intended degree of use variance. These findings are consistent with the limited scholarly work using the UTAUT in the developing countries, such as that of Gupta et al. (2008), Al-Gahtani et al. (2007) and Bandyopadhyay and Fraccastoro (2007).

The research model provides better explanatory power than previous work conducted in developing countries using different technology acceptance models, such as the

TAM, to predict e-commerce adoption. For example, Kendall et al. (2001) examined the impact of innovation characteristics on e-commerce adoption in Singapore and their regression model explained 36% of the variation in the adoption. In addition, Seyal et al. (2004) investigated the factors that influence e-commerce adoption in Pakistan using different constructs, such as organizational culture, management support, government support and perceived benefits of the innovation. Their model explained 47% of the variance in the adoption of e-commerce. This implies that the unified model used in this research provides a higher explanatory power for e-commerce adoption rather than using a simple technology acceptance model to explain e-commerce adoption in the developing countries.

Furthermore, the UTAUT considers the cultural differences between Jordan and Western culture (wherein the UTAUT and most of the technology adoption models originated). The results suggest that adapting to the Jordanian hierarchical managerial style reduced the need of the managers of the travel agencies to incorporate individual attitudes related to the adoption of e-commerce. This implies that the decision making in Jordanian firms evolves through top management rather than employees. As such, when an organization's top management decides to use a new innovation, his or her decision is unquestionable, and an employee's attitude toward the technology does not mediate the relationship between the independent factors and the intended degree of use.

Therefore, the senior managers and owners of travel agencies have the authority to make innovation-decisions, whereby decisions to adopt or reject innovations are made by a few individuals in an organization, who possess high authority, high social status and excellent technical skills (Rogers, 2003). This result is consistent with the work of Hofstede (2003), who suggested that subordinates expect to be told what to perform in a hierarchical culture, such as in Jordan.

The research model highlights the importance of government support for e-commerce adoption. In particular, the construct of government support was not a significant factor to influence the e-commerce adoption in the Jordanian travel agencies. This means that the Jordanian government does not provide adequate assistance for the travel agents to facilitate the use of e-commerce. This finding is important because it is distinct from the Western cultures, in which government support was not

investigated as a possible influential factor on the adoption of new innovation. This might be due to the low level of government support and interference in the Western markets. In contrast, the Jordanian government is responsible for taking decisions related to the technologies that are or are not allowed in the country, and is also responsible for setting up e-commerce laws in the country (INTAJ, 2000). As such, in the view of many Jordanian travel agents, the government plays a fundamental role in assisting in the adoption of e-commerce, but their performance to-date has been inadequate.

The previous discussion provides evidence that the modified UTAUT is appropriate for the context of developing countries, such as Jordan. In addition, the model could be appropriate for other Middle Eastern countries that are similar to Jordan, such as Lebanon and Syria. The following section provides a discussion on the factors that influence e-commerce adoption presented according to their importance.

7.6.2 Competitive Pressure

Competitive pressure emerged as the most vital factor influencing the behaviour intention to use e-commerce among the Jordanian travel agencies. This result reinforces the belief that competition increases the possibility of innovation adoption (Looi, 2005; Link and Bozeman, 1991; Kimberley and Evanisko, 1981), and that competition creates environmental uncertainty and increases the need for and rate of adoption (Ettlie and Bridges, 1982). That is to say, competitive pressure influences the travel agent owners and managers to use the Internet for selling tourism products and services. Since Jordanian travel agencies operate with international and local markets, they feel a great pressure to turn to e-commerce to attain more competitive advantage. For them, using e-commerce is a strategic necessity so as not to lose their customers and business partners who are using the Internet for buying tourism services. This result is in agreement with previous innovation adoption researches, which found that intense competition is associated with higher adoption rates (Premkumar and Roberts, 1999; Levin et al., 1987). In contrast, the results are not in-line with the findings of

Lee (2004), who concluded that competitive pressure is less influential in making technology adoption decisions in small businesses.

The digital revolution associated with the availability of network infrastructure made it technically possible and socially acceptable business practice to use electronic means for business communication in the travel industry. Therefore, it became a strategic necessity for travel agencies to own and use these technologies (Doolin et al., 2002; Morosan and Jeong, 2008). Connolly et al. (1998) stated that these information technologies can transfer information into knowledge in the hospitality organizations so as to stay competitive in the market. Hence, if the Jordanian travel agents are not using e-commerce and following up on the technological advancement in the hospitality field, they will be out of market. This is because, as previously mentioned, travel agencies deal with local and international markets and suppliers who are already using e-commerce for business activities.

7.6.3 Performance Expectancy

Performance expectancy was the next significant factor that affects the behaviour intention to use e-commerce. Performance expectancy is defined as the degree to which an individual believes that use of the system will help him or her improve job performance (Venkatesh et al., 2003). Since performance expectancy is theoretically derived from other constructs, such as perceived usefulness in TAM (Davis et al., 1992; Davis 1989), extrinsic motivation (Davis et al., 1992), job fit (Thompson et al., 1991), relative advantage (Moore and Benbasat, 1991) and outcome expectations (Compeau and Higgins, 1995a; Compeau et al., 1999), and these constructs affect user's intention to use several technologies, the positive influence of performance expectancy on behaviour intention in this research support the prevailing literature.

This means that the travel agents find using the Internet for selling tourism services useful. Using the Internet improves the productivity and performance of the agencies. It provides the managers with important information that leads to better decision making and facilitates business operation. In addition, e-commerce decreases business cost, allows access to different markets, allows better communication with business

partners, increases profitability of the business and increases the chances of obtaining promotion or a raise at the travel agencies.

Furthermore, this finding is in agreement with the results of prior studies using the UTAUT, such as the work of Al-Gahtani et al. (2007), Neufeld et al. (2007), Bandyopadhyay and Fraccastoro (2007), Gupta et al. (2008), Anderson et al. (2006) and Park et al. (2007). However, these studies did not include the construct of competitive pressure and performance expectancy appeared to be the most important factor determining behaviour intention to use different technologies. The extent of literature in this field indicates that performance expectancy or perceived usefulness is the main factor affecting behaviour intention, while in the tourism sector performance expectancy appears to have less effect in explaining the future use of the Internet. This result is consistent with the work of Martinez et al. (2007).

In addition, the results indicated an insignificant moderator effect for gender and age. This means that both males and females at different ages find it useful to use the Internet for selling tourism services. This result is consistent with the work of Gupta et al. (2008) and Al-Gahtani et al. (2007), who found that gender was not a significant moderator between performance expectancy and behaviour intention in their UTAUT model. However, the result is in contrast with the outcome of Venkatesh et al. (2003) and Park et al. (2007), who concluded that the strength of the relationship was more significant for men.

Although the number of interviewed females in this study is less than males, both genders found it beneficial to use e-commerce at the agencies. This is possible because the majority of the interviewed women (travel agencies' owners or managers) have a high degree of education, and therefore they are aware of the benefits of using the Internet to sell tourism services. Furthermore, it is more convenient for Arab women to sell tourism services while they are at their workplace rather than leaving their offices. This is because women are expected to stay at home and protect their children in Arab countries. They are discouraged from engaging in certain activities, such as working outside home and sports, because these activities are perceived to be masculine and unsuitable for females (De Mooij, 2004; Patai, 1983). Hence, there was no difference between males and females perception of the usefulness of e-commerce.

With regard to age, the result is consistent with the work of Al-Gahtani et al. (2007), who indicated no significant moderating effect between performance expectancy and behaviour intention using the age moderator. Furthermore, Jones and Hubona (2005) did not find a relationship between user's age and their reported perceived usefulness for either email or word processing. It is likely that the extensive exposure to the Internet in the travel agencies lessened the gap between the younger managers and the older managers with regard to their perception of the relative importance of e-commerce. Hence, both groups had the chance to learn and use this technology at the travel agencies. Furthermore, Hofstede and Hofstede (2005) stated that organizations in masculine societies reward employees according to their productivity and performance, while organizations in feminine societies reward employees according to their needs. Therefore, this fact will encourage males and females in different age groups to use e-commerce at travel agencies to improve their performance and get rewarded. In contrast, the result is inconsistent with the work of Venkatesh et al. (2003) and Bandyopadhyay and Fraccastoro (2007). Their findings indicated that younger people are more knowledgeable of e-commerce and are more aware of its importance than older people.

7.6.4 Effort Expectancy

Effort expectancy is the level of ease associated with using the technology system (Venkatesh et al., 2003). This construct is equivalent to perceived ease of use in TAM (Davis, 1989; Davis et al., 1992), complexity (Thompson et al., 1991) and ease of use (Moore and Benbasat, 1991). The results indicated that effort expectancy influenced the travel agents' intention to use e-commerce. This supports the prevailing literature in that use of a system depends on how easy it is to use, such as the work of Venkatesh et al. (2003), Bandyopadhyay and Fraccastoro (2007), Calantone et al. (2006) and Abu Shanab (2007). In contrast, the result is inconsistent with the work of Al-Gahtani et al. (2007) and Anderson et al. (2006).

This means that the travel agents find it easy to use the Internet to sell tourism services at their travel agencies. Furthermore, their interaction with the system is

flexible, clear and understandable. In general, the travel agents agree that learning to use the Internet to sell tourism services is easy, is not frustrating and does not cause troubles in the company.

However, this view varies according to the gender of the respondents. The results indicated that males find it easier to use the Internet than females. This is similar to Venkatesh et al.'s (2003) original UTAUT findings, and contrary to Gupta et al.'s (2008) results, which showed no difference between men and women. Various reasons could be attributed to this result. Although the majority of the interviewed women were educated, the males had a higher level of education that prompted them to be more knowledgeable than females in the technology and e-commerce field. This makes it easier for them to use the Internet for selling tourism services. In addition, men are more ready than women to use new technologies due to their challenging personalities. In contrast, women fear the use of new technologies and find them frustrating and require a lot of mental effort (Colby and Parasuraman, 2003). Furthermore, males could have more confidence than females in the use of new technologies, which makes it easier for them to use new innovations in the workplace (Vekiri and Chronaki, 2008; Volman and Van Eck, 2001). Finally, the general perception of males and females regarding work is different in the Jordanian culture. Men have to attain high education and work in order to support the family, but women have the option not to work or quit work at anytime. This encourages the managers at organizations to train men more than women on new technologies thus increasing the gap between them. This scenario is similar to the gender roles in other masculine societies (Hofstede and Hofstede, 2005; De Mooij, 2004). Men in these societies are raised to be assertive, ambitious and career-oriented. In contrast, women in Arab societies are generally given the option to work or be housewives.

The young and old generations find it easy to use e-commerce at the organization. This result is consistent with the work of Gupta et al. (2008), Al-Gahtani et al. (2007) and Prasad (1999), who did not find any differences between the younger and the older generations' perceptions regarding the ease of use of the technology. This is not surprising, since the interviewed owners and senior managers, who are of an older age, work hard to learn the system so as to check and evaluate their employees, and sometimes they train themselves to learn the system in these small organizations. In fact, some of these owners have very high leadership skills and entrepreneurship. This

makes them more innovative and encourages them to become more skilful and at ease when using the system. On the other hand, the younger travel agents had a chance to learn how to use the Internet at schools more than the older generation. This provides them with more confidence in using the Internet at their workplace. Furthermore, the younger people are eager to use new technologies and have tolerance and patience to use and solve any problems while using the system. Therefore, both generations find it easy to use e-commerce at the travel agencies. In contrast, this is inconsistent with the work of Venkatesh et al. (2003) and Jones and Hubona (2005), who concluded that younger people found it easier than older people to use the innovation at their workplace.

7.6.5 Social Influence

Social influence is the level to which a person perceives that important others believe he or she must use the innovation (Venkatesh et al., 2003). This construct is presented as subjective norm in theory of reasoned action (Ajzen, 1991; Davis et al., 1989), the theory of planned behaviour and the decomposed theory of planned behaviour TPB/DTPB (Taylor and Todd, 1995a, 1995b), social factors in the MPCU (Thompson et al., 1991) and Image in IDT (Rogers, 1995; Moore and Benbasat, 1991).

The research findings supported the prevailing literature on the significant effect of the social influence on behaviour intention to use a system. The result is similar to the work of Venkatesh et al. (2003), Al Gahtani et al. (2007), Gupta et al. (2008), Bandyopadhyay and Fraccastoro (2007), Neufeld et al. (2007) and Park (2007). In contrast, Anderson et al. (2006) did not find a significant relationship between social influence and behaviour intention. This means that the travel agents are affected by the pressure of people around them, and tend to use the Internet because of the proportion of co-workers who are using the system and because of the influence of important people to the firm, such as customers, suppliers and industry peers.

The role of social influence in the technology acceptance models is complex and is affected by several factors. Social influence has an impact on a person's behaviour through three factors: compliance, internalization, and identification (Venkatesh and

Davis, 2000; Warshaw, 1980). The internalization and identification cause a person to respond to the social pressure in order to gain a social status, while compliance causes a person to listen to others so as to be rewarded (Warshaw, 1980). This view of compliance is applicable in technology acceptance literature in a mandatory setting (Hartwick and Barki, 1994; Venkatesh et al., 2003; Venkatesh and Davis, 2000). Those three factors influenced the Jordanian travel agents to accept the use of e-commerce at their agencies.

In addition, general social pressure for an individual to perform behaviour is partially influenced by culture differences between the developing and developed nations. In cultures characterized by a high power-distance dimension (the way a society handles inequality; Hofstede and Hofstede, 2005), individuals are more accepting of the opinions of important and superior others. Furthermore, Srite and Karahanna (2006) indicated that social norms are strong determinants of intended behaviour for individuals exposed to high uncertainty avoidance cultural values. Therefore, the Jordanian travel agents tend to listen to influential people, such as suppliers and industry peers, who believe that using the system is a necessity at their organizations.

Furthermore, in more individualistic societies, the common social pressure to accomplish behaviour is less than in a collective society. This is indicated in the individualism versus collectivism component of Hofstede's (1991) cultural factors. This dimension indicates that in an individualistic society, a person tends to do whatever his opinion dictates is correct, and has less compliance to others' wishes. In contrast, in a collective society, such as Jordan, a person's behaviour is influenced by others, and the group is more important than the individual. This is consistent with Lee and Green's (1991) argument that the subjective norm influence on behaviour intention depends on individual differences and culture.

The gender variable moderates the relationship between the social influence and behaviour intention. The result indicates that females tend to be more affected by social pressure than males. The result is similar to the work of Venkatesh et al. (2003), which concluded that older females are more affected by social influence than males. In contrast, Al Gahtani et al. (2007) found gender not to be a significant moderator, while older people were more affected by the social influence. Finally,

Gupta et al. (2008) suggested that gender did not moderate the effect between social influence and behaviour intention.

