Exploring Factors Impacting E-Commerce Adoption in Tourism Industry in Saudi Arabia

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Abstract

With the internet revolutionising global tourism, technological changes continue to make inroads into the industry's marketing and sales management models. Although many tourists still use shopfront providers, they are increasingly becoming a minority as the 'mobile generation' goes online for information and uses social media to discuss their holiday plans and book travel services. In Saudi Arabia, the religious tourism industry serving *Hajj* and *Umrah* pilgrims as well as other tourism clusters have been slow in coming to terms with e-commerce trends, preferring to offer a traditional personalised service to their clients. However, the logistical needs of servicing the rapidly increasing numbers of international pilgrims and growing IT literacy in the local market means that tourism management in Saudi Arabia needs to make considerable investments in time, resources and training to harness information technology and adopt business models that are at par with their global competitors.

To respond to this issue, this study explores the perceptions and experiences of executives in the *Hajj/Umrah* as well as other tourism industry sectors to understand the factors that may have fostered or impeded e-commerce adoption. This research contributes to the existing research on e-commerce adoption in Saudi Arabia by providing an explanation of the factors that influence the adoption of e-commerce by the tourism industry and explaining how generic theories of technology adoption need to be contextualised for the specific conditions prevailing in the Arab tourism market. The practical contribution on this research relates to the solutions it offers for the challenges faced by the travel and tourism industry in e-commerce adoption in Saudi Arabia.

The research was conducted using interviews with Saudi tourism executives to understand the contextual factors that influence the norms and attitudes prevailing in the tourism business that affect their adoption of e-commerce. This was followed by a questionnaire which was sent to a larger sample in Saudi cities, mainly focussing on Jeddah. The questionnaire focused on uncovering the factors influencing the adoption, or lack thereof, of e-commerce in the Saudi tourism industry. The research was grounded on a theoretical framework derived from the Unified Theory of Acceptance and Use of Technology, Perceived Organisational and External E-Readiness scales, and Organisational Cultural Dimensions. The findings confirmed that the perceived relative advantage of e-commerce utilisation was an essential contributor to promote e-commerce

in Saudi Arabia. Although government policy and industry norms were shown to influence e-commerce adoption, executives' attitudes were found to strongly affect technology adoption and were shown to be indirectly modified by their ICT literacy and customer influence. Internal human and ICT resources also had a direct impact on the decision to adopt e-commerce. On the other hand, customers' attitude relating to issues regarding online privacy and security and a lack of human interaction in a market with a preference for personalised agent service for customers form significant barriers to their adoption of e-commerce. There is also a lack of industry leadership and a supportive Saudi-based IT industry that can facilitate this move toward modernisation in industry standards. While there is a broad understanding of the importance of e-commerce, the tourism providers view an e-commerce strategy as not yet necessary, or indeed not yet relevant, for the tourism industry in Saudi Arabia at this time.

Declaration of Originality

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Hani Sami Brdesee

Signed: _____   Date: 4/6/2013

List of Publications

Published Research Papers

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(In the name of Allah the most gracious and the most merciful)

Dedication

I gratefully dedicate this thesis to my family, friends, country and the Islamic nation, as this thesis provides insights that can help religious tourism of Hajj and Umrah. I offery earnest gratitude and devotion, inexpressible in mere words, to the prophet of Islam, my first teacher, Mohammad (peace be upon him). I dedicate this work to him and ask Allah to accept it on the Day of Judgment. Next, my sincere thanks go to my father Sami Brdesee and my mother Afaaf Musalli (my childhood teacher and loving mentor), for their care, encouragement and prayers. Special prayers go to the spirit of my aunt Adila Brdesee who gave me an important support at the beginning of my university education journey.

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بسم اللّه الرحمن الرحيم

إهداء

الحمد للّه الذي تتم بنعمته الصالحات. الحمد للّه الذي أنعم علينا بنعم كثيرة لا تعد ولا تحصى. الحمدللّه الذي من علينا بالعلم وهيئ لي هذا الفضل الكبير. اللهم إني أجعل هذا العمل خالصاً لوجهك الكريم فتقبله منه يا كريم. اللهم إني أسألك أن تجعلها سببا في نفع ديني وأمتي وأهلي ووطني. اللهم وانفعني وأنفع بي البلاد والعباد.

أهدي هذه الرسالة لكل من علمني ونصحني وأهدى إلي مفاتيح الدراية والفهم. أبدأ بحبيبي الأول وحبيب كل مسلم، رسول اللّه و معلم وهادي البشرية، المصطفى، محمد إبن عبداللّه صلى اللّه عليه وسلم. وأُثني بمعلمتي التي وهبت حياتها لنا تنور طريقنا بالرعاية والتدريس والدعاء منذ البدايات إلى والدتي صاحبة أطهر وأطيب قلب، إلى والدتي الرائعة عفاف حسن مصلي. و والدي الغالي سامي عبدالرحمن بريدسي، الذي وقف معي في جميع مراحلي يشدد أزري ويهيئ ما يحتاجه شأني. دونكما يا والدي بعد مشيئة الرحمن لم يكن هذا العمل ليكون. وإلى أختي الحبيبة هيفاء سامي بريدسي التي وهبتني أجمل أوقاتها وأغلاها تعلمني في مراحل عديدة حتى حصدت نجاحات أحمد اللّه عليها في مراحل التعليم العام.

الإهداء والشكر موصول لكل من أكرمني اللّه ووهبني من زَوجة وأخوة وصُحبة. أبدأهم بزوجتي الحبيبة د. وفاء عدنان السقاف التي علمتني أن الأخلاق هي مفاتيح القلوب ومصابيح التوفيق. أشكرها لكل ما قدمته من دعم وحب ومساندة طوال رحلتنا العلمية في أستراليا. كنت خير أم وزوجة وشريكة في العلم. وأذكر أيضا أخواني أيمن من علمني أن الصبر مع شكر اللّه مصيره الخير. وأخي عبدالرحمن الذي تعلمت منه أن الحرص والعطاء لا يقابلوا إلا بالوفاء. وأخي وسيم الذي تعلمت منه أن الاحترام يبقى لتبقى القلوب على المحبة.

ولا أنسى أحبتي وأصدقاء دربي د. ياسر بدوي، أ. عصمت كابلي، م. هاشم الشريف، د. سامر باعيسى، د. صالح كتوعة، د. ماجد نور، و د. محمد العجيل الذين تعلمت منهم روعة الاجتهاد و الإتقان والتفاني والتركيز. أواصل إهدائي لوالدي زوجتي م. عدنان السقاف و أ. سحر حوارنه فهم من أهدوني أرقى زوجة و شملوني برعايتهم ودعواتهم. و أهدي إهداء خاص لعمتي عديلة عبدالرحمن بريدسي فهي من أهدتني دعم في بداية رحلتي الجامعية، ولا أنسى لها هذا الفضل، رحمها اللّه وأسكنها فسيح جناته.

في الختام لا أنسى أبنائي عفاف وقصي فلذاتي كبدي لحبهم ودعواتهم البريئة الصادقة بالتوفيق والنجاح ومعهم كل زوجات أخواني. وزوج أختي المهندس عبدالرحمن شبانه وجميع أبناء وبنات أخواني وأختي وكل الأهل والأقرباء.

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List of Abbreviations

AVE	Average Variance Extracted
B2B	Business-to-Business
B2C	Business-to-Consumer
BR	Business Readiness
C2B	Consumer-to-Business
C2C	Consumer-to-Consumer
CCI	Customer Cultural Influence
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CVF	Competing Values Framework
df	Degrees of Freedom
EA	Executives' Attitude
EDI	Electronic Data Interchange
EER	External E-readiness
EFA	Exploratory Factor Analysis
GOF	Goodness-of-Fit
HREC	Human Research Ethics Committee
ICT	Information and Communication Technology
IFI	Incremental Fit Index
IR	Internal Resources
IS	Information System
IT	Information Technology
MI	Modification Indices
MICT	Ministry of Information and Communications Technology
ML	Maximum Likelihood
OCD	Organisational Cultural Dimensions
OER	Organisational E-Readiness
PERM	Perceived E-Readiness Model
RMSEA	Root Mean Square Error of Approximation
S.D	Standard Deviation
S.E.	Standard Error
SEM	Structural Equation Modelling
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology

Chapter 1 Introduction

Religious tourism to the two holy cities, Makkah and Al Madinah, and other sacred sites of Islam attract over seven million pilgrims for *Hajj* (fixed date pilgrimage) and *Umrah* (personal pilgrimage) to Saudi Arabia. Hosting very large numbers of visitors, both nationally and from other Islamic countries, in a restricted area for a short period places great strains on the *Hajj* and *Umrah* travel and accommodation systems. Apart from visiting holy sites for spiritual tourism, many visitors are now seeking further experiences, including, visits to other places of historical significance in Arab civilisation, and holidays with their families in the new resorts springing up along the Red Sea coast. Internal tourism is also growing as many Saudis opt for short breaks at these domestic tourist attractions rather than extended overseas travel. The burgeoning numbers of internal and external tourists, comprising of both pilgrims and non-pilgrims, are managed through Saudi's core delivery systems of tourism providers, transport, accommodation and provisioning, and booking agents.

This research is concerned with the scope of e-commerce in improving the marketing and logistical management of tourism services in Saudi Arabia in enhancing their reach and service delivery to domestic and international customers. To this end, the study conducts an empirical survey to understand the factors and issues that motivate or dissuade operators in the Saudi tourism industry in changing from physical customer contact to online delivery using e-commerce. This introductory chapter sets out the context of the thesis and explores the issues affecting the adoption of e-commerce in tourism in Saudi organisations. It begins with a background to the thesis outlining the importance of tourism in the Saudi economy, then, introduces the literature review surveying theories on the implementation of e-commerce in marketing services. The research problem, followed by the research aims, justifies the focus of this thesis on understanding the factors influencing e-commerce adoption by the Saudi tourism industry. The significance of the research is established in terms of its contribution to theoretical knowledge on e-commerce adoption to the specific cultural context of religious tourism in a non-Western locale and practical implications for improving the current practice in Saudi tourism industry. This is followed by a brief outline of the methodology employed for developing the theoretical framework, data collection and

data analysis. The final section provides a synopsis of the whole thesis with brief summaries that explain the subject of the chapters that follow.

1.1. Contextual Motivations

Worshipping at places of significance is an ancient ritual in many religions and Saudi Arabia, being the centre of Islam, attracts a substantial numbers of Muslim pilgrims every year. Religious tourism to the two holy cities, Makkah and Al Madinah, and other sacred sites of Islam attract over seven million pilgrims for *Hajj* (fixed date pilgrimage) and *Umrah* (personal pilgrimage) to Saudi Arabia. The scope of delivering a safe and meaningful experience is already immense, nevertheless the numbers grow as capacity to invite those rises and many more Muslims make the pilgrimage each year. Saudi Arabia is committed to delivering a spiritual and physical experience to each pilgrim from leaving home until their return.