There are several reasons that explain why women tend to be more influenced by the social influence compared to men at Jordanian travel agencies. Firstly, women have the tendency to be more accommodating than men to their customers, suppliers, peers and important people, while men tend to care about profitability and performance more than satisfying the others. This is similar to Costa et al.'s (2001) work, which compared the mean scores of five personality traits for men and women in twenty- six cultures. Women scored higher on some aspects: warmth, sociability, positive emotions and openness to aesthetics. In contrast, men scored higher on the aspects of: assertiveness, acceptance of ideas and adventurous personalities. In addition, Hofstede and Hofstede (2005) and De Mooij (2004) explained that men in masculine culture tend to be more responsible, decisive, and ambitious than women, while women are more caring and gentle than men. Secondly, in Arab society, children in general and females in specific are reared to be more submissive, less questioning of the value system, and to have tolerance and respect for the elderly and for others' advice. This yields to greater acceptance and a more submissive behaviour in women in the workplace (Sharabi, 1991; Yaseen, 2008). Thirdly, women tend to think more about their image than men, while male managers are more concerned about performance. This encourages women to work harder than men to acquire e-commerce skills and other important work skills to be recognized at equal level with their male co-workers.

In contrast, age did not moderate the relationship between the social influence and behaviour intention. This means that both the young and old groups were equally affected by the social influence. Jordanians are affected by their social surroundings. People in this culture are expected to act according to the interest of their group, which may not always coincide with his or her individual interest (Sharabi, 1991; Yaseen, 2008). Therefore, young and old people are affected by the social influence at the work place. This result is contrary to the work of Bandyopadhyay and Fraccastoro (2007) and Al Gahtani et al. (2007), which ascertained that the older people are more affected by social influence when using the system.

7.6.6 Facilitating Conditions

Facilitating conditions refer to the availability of technological, financial and human resources in the organization (Thompson et al., 1991; Taylor and Todd, 1995a, 1995b). The results indicated that there is a significant relationship between facilitating condition construct and behaviour intention. This means that the travel agencies have the financial and technological resources that enable them to use e-commerce at the travel agencies. In addition, the availability of human resources to help in technical difficulties while using the system encouraged the travel agents to use e-commerce.

This result is consistent with the work of Venkatesh et al. (2003), Thompson et al. (1991), Taylor and Todd (1995a, 1995b), Neufeld et al. (2007), Wang and Cheung (2004) and Lai-Sheng (2009). In contrast, Anderson et al. (2006) did not find a significant relationship between facilitating conditions and behaviour intention. It is worth highlighting that Gupta et al. (2008) and Al-Gahtani et al. (2007) indicated a significant, direct relationship between facilitating conditions and actual use. This is contrary to the findings of this research, which specified an insignificant direct relationship between the independent variables, such as facilitating conditions and actual use.

It is necessary to mention that the original work of Venkatesh et al. (2003) included the compatibility construct as part of facilitating conditions dimensions. However, the current research considered the construct of compatibility as a separate construct that affects the behaviour intention. This is consistent with other research that considered compatibility construct different from facilitating conditions, such as the work of Rogers (1995), Agarwal and Karahanna (1998), Moore and Benbast (1991) and Schwarz et al. (2004). This implies that including or excluding the compatibility construct with facilitating conditions may affect the result of the research. Therefore, precautions should be taken when comparing the results of the facilitating conditions construct in the technology acceptance models.

7.6.7 Government Support

Government support plays an important role in the intention to use e-commerce in the private and government sectors. The greater the government support perceived by an organization, the higher the possibility of an organization to use e-commerce (Tigre, 2003; Kim, 2001; Chan and Al-Hawamdeh, 2002). The results of the study indicated insignificant relationship between the government support and behaviour intention to use e-commerce. The result is similar to the work of Seyal et al. (2004), which concluded that the government support played an insignificant role in e-commerce adoption. Furthermore, the research finding is similar to Teo et al. (1998), which indicated that government support played unimportant role in the adoption of Internet in Singapore. Moreover, the result is similar to Wang and Cheung (2004), which specified an insignificant relationship between institutional pressure and e-business adoption in the Taiwanese travel agencies. This is contrary to the work of Goh (1996), Toh and Low (1993), Wong (2003) and Tan and Teo (2000), which concluded a significant relationship between government support and the adoption of e-commerce.

The insignificant relationship between government support and e-commerce means that the Jordanian government is not providing the support, advice and regulations necessary for e-commerce adoption. The situation is further worsened by the unwillingness of the responsible government parties to actively promote e-business. Resistance to change, lack of e-business competence, and lack of financial budgets may stand behind such unwillingness in the developing countries, specifically in Arab culture (Rogers, 2003; Hofstede and Hofstede, 2005; Weir, 1995).

In developing countries, the government plays an important role in the adoption of e-commerce (Calantone et al., 2006). The travel agents believe that support from government is important for successful Internet businesses. However, e-commerce laws are not practiced in all sectors in the country. The government is still trailing in setting up e-commerce facilities and lowering the cost of Internet connection in Jordan (INTAJ, 2007). This will hinder the use of e-commerce by the Jordanian travel agents. As such, in the view of the Jordanian travel agents, support from the government is an important mechanism for such adoption.

7.6.8 Compatibility

Compatibility is the degree to which an innovation is consistent with individual's sociocultural values and beliefs, needs and preferred work practice (Rogers, 2003; Moore and Benbasat, 1991; Moore and Benbasat, 1993; Agarwal and Karahanna, 1998). The result of the study indicated insignificant relationship between compatibility and behaviour intention to use e-commerce. This means that e-commerce is not compatible with the culture, beliefs, values, needs and preferred work practices of the travel agents. This is similar to the findings of Teo et al. (1998). On the other hand, the result contradicts the work of Schwarz et al. (2004), Venkatesh et al. (2003) and Al-Qirim (2005).

In terms of culture and beliefs, one ought to emphasize the fact that Arabs are historically a people driven by oral communication. They prefer to talk and listen, but seldom read. Written communication is used, but it is less convincing than oral communication (Patai, 1983; Hill et al., 1998). This is why travel agents prefer face-to-face interaction, word of mouth, and personal encounters more than written communication, especially with the local travellers. In addition, the travel agents believe that their customers prefer personal interaction with members of the travel agencies more than written communication. The method of delivering the message is more important than the efficiency in delivering the message. Thus, delivering a message through the Internet may not be appreciated in the Arab world as compared with the Western culture.

In addition, Arab culture is characterized by high uncertainty avoidance (Hofstede and Hofstede, 2005; Yaseen, 2005). High uncertainty avoidance means that everything new is rejected at the beginning. Arab managers are known to be conservative and find it difficult to accept new ideas (Kedia and Bhagat, 1988; Ein-Dor et al., 1992; Hofstede, 1991; De Mooij, 2004). In fact, Weir (1996) suggested a new model for management in organization and he referred to it as the Arab Management Model, after the American, European and the Japanese models of management. In his model, he argued that the Arab managers are very traditional and they resist and fear changes

in their environment. Therefore, although travel agents are using the Internet for different business activities, selling tourism packages online is not totally accepted. Consequently, it is possible that the high uncertainty avoidance that is related to the Arab culture contributes to the belief of the travel agents that e-commerce is not compatible with their culture.

Furthermore, decision makers and Arab managers tend to base their decisions on the opinion of important others rather than basing them on their individual interest (Yaseen, 2008). This means that most of the Arab leaders belong to the collectivist culture that emphasizes the social and group well-being rather than individual rights and freedom (Hofstede and Hofstede, 2005; Sabri, 2004). Therefore, it is possible that the travel agents think that the use of e-commerce widens the social gap among workers in the travel agents and among workers and their customers. As a result, users spend more time using the websites away from their colleagues and customers at work. This reflects negatively on their relationships with other colleagues and with customers who share the same background. Consequently, the use of the Internet for different kinds of activities, such as searching for tourism destinations, or prices for different hotels and air fares, result in some social concerns, especially in a collectivist society like Jordan. People in such societies have a strong desire to be loved by others and to play a vital part within social interactions (Patai, 1983; Hofstede and Hofstede, 2005; De Mooij, 2004). However, the impersonal nature of the Internet use provides a threat to human social needs of being in touch with others (Cole and Cole, 1998). The increasing use of the Internet decreases the time spent with family members and social groups (Patterson and Kraut, 1998; Dolliver, 2000; Sanders et al., 2000).

Furthermore, most e-business websites are designed and conducted in English, even in the case of the tourism websites which are run by Arab tourism organizations and travel agents. There are very limited numbers of Arabic booking websites. This is due to the lack of the Arabic content in the Internet and knowledgeable workers in this field (INTAJ and USAID, 2007). Acceptance and use of such websites by a high percentage of people working in a travel agency or travellers who are not familiar with this language becomes impossible. This language barrier for most of the Jordanian people, coupled with a shortage of Arabic software, further contributes to the incompatibility of e-commerce with the needs and culture of the travel agents.

The physical environment and personal interaction are very important factors that facilitate the selling of tourism packages. Hill et al. (1998) stated that Arab people prefer the face-to-face interaction when buying things, rather than using websites and the Internet, because they are concerned about the unknown results of buying through the Internet. Al Kadi (2005) argued that the cause of this phenomenon is the Arab people's reluctance to replace their tradition values and caring. Therefore, trust in the Arab world is established through an elaborate social process, and technology is not included in this process. In general, it is in the Arab culture to negotiate prices before buying (Patai, 1983). As a result, Jordanian travellers prefer to feel, touch, negotiate and see things before they buy them.

In addition, Dore (1973) argued that most of the developing countries are suffering from what he called "late development effect". This means that managers and responsible parties in developing countries import the technology from the developed countries, but still follow the traditional way in all aspect of business transaction that matches the culture and tradition of their societies. Unsurprisingly, for all of these reasons, the use of the Internet to sell tourism services is still in its infancy in the Arab tourism business culture. The most influential factor that leads the travel agents to use the Internet is the competition and the demand of foreign travellers who are already using the system.

Furthermore, financial issues, such as the existence of a sound payment system based on credit cards rather than cash money, constitute a big hurdle in the Arab world (INTAJ, 2000). Jordanians prefer cash payment in conducting business, and this behaviour seems to inhibit the viability of B-2-C, which requires a well-established payment system based on credit cards. Therefore, using e-commerce is not compatible with the preferred work practice of the Jordanian travel agencies who are used to cash payment.

7.6.9 Perceived Risk

Perceived risk is the financial and psychological risk encountered when using the Internet to sell tourism services. Surprisingly, the construct has an insignificant

relationship on the behaviour intention to use e-commerce. This is inconsistent with the work of Looi (2005), Im et al. (2007) and Yuksel and Yuksel, (2007). This means that the travel agents are not concerned that the financial records might not be adequately protected when using the Internet to sell tourism services. In addition, the travel agents believe that receiving financial information and credit card information is safe through the Internet. Furthermore, using the Internet will not cause unnecessary tension and discomfort.

The insignificant relationship may be possible due to the managers' willingness to take the risk. The travel agents feel that they have to use the e-commerce regardless of the risky results in order for them to stay competitive in the market. This is evident when the competition construct played an important role in the adoption of e-commerce at the Jordanian travel agencies. Travel agents feel that their product information and prices have to be available for the travellers like other travel websites. Travel agents may have seen how other travel agencies, hotels, car rentals and other hospitality components are using the Internet to sell their services directly to the customers. Thus, the only way for them to stay competitive is to sell online like their other competitors regardless of the risky consequences.

Cultural reasons may be behind this insignificant relationship between perceived risk and intention to use e-commerce. Arab culture is characterized by high uncertainty avoidance, which is not similar to risk avoidance (Hofstede and Hofstede, 2005; Sabri, 2004; Weir, 1995). Uncertainty avoidance leads to a reduction in ambiguity. People in such cultures search for a structure in their firms, and relationships that make actions and procedures clearly understandable and predictable. Ironically, they are often ready to take risky actions to reduce ambiguities, like initiating a fight with a potential enemy, instead of waiting for the results. Therefore, it is possible that the travel agents want to use e-commerce and perceive it as un-risky way of conducting business.

7.7 Summary

The aim of this chapter is to test the research hypotheses that were generated from the literature review and from the qualitative interviews with the Jordanian travel agents. The results of the regression analyses supported most of the hypotheses. Furthermore, the chapter achieved the research objectives by identifying the factors that affect the use of e-commerce by Jordanian travel agencies, and illustrating the contribution of each factor on the behaviour intention to use e-commerce to sell tourism packages and services. In addition, the chapter proved that the existing technology acceptance models of developed nations can be used to explain e-commerce acceptance in developing nations, such as Jordan after the integration of some new constructs from the in-depth interviews and literature review reflecting the culture. The findings are expected to contribute to the understanding of e-commerce acceptance and use in the Jordanian travel agencies.

Chapter Eight: Conclusions, Implications, Limitations and Future Research

8.0 Introduction

The previous chapter presented the results of the testing of the hypotheses for the research conceptual model and discussed the empirical findings in relation to previous studies in the field of technology acceptance. The aim of this chapter is to provide an assessment of the empirical findings of this research. The objectives of the chapter are:

- a) To present the main conclusions from the empirical investigation;
- b) To illustrate the main theoretical and methodological implications of the research results and explain how these results add to the literature;
- c) To discuss the implications of the findings for practitioners and policy makers concerned with e-commerce application; and finally,
- d) To examine limitations of the study and provide directions for future research.

Thus the chapter is organized in the following sections:

8.1 Conclusion of the Study: This section presents the main conclusions that are drawn from the empirical investigation.

8.2 Theoretical Implications: This section discusses the main theoretical implications and shows how the study adds to the body of the current knowledge in literature.

8.3 Methodological Implications: This part explains the contribution of this study to methodology.

8.4 Implications for Travel Agents and Decision Makers: The section provides the main practical implications for travel agents and decision makers in the area of e-commerce field.

8.5 Limitations and Directions for Future Research: This section presents and discusses the limitations that are inherent in this study together with directions for future research.

8.1 Conclusion of the Study

In the endeavour to deal with the gap identified in the literature, the current study draws from the technology acceptance models/theories to propose and empirically test a conceptual model of e-commerce acceptance in the Jordanian travel agencies. The study reveals that the UTAUT, which was originally proposed and tested in developed countries, can also explain e-commerce acceptance in Arab countries, such as Jordan. The modified UTAUT explained 62% of behaviour intention variance and 23% of intended degree of use variance. This is consistent with the limited work in the developing countries using the UTAUT (e.g. Al Gahtani et al., 2007 and Gupta et al., 2008). The results provide Arab managers with useful and critical information to assess the acceptance of e-commerce use in the near future. Also, the modified model could be considered as a starting point for the generalization of the results in technology acceptance and other contexts in the Middle East area. The current study validated an Arab instrument that can be used to measure the factors that affect e-commerce use in Middle Eastern/Arabic organizations, the case of Jordanian travel agencies.