Apart from these holy sites of Islam, the country also has many other attractions and many tourists after the *Hajj* choose to stay back for leisure purposes or further spiritual exploration. Saudi Arabia's geographical position between Asia and Europe has made it a crossroads of civilizations over thousands of years. The country is dotted with coasts and desert landscapes, ancient buildings and palaces, and the Bedouin lifestyle which has a particular appeal with its falconry, horse and camel races, and colourful attire and possessions. In addition to the National Museum in Riyadh, there are many ancient sites of interest in Jeddah, Taif, Hofuf and other areas. Together with its architectural masterpieces such as the Royal Clock Tower Hotel in Makkah, Kingdom Centre in Riyadh, and the Lamar Towers in Jeddah, Saudi Arabia offers both ancient and contemporary interest for travellers (Saudi Commission for Tourism and Antiques 2013)

In 2011, Saudi Arabia hosted 17.5m international tourists (World Bank 2013). The latest information from the United Nations World Tourism Organisation (2010)[1] shows that, of the 13 million international visitors that year, 55 per cent came from Arab countries and 15 per cent from South Asia. Nearly two-thirds of international arrivals (61%) were on *Hajj* or *Umrah*, with business visitors forming the bulk of the remainder;

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[1] Although the information is for the year 2007, this comprehensive report contains some important indicators of the level of tourism activity in the country,

45 per cent arrived by air and with the exception of a half-million people arriving by sea, the rest travelled by road from neighbouring countries. Again, half a million people were leisure tourists, thus affording great opportunity for growth in this area. International visitors spent $US6 billion on their trips. There were a further 17.5 million domestic visitors staying in paid accommodation in Saudi Arabia and most of them stayed just under a week. Further, 4.8 million Saudis departed the country as tourists, and in 2007 they spent $US4.9 billion outside the country.

Based on the 2012 expenditure of international tourists ($US8.6b, note $US6b in 2007), the World Economic Forum (2013) predicts a 4.2 per cent annual growth in tourism for Saudi Arabia for the next decade. The Travel and Tourism Competitiveness Index is based on 71 criteria and variables for 140 countries and is used to rank countries comparatively. In 2013, Saudi Arabia ranked 61st in travel and tourism competitiveness, down from 71st in 2009, 38th in business environment and infrastructure, and 87th in regulatory framework. The Travel and Tourism Global Overview report states that Saudi Arabia has 'one of the largest compound annual growth rates in the world of 12.3 percent for arrivals over 2010-2015 which will result in an additional 9.3 million visitors to the country' (McClatchy - Tribune Business News 2011). The report continues that this makes Saudi Arabia the fifth largest country in terms of absolute arrivals growth over the period reviewed by the forecast.

The Saudi government recognises the importance of harnessing the potential of the great influx of religious tourists for the country's economy, international standing and employment generation. Now, leisure tourism is also being considered by the Saudi government, both to forestall expenditure by Saudis on their overseas holidays and to attract both domestic and international *Hajj* tourists to take up leisure tourism in the country (Alrashid 2012). Whether they come to the country for religious, business or leisure purposes, travellers are substantial users of services and commodities, generating opportunities for business and employment. The industry's potential for job creation is recognised in the various 5-year economic development plans. The United Nations World Tourism Organisation (2010) reports that tourism provided 332,000 jobs in Saudi Arabia. Tourism has sparked off government investments to extend the King Abdulaziz International Airport at Jeddah, install road systems and the Haramain high speed rail project to connect the holy cities and Jeddah, and embark on a vast hotel-building program, including hotels in the Tower hotel at Makkah (Sohail 2012).

Whilst the government has influence over the industry in the form of visitor controls, security and tourism infrastructure, it relies on the private sector to provide *Hajj* and *Umrah* tourism services. Saudi Arabia's resources for religious tourism include the Custodian of the Two Holy Mosques Institute of *Hajj* and *Umrah* Research (Umm Al-Qura University 2013), which advises the relevant government agencies on aspects of the *Hajj*'s administration and operations. The burgeoning numbers of pilgrims are managed through Saudi's core delivery systems of tourism providers and booking agents who manage most services relating to transport, accommodation and provisioning. Saudi Arabia is an emerging economy, only lately adopting international socio-economic standards for many of its traditional institutions and practices. Due to the numbers of visitors during the *Hajj* and *Umrah* and the country's growing tourism potential, there is a need to improve the local tourism industry and introduce the best practices prevailing in the global market. E-commerce is one such practice which can improve the efficiency and profitability of the Saudi industries.

With the expansion of the tourism industry and growing logistical complexity in reaching out to the large base of domestic and international travellers, e-commerce based on marketing through information systems can assist the tourism industry to achieve cost reductions and greater productivity (Buhalis 2011). As the largest tourism market on the Arabian Peninsula, there are excellent opportunities for tourism firms to take advantage of Saudi Arabia's expanding and deepening online infrastructure. With their growing income and high level of internet competency, Saudi customers, especially the growing demographic of youth population, there is a need for tourism industry to transition to an online environment. The large customer base of international pilgrims, spread across the world, also means that online service delivery and marketing can reduce many of the logistical problems in dealing with overseas customers. It is the smaller traditional firms that are engaged in the *Hajj* tourism sector, and many of them face significant challenges inmoving their businesses from a shopfront approach to the virtual marketplace of e-commerce (Al-Rashid 2012).

1.2. Literature Review

Technology drives communication and data transfer, and the pace of change appears to be accelerating, given the latest mobile hardware and the proliferation of software (apps). The industry is benefiting from greater computational speeds, and depth of understanding from research supporting theories that can be modelled and implemented for social and economic development (Berne et al. 2012). The rise of business technology, according to Schneider (2008), Turban et al. (2010) and Zwass (1996), occurred in the early 1970s when the development of Electronic Data Interchange and Electronic Funds Transfer facilitated electronic commerce transactions. These earlier technologies and then the emergence of internet late in the 20th century contributed to the phenomenon of e-commerce, especially in marketing (Goel 2008, Shareef et al. 2009). Zwass (1996, p.2) defines e-commerce as 'sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks'.

Martin and Matlay (2001) (cited in Selim 2008) proposed a model of technology adoption in the context of organisational and operational complexity of the small firm sector (Figure 1.1). The model applies to small firms, and takes into consideration firm size, age, management structure and technology adoption stages.
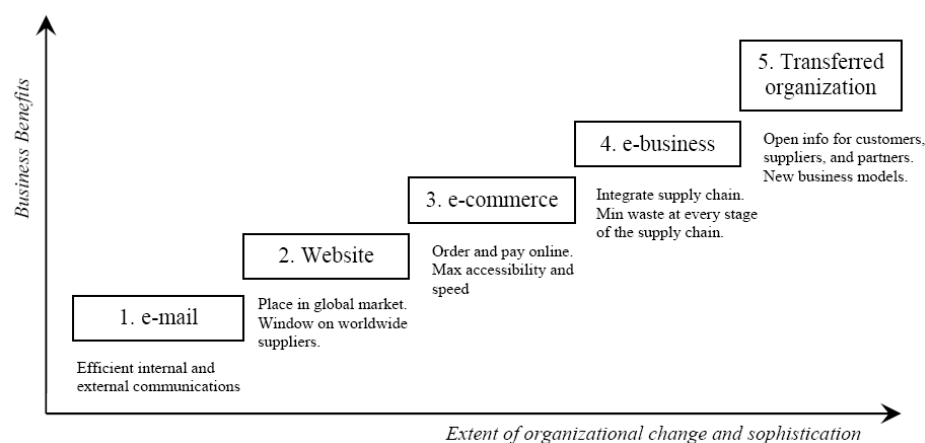
Source: Selim 2008, p. 5

Figure 1.1: E-adoption ladder

With regard to theories that explain the level of technology adoption, the most influential model of technology adoption is arguably the technology adoption model first proposed by Davis (Davis 1989, Davis et al. 1989). This model was adapted to suit many

purposes, including cultural (Straub et al. 1997) and social (Malhotra & Galletta 1999); although doubt was still cast on its generalisability. In response, Venkatesh and Davis (2000) developed TAM2, described by Suebsin and Gerdsri (2009) as validating the original model with additional factors such as social influence and cognitive instrumental process. However, with the proliferation of additional factors, Venkatesh et al. (2003) combined all extant versions of the original model and developed the Unified Theory of Acceptance and Use of Technology (UTAUT). This model contains four determinants of behavioural intention and usage behaviour: gender, age, experience, and interest that moderate intention and behaviour:

- performance expectancy: higher performance is gained from a proposed system;
- effort expectancy: the degree of ease;
- social influence: the impact of others beliefs on the computer user; and
- facilitating condition: organisational and technical infrastructures are available to support the use (Venkatesh et al. 2003).

Other researchers successfully tested the unified model, including Anderson and Schwager (2004) and Wills et al. (2008). Due to the general acceptance and approval of the model by the marketing research community, derivatives of the UTAUT are used for this study. However, in order to complement the insights of UTUAT and broaden its perspective, some other relevant theoretical concepts were added to the conceptual framework for this study. A perceived e-readiness model proposed by Molla and Licker (2005) for emerging economies was added to the framework. This model comprises of two measures, perceived organisational e-readiness and perceived external e-readiness. This model takes into account the effect of contextual and organisational factors on e-commerce adoption and was found to be relevant to collecting data for this study. Quinn and Rohrbaugh (1981) developed the competing values approach to organisational effectiveness comprised of three value dimensions, focus (task-people), structure (control-flexibility) and time (short-term-long-term). Subsequently Cameron and Quinn (2006) developed a survey format to identify and address organisational cultural change. Both these models provide the basis for evaluating the nature of organisational culture across Saudi tourism firms in relation to their attitudes to e-commerce. Finally, national and organisation cultural variables advanced by Hofstede (1980, 2000) and Al-Gahtani et al. (2007) are added to the framework to throw light on some additional factors of

national culture and organisational behaviour in relation to Saudi tourism firms. Given their relevance to this research, these models are adopted as derivatives to replace some of the redundant elements in the UTAUT and improve its explanatory power for the Saudi tourism context in Chapter 3.

1.3. Research Problem

Saudi Arabia relies on oil revenues and seeks to diversify its economy to generate more employment opportunities for its young population. The structure of the economy is shown at Table 1.1, which shows the industry containing the bulk of tourism, item 6, wholesale and retail trade, restaurants and hotels, provides some 8 per cent of GDP.

Table 1.1: Saudi GDP revenues, 2011-2012

Sector		2012	2011
		m SAR*	M SAR
Private sector			
1	Agriculture , forestry & fishing	49,903	48,163
2	Mining & quarrying (petroleum & gas)	1,286,804	1,215,518
3	Manufacturing	279,538	252,003
4	Electricity , gas and water	30,670	28,285
5	Construction	124,658	107,021
6	Wholesale & retail trade, restaurants & hotels	219,073	197,926
7	Transport, storage & communication	129,278	115,272
8	Finance, insurance, real estate & business services	216,759	195,054
9	Community, social & personal services	46,509	41,892
10	Imputed bank services charge	20,616	20,077
Total private sector		2,362,576	2,181,058
Public sector		364,824	329,592
Gross domestic product		**2,727,400**	**2,510,650**

* Million of Saudi Riyals

Source: Central Department of Information and Statistics, 2013

Given that the *Hajj* and *Umrah* religious tourism is a substantial employer, tourism holds substantial potential for further development. Currently, most of the tourism business is predominantly limited to the *Hajj* season and the industry needs a wider tourism market to thrive (Saudi Commission for Tourism and Antiques 2013). The government is putting in place the physical infrastructure of airports, rail, roads and hotels to attract increasingly knowledgeable travellers whose expectations for their tourism experience and their willingness to pay differ sharply from previous generations of *Hajj* visitors. Due to the increasing interest in the *Hajj* and *Umrah*, and the country's growing tourism potential, there is a need to improve the local tourism industry and introduce the best practices prevailing in the global market. E-commerce is one such

practice which can improve the efficiency and profitability of the Saudi industries (Saudi Commission for Tourism and Antiques 2013).

However, firms in the Saudi tourism sector, for example, face some challenges in shifting their business from a shopfront approach to the virtual marketplace of e-commerce. Whilst technology adoption has benefited from copious research in the field, particularly regarding e-commerce, there is a lack of research on the issue in Saudi Arabia and the findings in the existing literature being based on different national locales may not be of use to Saudi Arabia. In particular, most technology adoption studies regarding e-commerce have been conducted in developed countries, where the issue of coming up to speed with global best practices as well as catering to religious tourism are not as significant an issue as they are for the Saudi market.

1.4. Research Aims

The primary aim of this research is to identify factors affecting the adoption and use of e-commerce by tourism and travel operators in Saudi Arabia. This research also seeks to identify the barriers that have resulted in the low level of technology use, including marketing, by tourism firms. The aim of the research is, therefore, to use models of technology adoption and cultural influences to understand the tourism industry's apparent reluctance to adopt more efficient online marketing and business management systems. Identification of the underlying legal, social or competency barriers to technology adoption would address business sustainability issues and improve the response of the industry to increasing tourism. A further priority is to identify efficiencies in e-commerce applications in implementation and practice of marketing tourism services. This study examines the factors affecting adoption of technology from a standpoint of a traditional culture which is steeped in its own traditions and thus very different assumptions emerge to those prevalent in the general literature on this issue. This prompts the objective of this study to draw on extant research in technology acceptance theories to build a model that can be applied in the specialised context of the Saudi tourism industry.

1.5. Significance of the Research

The findings of this research will add to the body of knowledge on e-commerce adoption from a cultural and religious perspective and will be of value to policy makers in understanding the needs of sectors of the traditional tourism industry. Saudi Arabia's resources for religious tourism include the Custodian of the Two Holy Mosques Institute of *Hajj* and *Umrah* Research (Umm Al-Qura University 2013). The Institute advises the relevant government agencies on aspects of the *Hajj*'s administration and operations. This study's findings and model can also be incorporated into the Institute's reports.

Recent research on technology adoption tends to focus on a range of end users. The majority of technology adoption studies focus on the individual level for their research data and there is less research on societal and organisational studies of technology adoption (AlGahtani et al. 2007, AlSharif et al. 2013). Whilst these studies are of value for future end user interfaces, they do not account for the process of planning and implementation of technological resources which are generally made at the level of business organisations. Further, the research relates to a specific industry, whilst other research tends to expand the research context across many industries. Industry characteristics vary in terms of business models, business strategy and resources, and marketing plans, so the factors impacting e-commerce adoption may also differ. For example, e-commerce for the retail industry differs markedly from a service-based industry such as travel agents offer. A further practical application of the research model relates to educational programs on e-commerce diffusion. Therefore, this research supports the call by Gamal el-Din (2012) for relevant tertiary curricular material to assist organisations in identifying and implementing quality e-commerce solutions.

The intention of this research is to make findings that are specific to the Saudi travel industry. However, recommendations developed in this research should be sufficiently flexible to apply to other developing economies which have high seasonal tourism arrivals and find e-commerce adoption challenging. Thus, this research adds to the body of knowledge for researchers studying technology and religious tourism in other contexts. Although there is now a greater diversity of literature available on technology, e-commerce and tourism, researchers tend to study systems from advanced economies (Berne et al. 2012, Buhalis 2011, Goel 2008, Silvius 2008). This research

adds to the understanding of technology adoption in Arab countries, religious tourism, and cultural challenges (c.f. Aldraehim et al. 2013, AlGhamdi et al. 2011, Alrashid 2012).

1.6. Research Process

As the sample population in this study comprises organisations, rather than individuals, there is a need for other constructs that alter the variables required to test the UTAUT model posited by Venkatesh et al. (2003). Thus, instead of asking individuals directly about their usage and adoption of technology, data are obtained from managers of the tourism organisations who report on their firm's technology experiences. Figure 1.2 explains the process of this research.

Research Initiation

Defining Topic

- Research Area
- Research Problem
- Research Gap

Related Literature

- Literature
- Context Review
  (Saudi Arabia)

Research Question Developed

Theories Used

- UTAT
- PERM
- CVFW

Research Methodology

- Qualitative Approach
- Quantitative Approach

Research Implementation

Qualitative Approach

Data Collection: 11One-to-One Executives Interviews → Data Analysis: using hermeneutical approach → Results Writing

Research Model Revision

Research Model Modification based on the outputs: Factors and Pathes

Quantitative Approach

Data Collection: 111 Surveys by Executives → Data Analysis: using SEM and Other Statistical Technique → Hypotheses Testing and Writing Results

Research Finalisation

Thesis Production

Discussion and Conclusion → Thesis Drafting and Finalisation → Thesis Submission

Figure 1.2: Research Process Diagram

A mixed method approach was selected for this research using both quantitative and qualitative data collection (Creswell & Clark 2010). The qualitative data collection was conducted through semi-structured interviews which Silverman (2011) recommended as it allowed the flexibility of probing questions to gather deeper and richer data. A purposive sampling method was found to be most relevant as random sampling would not focus on the target demographic and acquire the data necessary for the research aims (Neuman 2005). Tourism firms were selected in Jeddah, the gateway to the *Hajj* and *Umrah,* and the commercial centre of Saudi Arabia. These firms were approached for permission to interview their executives. Of the18 invited firms, 11 firms

responded and 11 participants provided the qualitative data in Arabic. The qualitative data was transcribed, translated from Arabic to English, and entered into the software. This was followed by an analysis of the data to extract common words, phrases and themes. The initial analysis was then repeated until the classifications were saturated and no more data could be added (Creswell & Clark 2010). These elements (themes) formed the basis for a draft framework of hypotheses to be tested.

For the quantitative data collection, UTAUT (Venkatesh et al. 2003), competing values framework (Cameron & Quinn 2006) and perceived internal and external organisational e-readiness model (Molla & Licker 2005) provided the framework for the development of a survey to test the hypotheses derived from a revised model restructured after analysis of the set of interviews. Sections and questions from the model were constructed to provide data with good explanatory applicability. Four hundred and fifty surveys were distributed to firms in the industry across Saudi Arabia in July 2011. After follow-up, 111 completed surveys were returned, making a response rate of 24 per cent. Given the fact that Saudi firms are not used to non-government requests for information andtheir conservative business views incline them to privacy, this response rate was found to be adequate for this research.

For the quantitative analysis, data were entered into the Social Package for Social Science (SPSS V 20) to validate their reliability. The Mplus Statistical Analysis package with latent variables was used in the research for the exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and full structural equation modelling (SEM) to test the proposed hypotheses. Hypotheses were then tested to determine the strength of the relationships in the model to impact on successful e-commerce adoption.

1.7. Synopsis of the Thesis

This introductory chapter has introduced the research, its context, aims and methodology. The context chapter, Chapter 2, is a brief presentation on Saudi Arabia's geography, population and history to illustrate Islamic and Arab culture. In Saudi Arabia, Islamic-based principles and practices of commerce, Islamic lifestyle of the citizens and the majority of guest workers, create a business environment and ethos that differs from most countries in the world. The contextual discussion places this research in Saudi

Arabia in the second decade of the 21st century, and reflects on aspects of Saudi cultural, social, and economic environment that may affect the outcomes of this research.

Chapter 3 reviews the existing research literature and is divided into three parts: IT in business, with special attention to e-commerce; the cultural elements that may impact technology adoption; and organisational theories in technology adoption. The research methodology chapter, Chapter 4, begins the primary research for the thesis and presents the literature on theoretical models for research, the assumptions for these models, research design, and various measurement methods and their analyses. It then presents the data gathering instruments for mixed methods research, the validation and reliability of the data analysis.

Chapter 5 reports on the interview findings regarding e-commerce adoption in Saudi tourism and travel firms. The analysis of the qualitative data uses a thematic technique to identify themes on attitudes to e-commerce adoption and existing practices in a Saudi context. Chapter 6 discusses the major factors extracted from the qualitative results. It explains the impact of interview results on the research model, and proposes a set of hypotheses. The chapter also discusses the survey development process and the measurement items used in the questionnaire.

Chapter 7 begins with a brief descriptive analysis of the demographic profile of the sample used in this study for the individual participants and their organisations. Before the data can be analysed, a short process of data preparation involving item parcelling, normality testing and reliability testing was conducted. This was followed by testing the full structural model and the interrelationships between the constructs in the model. The chapter concludes with the results from the testing of the hypotheses which are explained to identify factors impacting the decision toward e-commerce adoption.

Chapter 8 provides the discussion, conclusions, and recommendations for the study. It also notes the limitations and the contributions of the research and the thesis concludes by identifying directions for further research.

Chapter 2 Study Context – Saudi Arabia

Although there is now a greater diversity of literature available on commerce and marketing, researchers from around the world have traditionally sought theories and models from the work of academics in the universities of the United States, United Kingdom and Europe. This reliance on West-based theoretical perspectives engenders assumptions regarding the framework that may not be relevant to non-Western contexts. This study examines a global phenomenon of trade and technology from a standpoint of the Saudi context, which is steeped in its own traditions and mores of trade and business.

This chapter places this research in Saudi Arabia in the second decade of the 21st century, and reflects on theoretical assumptions that may need to be altered to suit the Saudi context and aspects of Saudi culture that may affect the outcomes of the research. The chapter begins with a brief outline of the country comprising factual details on its geography, population and history, and illustrates the characteristics of Islamic and Arab culture as practised in the socio-economic environment. Islamic-based principles and practices of commerce promote their own unique ethos an, and domestic commerce is also dependent on the Islamic lifestyle of the citizens and that of the majority of guest workers.

2.1. Saudi Arabia Profile

The Kingdom of Saudi Arabia occupies the greater part of the Arabian Peninsula, with the Red Sea and the Gulf of Aqaba to the west and the Arabian Gulf to the east. Neighbouring countries are Jordan, Iraq, Kuwait, Qatar, the United Arab Emirates, the Sultanate of Oman, Yemen, and Bahrain which is connected to the Saudi mainland by a causeway. Saudi Arabia is subject to extremely hot climate. It has no rivers or fresh water lakes, and it has the world's largest continuous sand desert, the Rub Al-Khali, or Empty Quarter. Its oil region lies primarily in the eastern province along the Arabian Gulf (Figure 2.1).

Figure 2.1: Map of Saudi Arabia and the 13 provinces[2]

Due to a high number of expatriates and a high rate of population growth, the population of Saudi Arabia is fluid in nature. Estimates from the World Bank[3] put the figure at 24.65 million in 2008, and the World Factbook[4] at 28.69 million in 2009 and population growth was around 2 per cent. Depending on the time, the population of expatriates can vary between 5.5 to 6.5 million. Arabic is the mother language and English is the lingua franca for social occasions and business purposes.

All Saudi nationals are Muslims and Saudi Arabia is the holy seat of Islam. Religious affiliation is a mandatory requirement for the rare occasions of non-national citizenship. Islam is the basis of society and the constitution: the legal system, government and commercial transactions. As an Islamic state, Saudi Arabia uses

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[2] Provinces, 1: Al Jawf (or Jouf), 2: Northern Borders, 3: Tabuk, 4: Ha'il, 5: Al Madinah, 6: Al Qasim, 7: Makkah, 8: Al Riyadh, 9: Eastern Province, 10: Al Bahah, 11: Asir, 12: Jizan, and 13: Najran.