Although marketing and information system scholars have recognized the importance of evaluating technology acceptance models, this issue received insufficient empirical validation in the context of Middle East region, and more specifically in the hospitality and tourism sector. This is surprising, since the tourism industry has been one of the first industries to use information technologies. In addition, the globalization of business has emphasized the necessity to understand the acceptance and use of information systems that extend over different cultures. Organizations are using information technologies to achieve economies of scale, manage operations and facilitate mutual work across nations and cultures. Thus, it is important for both managers and researchers to evaluate individuals' acceptance of information technologies that could affect their use. As such, this study contributes to the literature

by examining the willingness of travel agents to accept e-commerce in the Jordanian travel agencies. Thus, the study contributes and benefits the tourism literature in the Arab world.

The rapid growth and advantages of e-commerce prompted many researchers to focus on this technology and to understand the factors behind its evolution. Unfortunately, to date most of the research on the technology acceptance and use was conducted in the developed nations (Baliamoun-Lutz, 2003; Walsham and Sahay, 2006; Abu Shanab et al. 2010a). Thus, the current study contributes to the literature of technology acceptance in the Arab world. In addition, the study investigates the technology acceptance in the Arab organizations that has different cultural aspects, economic and human resources than the Western organizations (Kartiwi and McGregor, 2007). Consequently, the results of the study provide the Arab organizations with a model that identifies and examines the factors that affect e-commerce acceptance before fully investing in this technology. This will reduce the cost on the Arab organizations before the complete investment on this technology.

In addition, the study findings indicate all the possible factors that could determine the intended degree of e-commerce use in the Jordanian travel agencies. These factors could be determinants of technology acceptance in other Middle Eastern/Arab countries. The factors are performance expectancy, effort expectancy, social influence, perceived risk, government support, competitive pressure, facilitating conditions and compatibility. Performance expectancy, effort expectancy, social influence, competitive pressure and facilitating conditions have a significant positive effect on behaviour intention. In contrast, perceived risk, government support and compatibility constructs have an insignificant relationship with the behaviour intention to use e-commerce.

Competitive pressure appears to have the most significant positive relationship with behaviour intention. This means that the travel agents believe that using e-commerce is a strategic necessity for them to keep them competitive in the market place and not lose their customers. Moreover, the travel agents are affected by the demand of their trading partners and customers to use e-commerce. This finding supports the fact that Jordan and other Arab nations are investing more in ICT so as to decrease the digital gap between the developed and Arab countries and to allow for more competition to

improve the IT sector (Baliamoune-Lutz, 2003; Shirazi et al., 2009; Al-Ghaith et al., 2010; Abu Shanab et al., 2010b).

The second factor that posits a significant relationship with behaviour intention is performance expectancy. The effect is not moderated by gender and age. This means that travel agents find it profitable and advantageous to use e-commerce regardless of their gender and age. Furthermore, the construct of effort expectancy shows a positive significant effect on behaviour intention and the effect is stronger for men than women. However, age does not moderate the relationship between effort expectancy and behaviour intention. This evidence does not confirm fundamental theoretical claims in the general literature (Venkatesh et al., 2003; Jones and Hubona, 2005). It is worth noting the fact that the effect of performance expectancy on the behaviour intention to use e-commerce is less strong than has commonly been reported in the literature. This makes the general effect of performance expectancy and effort expectancy rather similar to each other in this study. In contrast, research evaluating the technology acceptance models in other fields, shows performance expectancy tends to have the strongest effect on technology acceptance. This result could be due to the application of this model to the tourism industry where competitive pressure is the most important factor in determining the e-commerce acceptance. Another reason could be due to the culture differences between Western and Arab managers. The Arab managers in this study gave an equal importance to the performance expectancy and effort expectancy constructs unlike other research conducted in developed countries (Venkatesh et al., 2003; Kartiwi and McGregor, 2007).

In addition, the social influence construct has a positive significant relationship with behaviour intention to use e-commerce in the Jordanian travel agencies. Drawing from the theory of reasoned action (Ajzen, 1991; Davis et al., 1989), the theory of planned behaviour and the decomposed theory of planned behaviour (Taylor and Todd, 1995a, 1995b), and image (Rogers, 2003), the researcher has hypothesized that gender and age will moderate the relationship between social influence and behaviour intention. The study reveals that only gender moderates this relationship. Females tend to be more influenced by the social influence when compared to men, while age does not moderate this relationship. This supports the fact that Arabs are influenced by their social surroundings and the effect is much stronger for Arab women who are more submissive and less argumentative than men with their social groups.

In addition to the above significant relationships, the facilitating conditions construct also indicates a significant positive relationship with the behaviour intention to use e-commerce. It refers to the availability of technological, financial and human resources in the Jordanian organization that facilitate the use of the system (Thompson et al., 1991; Taylor and Todd 1995a, 1995b). The data analysis in this study shows that this construct is separate from the compatibility construct unlike Venkatesh et al's. (2003) work that included compatibility and perceived behaviour control constructs in this definition. This highlights the importance of conducting in-depth interviews in Arab countries when researchers plan to adopt information technologies models that are Western in origin.

The study findings also suggest an insignificant relationship between the government support construct and behaviour intention. Consistent with the work of technology acceptance that has been conducted in developing countries (e.g. Seyal et al., 2004; Wang and Cheung, 2004; Tigre, 2003), support from the government is essential to adopt e-commerce at organizations. According to the study findings, it seems that the Jordanian government plays insufficient role in promoting and assisting the travel agents in e-commerce activities. This is the case of various Arab countries where government support is minimal (Almbaideen, 2011; Al-Ghaith et al., 2010; Shirazi et al., 2009).

Another major finding of this study is the insignificant relationship between compatibility and behaviour intention to use e-commerce. Using the Internet for selling tourism services is still in its infancy in Jordanian travel agencies. This practice is still inconsistent with the needs, values and preferred work practices in the agencies. This result is highly related to the Arab culture that has been previously explained in the discussion section.

Finally, the perceived risk construct has an insignificant relationship with behaviour intention to use e-commerce. This result gives an indication that the Jordanian travel agents are willing to conduct e-commerce activities without being concerned with the financial and psychological risk associated with it. The study indicates that the advantages from using the Internet for selling tourism services (e.g. improve business performance, efficiency, low cost, staying competitive in the market) outweigh the

financial and psychological risk. As a result, the risk factor is not of a critical importance for them.

8.2 Theoretical Implications

The findings of this study provide several unique theoretical and managerial implications for the e-commerce acceptance in the Middle Eastern/ Arab countries, more specifically the case of Jordanian travel agencies. When an organization decides to adopt new technology, it is important for managers to understand all the possible factors that affect technology adoption in order to accept the new technology and compete in the market. The study illustrates that several organizational, environmental, and innovation characteristic factors can affect the acceptance of e-commerce in the Arab world. Studies that only use the simple technology acceptance model, such as the TAM proposed by Davis (1986), the TPB (an extension of Ajzen and Fishbein's model, 1980), and the DTPB (created by Taylor and Todd, 1995a) without integrating other possible factors that could affect technology acceptance in the context of the study are generally insufficient in explaining e-commerce use. There isn't any evidence, until now, that the information technology acceptance models created in Western countries can be used in the Middle East without any modifications to take into consideration the cultural differences (Al Sukkar and Hasan, 2005). The findings highlight the importance of developing a comprehensive technology acceptance model that can best identify and explain the use of e-commerce. Therefore, researchers need to keep this in mind when considering any research related to the acceptance and use of new technologies in the Middle Eastern/ Arab organizations.

As a contribution to theory, this study is one of the first to examine the modified UTAUT in the hospitality industry in the Arab world. Despite the extensive use of information technologies in the hospitality and tourism sector, only limited studies have recently applied the TAM and its extended versions to evaluate technology acceptance in this sector (e.g. Huh et al., 2009; Kim et al., 2009; Lam et al., 2007; Lee et al., 2006). Thus the application of technology acceptance models in the hospitality

and tourism settings is still in its early stages, specifically in the Arab countries. Most of these studies focus on the critical factors influencing user acceptance in different settings in the hospitality industry, but not specifically in the travel agencies (Kim et al., 2009; Lam et al., 2007; Kaplanidou and Vogt, 2006; Wober and Gretzel, 2000). Moreover, none of these studies investigated the role of age and gender as potential moderators on the acceptance of technology. This study is the first to utilize the UTAUT model to analyze the critical determinants of e-commerce acceptance among Jordanian travel agencies. Therefore, researchers need to evaluate the UTAUT in travel agencies in both the developed and Middle East/ Arab countries.

The study reveals that competitive pressure is the most important factor that affects e-commerce adoption in the Jordanian travel agencies. Competition can increase technology acceptance, cause environment uncertainty and increase the need and rate of technology adoption. When organizations work in an environment that is more competitive, they will feel the pressure of the competition and turn into using new technologies (Link and Bozeman, 1991; Levin et al., 1987; Ettlie, 1982; Porter and Miller, 1985). This implies that researchers, using technology acceptance models that underestimate the importance of competition in the Arab world, should reconsider the degree to which competitive pressure affect technology acceptance in their future studies.

The research model adjusts for cultural differences between Jordan and other developed countries where technology acceptance models have been originally formulated. For example, the research model differs by the exclusion of some of the constructs, such as attitude toward adoption that is included in several technology models (e.g. TRA, TPB, C-TPB-TAM) and the inclusion of government support and technological benefits. The exclusion of attitude is consistent with the initial suggestion from Davis et al. (1989) where they have indicated that in certain contexts, attitude has a less important role in technology acceptance. Thus, the exclusion of attitude is appropriate in this study because the decision to adopt technology in the Jordanian travel agencies is made at the top management level. Furthermore, most of the decision makers in the developing and Arab countries might have a positive attitude towards adopting an innovation, but they do not adopt it. This is what Rogers (2005) referred to as the "KAP-gap". In addition, attitudes are believed to be long-

term beliefs, and as such, some technology acceptance researchers (e.g. Thompson et al., 1991; Venkatesh et al., 2003) have excluded this construct from their work.

The findings present theoretical insights into the effect of the responsible institutions for technology adoption in the Arab world. The research indicates that government support is needed to facilitate and encourage e-commerce adoption in the travel agencies. This finding is consistent with the research work that has been conducted in the developing countries (e.g. Seyal et al., 2004; Calantone, 2006), while government support has not been investigated as a potential factor on the adoption of new technologies in developed countries. The responsible parties in the Jordanian government (e.g. Ministry of Communication and Information Technology) are responsible to make technology decisions related to Internet cost and e-commerce legislations. As such, in the view of many Jordanian managers, advice and direction from the Jordanian government is an important factor for e-commerce adoption. Therefore, the construct of government support should be considered in the technology acceptance model in the Arab world.

Furthermore, another important result from the modified UTAUT related to cultural differences is the effect of technology adoption on the performance of the organization. Building on the work of Calantone et al. (2006), Boisot and Child (1996), and Tsang (1998), the findings illustrate that the focus of benefit to the organization (performance expectancy construct) is more important than personal concerns, such as the ease in using the system (effort expectancy construct). These results stress the role of the characteristics of the decision making unit, the managerial style (Andersen and Nicholson, 1999; Rogers, 2003) and the national culture of Jordanian managers when considering the use of new technologies in their organizations. Therefore, one may conclude that some important constructs of the UTAUT model may be general across cultures, such as performance expectancy and effort expectancy, while others such as, social influence, compatibility and government support may be subject to cultural influence.

The current study demonstrates that gender roles can have an impact on behaviour intention to use e-commerce, and it fully investigates the socio-psychological roots for gender as a mean for better comprehending its moderating role. Gender effects could be a demonstration caused by masculinity and femininity (i.e. cultural constructs)

rather than just biologically determined roles (Lubinski, 1983; De Mooij, 2004; Hofstede and Hofstede, 2005). Most of the literature concerning the moderating effect of gender did not fully investigate this issue, except for the work of Venkatesh et al. (2003). This implies that applying the same demographic moderators in a different culture may produce different results. Similarly, the role of the social influence construct has been controversial mainly because it is applied in different culture settings using moderators that are also affected by culture, such as gender. In the Arab culture, men are expected to be more assertive and support the family. In contrast, women are expected to take care of the household and her children (Hofstede and Hofstede, 2005). Consequently, the role of gender in Arab culture is completely different than the Western culture.

8.3 Methodological Implications

The current study has several methodological implications. Each of the major constructs in the original UTAUT was operationalized by using the highest loading items from each scale for practical and analytical purposes. The negative consequence of this method is that one side or one part of each construct could be eliminated, thus affecting the content validity (Venkatesh et al., 2003). Particularly, this method left some items from the original models not represented in the core construct (e.g. items from the model of PC utilization have not been used in performance expectancy root construct). Furthermore, some of the root constructs, such as the extrinsic motivations have been operationalized using the same items of performance expectancy. Consequently, all of the available research using the UTAUT used the same or even less items to measure the major construct using structural equation modelling without giving any explanation, such as the work of Bandyopadhyay and Fraccastoro (2007) and Gupta et al. (2008). This has two implications: firstly, researchers have to be careful when choosing the items to measure major constructs in the UTAUT; and secondly, researchers have to take into consideration that there is a trade-off between choosing a comprehensive model to explain technology acceptance and conducting a specific statistical technique. This study contributes to the methodology in technology acceptance model research in that it overcomes the limitations of previous studies and

used the valid items to cover the domain of each of the model constructs thus improving the content validity and reliability.

Transference of Western scales to the context of other Arab countries, such as Jordan, could be problematic (Calantone et al., 2006). Although the measures used in this study reflect the general domain of the constructs studied and were derived primarily from prior research, transferring constructs across cultures can be problematic (Craig and Douglas, 2005). Qualitative research was introduced to provide greater insights into the details of e-commerce adoption in Jordan. For example, the in-depth interviews helped pinpoint the exact domain of the facilitating conditions, compatibility, and perceived risk constructs.