[3] World Bank Country Data. Population 2008. Accessed 19 January, 2010 from http://ddp-ext.worldbank.org/ext/ddpreports/.

[4] World Factbook, Country Data. Population 2009. Accessed 19 January 2010 from https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html

principles prescribed by the Qur'an (القرآن) (Islam's Holy Book) and the Shari'ah (الشريعة) (Islamic law). The governance structure under the King and his advisory Council of Ministers includes the administrative Provincial Council System and the Consultative Council (Majlis Al-Shura). The country is divided into 13 provinces with local government organisations administering the directives of the central government (see Figure 2.1). Of the 22 ministries that administer legislation, royal decrees and commerce, the following could have jurisdiction over matters pertaining to this research: Finance, Economy and Planning; Culture and Information; Commerce and Industry; Social Affairs; Municipal and Rural Affairs; Civil Service; and Communications and Information Technology.

Arabs possibly originated on the Arabian Peninsula. The main historical event is the founding of Islam by Prophet Muhammad (صلى الله عليه وسلم) in the 7th century CE. As the holy seat of Islam, the Arabian Peninsula has the two holy pilgrimage cities of Makkah and Al-Madinah. In 1932, Saudi Arabia was founded by King Abdulaziz Al-Saud as an Islamic state. Oil was discovered in 1938 and subsequently developed by US and European firms, thus, gradually releasing monetary returns from the oil fields to develop the peninsula. By the 1970s, a socio-economic infrastructure began to take form and in a few decades, Saudi Arabia has transformed from a subsistence agrarian society to a modern, sophisticated state taking its place in world affairs. The country has more than 20 per cent of the world's proven petroleum reserves, ranks as the largest exporter of petroleum, and plays a leading role in the Organisation of Petroleum Exporting Countries (OPEC)[5]. In 2009, impacted by the global economic crisis, Saudi Arabia's Gross Domestic Product (GDP) from oil fell from 60 per cent to 46.7 per cent of GDP (to Saudi Arabia riyals [SAR] 647b.); however, the non-oil sector, public and private, rose 5 per cent to SAR 723b. The private sector's contribution to GDP rose from 24 per cent to 32 per cent in 2009 (Shaheen 2010).

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[5] US Energy Information Administration. World Oil Reserves. Accessed 30 January 2010 from http://www.eia.doe.gov/emeu/international/reserves.html

2.2. Arab and Saudi Culture

Saudi culture gives structure to the country's economy, and its style of business. This section discusses Islamic and traditional cultural issues which affect innovation. Saudi residents, as noted, are overwhelmingly Muslim. This devout lifestyle, together with Arab customs and traditions, forms the basis of Saudi business culture and differentiantes aspects of its trade practice from other non-Muslim cultures.

2.2.1. Saudis' Work Ethos

Saudis' work ethos and attitude to government versus private sector employment further affect the country's economy. Between 1974 and 1985 there was a significant boost to the country's economy due to an oil price bubble. At that time, the Saudi government faced two challenges: the size of economy was insufficient to absorb the unexpected income, and there was a shortage of skilled human resources for the country's development (Altirify 2007). This shortage encouraged the country to employ foreign workers from many countries, especially in the Asian and Arab origin. Up to a third of the labour force (six million officially) is comprised of foreign workers, who are employed particularly in trades and semi-skilled work (Raja & Prakash 2009). The economy is also subject to large current account outflows, as the foreign workers repatriate the greater part of their incomes to their countries. This creates strains on money flows within Saudi Arabia, where there is an increase in labour inflow due to a massive infrastructure program. Remittances from Saudi Arabia's estimated nine million Arab and Asian foreign workers reached four per cent of GDP (Sfakianakis 2009).

The country's rising dependency on foreign workers and its focus on higher education are both creating a new generation of Saudis who aspire to executive careers and eschew vocational and technical professions. However, Saudis' skills levels and experience are inferior to those of expatriates who will work for less. Saudis also prefer the superior salaries and working conditions of the over-staffed public sector, now largely closed to graduates seeking permanent positions. As a result of this new cultural

dimension of private sector jobs, the unemployment rate increased, officially to 5.6 per cent, with 19 per cent unemployment for women[6].

Saudi Arabia positions itself as a traditionalist nation, emerging as a full member of the world community whilst retaining its religious vision and social mores. This results in differences in the manner in which Saudis undertake business transactions. Observers note Arab trading characteristics which are summarised as follows:

- Arab business has a bureaucratic structure where decision making remains with the executive on all matters although they take advice from their subordinates. Negotiations are time-consuming, and may fail if the subordinate does not effectively persuade the executive, or if the decision makers disagree.

- Business transactions are based on Shari'a law, thus all aspects of a project must conform to Saudi legislation and decrees. These rules can be fluid as decision-making is a prerogative of the executive, and legal matters may be set aside if inconvenient.

- Arabs prefer one-on-one responsibility for a project where an agreement is made with an individual who accepts responsibility for the entire project. This means that a team approach may be unsuccessful.

- Except for critical matters, appointments can be easily changed or cancelled without notice, for example executives may not attend, or meetings stalled for prayer times.

- Saudis are hospitable and at business meetings considerable time is taken up with formalities and socialising (Barratt 1989, Laroche & Boulby 2000, Pezeshkpur 1978).

Given the significant influence of cultural practices on the way business is conducted in Saudi Arabia, cultural dimensions are widely used in studying development and adoption of information systems due to their strong relationship with technology adopters (Hofstede 1980, 2001). The following Table 2.1 uses Hofstede's national cultural dimensions and compares some aspects between the United States and Saudi Arabia.

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[6] UNdata, 2010. Saudi Arabia. Retrieved 31 January 2010 from
http://data.un.org/CountryProfile.aspx?crName=Saudi%20Arabia

Table 2.1: Comparative Cultural Review

Cultural Dimension	United States	Saudi Arabia	Comments
Power distance	40	80	*"A High Power Distance ranking indicates that inequalities of power and wealth have been allowed to grow within the society"*. The issues regarding women may be counted under this dimension.
Individualism	91	38	As a low Individualism Score *"These cultures reinforce extended families and collectives where everyone takes responsibility for fellow members of their group.*
Masculinity	62	52	*"This would indicate that . . .women in the Arab World are limited in their rights"* due to a mix of customs, tradition and religion.
Uncertainty avoidance	46	68	*The high Uncertainty Avoidance Index (UAI) ranking of 68 indicates the society's low level of tolerance for uncertainty. In an effort to minimize or reduce this level of uncertainty, strict rules, laws, policies, and regulations are adopted and implemented*

Sources: Hofstede (1980, 2001); Al-Gahtani, Hubona & Wang (2007); Taylor (2007)

the commercial environment, Yasin, Zimmerer and Wafa (1997) compared Arab and American culture in terms of management. The comparison shows that the understanding of a new culture should be grounded in the history of this culture and not assumed to interrelate. These instances illustrate differences in accepted behaviour, where Saudis are focussing on different business practices (Figure 2.2).

The Arab Culture	The Business Organization	The Project Manager

- Traditional riche history
- Islamic values
- Extended Family structure
- Affiliation motivation
- Government demented economy
- consumption oriented economy
- Rigid code of behavior
- Scarcity of raw material
	- Horizontal simple Structure
	- Rewards based on loyalty
	- overstaffing
	- Absence of systematic planning
	- Sharing of tasks
	- Lack of accountability and
	  responsibility
	- concern for survival
		- Extensive dealing with the
		  uncertain external environment
		- concerns for personal well-being
		- The need to deal with unqualified
		  staff

The American Culture	The Business Organization	The Project Manager

- Recent history
- Protestant work ethics
- Nuclear family structure
- Achievement and power
  motivation
- Private sector dominated
  economy
- Production oriented economy
- Flexible code of behavior
- Availability of raw material
	- Vertical simple Structure
	- Rewards based on merit
	- Specialization
	- Down sizing of staff
	- Systematic planning
	- Emphasis on accountability and
	  responsibility
	- concern for efficiency and
	  effectiveness
		- Extensive dealing with the internal
		  organizational environment
		- concerns for organization
		  efficiency and effectiveness
		- The need to deal with
		  sophisticated qualified staff

Source: Yasin, Zimmerer & Wafa 1997, p.18

Figure 2.2: Stages in the innovation-decision process

Whilst the factors presented in the above analysis may indicate disconnect between the Arabic and global principles and practices; nevertheless, Saudi Arabia is a prosperous nation well capable of conducting international business on its own terms. The mere fact that business has long been formulated on a European-based ideology is not an indicator of the nature of globalisation into the future. Indeed, the BRIC[7] countries are largely non-European, and they will place their own ideologies on international trade, as will Saudi Arabia. Whilst the aim of this research is to identify the critical factors that enhance e-commerce adoption within the Saudi context, this and future research will undoubtedly be more diverse and richer from fresh viewpoints.

2.2.2. Gender Differences

An example of the culture's effect on the economy is the complexity of the Saudi women's position in society. There is a gender division throughout education. With the exception of the health sector, women cannot share workplaces with men; they cannot drive a car, which impedes their movements in their work and social roles. Women lack the ability to gain autonomy over their affairs; women business owners must employ a

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[7] Brazil, Russia, India and China

male general manger who holds power of attorney over their affairs (Qithami 2009). As a result of these cultural restrictions, just 6 per cent of employees in Saudi Arabia are Saudi women[8]. Therefore, the contribution from women in business or employment is very limited, slowing productivity and impeding economic growth. In a recent report, the Saudi Central Department of Statistics & Information states there are nearly 140,000 unemployed Saudi women graduates, with a further 520,000 qualified and accredited women seeking work (Central Department of Statistics and Information 2009). One quarter of work-eligible women are unemployed.

These numbers indicate that acceptable jobs for women are not yet available in the country, an issue that perhaps may be addressed by an awareness campaign on emerging business opportunities. For instance, the Jeddah Municipality's mayor has nominated a woman, Dr. Arwa Yousif Al-Aama, to be the vice mayor for General Administration for Information Technology and E-Services (Alfersy 2009, Jeddah Municipality 2009). It must be noted that Dr. Al-Aama's IT team comprises only women members who work in developing the Municipality's information systems. This example of a women-only workplace is considered to be sound practice for the private sector, where devout employees can be segregated from the mainstream workers, whilst others can act as communicators and agents for their group.

This shows the potential of IT in enabling women to work without having to be in the physical presence of the cusomter, thus, upholding Islamic mores of gender segregation, which is a critical issue in Saudi Arabia. This is particularly valid for tourism business conducted through e-commerce systems. If Saudi women could undertake vocational training to gain skills and knowledge in the hospitality industry, the new technologies available provide them with the means to work with tourists undertaking the *Hajj* or non-religious tours without transgressing those religious mores. Gender segregation norms can be accommodated through adaptation of work practices and workplaces with technology and open up many private sector opportunities for women's careers. The following section discusses the rapid assimilation of IT in Saudi Arabia and the opportunities technology offers in accelerating growth in an industry such

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[8] (f1) Saudi Monetary Agency Year Book 2007. Available at
http://www.sama.gov.sa/en/publications/annualrep/43annualrep_en.pdf

as tourism. This leads to a greater acceptance of technology in Saudi Arabia and increased trade in both IT and tourism.

2.3. ICT and E-commerce in Saudi Arabia

Saudi Arabia has long acknowledged the importance of technology, establishing the Ministry of Communications and Information Technology in 2003 to develop the country's information and technology services for economic and social development. The industry became a prime focus of the national strategy from 2005 when a government campaign was started to move the nation online through the education system (Oyaid 2009). Using the Internet and mobile telephony became of interest to the population only a decade ago when a concentrated government campaign through the education system began to move the nation online (AlGhamdi et al. 2011). This occurred at a time of privatisation and liberalisation of the telecom sector and the resulting competition in mobile technology underpinned rising domestic demand (Heshmati & El-Rhinaoui 2009). Saudi Arabia's fast-growing population and the country's demand for technology was valued at $US3.5bn in 2010 and this is expected to rise to $US5.7bn by 2014 (Arabian Gazette 2012). Nevertheless, the International Telecommunications Union (2013) reported that in 2011, Saudi Arabia significantly lagged the other GCC[9] countries at a penetration rate of 47.5 per cent using landline Internet although there was significant momentum in its Internet growth for mobile phones.

E-readiness, as the Economist Intelligence Unit defines it, is "*the measure of a country's ability to leverage digital channels for communication, commerce and government in order to further economic and social development*" (EIU 2009). Saudi Arabia is ranked 46th from a total of 70 countries, having an e-readiness level of 5.23 from a maximum of 10, considered to have a reasonable acceptance of new technologies. For an ancient trading nation, there is a preference for person-to-person contact when making a transaction, which is logical under circumstances when trade and consumer legislation was introduced comparatively recently. Therefore, there is a perception that

Saudis will not easily adopt e-commerce due to the possibility of fraudulent use of personal information by online criminals, and also they cannot physically examine the merchandise or fully assess a service.

2.3.1. Government Initiatives

Saudi Arabia established the Ministry of Communications and Information Technology (MCIT) in 2003. However, the MCIT is more of a regulatory organisation than an innovator, although its role is to develop the country's IT services for economic and social development. In 2007 the Ministry therefore implemented a long-term plan to identify the resources to achieve its stated objectives. Of primary importance to Saudi Arabia is an e-business infrastructure, establishing a support centre for the private sector. As an indicator, it launched an e-business rules site (MCIT 2007). The Ministry of Commerce and Industry monitors international trends in e-commerce, assists the development of e-commerce as a conference host utilisation in the country, attending global conferences and forums, hosting conferences and supporting Saudi research in the industry. In association with the Ministry of Justice, the Ministry of Commerce and Industry is drawing up legislation to govern e-commerce trading as a separate part of commerce and trade in Saudi Arabia (Aldogily 2009, Algefely 2006, Almoteri 2009, Azayed 2007). This program was strengthened in June 2008 when the Shura Council[10] approved an aspirational IT industry strategy so that IT-based services could generate 20 per cent of GDP by 2020. The Council issued instructions requiring government bodies to implement e-programs in line with national policy (M2 Presswire 2009). In August 2009 the Saudi Council of Ministers approved the establishment of the Saudi Electronic Information Exchange Company (Tabadul). The new company, which is owned by the Public Investment Fund, was created to take advantage of opportunities generated by government-driven e-projects, including development, ownership and operation of IT and communications systems (Business Monitor International (BMI) 2009).

In line with this directive, the Ministry of Higher Education awards international e-commerce scholarships under the King Abdullah Scholarships Program to develop knowledge and skills in e-commerce and to identify the means to encourage diffusion of

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[10] Islamic Shura state applies Shariah as it is prescribed in the Qur'an and authentic Sunnah (deeds and teachings of Prophet Mohammad, peace be upon him).

Internet usage in society (Ministry of Higher Education 2009). Further, the IT sector is promoted within traditional management, science and engineering courses (Alotybi, Alhodyif & Alyousef 2007).

Due to Islamic financial constraints, international credit cards (dependent upon interest charged for overdue payments) are not socially welcomed. To provide an alternative banking system for such purposes, the Saudi Arabian Monetary Agency (سداد, SADAD) established a full electronic payment system in 2007 (SADAD 2009).

For deliveries of products purchased from e-commerce merchants, delivery can be made by courier services or local collection centres. Furthermore, Saudi Post has a program, (واصل, Wasel), for supplying every residence with a mailbox: WASEL is the 'optimum way to deliver all postal services to the homes of citizens and residents . . . We fit the mailboxes and deliver the keys free to customers' (Saudi Post 2009, p.1).

Importantly, the legal and policy framework which permits e-commerce transactions, such as payment security, physical deliveries and money-back guarantees, are not yet widely accepted. The government is therefore maintaining its commitment to IT through expenditure on infrastructure and the policies and programs to facilitate e-commerce establishment in Saudi Arabia.

2.3.2. IT Infrastructure to Support E-commerce

Saudi Arabia has the largest IT market in the Gulf region, with a forecast value of US$3.5bn in 2009 expected to rise to US$4.8bn by 2013. Despite the 2008-2009 economic slowdown, Saudi Arabia continues to grow as a market for technology products and services as it invests to upgrade IT and communications infrastructure (BMI 2009). The physical infrastructure, such as, high speed internet or mobile transmission facilities, are not yet fully developed throughout Saudi Arabia. Until recently, restrictions on telecommunications ownership impeded an internet culture which must be driven by private industry. Depending on the computer penetration (rising to 30 % by 2013[BMI 2009]), this will take time to permeate through the community. Public or private sector organisations, therefore, frequently lack awareness of IT opportunities, especially in e-commerce, although international providers such as *Alibaba.com* attract interest.

2.3.3. Private Sector Initiatives

As the rapid growth of e-commerce demonstrates the Saudi private sector is responding to the IT challenge. The Arab Advisors Group, in its 2009 report, found that Saudi Arabia is the e-commerce growth leader in the region, registering a record SAR12 billion transactions in Saudi Arabia in 2008[11]. The report further showed that 3.5 million Internet users, or one-eighth of the Saudi population, were engaged in e-commerce transactions.

Moreover, the Saudi Arabia IT Report by Business Monitor International (BMI) states that with annual per-capita expenditure on IT reaching $US330, Saudi Arabia accounts for around 40 per cent of IT spending in the Gulf region. The BMI's analyst considers Saudi Arabia to be a maturing market for IT; however, it has a fast-growing population and demand for new technological solutions. Liberalisation and competition in the telecom sector will increase domestic ownership of computers and smart phones. Further, IT deployment is expected to accelerate with continued government expenditure as Saudi firms explore competitive options (BMI 2009). There are then excellent opportunities for global IT companies to either enter the market or substantially increase their presence to take advantage of the young affluent population and the expanding and deepening ICT infrastructure. The report states:

> The Arab Advisor Group 2009 report stated that 'The growth of e-Commerce and the overall IT sector along with the steady increase in the number of Internet users form an ideal foundation for further expanding national digital literacy initiatives and promoting International Computer Driving Licence (ICDL) projects supervised by ICDL Saudi Arabia, the governing body and certification authority of the ICDL program in the Kingdom' (TradeArabia 2009, p.2).

National computer literacy programs are vital to encourage interest and acceptance of computer-based technologies, particularly amongst those who are not in education, the opportunities to become involved with computers can be few (e-citizen 2009, TradeArabia 2009). One example is the International Computer Driving Licence, a training program that enables one to become computer-literate (Aldogily 2009, Alihedan

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[11] TradeArabia, 2009 (14 July), 'Saudi tops in E-commerce Transactions', Retrieved 21 January 2010 at
http://www.highbeam.com/doc/1G1-203635495.html

2008). As a job creation initiative for young Saudis, Bab Rizq Jameel (باب رزق جميل) is a private community assistance venture, a job search site that generates jobs (Okaz 2009, Bab Rizq Jameel 2009). In one such initiative to target young Saudi unemployed women, Bab Rizq Jameel funded 429 jobs in the year to July 2009, the majority of which were based on e-commerce systems (Okaz ibid).

To facilitate transactions for e-commerce, there are private sector systems, inlcuding, debit cards, invoicing, and funds merchants such as PayPal, all of which can enact a cash transaction. There are several financial organisations, including Alrajhi Bank and Alahli National Bank, which offer online payment systems through debit cards and the interest-bearing Visa and Master Cards for those willing to use them for international or non-Arabic transactions (Alzhrani 2009, Alriyadh 2007).

As a response to strong PC market growth, international suppliers are extending into Saudi Arabia. HP, Dell, SAP, Microsoft and Oracle opened offices to launch their products from a Saudi base and manage relations with in-country partners, resellers and customers (M2 Presswire 2009). Increased interest through the competition inherent in the arrival of these organisations, growing computer literacy in the population together with pressures from students and children learning computers at school will engender further interest in the capabilities of e-commerce within Saudi society.

2.3.4. Issues Arising from E-commerce

Information technology became of interest only about a decade ago when the internet revolution began in 1997, but it received government support from 2005 onwards when a concentrated government campaign began to move the nation online by computerising the schooling system. Although the massive infrastructure projects that the Saudi government has undertaken over the decade from 2005 remain largely unaffected by the global economic crisis, there were repercussions from suppliers and some interruptions. Further, the mere supply of technology and its successful application may require several years of experimenting and adjustment to train users, and for users to understand how such technology may be applied in their professions and specialities. Thus, the adoption of e-commerce by Saudi Arabia is still very limited. These are examples of organisations' introductions of e-commerce in Saudi Arabia:

- *Mstaml* (مستعمل) is a local version of eBay (Mstaml 2009). Mstaml has a half-million visitors daily; however, the e-procurement system lacks a guarantee for transactions between seller and buyer (Adosary 2007). This is caused by the lack of an online payment system such as PayPal, and the inability to transfer funds through the Islamic financial system. Whilst there are moves from the government and SADA to address this issue, there will be a hiatus until a secure payment and receiving system such as used by Alibaba.com is in place. As there are no contractual guarantees as offered by eBay, there will not be a secure environment to use this site as a marketplace.

- A search of the leading travel agents in Saudi Arabia produced 10 travel agents, only one offers online booking (إجازتي, My Holiday). This site offers attractive travel and destination packages; however, no online payment or contract details can be availed on this website. As it cannot guarantee a contract, My Holiday does not offer online booking and requires personal payment at a branch or a bank (My Holiday 2009).

- Another example is the online booking system for Saudi Airlines which also offers an inadequate booking system. The website allows passengers to book seats; however, tickets must be collected and payment made in person (Abutaleb 2006). There is not enough information about the adoption of such systems by residents.

These matters are relevant for this study. Unlike other products tourism services obviously cannot be sampled before actual delivery. There is scope for e-commerce even though customers still have some trust issues with the medium of internet.

For organisations embarking on e-commerce, Selim (2008) used Martin and Matlay's (2001) e-adoption ladder[12] to assess the information technology adoption stage (Figure 2.3). In Selim's study, the majority of organisations investigated were placed at the first or second stages, with a third practising e-commerce. However, this research is assuming that the Saudi firms are still lacking in level 2 with partial use of some e-commerce elements.