To be more explicit, the construct of facilitating conditions in the original UTAUT had three root constructs namely, perceived behaviour control (Ajzen, 1991; Taylor and Todd, 1995a, 1995b), facilitating conditions (Thompson et al., 1991) and compatibility (Moore and Benbasat, 1991). In-depth interviews with the travel agents indicated that the compatibility and the facilitating conditions are the only two separate constructs that affect the acceptance of e-commerce in the travel agencies. Therefore, the perceived behaviour control construct was omitted from the research model. In addition, the items measuring the compatibility construct in this research are different from the original items used in the original UTAUT. This is consistent with the work of Moore and Benbasat (1991), who defined compatibility as the extent to which an innovation is seen consistent with values, needs and past experiences. Moreover, Agarwal and Karahanna (1998) identified compatibility with four dimensions: a) compatibility with existing work experience; b) with preferred work practice; c) with values; and d) prior experience. Therefore, it is necessary for researchers to conduct in-depth interviews before using the UTAUT model in the Arab world in order to omit some constructs that are not relevant to their research context or to define the domain of each construct and chose the proper measurement items which are compatible with the cultural context.

Therefore, from a methodological perspective, the research considered the specific characteristics of the Jordanian business society that is traced to the Arab Islamic culture. The study indicates the importance of conducting depth-interviews in cross-cultural research to identify the exact meaning of some constructs integrated in the

conceptual model, to capture the domain of key constructs investigated in the model (e.g. compatibility), and to include imperative constructs that could affect the intended degree of e-commerce use in the Jordanian travel agencies (e.g. government support and competitive pressure).

8.4 Implications for Travel Agents and Decision Makers

The results of the study provide Arab senior managers and travel agencies owners with useful insights of the factors that could affect the acceptance of e-commerce at their agencies. The study indicates that innovation characteristics, such as performance expectancy, effort expectancy and compatibility can increase the acceptance of e-commerce. Therefore, programmers and designers of tourism websites should pay attention to the usefulness, the ease of use and the compatibility of the system. It is recommended to create websites that are easy to browse, interactive and compatible with the needs of the users so as to help them to understand and find what they are searching for. Furthermore, the language and the instruction of browsing should be easy to understand (Kim et al., 2009; Huh et al., 2009). Software engineers should develop software and programmes that have bi-lingual interface (Arabic and English) to be used and understood by all of the employees in the Arab organizations. Explicitly, user-friendliness of the e-commerce websites is essential to increase employees' acceptance.

Additionally, an important determinant of e-commerce use is compatibility. This implies that Arab managers should allow access to e-commerce website for everybody at the agencies and the websites should be flexible to change (Kim et al., 2009). Having no restrictions on e-commerce websites will increase the acceptance of the system among the employees and will allow sharing of information (Huh et al., 2009). Thus, both managers and employees will find the system more compatible with their needs. Furthermore, travel agents should have websites that are easy to update and flexibly to change. The travel agents should find it easy to update the information on their websites and change or add some tourism packages that are demanded by their clients. This requires Arab website designers to develop websites that are compatible

with the needs of the staff in the organization. The websites should contain important and sufficient information that is understood by all of the staff. In addition, the layout, graphics, links and animation should be simple and attractive for both the employees and consumers.

The study indicates the importance of the competitive pressure construct in e-commerce acceptance. The travel agents are ready to use e-commerce in order to stay competitive in the market despite of the social influence. This implies that the Jordan Society of Tourist and Travel Agents should have a more powerful and active role in convincing the responsible parties to develop and apply e-commerce regulations in the tourism sector. Once e-commerce is applied in the travel agencies, there should be a kind of cooperation between the Ministry of Communication and Information Technology and the Jordan Society of Tourist and Travel Agents. In addition, the Jordan Society of Tourist and Travel Agents should council the travel agents if they have any problems with using the system. They should provide continuous support and feedback to travel agents so they can master the technological skills quickly (Lam et al., 2007).

Furthermore, the result of this study shows that awareness of e-commerce benefits and advantages has significant effect on the adoption of e-commerce in the Arab organisations. Therefore, the Jordanian government should launch campaigns illustrating the benefits of using e-commerce for Jordanian organisations. The government should formulate a national plan that increases the awareness and use of e-commerce to the Jordanian organisations and its consumers. The government should invest more in the ICT infrastructure and improve the Internet quality. In addition, the Jordanian government should encourage the development of more network service providers. This will increase the competition among service providers and allow the prices of The Internet to decrease.

Finally, improving employees' perception regarding the ease of use of the system will affect their intention to use it (Venkatesh, 2000; Venkatesh et al., 2003; Kim et al., 2009). Therefore, Arab managers and system practitioners should provide relevant and sufficient training for all of the employees at the agencies to increase their familiarity with the system, and let employees gradually develop their self confidence

with the system. This will help employees to use the system without any fear or hesitation and it will help employees to practice e-commerce activities easily.

8.5 Limitations and Directions for Future Research

Despite the study's contributions and practical implications for travel agencies' managers and decision makers in the tourism field, this study has also several limitations and unexplored future research directions.

Firstly, although the Jordanian travel agencies have provided a venue for evaluating the modified model, the implementation of the study presents a limitation. Specifically, the researcher has interviewed the travel agencies that exist in the area of Amman, and did not interview other agencies available in different areas of the kingdom. This approach has enabled the researcher to avoid some challenges to data collection in Jordan, but it has potentially limited the generalizability of the results. As such, evaluating the modified UTAUT with a broader sample (in other Arab countries, such as Syria, Egypt and Lebanon) could considerably increase the generalizability of the results.

Several Arab countries share similar traditions, culture, values, beliefs, political conditions, religion and language (Shirazi et al., 2010; At-Twajjri and al-Muhaiza, 1996). However, research indicated that some Arab countries, such as Bahrain, Iran, Jordan, Syria, Libya, Egypt, Lebanon and United Arab Emirates, had showed differences in their culture and managerial attributes (Shiraz et al., 2010; At-Twajjri, 1990, 1989). This is because the majority of these countries were part of the Othman Empire and then were occupied by European countries that fragmented them into many states. Consequently, each country tried to distinguish itself from the other. In addition, oil was discovered in some of these states that increased the economic gap among the Arab nations. These two reasons differentiate the Arab countries with regards to their devotion to their history, traditions way of thinking, religion and technology adoption (Ibrahim, 1989; Patai, 1983; Shiraz et al., 2010).

In addition, the level of education and the institutional regulations affected the adoption of technology in the Arab countries. Shiraz et al. (2010) stated that the citizens of Arab countries such as, Jordan, Bahrain and Kuwait had higher education level and economic freedom than Syria and Iran. Therefore, they were able to benefit more from the information communication technologies and had a more free approach for IT investment and development. In contrast, the government regulations in Syria and Iran hindered the development of the telecommunication infrastructure in these countries. Therefore, the investigation of technology acceptance and use in different Arab countries may have different or similar results.

The differences in the accessibility and the Internet use are evident in Arab countries. For example, The Insights Statistics of Middle East and North Africa (2010) showed that the general average use of the Internet in The United Arab Emirates was (84%), followed by Saudi Arabia (70%), then Morocco (51%), Jordan (40%) and Egypt (39%). In addition, there is a gap in the accessibility of the Internet and the development of the telecommunication infrastructure between the cities and towns in the Arab world in general and in Jordan in specific (INTAJ and USAID, 2007). Therefore, there is a need to further investigate the factors that affect technology acceptance and use in different towns and cities in the Middle East.

Secondly, similar considerations can be made about the hospitality sector that has been examined in this study. Specifically, the study results are based on the travel agencies sector. Researchers should be careful in applying the present research findings to other hospitality sectors, such as hotels, airlines, ..etc. Furthermore, researchers should be cautious when applying this research to other industries or services, especially sectors that are totally different (e.g. banks, hospitals). Future research efforts in Arab countries should examine the conceptual model of this research in other tourism sectors or in other industries to assess the extent to which these findings can be generalized since the application of these models is very minimal. Only two studies used the UTAUT in the Arab world. For example, Al-Gahtani et al. (2007) used the UTAUT to investigate the acceptance of desktop in Saudi Arabia organizations and Abu Shanab et al. (2010a) used the UTAUT to investigate the acceptance of internet banking. In addition, the acceptance of technology in the Middle East area was scarcely investigated using The TAM model and the diffusion of innovation theory, such as the work of Al-Qirim (2007), Al-

Ghaith et al. (2010); Abu Shanab et al. (2010a, 2010b) and Al Sukkar and Hasan (2005).

Thirdly, a fundamental limitation of this study is its cross-sectional design. In cross-sectional studies, causality of relationships cannot be demonstrated completely. The perception and intention to use e-commerce is measured at a single point in time (Looi, 2005). However, this intention could change over time. Therefore, this change has implications for researchers who are interested in re-assessing the change over time. It is worth mentioning that most of the research technology models were longitudinal studies or done in artificial atmosphere. Therefore, researchers should differentiate between actual use and intended degree of technology use in the Arab world.

Fourth, the study indicates that government institutions have a crucial role in influencing organizations to adopt e-commerce in Arab countries by providing them with incentives to invest in this new technology. However, there are two important issues in this aspect. Firstly, it could be argued that the Jordanian government could enforce the adoption of e-commerce on the travel agencies that would lead to a direct impact on intended degree of use, although the analysis did not show any direct relationship between government support and intended degree of e-commerce use. Therefore, further research may provide a clearer perception of government support in the adoption of a new technology in Jordan and other Arab countries. Secondly, although government support played an important role in the adoption of new technologies in the Arab countries, government support may play an important role in the adoption of new technologies in the developed nations (Calantone et al., 2006). Thus, further research investigating the role of government support in developed and Arab nations using the UTAUT model should be conducted.

Several developing countries lack e-commerce laws, digital and electronic signature (Kshetri, 2007). The government institutions in some of these countries considered the information technologies as luxurious items and add extra taxes on them (UNCTAD, 2000). These weak regulations discourage both the consumers and producers to use e-commerce (Kenny, 2003; Calantone et al., 2006). The Middle East region and Jordan in specific, is behind in applying the e-commerce laws in different sectors. There are insufficient laws to protect the buying and selling through the

Internet. The banking sector is the only sector where e-commerce laws are partially applied (INTAJ and USAID, 2007; Almbaideen, 2011). Therefore, it is worth investigating the role of government in developing and applying e-commerce laws, online privacy and security laws in the Arab World. More specifically, it is worth examining the variables that facilitate or hinder the Arab government institutions to apply these laws if they do exist.

Fifthly, the current study examines the role of the moderators for the most crucial relationships in the model. However, it appears that from the technology acceptance research literature, gender has been discussed more than age, in relation to its role in moderating the effect between the independent variables and dependent variable. Little research has examined the role of gender and age in the Arab countries. More specifically, future research needs to focus on the interaction between these two demographic variables and their moderating role between the independent and the dependent variables (Venkatesh et al., 2003). For example, Venkatesh et al. (2003) suggested that effort expectancy is more salient for women in the older age bracket and with little experience. This implies that future research may concentrate on identifying the exact age where effects start to appear for certain constructs, such as effort expectancy or disappear for other constructs, such as performance expectancy. It is worth mentioning that the size of the female sample in this study was small due to cultural issues and this fact prevented the researcher from conducting the interaction effect because the comparison will not be rational.

The Insights MENA statistics (September-November, 2010) indicated that there is a difference in number between men and women using the Internet for different activities in Jordan and other Middle Eastern countries. For example, the percentage of women using the Internet in Jordan was (30%), while this percentage is much higher for men (49%). Furthermore, the statistics illustrated a comparison between the Internet use among women in Arab countries. The figures show that the percentage of the Internet use by women in the United Arab Emirates was 81%, followed by Saudi women 65%, then Moroccan women 42 % and 30% for Jordanian women and 29% for Egyptian women. In contrast, men in the United Arab Emirates use the Internet more than women and accounted for 85%, then Saudi men 74%, then Moroccan men 60%, then Jordanian men 49% and Egyptian men 48%. These figures encourage researchers to further investigate the role of gender in technology

acceptance and use in Arab countries. Income, gender, age and experience can affect the degree of adoption of technologies in Arab countries (Al-Ghaith et al, 2010; Shirazi et al., 2009)

Sixthly, despite the ability of the modified UTAUT to explain e-commerce acceptance in the travel agencies, other variables should be taken into consideration, such as trust, CEO characteristics, and organizational factors, to fully investigate e-commerce acceptance in organizations. It is known that leaders and decision makers in the Arab World apply their own culture in their workplace. The Arabic culture is reflected in different organizational and business practices such as, organization, control, decision making, problem-solving, interaction with employees and use of technology (Al Tayeb, 1988; Trompenaars et al. 1999, Hofstede, 1991). In general, Arab leaders and decision makers are known to be authoritative, resistant to change and fear the unknown. Furthermore, workers in these organizations fear discussions or disagreements with their managers. The respect of the elderly people and the tenderness traits of the Arab culture prevent them from such behaviour (Sabri, 2004; Hofstede and Hofstede, 2005; Weir, 1995). Consequently, further research should examine the role of Arab leaders, CEO characteristics and organizational factors that affect the technology adoption in the Arab World.

Furthermore, researchers could investigate the causal antecedents of some constructs used in the technology acceptance model and integrate them into the UTAUT. For example, Davis et al. (1989) investigated the effect of system characteristics on perceived ease of use and usefulness constructs. These antecedents could help the designers to develop websites according to the needs of the travel agents to make it useful and easy to use in the future.

Seventhly, the majority of technology acceptance models used the behaviour intention construct as the decisive factor in explaining use of technologies. Future research should investigate the role of other constructs, such as habit (Venkatesh et al., 2000) and behavioural expectations (Warshaw and Davis, 1985). The latter construct will help in explaining the change in intention and the actual possibility of behaviour performance, as explained by Warshaw and Davis (1985), while intention only describes internal motivations to complete a behaviour (Venkatesh et al., 2003).

Finally, technology acceptance research focused on either the acceptance from an organizational perspective (supply side) or the acceptance from the consumers' perspectives, such as the case of this study. Conceivably, investigating both sides will allow a more in-depth understanding of a specific issue. For example, Kshetri (2007) developed business and consumer model for e-commerce barriers in developing countries that could be applied to the case of the Arab World. He stated that both consumers and producers are affected by economic, socio-political and cognitive barriers in the developing countries. On the consumers' level, the economic barriers include (lack of credit cards, electrical supply and purchasing power). The socio-political barriers include the insufficient laws and protection for Internet purchase and the cognitive barriers include (computer illiteracy and lack of English language skills, lack of local language websites, lack of trust and confidence in service provider and lack of knowledge of e-commerce advantages). From the businesses' perspectives the economic barriers include (less developed financial system, lack of ICT and supporting systems, the unattractiveness of the Internet to the traditional businesses). The socio-political barriers include (fondness for face to face interaction, preference for traditional relationships, and lack of e-commerce laws). Finally, the cognitive barriers include (lack of labour that has knowledge in e-commerce, high risk and lack of knowledge to use the ICT profitably). These factors could be investigated in the Middle East. It would be a more comprehensive study if researchers were to examine the acceptance of e-commerce in travel agencies when investigating the factors that affect customers' acceptance to e-commerce and vice versa. Thus, there is a call for studies that investigate both the demand and supply aspects so as to provide a more complete picture of e-commerce acceptance.

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Appendices:

Appendix 1: Definitions of Major Constructs used in the Technology Acceptance Models and Theories		
Technology Acceptance Models and Intention Theories	Major Key Constructs	Definitions
Diffusion of Innovation Rogers (1995, 2003) Moore and Benbasat (1991)	Relative Advantage	“Is the degree to which an innovation is perceived as better than the idea it supersedes” (Rogers, 1995, p. 15)
	Compatibility	“Is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters” (Rogers, 1995, p. 15)
	Complexity	“Is the degree to which an innovation is perceived as difficult to understand and use” (Rogers, 1995, p. 16).
	Triability	“Is the degree to which an innovation may be experimented with on a limited basis” (Rogers, 1995, p. 16).
	Observability	“Is the degree to which the results of an innovation are visible to others” (Rogers, 1995, p. 16).
	Image	“The degree to which use of an innovation is perceived to enhance one’s image or status in one’s social system” (Moore and Benbasat 1991, p. 195).
Perceived E-readiness Model Molla and Licker (2005)	Perceived Organizational E-Readiness encompasses (awareness, human resources, business resources, technology resources, commitment,	“Awareness refers to an organization’s perception, comprehension, and projection of the benefit and risk of e-commerce” (Molla and Licker 2005, p. 86)

	governance)	<p>“Human resources refers to availability of employees with adequate information technology and other skills needed to staff e-commerce initiatives” (Molla and Licker 2005, p. 87)</p> <p>“Business resources cover capabilities and assets, including ... financial resources” (Molla and Licker 2005, p. 87)</p> <p>technology resources is referred to as “the level of hardware and software resources” (Molla and Licker 2005, p. 88)</p> <p>“Commitment refers to support by key members of the organization, especially CEO, to champion e-commerce” (Molla and Licker 2005, p. 88)</p> <p>“Governance refers to the strategic, tactical and operational model that defines the way organizations structure to establish objectives, allocate resources, and make decision” (Molla and Licker 2005, p. 89).</p>
	Perceived External E-Readiness (Government e-readiness, market forces e-readiness, support industries e-readiness)	<p>Government e-readiness refers to the government’s role to “encourage a country’s private sector to adopt e-commerce by providing supportive infrastructure” (Molla and Licker 2005, p. 89)</p> <p>“Market forces e-readiness refers to the application and use of e-commerce by a firm’s competitors, customers, suppliers, and other business partners” (Molla and Licker 2005, p. 90)</p> <p>Support industry e-readiness</p>

		refers to "the availability and affordability of services from the IT industry, the institutionalization and development of the financial sector, and the penetration and reliability of carrier and transportation facilities" (Molla and Licker 2005, p. 90).
	Initial Adoption	It describes "whether or not an organization has attained an interactive e-commerce status" (Molla and Licker 2005, p. 97). The definition is derived from diffusion of innovation theories.
	Institutionalization	It is described as "organizations that achieved an interactive e-commerce status" (Molla and Licker 2005, p. 97). The definition is derived from diffusion of innovation theories.
Technology Acceptance Model Davis (1989) and Davis et al. (1989)	Perceived Usefulness	"The degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989, p. 320).
	Perceived Ease of Use	"The degree to which a person believes that using a particular system would be free of effort" (Davis 1989, p. 320).
Theory of Reasoned Action (TRA) Fishbein and Ajzen (1975)	Attitude Toward Behaviour	"An individual positive or negative feelings about performing the target behaviour" (Fishbein and Ajzen 1975, p. 216).
	Subjective Norm	"Person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Fishbein and Ajzen 1975, p. 302).
	Behaviour Intention	"A measure of the strength of one's intention to perform a

		specific behaviour” (Fishbein and Ajzen 1975, p. 288).
Electronic Commerce Acceptance Model Pavlou (2003)	Perceived Risk	It is referred to as “the behavioural and environmental forms of uncertainty” as a result of online transaction. (Pavlou 2003, p. 109)
	Perceived Ease of Use	The Internet technology and “A web interface that is perceived as facilitating the transaction process and easy to operate” (Pavlou 2003, p. 108) Adapted from the theory of Reasoned Action and Technology Acceptance Model.
	Perceived Usefulness	Adapted from the theory of Reasoned Action and Technology Acceptance Model.
	Trust	“The belief that the other party will behave in a socially responsible manner” (Pavlou 2003, p. 106).
	Intention to Transact	“The consumer’s intent to engage in an on-line exchange relationship with a web retailer, such as sharing business information,..., and conducting business transaction” (Pavlou 2003, p. 104) derived from Zwas (1998) definition.
Theory of Planned Behaviour Introduced by Ajzen (1985, 1991) as an extension of theory of reasoned action. It is applied in the information systems contexts by Taylor and Todd (1995a)	Attitude toward Behaviour	“An individual positive or negative feelings about performing the target behaviour” (Fishbein and Ajzen 1975, p. 216).
	Subjective Norms	“The person’s perception that most people who are important to him think he

		should or should not perform the behaviour in question”(Fishbein and Ajzen 1975, p. 302).
	Perceived Behavioural Control	“Reflects perception of internal and external constraints on behaviour”(Taylor and Todd 1995a, p. 149).
Decomposed Theory of Planned Behaviour Taylor and Todd (1995a)	Perceived Usefulness	“The degree to which an innovation provides benefits which supersedes those of its precursor and may incorporate factors such as economic benefits, image enhancement, convenience and satisfaction” (Taylor and Todd 1995a, p. 152) adapted from Rogers’ definition of relative advantage and TAM’s perceived usefulness construct.
	Ease of Use	Adapted from the complexity definition of Rogers “represent the degree to which an innovation is perceived to be difficult to understand, learn or operate” (Taylor and Todd 1995a, p. 152).
	Compatibility	“The degree to which an innovation fits with the potential adopter’s existing values, previous experiences and current needs” (Taylor and Todd 1995a, p. 152 adapted from Roger’s definition of compatibility.
	Peer Influence	“Referent groups in an organizational setting” that influence individuals’ behaviour. (Taylor and Todd 1995a, p. 152).
	Superior’s Influence	“Referent groups in an organizational setting” that influence individuals’ behaviour. (Taylor and Todd 1995a, p. 152).

	Self-Efficacy	"An individuals' self-confidence in his/her ability to perform a behaviour" (Taylor and Todd 1995a, p. 150) adapted from Bandura (1977, 1982).
	Resource Facilitating conditions	"The availability of resources needed to engage in behaviour, such as time, money or other specialized resources" (Taylor and Todd 1995a, p. 150) adapted from Triandis (1979).
	Technology Facilitating conditions	It is related to "technology compatibility issues that may constrain usage" (Taylor and Todd 1995a, p. 153).
Combined Technology Acceptance Model and Theory of Planned Behaviour Taylor and Todd (1995b)	Attitude	"Reflects feelings of favourableness or unfavourableness toward using technology" (Taylor and Todd 1995b, p. 561) adapted from TRA/TPB.
	Perceived Usefulness	"Reflects the belief that using the technology will enhance performance" (Taylor and Todd 1995b, p. 561) adapted from TAM.
	Ease of Use	Adapted from TAM.
	Subjective Norm	Adapted from Theory of planned Behaviour (1991) and theory of Reasoned Action (1975).
	Perceived Behavioural Control	Adapted from Theory of Reasoned Action and Theory of Planned Behaviour.
TAM2 Venkatesh and Davis (2000)	Subjective Norm	"Person's perception that most people who are important to him think he should or should not perform the behaviour in question"(Fishbein and Ajzen 1975, p. 302).
	Image	"The degree to which use of an innovation is perceived to enhance one's image or status in one's social system"

		(Moore and Benbasat 1991, p. 195).
	Job Relevance	An individual's perception regarding the degree to which the target system is applicable to his or her job" (Venkatesh and Davis 2000, p. 191).
	Output Quality	The perception of individuals of "how well the system performs those tasks" (Venkatesh and Davis 2000, p. 191).
	Result Demonstrability	"Tangibility of the results of using the innovation" (Moore and Benbasat 1991, p. 192).
	Perceived Usefulness	"The prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context" (Davis et al., 1989, p. 985).
	Perceived Ease of Use	"The degree to which the prospective user expects the target system to be free of effort" (Davis et al., 1989, p. 985).
Motivational Model There are several motivational theories that influence behaviour intention, such as the motivation theory of Deci's (1975). The theory has been applied by Van der Heijden (2004) in the context of information systems.	Perceived Usefulness	Refers to the utilitarian nature of the system, focusing on extrinsic motivations. The objective of such systems is to "increase the user task performance while encouraging efficiency" (Van Der Heijden 2004, p. 696) adapted from Davis (1989).
	Perceived Enjoyment	Refers to the hedonic nature of the system, focusing on the intrinsic motivations. It refers to the "extent to which fun can be derived from using the system as such" (Van Der Heijden 2004, p. 697) adapted from Davis et al., 1992).

	Perceived Ease of Use	It is “an assessment of the mental effort involved in the use of the system” (Van Der Heijden 2004, p. 697). Adapted from Davis (1989). The construct has an influence on the intrinsic and extrinsic motivations.
The motivation theory is also applied by Davis et al. (1992).	Extrinsic motivation	People intend to perform a behaviour “because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself” (Davis et al., 1992, p. 1112).
	Intrinsic Motivation	People intend to perform a behaviour “for no apparent reinforcement other than the process of performing the activity per se” (Davis et al., 1992, p. 1112).
The Social Cognitive Theory Introduced by Bandura (1977, 1979, 1982, 1986) Applied to IT context by Compeau and Higgins (1995a, 1995b).	Computer Self-efficacy	“People’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses” (Bandura 1986, p. 391).
	Outcome Expectations-performance	It is referred to job related outcomes of using the computer, such as the quality of output (Compeau and Higgins, 1995b).
	Outcome Expectations-personal	It is related to personal results of using the computer, such as sense of accomplishment (Compeau and Higgins, 1995b).
	Affect	“Individuals’ affect (or liking) for particular behaviour” (Compeau and Higgins 1995b, p. 196) adapted from Bandura (1986).
	Anxiety	“Behaviours that invoke anxious feelings” (Compeau

		and Higgins 1995b, p. 197).
	Encouragement by others	"Encouragement of use from family, friends, subordinates" (Compeau and Higgins 1995b, p. 199).
	Others' Use	"Actual use by others" Example: family, friends and subordinates (Compeau and Higgins 1995b, p. 200).
Model of PC Utilization Introduced by Thompson et al. (1991) and based on Triandis' interpersonal behaviour theory (1977, 1980)	Long-Term Consequences of PC Use	"Outcomes that have a pay-off in the future, such as increasing the flexibility to change jobs or increasing the opportunities for more meaningful work" (Thompson et al., 1991, p. 129).
	Job fit with PC Use	"Measures the extent to which an individual believes that using a PC can enhance the performance of his job or her Job" (Thompson et al., 1991, p. 129).
	Complexity of PC Use	"The degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers and Shoemaker, p. 154).
	Affect toward PC Use	"The feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act" (Triandis 1980, p. 211).
	Social Factors Influencing PC Use	"The individual's internalization of the reference groups' subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (Triandis 1980, p. 210).
	Facilitating Conditions for PC Use	"Objective factors, out there in the environment, that several judges or observers can agree make an act easy to do" (Triandis 1980, p. 205).

		It is "the provision of support for users of PC's may be one type of facilitating conditions that can influence system utilization" (Thompson et al., 1991, p. 129).
The Unified Theory of Acceptance and Use of Technology Venkatesh et al. (2003)	Performance Expectancy (perceived usefulness, extrinsic motivation, job fit, relative advantage, outcome expectation)	Performance expectancy: "The degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p. 447). Perceived Usefulness: (Davis, 1989; Davis et al., 1989) Extrinsic motivation: (Davis et al., 1992) Job Fit: (Thompson et al., 1991) Relative advantage: (Moore and Benbasat, 1991) Outcome expectations (Compeau and Higgins, 1995b; Compeau et al., 1999).
	Effort Expectancy (Perceived Ease of Use, Complexity, Ease of Use)	Effort Expectancy: "The Degree of ease associated with the use of the system" (Venkatesh et al., 2003, p. 450). Perceived ease of use: Adapted from (Davis et al., 1989; Davis 1989) Complexity: (Thompson et al., 1991) Ease of Use: Moore and Benbasat (1991).
	Social Influence (Subjective norm, social factors, Image)	Social Influence: "The degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003, p.