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[12] E-adoption ladder is adapted from Information Age Partnership Study on e-commerce in UK Small Businesses
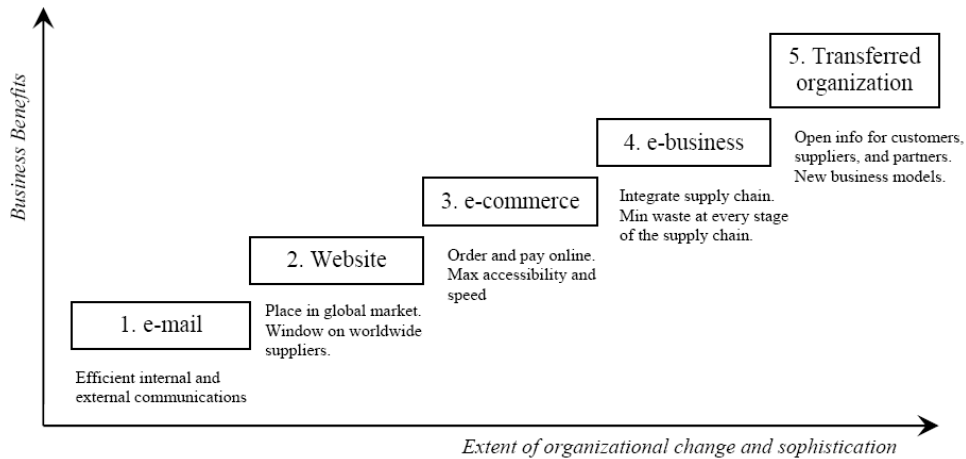
Source: Selim 2008, p. 5

Figure 2.3: E-adoption ladder

2.4. Recent Research on E-commerce in Saudi Arabia

The discussion above showed that there is a lack of e-commerce utilisation in Saudi Arabia which has motivated many Saudi researchers to explore the issue in the last three years. Apart from this specific goal of exploring the factors impacting e-commerce adoption in Saudi Arabia, this study places itself in this broader research endeavour to develop theories of technology adoption that are relevant to Saudi business and cultural environment. Generic theoretical models of technology adoption, generally developed in the West, have been purposively modified and refined for application in non-Western contexts by many local and international scholars. So, it is worthwhile to review the related researches in recent years on the usage or adoption of e-commerce in Saudi Arabia to acquire a sense of their contribution and identify any existing gaps in the literature.

These researches, in general, can be divided into three categories on the basis of the form of their contribution: a) studies that focus on the demand side or customers' perception and acceptance of e-commerce, b) studies that investigate the supply side or the barriers and motivations of vendors in adopting e-commerce, and c) studies that show the role of supportive variables in between vendors and customers, and factors related to technology limitations. The following discussion reviews the related literature.

2.4.1. Factors Affecting E-commerce Utilisation or Adoption in Saudi Arabia

The literature in the field of technology or e-commerce adoption in Saudi Arabia is particularly focussed on the customer perspective, providing a rich and varied understanding of the demand side of e-commerce. The following Table 2.2 provides a summary of some major studies of this kind, listing their research objectives, methods, variables, limitations and recommendations for research and practice. The research methods used in these studies were varied. Overall, interviews and surveys were the most used data collection methods in these studies. The review of consumers' perspective affecting e-commerce usage highlighted several major factors that inform this research. Customers' concerns about trust, privacy and security were found to be common inhibitors to online shopping. Customers' personal characteristics, including, computer literacy, awareness, norms and beliefs were also found to affect the acceptance of online purchase. The studies also highlighted that the quality of website, including, website availability, usability, design, information quality and the existence of conditions of use and privacy notices, impact customers' tendencies to trust and use the e-commerce vendor. Many of these studies conclude that Saudi organisations were not keen on e-commerce because customers preferred to buy directly from physical shops.

The literature has also benefited from some recent contributions by research focussing on suppliers' perspective, see Table 2.3. The factors discussed in this table are also beneficial as this research aims to explore factors impacting e-commerce adoption by Saudi tourism and travel operators. The research in Table 2.3 shows that Saudi organisations are lacking e-commerce adoption because of some critical barriers like infrastructural, legal, commercial, cultural and organisational issues. The studies stressed the lack of governmental initiatives to solve these critical barriers. A common limitation in most of these studies was that the data was collected from different business and industries instead of focusing on one business or industry as a specific case study is proven to generate more valid results (Creswell & Clark 2010). This limitation was addressed in this research. Also, this research mainly focuses on Business to Customer (B2C) and Business to Business (B2B) models, unlike the reviewed recent studies.

Table 2.2: Literature review on consumers' perspective and factors affecting e-commerce usage

Study	Research objectives	Methods	Factors	Limitations	Recommendations
Aleid et al. (2010a)	Exploring factors that affect consumers' adoption of e-commerce in the developing country of Saudi Arabia from the buyer's perspective. Also aimed at finding some practical solutions to encourage consumers' adoption of e-commerce Saudi Arabia.	Through an empirical study with 22 individual citizens, a qualitative approach was used with the Grounded Theory analysis of citizens' interviews.	Cultural issues. Internet availability and Quality. Websites quality of design. Availability of local vendors online. Financial issues. Awareness. Legal issues. Delivery issues Government support. Consumers' knowledge. Geographical issues.	Claims that the barriers of language and culture have been overcome while these obstacles still exist. Lack of theoretical foundation.	Researchers stressed that further research was needed on suppliers and governments views.
Al-Gahtani (2011)	Integrating an established technology acceptance model (TAM) with three constructs, namely, trust, credibility and risk, which are of paramount importance in predicting individual acceptance of online transactions including e-commerce in Saudi Arabia.	Using qualitative data collected from 128 university faculty members, staff, and students, the structural equation modelling technique was used to evaluate the causal model and examine the reliability and validity of the measurement model.	Credibility. Trust. Risk. Usefulness. Ease of Use. Individual characteristics. General Internet use.	Only focused on human factors. Sample is only from one university with the majority having postgraduate educational levels which may cause a generalisability problem.	Media and training programs should communicate the benefits of e-transactions in everyday life.
Eid (2011)	Identifying the factors that influence the extent to which Saudi consumers trust, are satisfied with, and are loyal towards B2C e-commerce.	A conceptual framework was built to hypothesis relationships between three e-commerce constructs (trust, satisfaction, and loyalty) and their antecedents. A survey was conducted among B2C e-commerce customers in the eastern province of Saudi Arabia.	Trust. Satisfaction. Loyalty. User Interface. Quality. Information Quality. Perceived Privacy.	Sample is only from one university. The sample largely employed male students, which may not be representative of the general population of B2C e-commerce consumers in Saudi Arabia.	Saudi population is not culturally homogeneous, so the data collection from one region in a country may need to be extended to the other regions. Extension to other Arab Gulf countries is recommended.

Study	Research objectives	Methods	Factors	Limitations	Recommendations
Al-maghrabi et al. (2011)	Clarifying theory and identifying factors that could explain the level of continuance intention of e-shopping using a revised TAM in Saudi Arabia. This research moves beyond e-shopping intentions to factors affecting e-shopping continuance, explaining 55% of intention to continue shopping online.	An online survey of Internet shoppers in Saudi Arabia was analysed using structural equation modelling and invariance analysis to confirm model fit.	Site Quality. Perceived Usefulness. Trust. Social Pressure. Enjoyment. Continuance. Intention.	Since this study has not focused specifically on any particular products or e-retailers, it is not known to what extent its results may be extended to specific products or services. The results are only applicable to consumers who have tried purchasing from an e-vendor only.	The author recommends that the research model should be further tested in other cultural contexts to test its generalisability. Future research needs to separately assess the generalisability of the model for the purchase of relatively simple low-touch or complex high-touch products.
Al-Ghaith et al. (2010)	Investigating factors that influence adoption and usage of e-service, especially, in Saudi Arabia, based on the diffusion of innovations (DOI) theory.	Factors were empirically tested against data collected from 651 participants using survey questionnaires with The results of linear regression analysis.	Security. Privacy. E-Service Quality. Loyalty. Relative Advantage. Compatibility. Complexity. Trialability. Observability.	Failed to report some limitations. Inherited some linear regression limitations.	Not provided.
Al Ghamdi et al. (2011a)	Exploring issues that influence the decision of Saudi customers to buy from online retailers in Saudi Arabia.	Involves exploratory Research with qualitative approach. A qualitative exploration was executed by conducting interviews with 16 Saudi citizens. A content analysis was used to address the key issues.	Postal System. Efficiency. Regulations and Legislation. ICT Infrastructure. E-Retailers availability. Limited IT Knowledge. Trust. Privacy. Product Quality. Government Support. Competitive Prices.	Small sample with a qualitative research approach investigating customers' decision.	Future research is needed to test these findings in a large sample using a survey. The results of the survey will add value in terms of rating the current study results and identifying new issues.

Study	Research objectives	Methods	Factors	Limitations	Recommendations
Al-Mowalad and Putit (2012)	Gaining in-depth understanding regarding the factors that influence Saudi consumers to purchase online.	Involved 40 respondents of Saudi natives who were from different background aged from 18 to 35 years old. An open-ended question was asked in order to get a more detailed idea of the factors that would lead Saudi consumers to choose online transactions.	Trust. Risk. Experience. Willingness. Usefulness. Enjoyment.	Lack of theoretical foundation. The results can be age-biased as it only interrogates consumers aged from 18 to 35 years old.	Not provided.
Sadi and Al-Khalifah (2012)	Investigating the existence and importance of specific factors that are thought to predict the development of consumer trust in Internet shopping in Saudi Arabia.	A survey was conducted using a previously validated measurement instrument that focused on a number of key constructs identified in the literature as potential trust predictors. Data was analysed using ANOVA regression analysis.	Perceived Security Control. Perceived Privacy Control. Perceived Integrity. Perceived Competence. Trust. Cultural Environment. Experience with the Internet. Third Party Recognition. Legal Framework. Perceived Risk.	Data analysis method was not explained well. Sample size was not mentioned. Sample is only from a group of selected students from one university.	The researchers recommended a further research with larger sample size. Future research is needed for a full understanding of the factors that influence consumer trust in online shopping at a general level.
Al Rasheed, and Mirza (2011)	Examining the current level of Internet usage by Saudi citizens for searching travel information and shopping for travel deals. It identifies the common characteristics, and the level of adoption of Saudi travellers and their behaviour during planning their trips online.	An online survey questionnaire was conducted with 297 Saudi Arabian Internet users to understand their attitude towards e-travel services.	Demographic influence. Internet experience. Service experience. E-travel vendors' availability.	Data analysis completely reliant on descriptive statistics and frequencies. Limited amount of literature and theoretical foundation.	Not provided.

Table 2.3: Literature review on suppliers' perspective and factors affecting e-commerce utilisation or adoption

Study	Research objectives	Methods	Factors	Limitations	Recommendations
AlGhamdi and Drew (2011b)	Despite the fact that Saudi Arabia has seen the largest and fastest growth of ICT marketplace in the Arab region, e-commerce activities are not progressing at the same speed. This research identifies and explores key issues to enhance the diffusion of online retailing in Saudi Arabia.	Based on qualitative data collected from interviews with 16 retailers and 16 potential customers in Saudi Arabia, 7 key drivers to online retailing diffusion in Saudi Arabia are identified.	Government support. Providing trustworthy and secure online payments options. Provision of individual house mailboxes. Providing high speed Internet connection at low cost. Providing educational programs. The success of bricks-and-clicks model. Competitive prices.	Part of an ongoing study, so results are not complete. There is no strong link between theoretical background and findings in the discussion. It was not clear how data from suppliers and vendors holding two different perspectives contributed to a concrete finding in the final conclusion.	The authors' intention was to develop a more comprehensive formative model in order to contribute to e-commerce development in Saudi Arabia.
Aleid et al. (2010b)	This paper presents the findings of the second of two empirical studies conducted in Saudi Arabia. The first highlighted the key factors influencing the adoption of e-commerce in developing countries by customers from their own perspective (Aleid et al. 2010). This second study covers the suppliers' perspective on the factors raised by those consumers.	An empirical study with a qualitative approach was used with the Grounded Theory analysis of citizens' interviews with different private and public organisations in Saudi.	Culture. Communication. Technical. Suppliers. Financial. Legal. Awareness. Government. Delivery. Consumers. Security. Geographical.	Lack of theoretical foundation. Sample size was not provided.	Not provided.
Rambo and Liu (2010)	Identifying the key stakeholders involved in the process of design and adoption of B2C e-commerce applications and targeting female consumers in Saudi Arabia.	Methodology and data collection were not explained. However, there is a good discussion on identifying the stakeholders involved in the process of online shopping in Saudi Arabia.	Interdependency. Source Interdependency. Market Interdependency. Community Interdependency.	Methodology and data collection were not explained. Very basic theoretical background.	Modelling the social reality of e-commerce in Saudi Arabia as well as the mental models of the target users (Saudi female consumers) are required in future research.