		<p>451).</p> <p>Subjective Norm: Adapted from (Ajzen 1991; Davis et al., 1989; Fishbein and Ajzen 1975; Matheison 1991; Taylor and Todd 1995a, 1995b).</p> <p>Social Factors: (Thompson et al., 1991).</p> <p>Image: (Moore and Benbasat, 1991).</p>
	<p>Facilitating conditions (Perceived Behavioural control, facilitating conditions, compatibility)</p>	<p>Facilitating conditions “The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003, p. 453).</p> <p>Perceived behavioural control: Adapted from (Ajzen 1991; Taylor and Todd 1995a, 1995b)</p> <p>Facilitating Conditions: Adapted from Thompson et al. (1991)</p> <p>Compatibility: Adapted from Moore and Benbasat (1991).</p>

Appendix 2: Summary of the Technology Acceptance Models

Origin	Key Components	Study Objectives	Technology Studied	Methodology	Major Findings
<p>TAM Davis et al. (1989)</p>	<p>Perceived usefulness, perceived ease of use, attitude, subjective norm</p>	<p>1. Measure the ability to predict people's computer acceptance by comparing two models, namely, TRA and TAM.</p>	<p>Word processing programme, (write one).</p>	<p>-Sample of 107 MBA students -longitudinal study. -Measurement at two points. One after the introduction to the system, second after 14 weeks.</p>	<p>1. The computer use can be predicted from individual's behaviour intention. 2. Perceived usefulness is a main determinant of people's intention to use computers. 3. Perceived ease of use is a secondary determinant of people's intention to use computers. 4. Attitudes partially mediate these beliefs on behaviour intention. 5. The variance in intention and use resulted by using TRA was 32% and 26%, and TAM was 47% and 51% correspondingly.</p>

<p>Perceived e-readiness model</p> <p>Molla and Licker (2005)</p>	<p>Perceived organizational e-readiness, perceived environment e-readiness</p>	<p>1. Identify the factors that affect e-commerce adoption in organizations in a developing country.</p>	<p>1.e-commerce</p>	<p>1. Survey data 150 businesses in South Africa.</p>	<p>1. The initial e-commerce adoption is affected more by the perceived organizational e-readiness than by the perceived environmental e-readiness.</p> <p>2. The perceived environmental e-readiness and the commitment and governance variables in perceived organizational e-readiness explain the institutionalization of e-commerce.</p> <p>3. Companies in developing countries should take into consideration both the organizational and environment e-readiness factor when adopting e-commerce.</p>
<p>Electronic Commerce Acceptance Model</p> <p>Pavlou et al.</p>	<p>Perceived risk, perceived ease of use, perceived usefulness, trust, intention to transact</p>	<p>1. Explain the factors that affect e-commerce acceptance</p>	<p>1.e-commerce</p>	<p>1. Two empirical studies, the first, exploratory three experiments on 103 students using questionnaires in order to</p>	<p>1. Trust and perceived risk are direct determinants of intention to transact.</p> <p>2. Trust indirectly affects the intention to transact through</p>

(2003)				purify the proposed model. The second, confirmatory study using a sample of 155 online consumers.	perceived risk, perceived usefulness, and perceived ease of use. 3. Perceived usefulness and perceived ease of use have significant effect on intention to transact. 4. The intention to transact has an effect on actual transaction.
Taylor and Todd (1995a)	Perceived usefulness, perceived ease of use, attitude, subjective norm, compatibility, peer influence, superior influence, self-efficacy, resource facilitating conditions, technology facilitating conditions.	1. Compare between the technology acceptance model, theory of planned behaviour and the decomposed theory of planned behaviour to evaluate which model can best explain information technology use.	A variety of word processing, spreadsheet, statistics and other specialized software available at a computing resource centre.	1. A cross-sectional study using information obtained from undergraduate and graduate student sample of 786 participants over 3 month's period. 2. Data was collected at two stages. The first stage the students were given questionnaires to assess their beliefs and intention to use the software at the computing centre. Then the students were asked	1. The three models were roughly the same in terms of explaining actual behaviour. 2. Decomposing the theory of planned behaviour provide a stronger explanation of behaviour intention to use information systems. 3. TAM explains 52% of the variance of intention, the theory of planned behaviour explains 57% of the variance of intention to use and finally the decomposed theory of planned behaviour explains

				to complete a short survey whenever they use the centre for 3 months to measure the construct of use.	60% of the variance in intention to use information systems. 4. Attitude does not have a significant influence on behaviour intention. 5. BI effect on behaviour is significant in all models.
Combined technology acceptance model and theory of planned behaviour Taylor and Todd (1995b)	Perceived usefulness, perceived ease of use, subjective norm, attitude, perceived behavioural control	1. To investigate whether the technology acceptance models, such as TAM and the theory of planned behaviour can explain the behaviour of inexperienced users. 2. To explain whether the factors that affect IT use are the same for experienced or inexperienced users.	A variety of word processing, spreadsheet, statistics and other specialized software available at a computing resource centre.	1. Cross-sectional study using a sample of 430 experienced and 356 inexperienced students using IT systems at the university computing information centre. 2. All the constructs are measured through a survey distributed to the students, then the actual use is measured by a form completed each time a student uses the centre i.e., multiple measures per students.	1. The combined TAM with the perceived behavioural control can explain the IT use for both experienced and inexperienced users. 2. The inexperienced users focus on different variables than experienced users to use the information systems, such as their emphasis on perceived usefulness more than perceived behavioural control. 3. For the experienced users all of the coefficients are significant except the relations between ease of use

					<p>and attitude, attitude and behaviour intention, and the perceived behavioural control to behaviour.</p> <p>4. For the inexperienced users, all the relationships are significant except the relation between attitude and behaviour intention.</p> <p>5. The relationship between BI to behaviour is stronger for experienced users than inexperienced</p> <p>6. The relationship between attitude and BI is not significant for both groups.</p> <p>7. The perceived usefulness is a stronger predictor of intention for inexperienced users, and has the same influence on attitude for the experienced and inexperienced users.</p> <p>8. The SN has a similar impact on BI for both</p>
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					<p>groups.</p> <p>9. The relationship between the perceived behavioural control and behavioural intention is stronger for experienced users, while the relationship between PBC to behaviour is stronger for the inexperienced users.</p> <p>10. Perceived ease of use has a stronger effect on attitude for inexperienced users.</p>
<p>TAM2 Venkatesh and Davis (2000)</p>	<p>Perceived usefulness, perceived ease of use, subjective norm, image, job relevance, output quality, job demonstrability</p>	<p>1. Develop and test an extension model of TAM that explains the different variables that affect perceived usefulness and usage intention</p>	<p>1. Two voluntary software one can be used to save day- to - day activities, the other is windows operated software that includes all financial operations.</p> <p>2. Two</p>	<p>1. Longitudinal data taken from four different organizations using four different information systems, two voluntary and two mandatory systems.</p> <p>2. The four samples are: (48) floor supervisors introduced to a new system that is voluntary to use, and (50) members of large financial service department are</p>	<p>1. All of the constructs of TAM i.e., perceived usefulness and perceived ease of use have a positive impact on usage behaviour and are fully mediated by intention to use and no moderation effect of voluntariness or experience.</p> <p>2. Subjective norm has a positive impact on perceived usefulness and is moderated by the experience and</p>

			<p>mandatory softwares the first is windows based customer account management, and the second is special software to analyze and create stock portfolios.</p>	<p>introduced to new software that is voluntary use. The third study involves a sample of 51 employees introduced to a mandatory information system, and the fourth sample includes 51 employees of an investment banking firm that are introduced to a mandatory information system.</p> <p>2. Measurement taken at three points, after the initial training on the system, one month after implementation, and three months after use.</p> <p>3. Self reported usage behaviour is measured at stage two and three.</p>	<p>voluntariness.</p> <p>3. Subjective norm has a direct effect on intention to use in mandatory setting only at the very early stage of experience.</p> <p>4. Image and usefulness relationship is not significant.</p> <p>5. Job relevance and output quality have a positive effect on perceived usefulness.</p> <p>6. The model was powerful explaining 40%-60% of the variance in usefulness perception and 34%-52% of the variance in intention to use.</p>
<p>Motivational Model Van Der</p>	<p>Perceived usefulness, perceived enjoyment, perceived ease of use</p>	<p>1. To examine the differences in user acceptance for hedonic and utilitarian information systems.</p>	<p>Dutch movie website.</p>	<p>1. Cross-sectional electronic survey to measure user acceptance for website.</p>	<p>1. Perceived enjoyment and perceived ease of use are stronger determinants of the intention to use the hedonic</p>

Heijden (2004)				<p>2. Final sample size is (1144).</p> <p>2. All measures are adapted from previous related research.</p>	information systems than perceived usefulness.
<p>Computer Self-Efficacy (Compeau and Higgins, 1995b)</p>	<p>Computer self-efficacy, outcome expectations, affect, anxiety, usage, encouragement by others, others' use, support</p>	<p>1. To investigate the individuals' beliefs of their ability to use computers.</p>	<p>Computers.</p>	<p>1. A final survey of 1020 Canadian managers and professionals is used to measure the antecedents and the affected variables of self-efficacy.</p>	<p>1. Self-efficacy is positively affected by encouragement of people using the system at the organization, and is surprisingly negatively affected by the support of people in organization.</p> <p>2. Self-efficacy has a significant positive effect on outcome expectations, affect, anxiety and use of computers.</p> <p>3. People with high self-efficacy use the computer more than people with low self-efficacy, they also experience less anxiety.</p> <p>4. Outcome expectation has a positive effect on affect and positive affect has a positive</p>

					impact on computer use while anxiety has a negative impact on computer use.
Model of PC Utilization Thompson et al. (1991)	Long term consequences of Pc use, job fit, complexity, affect, social factors, facilitating conditions	1. To use the theory of behaviour suggested by Triandis (1980) in the IS context to explain computer use.	Personal Computers.	1. A final sample of (212) knowledge workers in nine divisions in multi-national firm is used to fill up a questionnaire.	1. Long term consequences of PC use, job fit, and social factors have positive effect on PC utilization. 2. The relationship between affect and use is not statistically significant. 3. There is a negative relationship between complexity and use. 4. Facilitating conditions has a small negative impact on PC use, not very significant.
The Unified Theory of Acceptance and Use of Technology Venkatesh et al. (2003)	Performance expectancy, effort expectancy, social influence, facilitating conditions.	1. To review the prominent technology acceptance models and empirically compare them. 2. To compose a unified model for technology acceptance based on the empirical comparison.	1. Online meeting manager that is web-enabled (voluntary use). 2. Database application	1. A longitudinal study using data from four different organizations during six months with three measurement points is used to test and compare the 8 models. 2. A pretested	1. All of the eight models explain the individuals' intention to use information systems with variance in intention ranging from 17%-42%. 2. The unified model is tested on the four

		<p>3. To empirically validate the unified model.</p>	<p>that is used along with other softwares in the organization to obtain information (voluntary setting).</p> <p>3. Portfolio analyzer that is used in (mandatory setting).</p> <p>4. Accounting software (mandatory setting).</p>	<p>questionnaire is distributed at three points, the first questionnaire before training, the second one month after system implementation, and the third is distributed after three months of implementation.</p> <p>3. The items in the questionnaires are adapted from the original models to test intention to use in voluntary and mandatory settings.</p> <p>2. Based on these empirical tests, a unified model is formulated with four major constructs that affect the intention to use the information systems.</p> <p>3. The new model is tested using data from two new organizations.</p>	<p>organizations and the adjusted R was 69%.</p> <p>3. The unified is confirmed with data from two different organizations and R² is 70%.</p> <p>4. The voluntary and mandatory settings affect the behaviour intention and use of information technology for some constructs. Social influence has an effect on mandatory not voluntary setting.</p> <p>a. The relationship between social influence and behaviour intention is stronger for older women with limited experience in mandatory setting.</p> <p>5. The determinants of intentions vary with the experience, gender and age.</p> <p>A. the relationship of performance expectancy with behaviour intention is</p>
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					<p>stronger for men and younger workers.</p> <p>b. The relationship between effort expectancy and behaviour intention is stronger for older women with limited experience.</p> <p>c. The relationship between facilitating conditions and use is stronger for older workers with more experience.</p> <p>6. The relationship between facilitating conditions and behaviour intention is not significant.</p> <p>7. Computer self- efficacy has no significant relationship with behaviour intention due to the influence captured by effort expectancy.</p> <p>8. Computer anxiety and attitude have no significant relationship on behavioural</p>
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					intention. 9. There is a positive relationship between BI and use
The extended TAM Model Kim et al. (2008)	Perceived usefulness, Perceived ease of Use, Subjective norms, attitude toward use, etrust, Intention to reuse	Integrate the subjective norms and etrust to the TAM model to investigate their effect on the acceptance of business to consumers airline websites	e-commerce websites of two major airlines	Sample of 495 customers who use the airline websites to buy tickets Path analysis was used to test model path and model fit using AMOS-	1. general support of the extended Tam 2. Confirmed the model strength in predicting the consumer's intentions to reuse the companies' websites
Comparison of the TAM, The TPB, The DTPB Huh et al. (2008)	Perceived usefulness, (perceived ease of use, attitude towards use behaviour intention to use for TAM), Attitude toward use, subjective norms, perceived behavioural control, behaviour intention to use for the TPB), perceived ease of use, perceived usefulness, compatibility, peer's influence, superior's influence, self-efficacy, technical support, attitude	1. investigate which technology model could best explain the employees' intention to use hotel information system	Hotel Information System	-Data was collected from employees in 13 upscale hotels -Structural Equation modelling was used to compare the three models in terms of overall fit, explanatory power, and path significance.	1. If the objective is to predict the behaviour intention to use, TAM is the best model. 2. If the objective of the study to explain behaviour intention, the DTPB is better to use.

	towards use, subjective norms, perceived behavioural control, behaviour intention to use for the DTPB)				
The TAM model with Diffusion theory (Lopez-Nicolas et al., 2008)	Social influence, Media influence, attitudes towards mobile innovations, perceived status benefit, perceived flexibility benefits, perceived usefulness, perceived ease of use, behaviour intention	1. To evaluate the acceptance of advanced mobile services	Advanced mobile services	-A ample of 542 Dutch consumers -Structural equation modelling was used to evaluate the model using Lisrel	1. The traditional antecedents of behaviour intention, such as perceived usefulness, and perceived ease of use can be integrated with the variables related to diffusion theory, such as social influence, status benefits, and flexibility benefits to explain behaviour intention to use new generations of mobiles. 2. Social factors have a positive influence on attitudes, benefit status, flexibility, perceived usefulness and perceived ease of use. This social influence is also affected by media influence.
The TPB with TAM and The	Perceived usefulness, perceived ease of use,	1. to explain consumers' intentions to participate in	Firm-hosted online travel	1. Data was collected from a web survey of	1. the integrated theories provided suitable framework

<p>Social Identity theory (Casalo et al., 2010)</p>	<p>identification, attitude, subjective norms, perceived behavioural control, intention to participate, intention to use the host firm products, intention to recommend the host firm</p>	<p>online travel communities</p> <p>2. Examine the link between intention to participate and the intention to use the host product and the intention to recommend it to others</p>	<p>communities</p>	<p>members of several online travel communities. The sample size was 456.</p> <p>2. Model was tested by using structural equation model using EQS.</p>	<p>to explain the intention to participate, and this intention has a positive effect on the other two intentions</p>
<p>The Theory of Planned behaviour</p> <p>Quintal et al. (2010)</p>	<p>Perceived risk, perceived uncertainty, attitude toward visiting Australia, Subjective Norms, Perceived behavioural control</p>	<p>1. To test the impact of risk and uncertainty on travellers' intention to visit Australia using the theory of planned behaviour</p>	<p>Visiting new destination, such as Australia</p>	<p>1. Data was collected from online consumer panel in south Korea, china and Japan. A sample of 700 travellers.</p> <p>2. Path analysis was used to test the model</p>	<p>1. The extended model explained between 21% and 44% of the variance in intentions.</p> <p>2. SN and PBC had a positive impact on intention from three samples.</p> <p>2. Attitude was significant to Japanese travellers.</p> <p>3. SN influence attitude and PBC from all samples.</p> <p>4. Risk influenced attitudes in south Korea and Japan samples.</p> <p>4. Perceived uncertainty influenced attitude in south</p>