Study	Research objectives	Methods	Factors	Limitations	Recommendations
Al-Somali et al. (2010)	Providing insights into adoption issues salient to the Saudi business environment.	The researchers developed a conceptual model for electronic business adoption incorporating nine factors. Survey data was collected from 550 businesses to test the model and hypotheses. SEM was used to assess the measurement model and test the research hypotheses.	**Organisational Foundation:** Organisation Readiness. Top Management Support. Customer Oriented. Competitor Oriented. Technology Policy. **Market Influence:** Customer Pressure. Trading Partners Pressure. Competitive Pressure. **Regulatory Environment:** Government support.	The study was conducted in one city. Disregarded some other cultural issues. Like organisation culture. Disregarded some other external factors like supporting industry and infrastructure.	A larger sample is recommended to cover other regions of Saudi Arabia, including rural areas where there is substantial cultural variation from urban areas. Can be extended to similar cultures like Arab Gulf countries.
Al-Hudhaif and Alkubeyyer, (2011)	The objectives of this study are 1) to find out the level of e-commerce adoption in Saudi Arabia, and 2) to identify the factors that affect the adoption of e-commerce using PERM model with the two constructs PEER and POER.	A survey questionnaire consisting of 92 questions was used to collect data from participating Saudi companies.	Perceived Organisational E-readiness. Perceived External E-readiness.	Large enterprises constitute more than 72% of the sample in this study. Focusing on small and mid-size enterprises (SMEs) would give another view of the problem. Small sample size.	A larger sample would be desirable to obtain more decisive results and confirm the results in this study. The use of logistic regression in the analysis may add some degree of ease of use to the research model.

Study	Research objectives	Methods	Factors	Limitations	Recommendations
Ahmad and Agrawal, (2012)	This research paper has examined the statistical significance of various problems in implementation of e-commerce solution in business organizations in Saudi Arabia. The research paper attempts to identify the problems in implementing e-commerce in Saudi Arabia.	Data analysis was done with hierarchical multiple regression modelling. Multiple response analysis of the data identified statistically significant problems in implementation of e-commerce in Saudi Arabia. Respondents from 237 business establishments were interrogated, including, CIOs, CEOs, IS directors or IT managers or people involved in key decisions about e-commerce implementation and use.	Awareness. Technology availability. Confidence of usage. Human resources. Implementation cost. Market size. Trust. Law for ecommerce. Infrastructure. IT integration. Resistance. Security & privacy. Return of investment.	Disregarded the role of customer demographics. Limitations of regression analysis.	An in - study is recommended for more precise micro-level analysis on case to case basis. A substantial research effort is needed to examine differences in problems relating to implementation of e-commerce by start-up firms and large multinational firms.
Alwahaishi (2009)	Provide the authorities, business owners, researchers as well as readers with an overview of the current status of e-commerce usage in Saudi Arabia and the major factors that hinder its growth and development.	Qualitative approach.	**Human development factor:** Illiteracy & Lack of computer-**related skills.** **Technical Factors:** Speedy transport & Efficient payment systems. **Cultural and Ethical Factors:** Confidence in the product & The availability of reimbursement.	The paper does not give detailed information about the research method and data collection and analysis. Ignores many organisational factors. Lack of theoretical foundation.	Conduct an empirical study to scientifically identify obstacles and barriers to e-commerce growth and diffusion in Saudi Arabia. Then develop a healing strategy could to change any negative perception about e-commerce.

2.4.2. Supportive Factors

Lastly, literature on e-commerce adoption in Saudi Arabia has also been supplemented by a third perspective from some research focusing on the role of minor factors like website design elements, availability of educated skills to develop and manage the growth of e-commerce, role of government initiatives, and trust building. For AlGhamdi et al. (2012), the role of trust is critical to understand the reason behind the sluggish growth of online retailing in the KSA. With a well-planned research methodology using a mixed methods approach, their study interrogated both retailers and customers to identify the role of trust in their interaction. After exploratory interviews with 16 Saudi-citizen participants and 16 decision-makers from different organisations, a final survey was conducted with 680 Saudi participants and 416 retailers. The study provided several valuable outcomes showing that use of e-commerce is affecting trustworthiness and secures online payment options, ensuring consumer protection, clarifying marketplace rules, issuing certification authority, and strengthening delivery systems.

In their study on the supportive variables existing between customers and vendors, Gamalel-Din (2012) asked whether a successful e-commerce project was solely reliant on technological skills. This research draws a link between education and practice particularly in the field of e-business by investigating the role of a well prepared e-business course in King Abdul Aziz University in Saudi Arabia for filling the gap between technology and business skills. The survey results from the graduates of the university found that the knowledge and skills imparted by this course were helpful to their work and in many cases the reason for them winning a job.

Website design was investigated to identify how e-commerce platform or website could successfully attract online customers from different linguistic and cultural backgrounds (Al-Sedrani andAl-Khalifa 2012). In their research, Al-Sedrani and Al-Khalifa (2012) presented a systematic analysis of the main cultural aspects of designing e-commerce websites targeted to Arabic speaking countries especially in Saudi Arabia. The impact of these aspects was measured by evaluating existing Saudi Arabia e-commerce websites. The paper then concluded by proposing a set of guidelines for localizing the design of e-commerce websites targeted for the Arab region like: text

translation, text orientation from right to left, provision of prices in local currency and avoidance of pictures containing human body which violates Islamic rules.

Finally, other researches focused on government initiative as a primary key to push the level of e-commerce acceptance by organisations and buyers in Saudi Arabia (AlGhamdi, Drew & Alkhalaf 2011, AlGhamdi, Drew and Alshehri 2011). Based on qualitative data collected from interviews with 16 retailers and 16 potential customers in Saudi Arabia, AlGhamdi, Drew and Alkhalaf (2011) found that government support was identified by both parties of retailers and potential customers as the most influential factor in furthering online retail growth in KSA. Further, AlGhamdi et al. (2011) found that both retailers and sellers emphasised the need for government involvement to support and promote the development of online commerce through regulation, legislation, education, and infrastructure for secure payment and delivery.

2.5. Nature of the Saudi Tourism

The Saudi Arabian Government recognises the country's potential for tourism and its benefits for economic growth and employment generation. In 2000, the Saudi Commission for Tourism and Antiques (SCTA) was established primarily to focus attention on national tourism development. Besides its technical role of preserving Arab antiquities, the purpose of the SCTA is to provide a regulatory and commercial environment for the tourism industry to prosper. This section discusses the nature of tourism in Saudi Arabia, including, a detailed discussion on the areas and seasons that attract visitors and the importance of tourism market in Saudi Arabia. The discussion also reflects on the tourism industry and its current use of technology in general and e-commerce in particular.

With the Red Sea to the west and the Arabian Gulf to the east, the Kingdom of Saudi Arabia occupies the greater part of the Arabian Peninsula. The country is the birthplace of Islam. The bulk of tourist traffic comes to Saudi Arabia for the two main religious pilgrimages, (الحج, *Hajj*) and (العمرة,*Umrah*). *Hajj* is an annual pilgrimage that occurs from the 8th to 12th day of *Dhu al-Hijjah*, the 12th and last month of the Islamic calendar. It commemorates the exodus of the Prophet Mohammed (محمد صلى الله عليه وسلم) and his followers from the holy city Makkah to the holy city Medinah in the year 622

CE, marking the beginning of the *Hijra* or the Islamic calendar. It is obligatory upon every physically and financially capable Muslim, male and female, to make the *Hajj* pilgrimage at least once during their lifetime. In the last few decades, up to four million people converge every year on Makkah from around the world to attend the *Hajj*.

There is a subsidiary pilgrimage called *Umrah*, which may be taken anytime during the year. This pilgrimage is not dedicated to any sacred event or historical date but covers a general tour of holy sites in Makkah and Madinah as well as all other places of historical antiquity and religious importance. Pilgrims visit the holy mosques in Makkah and Medinah, complete the devotional act of seven rounds called *Sai*, and other seven circumambulations called *Tawaf* around the *Kabah* (shrine) (Ministry of Hajj 2012). While some people automatically include the *Umrah* in their *Hajj* schedule, others consider *Umrah* as an independent ritual that may be performed separately.

Saudi Arabia is the spiritual and obliging host to any Muslim who wishes to claim its hospitality. However, there are attractions for all, with the desert landscape, ancient buildings, and the Bedouin lifestyle which still lingers in the vast deserts, although Bedouins are drifting into the cities as the infrastructure grows and their children require education. Fewer and fewer family-households remain on the range. Almost all Bedouin families now reside in permanent housing, their herds and flocks visited by family members while the everyday work of herding is done for wages by hired male shepherds. Some of these shepherds are other Bedouin; some are foreigners (Cole 2003). Through its ancient trading ports, Saudi Arabia displays traditional Bedouin skills, such as, weaving silk and wool into carpets and garments. Thus, Saudi Arabia is an attractive destination for religious, traditional and adventure visitors. Key tourist areas include:

- coastal areas: These are areas which have sea fronts such as Jeddah in the Western Region and Dammam and Alkhobar in the East;
- areas of natural beauty: such as Taif, Al Baha and Abha; and
- historical sites: Saudi Arabia's geographical position has made it a crossroads of civilizations. Saudi Arabia is a first-class heritage state as there are thousands of antiquities of which only a limited number have been unearthed. The Ministry has 19 museums across the country, with two new museums recently opened in Baha and Hail as part of a national plan to set up a museum in each of Saudi Arabia's 13 regions. In addition to the National Museum in Riyadh, several

historical buildings have been renovated and converted into museums in Jeddah, Taif, Hofuf and other areas (Saudi Commission for Tourism and Antiques 2009).

Saudi Arabia annually hosts some sixteen million domestic tourists and seven million expatriate tourists, besides the five million pilgrims (Seddon & Khoja 2003). Further, domestic tourism is also a government target as three-quarters (76%) of Saudis holiday outside the country, spending about $US6.5 billion each year (Middle East Business Intelligence 2001). Further, as Muslims gain wealth, global pilgrimages are expected to register a 20 per cent annual growth over the next decade to become double the present volume by 2020, (McClatchy 2007).

Saudi Arabia is emerging as an affordable tourist destination for Muslims and non-Muslims alike. The Travel and Tourism Competitiveness Index (TTCI) is based on 71 criteria and variables. In 2007 Saudi Arabia took seventh position globally in terms of taxes levied on tourists, and 15th regarding airport fees. The report ranks Saudi Arabia 15th on the availability of airline seats and 39th on the number of airline services. The index showed Saudi Arabia received 8.62 million tourists who spent $4.96 billion in 2006 (Gulf News 2008).