					Korea and china and it influenced PBC in china and Japan
The UTAUT model. Al Gahtani et al. (2007)	Performance expectancy, effort expectancy, subjective norm, facilitating conditions, behavioural intention, use (age, gender, experience moderators).	1. To validate UTAUT in non Western culture (Saudi Arabia)	Desktop computers	1. a survey of 722 workers in Saudi Arabia 2. PLS was used to test the model	1. the model explained 39.1% of intention to use variance and 42.1% of usage variance
The UTAUT Model. Gupta et al. (2008)	Performance expectancy, effort expectancy, social influence, facilitating conditions, behaviour intention, use,(gender moderator)	1. To investigate the adoption of ICT in government organizations in developing countries	Use of Internet technologies	1. a sample of 110 employees in government institutions were selected 2. Use of multiple regressions	1. The performance expectancy, effort expectancy, social influence and facilitating conditions have a positive impact on use of ICT. No significant moderating effect of gender on these relationships.
The UTAUT model Bandyopadhyay and Fraccastoro (2007)	Performance expectancy, effort expectancy, social influence, behaviour intention, (age, gender, income, experience, voluntariness of use	1. To study the effect of culture through the social influence factor on use acceptance of Prepayment metering system	Prepayment Metering System	1. a sample of 502 users were selected 2. Structural equation modelling using Amos was used to test the	1. the social influence, performance expectancy and effort expectancy has a positive effect on behaviour intention

	moderators).			model	
The UTAUT model Robinson (2006)	Performance expectancy, effort expectancy, Social Influence, Attitude toward using technology, behavioural intention to use technology, (gender moderator)	1. To test the students' affect toward using new technology	Student use of technology in the marketing field	1. sample of 5000 business students 2. The model was tested using LISREL	The model was fit and the students' attitudes toward using new technology is affected by performance expectancy, effort expectancy and the social influence
The UTAUT model Neufeld et al.(2007)	Performance expectancy, effort expectancy, social influence, facilitating conditions and project champion charisma	1. To test the charismatic behaviour of leaders on the acceptance of new systems in organizations	General information system adoption in organizations	1. a sample of 209 employees from seven organizations were selected 2. Partial Least Squares was used to test the model fit	Leadership charisma was positively associated with increased performance expectancy, effort expectancy, social influence and facilitating condition perceptions of users.
The UTAUT model Anderson et al. (2006)	Performance expectancy, effort expectancy, social influence and facilitating conditions. Use behaviour, gender, age, experience and voluntariness	1. To identify the drivers for acceptance of Tablet Pc's by the business faculty	Tablet PC's	Emails were sent to 50 business colleges in the states and 37 members participated. 1. PLS bootstrapping method was used	1. the results validate the original UTAUT and indicate that performance expectancy and voluntariness are the most salient variables affecting the use

Appendix 3: Root constructs, Definitions, and Scales in the Questionnaire

Construct	Definition	Items
Perceived Usefulness (Davis 1989; Davis et al., 1989)	The degree to which a person believes that using a particular system would enhance his or her job performance	<ol style="list-style-type: none"> 1. Using the Internet for selling tourism products and services will enable my company to accomplish tasks more quickly 2. Using the Internet for selling tourism products and services will improve business performance 3. Using the Internet for selling tourism products and services will increase our productivity 4. Using the Internet for selling tourism products and services will make it easier to do our job 5. Our company will find using the Internet for selling tourism products and services useful
Extrinsic motivation (Davis et al., 1992)	The perception that users will want to achieve an activity because it is viewed to be instrumental in attaining valued results that are different from the activity itself, such as improving relationship with business partners	<ol style="list-style-type: none"> 1. Using the Internet for selling tourism products and services facilitates my business operation 2. Using the Internet for selling tourism products and services increases the sense of security 3. Using the Internet for selling tourism products and services will increase the sense of security 4. Using the Internet for selling tourism products and services is found very useful for improving relationship with business stakeholder
Job Fit (Thompson et al., 1991)	It is the extent to which a system capabilities can enhance the individual's job performance	<ol style="list-style-type: none"> 1. Using the internet for selling tourism product and services will have no effect on our performance 2. Using the Internet for selling tourism products and services can shorten the duration of time needed to accomplish important job responsibilities 3. Using the Internet for selling tourism products and services can significantly increase the quality of output in our organization 4. Using of the Internet can increase the quantity of output for the same amount of effort
Relative Advantage	The degree to which using an innovation is perceived as being	<ol style="list-style-type: none"> 1. Using the Internet for selling tourism products and services will

(Moore and Benbasat, 1991)	better than using its precursor	<p>lower the business cost</p> <ol style="list-style-type: none"> 2. Using the Internet for selling tourism products and services will allow access to new businesses or markets 3. Using the Internet to sell tourism products and services will be important for the business in the future 4. Using the Internet to sell tourism products and services will allow competitors to know about the company's products 5. Using the Internet for selling tourism products and services will allow better communication with business partners 6. Using the Internet to sell tourism products and services will increase the profitability of our business 7. Using the Internet to sell tourism products and services will provide timely information for decision making
Outcome Expectation (Compeau and Higgins 1995b; Compeau et al., 1999)	It is related to the consequences of performing a behaviour. They could be job or personal related consequences.	<ol style="list-style-type: none"> 1. Using the Internet for selling tourism products and services will enhance our effectiveness 2. Using the Internet for selling tourism products and services will make us spend less time on routine jobs 3. Using the Internet for selling tourism products and services will increase our chances of obtaining a promotion 4. Using the Internet for selling tourism products and services will increase our chances of getting a raise
Perceived Ease of Use (Davis 1989; Davis et al., 1989)	The degree to which using the system would be free of effort.	<ol style="list-style-type: none"> 1. Learning to sell tourism products and services over the Internet will be easy for us 2. We will find it easy to get the system to do what we want it to do 3. Our interaction with the Internet to sell tourism products and services will be clear and understandable 4. Using the Internet for selling tourism products and services will

		<p>be flexible to interact with</p> <p>5. It will be easy for us to become skilful at using the Internet to sell tourism products and services</p> <p>6. We will find using the Internet to sell tourism product and services easy to use</p>
<p>Complexity (Kendal et al., 2001; Thompson et al., 1991)</p>	<p>The degree to which a system is perceived as relatively difficult to understand and use.</p>	<p>1. Using the Internet to sell tourism products and services will take too much time from our normal duties</p> <p>2. Using the Internet to sell tourism products and services will be so complicated, it is difficult to understand what is going on</p> <p>3. Using the Internet to sell tourism products and services will involve too much time doing mechanical operations (e.g. data input)</p> <p>4. It will take too long to learn how to use the Internet to sell tourism products and services to make it worth the effort</p>
<p>Ease of Use (Moore and Benbasat, 1991)</p>	<p>The degree to which using an innovation is perceived as being difficult to use</p>	<p>1. Using the Internet for selling tourism products and services will be troublesome in our company</p> <p>2. Using the Internet for selling tourism products and services will require a lot of mental effort</p> <p>3. Using the Internet for selling tourism products and services will be often frustrating</p>
<p>Subjective Norm (Ajzen 1991; Davis et al., 1989; Fishbein and Azjen 1975; Mathieson 1991; Taylor and Todd 1995a; 1995b)</p>	<p>The individual's perception that most people who are important to him or her think he should or should not use the system.</p>	<p>1. People who have influence on our behaviour think that we should use the Internet for selling tourism products and services</p> <p>2. People who are important to my firm (customers, suppliers, information system people, industry peers) think that we should use the Internet to sell tourism products and services</p>
<p>Social Factors (Thompson et al., 1991)</p>	<p>The individual's internalization of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others in specific social situations.</p>	<p>1. We will use the Internet to sell tourism products and services because of the proportion of co-workers who will use the system</p> <p>2. The (senior management or business owners) will be very supportive to use the Internet for selling tourism products and services</p> <p>3. In general, people in the</p>

		organization will support the use of the Internet to sell tourism products and services
Image (Moore and Benbasat, 1991)	The degree to which use of an innovation is perceived to enhance one's image or status in one's social system	<ol style="list-style-type: none"> 1. Using the Internet for selling tourism products and services will improve the company's image 2. Using the Internet for selling tourism products and services will give us more prestige than those who do not 3. Using the Internet to sell tourism products and services is a status symbol in our organization
Perceived Risk (Hassan et al., 2006)	It is related to the financial and psychological risk that is associated with using the Internet to sell tourism services	<ol style="list-style-type: none"> 1. We are concerned that the financial records might not be adequately protected if we use the Internet for selling tourism products and services 2. It is not safe to receive the credit card number when we use the internet for selling tourism products and services 3. The thought of using the Internet to sell tourism products and services makes us feel uncomfortable. 4. The thought of using the Internet to sell tourism products and services causes us to experience unnecessary tension. 5. Using the Internet to sell tourism products and services will lead to social isolation
Government Support (Cheong Looi, 2005; Seyal et al., 2004; Wymer and Regan 2005; Calantone et al., 2006)	It is the significant government role in stimulating e-commerce use in the private sector.	<ol style="list-style-type: none"> 1. The Jordanian government is helping to lower the cost of using the Internet and setting up e-commerce facilities 2. The Jordanian government is helping in giving all kinds of assistance to help businesses to use Internet 3. The government often informs us about the good points of e-commerce and doing business using the Internet 4. Support from government is important to encourage us to use more of internet in business
Competitive Pressure (Premkumar and Roberts, 1998, and 1999; Cheong Looi, 2005; Al-Qirim 2005; Thong and Yap,	It is the competitive pressures that most businesses encounter that encourage them to be more innovative.	<ol style="list-style-type: none"> 1. We believe we will lose our customers to our competitors if we do not adopt the internet to sell tourism products and services 2. We feel it is a strategic

1995)		<p>necessity to use the internet to sell tourism products and services to compete in the market place</p> <p>3. Our customers or trading partners expect us to use the Internet to sell tourism products and services for them</p> <p>4. Many of our business competitors are already using the Internet for selling tourism products and services</p> <p>5. Our suppliers/trading partners are not using the Internet for selling tourism products and services</p>
<p>Facilitating Conditions</p> <p>(Thompson et al., 1991; Grandon and Pearson, 2004; Taylor and Todd, 1995b)</p>	<p>The availability of financial, technological and human resources that support the use of Internet.</p>	<p>1. Our organization has the financial resources to use the Internet for selling tourism products and services</p> <p>2. Our organization has the technological resources to use the Internet for selling tourism products and services</p> <p>3. A specific person (or group) is available for assistance with system difficulties</p>
<p>Compatibility</p> <p>(Moore and Benbasat, 1991; Agarwal and Karahanna 1998)</p>	<p>The degree to which an innovation is perceived as being consistent with existing values, needs, and preferred work practice.</p>	<p>1. Our organization perceives using the Internet for selling tourism products and services is consistent with our needs</p> <p>2. Our organization perceives using the Internet for selling tourism products and services is consistent with our values and beliefs</p> <p>3. Our organization perceives using the Internet for selling tourism products and services is consistent with our preferred work practices</p>
<p>Behaviour Intention</p> <p>(Cheong Looi, 2005; Davis et al., 1989)</p>		<p>1. I intend to push for the use of the Internet for selling tourism products and services in our company</p> <p>2. If I were to asked to express my opinion regarding the use of the Internet to sell tourism products and services, I intend to say something favourable</p> <p>3. I intend to recommend the use of the Internet to sell tourism products and services in our</p>

		<p>company</p> <p>4. If I could make the decision for our company, I would use the Internet to sell tourism products and services</p>
<p>Intended Degree of Use</p> <p>(Hong et al., 2006; Klopping and Mckinney, 2004)</p>	<p>It is the frequency and the amount of time spent on using the system.</p>	<p>1. If an initial decision to use the Internet for selling tourism products and services is taken, how frequently will you use it?</p> <p>2. If an initial decision to use the Internet for selling tourism products and services is taken, how much time you will spend on it?</p>

Appendix 4: The Questionnaire



LEEDS UNIVERSITY
BUSINESS SCHOOL

QUESTIONNAIRE

ON

E-commerce Use by Jordanian Travel Agencies

Please read the following before completing the questionnaire

This survey is a partial fulfilment of the requirements for the degree of Doctor of Philosophy in Marketing at the University of Leeds in the United Kingdom. The aim of this study is to identify the factors that affect the intention to use the Internet for selling tourism products and services among Jordanian travel agencies. It is organized into four sections, each containing questions that address a series of statements relating to the factors that affect the use of the Internet to sell tourism products and services at your agency. Furthermore, the survey has some questions to collect demographic information about the participants and general use of the Internet. Please answer the questions as accurately and complete as possible. All your responses will be kept confidential and will be used for academic research purposes only. Your participation is highly appreciated.

Introduction

Q.1 Please answer the following regarding the general use of the Internet at your firm.

(1) How many hours you spend using the Internet per day?

- | | | |
|--------------------------------------|--------------------------------------|--------------------------------------|
| a. Less than an hour | b. From an hour to less than 3 hours | c. From 3 hours to less than 5 hours |
| d. From 5 hours to less than 7 hours | e. From 7 hours to less than 9 hours | f. 9 hours and more |

(2) Internet experience (Years):

- | | |
|---------------------------------------|--------------------------------------|
| a. Less than 4 years | b. From 4 years to less than 7 years |
| c. from 7 years to less than 10 years | d. 10 years and more |

(3) On average, how frequently do you use the Internet for any kind of activity?

- a. Less than once a month
- b. Once a month
- c. A few times a month
- d. A few times a week
- e. About once a day
- f. More than once a day

(4) Does your firm have a web site?

- A. Yes B. No

(5) If no, what is your timeline for setting up a website?

- | | |
|--------------------|---------------------|
| a. Within 1 year | b. Within 2-5 years |
| c. No define plans | d. Will not do it |

Section I - Factors Affecting the Use of the Internet

Q.2 Please indicate the degree of your disagreement/agreement with each statement regarding the factors that affect the use of the Internet for selling tourism products and services, by circling one of the seven alternatives (where 1 = strongly disagree and 7 = strongly agree).

Perceived Usefulness

Using the Internet for selling tourism products and services will enable my company to accomplish tasks more quickly	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will improve business performance	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will increase our productivity	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will make it easier to do our job	1 2 3 4 5 6 7
Our company will find using the Internet for selling tourism products and services useful	1 2 3 4 5 6 7

Extrinsic Motivation

Using the Internet for selling tourism products and services will facilitate the business operation	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will increase the sense of security	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will provide the information that leads to better decisions	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will be very useful for improving relationship with business partners	1 2 3 4 5 6 7

Job Fit

Using the Internet for selling tourism product and services will have no effect on our performance	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services can shorten the duration of time needed to accomplish important job	1 2 3 4 5 6 7

responsibilities	
Using the Internet for selling tourism products and services can significantly increase the quality of output in our organization	1 2 3 4 5 6 7
Using of the Internet can increase the quantity of output for the same amount of effort	1 2 3 4 5 6 7

Relative Advantage

Using the Internet for selling tourism products and services will lower the business cost	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will allow access to new businesses or markets	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will be important for the business in the future	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will allow competitors to know about the company's products	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will allow better communication with business partners	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will increase the profitability of our business	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will provide timely information for decision making	1 2 3 4 5 6 7

Outcome Expectations

Using the Internet for selling tourism products and services will enhance our effectiveness	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will make us spend less time on routine jobs	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will increase our chances of obtaining a promotion	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will increase our chances of getting a raise	1 2 3 4 5 6 7

Perceived Ease of Use

Learning to sell tourism products and services over the Internet will be easy for us	1 2 3 4 5 6 7
we will find it easy to get the system to do what we want it to do	1 2 3 4 5 6 7
Our interaction with the Internet to sell tourism products and services will be clear and understandable	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will be flexible to interact with	1 2 3 4 5 6 7
It will be easy for us to become skilful at using the Internet to sell tourism products and services	1 2 3 4 5 6 7
We will find using the Internet to sell tourism product and services easy to use	1 2 3 4 5 6 7

Complexity

Using the Internet to sell tourism products and services will take too much time from our normal duties	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will be so complicated, it is difficult to understand what is going on	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services will involve too much time doing mechanical operations (e.g. data input)	1 2 3 4 5 6 7
It will take too long to learn how to use the Internet to sell tourism products and services to make it worth the effort	1 2 3 4 5 6 7

Ease of Use

Using the Internet for selling tourism products and services will be troublesome in our company	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will require a lot of mental effort	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will be often frustrating	1 2 3 4 5 6 7

Subjective Norms

People who have influence on our behaviour think that we should use the Internet for selling tourism products and services	1 2 3 4 5 6 7
People who are important to my firm (customers, suppliers, information system people, industry peers) think that we should use the Internet to sell tourism products and services	1 2 3 4 5 6 7

Social Factor

We will use the Internet to sell tourism products and services because of the proportion of co-workers who will use the system	1 2 3 4 5 6 7
The (senior management or business owners) will be very supportive to use the Internet for selling tourism products and services	1 2 3 4 5 6 7
In general, people in the organization will support the use of the Internet to sell tourism products and services	1 2 3 4 5 6 7

Image

Using the Internet for selling tourism products and services will improve the company's image	1 2 3 4 5 6 7
Using the Internet for selling tourism products and services will give us more prestige than those who do not	1 2 3 4 5 6 7
Using the Internet to sell tourism products and services is a status symbol in our organization	1 2 3 4 5 6 7

Perceived Risk

We are concerned that the financial records might not be adequately protected if we use the Internet for selling tourism products and services	1 2 3 4 5 6 7
It is not safe to receive the credit card number when we use the internet for selling tourism products and services	1 2 3 4 5 6 7
The thought of using the Internet to sell tourism products and services makes us feel uncomfortable	1 2 3 4 5 6 7
The thought of using the Internet to sell tourism products and services causes us to experience unnecessary tension	1 2 3 4 5 6 7

Using the Internet to sell tourism products and services will lead to social isolation	1 2 3 4 5 6 7
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Government Support

The Jordanian government is helping to lower the cost of using the Internet and setting up e-commerce facilities	1 2 3 4 5 6 7
The Jordanian government is helping in giving all kinds of assistance to help businesses to use Internet	1 2 3 4 5 6 7
The government often informs us about the good points of e-commerce and doing business using the Internet	1 2 3 4 5 6 7
Support from government is important to encourage us to use more of internet in business	1 2 3 4 5 6 7

Competitive Pressure

We believe we will lose our customers to our competitors if we do not adopt the internet to sell tourism products and services	1 2 3 4 5 6 7
We feel it is a strategic necessity to use the internet to sell tourism products and services to compete in the market place	1 2 3 4 5 6 7
Our customers or trading partners expect us to use the Internet to sell tourism products and services for them	1 2 3 4 5 6 7
Many of our business competitors are already using the Internet for selling tourism products and services	1 2 3 4 5 6 7
Our suppliers/trading partners are not using the Internet for selling tourism products and services	1 2 3 4 5 6 7

Facilitating Conditions

Our organization has the financial resources to use the Internet for selling tourism products and services	1 2 3 4 5 6 7
Our organization has the technological resources to use the Internet for selling tourism products and services	1 2 3 4 5 6 7
A specific person (or group) is available for assistance with system difficulties	1 2 3 4 5 6 7

Compatibility

Our organization perceives that using the Internet for selling tourism products and services is consistent with our needs	1 2 3 4 5 6 7
Our organization perceives using the Internet for selling tourism products and services is consistent with our values and beliefs	1 2 3 4 5 6 7
Our organization perceives using the Internet for selling tourism products and services is consistent with preferred work practices	1 2 3 4 5 6 7

Section II - Behaviour intention to use Internet

Q.3 Please indicate the degree of your disagreement/agreement with each statement regarding your behaviour intention to use the internet for selling tourism products and services, by circling one of the seven alternatives (where 1 = strongly disagree and 7 = strongly agree).

Behaviour Intention

I intend to push for the use of the Internet for selling tourism products and services in our company	1 2 3 4 5 6 7
If I were to asked to express my opinion regarding the use of the Internet to sell tourism products and services, I intend to say something favourable	1 2 3 4 5 6 7
I intend to recommend the use of the Internet to sell tourism products and services in our company	1 2 3 4 5 6 7
If I could make the decision for our company, I would use the Internet to sell tourism products and services	1 2 3 4 5 6 7

Section III - Actual use of the Internet

Q. 4 Please tick one box only regarding your actual use of the Internet for selling tourism products and services.

(a) If an initial decision to use the Internet for selling tourism products and services is taken, how frequently will you use it?

Not at all	
1-2 times a month	
1-2 times a week	
1-2 times a day	
3-5 times a day	
6- 10 times a day	
More than 10 times a day	

(b) If an initial decision to use the Internet for selling tourism products and services is taken, how much time you will spend on it:

Never use	
Shorter than 15 min	
15-30 min	
30 min-2 hours	
2-3 hours	
Longer than 4 hours	
More than three hours a day	

Section IV - Participants Background

This section collects participant's background information. Please answer the following:

Respondent's Details

Age:	Company name:
Gender:	Telephone:
Education level:	Number of employees:
Position held:	Date of establishment (years):
Email:	

**To be answered by the person who filled-in this questionnaire
(where 1=very low and 7= very high)**

How familiar are you with the issues addressed in this questionnaire?	1 2 3 4 5 6 7
How knowledgeable are you about e-commerce issues at your firm?	1 2 3 4 5 6 7
How confident are you about answering the questions of this survey?	1 2 3 4 5 6 7
What is your level of responsibility for business decisions regarding computing and information technology resources within your company?	1 2 3 4 5 6 7

- THANK YOU VERY MUCH FOR YOUR PARTICIPATION -

Appendix 5: Standardized Loading for the Research Constructs

Factors	Standardized Loadings	Squared Standardized loadings
Performance Expectancy		
Perceived usefulness (AVPU)	.91	.8281
Extrinsic motivation (AVEM)	.84	.7056
Job Fit (AVJF)	.82	.6724
Relative Advantage (AVRA)	.84	.7056
Outcome Expectation (AVOE)	.71	.5041
Effort Expectancy		
Perceived Ease of Use (AVPEU)	.90	.81
Complexity (AVComp)	.85	.7225
Ease of Use (AVEOU)	.91	.8281
Social Influence		
Subjective Norms (AVSN)	.82	.6724
Social Factor (AVSF)	.96	.9216
Image (AVIM)	.73	.5329
Perceived Risk		
Financial Risk (AVR1)	.94	.8836
Psychological Risk (AvR2)	.89	.7921
Government Support		
Govs1	.83	.6889
Govs2	.99	.9801
Govs3	.89	.7921
Competitive Pressure		
Compp1	.84	.7056
Compp2	.92	.8464
Compp3	.92	.8464
Compp4	.76	.5776
Facilitating Conditions		
Org1	.74	.5476
Org2	.91	.8281
Org5	.65	.4225
Compatibility		
Org3	.95	.9025
Org4	.73	.5329

Org6	.84	.7056
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Behaviour Intention

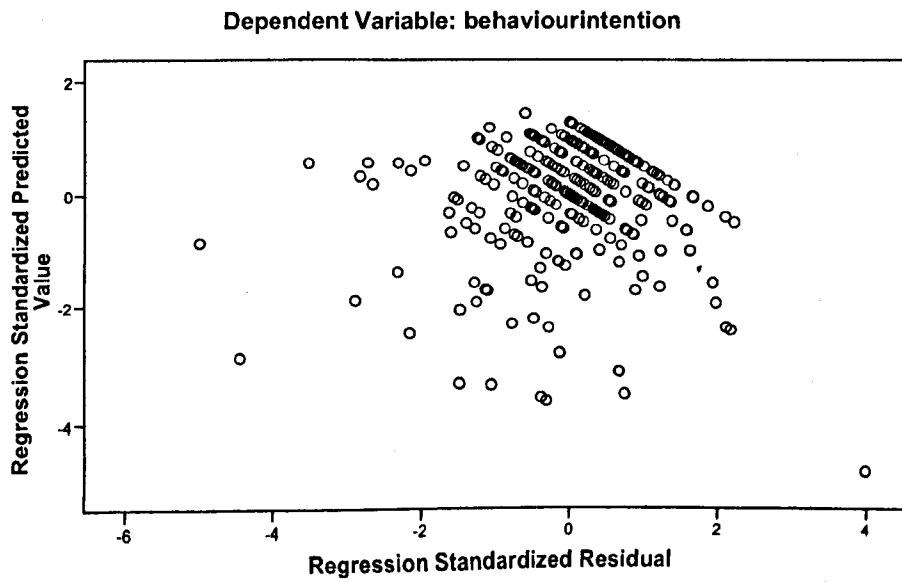
BI1	.87	.7569
BI2	.89	.7921
BI3	.90	.81
BI4	.91	.8281

Intended Degree of Use

Frequency of Internet use (auf)	.91	.8281
Time spent on Internet (aut)	.73	.5329

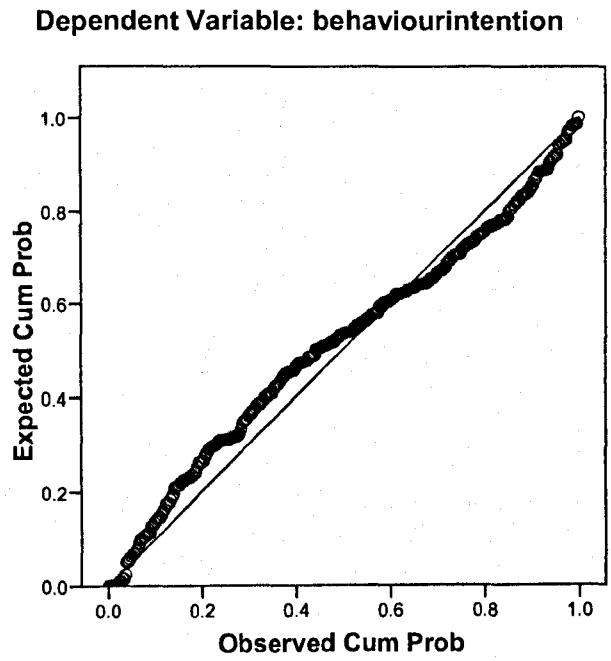
Appendix 6: The ZPRED and ZRESID Graph

Scatterplot



Appendix 7: Normal P-P Plot of Regression Standardized Residual

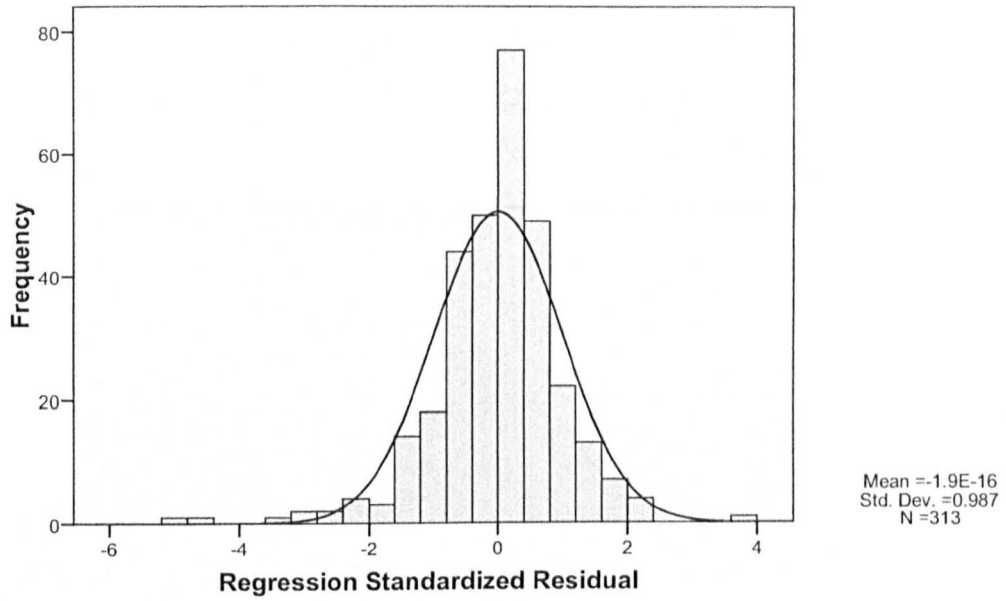
Normal P-P Plot of Regression Standardized Residual



Appendix 8: The Residual Histogram

Histogram

Dependent Variable: behaviourintention



Appendix 9: Casewise Diagnostics

Case Number	Std. Residual	behaviour intention	Predicted Value	Residual
19	-3.521	4.25	6.4154	-2.16541
33	3.983	4.75	2.3003	2.44965
55	-4.995	2.25	5.3219	-3.07189
58	-4.446	1.00	3.7342	-2.73420

a Dependent Variable: behaviour intention

Appendix 10: Collinearity Diagnosis

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF	B	Std. Error
1	(Constant)	.336	.381		.883	.378		
	Performance expectancy	.319	.065	.287	4.947	.000	.369	2.713
	Effort expectancy	.112	.039	.170	2.901	.004	.363	2.756
	Social influence	.169	.053	.159	3.218	.001	.508	1.968
	Perceived risk	.016	.042	.019	.383	.702	.509	1.965
	Government support	-.042	.028	-.066	-1.466	.144	.605	1.654
	Competitive pressure	.274	.046	.322	5.906	.000	.418	2.390
	Facilitating conditions	.124	.048	.116	2.599	.010	.628	1.593
	Compatibility	.040	.037	.046	1.090	.277	.688	1.454

a dependent variable: behaviour intention