Tourism is the subject of large-scale funding. The Secretary-general of SCTA, Prince Sultan bin Salman announced that the 'Authority plans to establish three mega tourism projects on the Red Sea coast' (Shaikh 2008, p.1). The country is also building new tourism infrastructure both in large cities and remote areas. In a press release, Prince Sultan announced that 'the government is conducting training for security services, tour guides, airport officials and travel agents to better handle foreign tourists' (Gulf News 2008, p.1).

There was also a recent easing of administration with visitors' visas now available from travel agents (TradeArabia 2008, SCTA 2009). Further, SCTA is offering a tourist visa for groups of four. Also, a religious visa for Umrah could be transferred to a tourism visa electronically within 12 hours as a means of encouraging pilgrims to visit different areas in the country (Al Bawaba 2008). Tourist visas introduced last year cover citizens of 64 countries and apply to groups of four people.

2.6. Religious Tourism in Saudi Arabia and IT

As religious travel in Saudi Arabia involves millions of visitors from all over the world, it is controlled by the government for security and logistics reasons. The government controls and monitors the entry of visitors into the country for pilgrimage (MoH 2012). Effective Information Systems utilisation in the sector can not only help the government provide an efficient marketing/booking channel but act as an effective monitoring system for all pilgrims in the country. To this end, the government has been motivating providers to use information systems *Hajj* and *Umrah* needs, which are then sold by several IT providers (EP-MoH 2012). To explain further, the *Hajj* and *Umrah* industry operates in four basic modes (MoH 2012):

- *Hajj* for local Muslims: The Ministry of Hajj in Saudi Arabia offers licenses to about 40 companies for local *Hajj* pilgrims, which include Saudis and Muslim expatriates living in Saudi Arabia;

- *Hajj* for external Muslims: The Ministry of Hajj in Saudi Arabia fully controls the arrangements offered by local providers like (مؤسسات الطوافة, *Twafaa* establishments,) in Makkah, (مكتب الوكلاء الموحد, *W'okala* Office) in Jeddah;

- *Umrah* for local Muslims: This group of *Umrah* packages are meant for Saudis and Muslim expatriates living in the country and any travel agency can retail packages on its own the whole year round; and

- *Umrah* for external Muslims: The Ministry of Hajj in Saudi Arabia licenses about 20 companies as local agents to arrange *Umrah* for external pilgrims through international agents.

In the case of *Hajj* for external pilgrims, packages are directly administered by the government and providers of *Twafaa* establishments. For non-Muslim countries, there are special arrangements between travel agents in these countries and the Ministry of *Hajj* in Saudi Arabia, for example, Australian travel agents can provide regular escorted *Umrah* travel and *Hajj* packages (Ourworld 2011).

2.6.1. Recent E-business Portals

Yosr is a common booking system used for arranging *Hajj* for local pilgrims. It allows these organisations to register pilgrims, cater for their accommodation and

transportation needs, and finalise payments (Yosr 2012). The procedure for *Umrah* for external pilgrims is much more complex. There is a main online portal called the (مُخَاع, *Makha'a,*) which links all the stakeholders, internal licensed *Umrah* agents, and external travel agents with the Ministry of Hajj, and the Ministry of the Interior in one information system (EP-MoH 2012). There are five *Makha'a* Internet providers and about 40 *Umrah* agents licensed by the Ministry of Hajj. The government requires designated *Umrah* pilgrimage providers to work online with their international dealers because local travel agents are not permitted to offer *Umrah* services directly to external pilgrims (EP-MoH 2012).

The *Umrah* operator begins by creating an *Umrah* package at a fixed price. The package offered must address all travel needs, including accommodation, transportation, catering, and additional services such as medical insurance (EP-MoH 2012). This is then sent to the Ministry of Hajj for approval through *Makha'a*. When the MoH approves the package, the *Umrah* operator offers the package to its external agents outside Saudi to start retailing it to pilgrims. When the external agent has acquired customers, it sends their information to *Makha'a* for further processing through the *Umrah* operator. The *Makha'a* will then send this information to the MoH to check the data of individual passengers and give each passenger a Ministry of Foreign Affairs (MoFA) approval number, which will be used to issue a visa from the Saudi embassy. The external agent will then be notified through *Makha'a* to collect the visas from their local embassy for the accepted passengers of the group (Bab Umrah 2012).

2.6.2. Religious Tourism and Technology Adoption Research

With the important role played by *Hajj* and *Umrah* in the country's religious life and tourism sector, the government has established The Custodian of the Two Holy Mosques Institute of Hajj and Umrah Research. The Institute is an advisory research agency which presents its findings to relevant authorities in order to analyse these findings and possibly adopt them if deemed fit (CTHMIHU 2013). The Institute is concerned with all issues relating to pilgrims and conducts its studies and research all year round. The millions of pilgrims who enter the country for *Hajj* and *Umrah* pose severe logistical challenges as well as business opportunities. These challenges for logistic coordination and service delivery could be better addressed by sophisticated IS and e-commerce portals. This has motivated researchers to study and find solutions from

IS for a host of problems like crowd management and tracking (Amro & Nijem 2012, Koshak 2006, Naser et al. 2010, Khozium 2012).

Khozium (2012) conducted a research to design an information system that could manage crowds during the Nafra (النفرة) ritual at *Hajj* when about 3 million pilgrims move from Arafat to Muzdalifa on one holy night. Using thermal cameras as sensors at strategic points and roads, a computer interface with fuzzy logic, operations research and decision support system was developed to monitor the movement of the crowds and produce alternate decisions to the system controllers to avoid overclogging on a particular route or location. As the movement of vehicles and mass transit during *Hajj* is a major challenge facing urban planners and designers in Makkah, Koshak (2006) used web-based Geographic Information System (GIS) to provide traffic plans that could facilitate easier understanding. In another study, Amro and Nijem (2012) proposed a communication and information system that could assist tourist guides (Motawif) in organising the movement of pilgrims in their group and add new capabilities for incidental difficulties such as tracing lost pilgrims, and predicting change in route.

Naser et al. (2010) studied the usability as well as the risks and limitations of Radio Frequency Identification (RFID) technology in managing security issues, organizing pilgrims' movement, residential management, healthcare management, luggage tracking and E-passports. While these studies are concerned with the implementation and limitation of specific IS instruments, Masoud (2005) focused on the vital role played by IT in supporting the development of Saudi tourism industry and in particular the assessment of the efficiency and capability of the economic performance. The study showed a positive impact of IS-based portals on the quality of tourism services, the ability of controlling mechanism to regulate demand and supply as well as the possibility of increasing the regular income of tourism operators.

2.7. Summary

The internet is the technology of choice for international tourism promotion, with the majority of travellers now researching their destinations online (Roger 2001). Given this impetus towards modernisation in tourism, the challenge for firms in the industry is to find the means to use new technology (Ahmed, Zairi & Alwabel 2006). In the long run, persisting with the traditional service model may be detrimental for these travel

agents as internet competition will absorb their clientele over time. The tourism industry in Saudi Arabia is large and mature enough to attract and necessitate research that can help in directing its future growth. The next chapter reviews theories used in technology adoption research. The literature helps the researcher to build on the recent theories that addresses this research gap.

Chapter 3 Literature Review

This chapter reviews the existing literature to theory that underpins this research. The chapter is divided into three major parts. First, the importance of Information and Communication Technology (ICT) in business is reviewed with special attention to e-commerce. Second, a discussion on the cultural elements that may impact technology adoption, with a review of related cultural theories. Third, the individual and organisational theories used in technology adoption researches are also discussed. Some of these theories are used and adopted in this research.

3.1. ICT Growth

Whilst innovation in information and communications technology (ICT) rarely slowed over the last half-century, particularly rapid growth occurred from the late nineties. Communications are the major accelerator of business, and the last decade saw widespread adoption of interlinking technologies as governments and industry explored concepts in networking the previous stand-alone operations (FitzGerald & Dennis 2009, Biagi 2011). This increased pace of development occurred through innovations such as fibre optics distribution, and large-scale data networking using satellites. However, the Internet has emerged since the mid nineties as the prime means of transferring information (Laube & Zammuto 2003, Friedman 2005).

Communications technology is changing from wired to wireless hardware and from passive to active software. Goel (2008, p.1) stated that 'the liberalization of the telecommunications sector and innovation such as fibre optic, DSL, etc (which has helped to expand the volume and capacity of communication) have helped in the process of the Internet's growth'. Thus firms in the ICT industry seek a competitive edge from Internet applications and undertake research and development to lead the technology in new directions (Thiadens 2005).

Over the last two decades, organisations and individuals globally have embraced ICT, readily adopting the new communication tools and the Internet, and heralding the introduction of the digital age (Raisinghani 2000, Friedman 2005). The early 1970s saw the development of Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT), whilst the advent of Internet browsers with communication infrastructure facilitated the rise of electronic commerce transactions (Zwass 1996, Schneider 2008,

Turban et al. 2010). Zwass (1996, p.2) identified e-commerce as 'sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks'. E-commerce is a constituent of the wider term e-business; the former referring to trading products or services via the Internet, whilst the latter comprises all communications, collaboration and transactions between parties through the Internet (Turban et al. 2010, Laudon & Traver 2009, Fawzy & Dworski 2010). ICT technologies and the Internet contribute to the phenomenon of e-commerce, especially in the form of marketing (Zwass 1996, Goel 2008, Shareef, Dwivedi, Williams & Singh 2009). Thus, if e-commerce is viewed as an innovation in its own right, then it may be regarded as a commercial conceptualisation that exploited the Internet and the supporting electronic infrastructure (Quaddus 2000, Shareef et al. 2009).

3.2. E-commerce Models and Benefits

E-commerce has evolved into several key models:

- Business to Customer (B2C): businesses provide goods or services to customers, also called e-tailing;
- Business to Business (B2B): both partners in a transaction are organisations, the majority in the private sector, referred to as e-procurement;
- Customer to Customer (C2C): consumers sell directly to other consumers;
- Business to Business to Consumer (B2B2C): a business provides some product or service to a client business that maintains its own customers;
- Consumer to Business (C2B): individuals use the Internet to sell products or services to organisations or individuals; and
- Business to Employees (B2E): an organisation delivers services, information or products to its individual employees (Turban et al. 2010, Schneider 2008, Laudon & Traver 2009).

The Internet and its enabling ICT are now the drivers of business systems and a decisive factor in business models, supplying applications to replace administrative systems in all disciplines and organisations, and providing a range of platforms to launch new products and services. It is clear that productivity is of prime importance as an outcome of IT use and provides a significant commercial advantage. Using ICT systems, synchronisation between organisational aspects increases productivity and meets

customers' and the market's requirements (Barrile & Cameron 2004). Further, e-commerce facilitates interactive communications between the sellers and buyers. Williams, Rice and Rogers (1988) defined interactivity as the degree to which participants in a communication process have control over, and can exchange roles in, their mutual discourse. Wells, Fuerst and Choobineh (1998) studied IT-assisted customer interaction. They found that an organisation can position its people, business processes, and information systems to establish and take advantage of this emerging paradigm by understanding the IT-enabled elements of customer interactions. Therefore, in a comparison of traditional and e-commerce business models, e-commerce enhances both the situation of an entity advertising its products and services, and a marketing environment where there are many sellers and buyers.

Before e-commerce, larger corporations alone had the resources to expand internationally. Online retailing is now an attractive and cost-effective means for start-ups or smaller firms to access new customers, and e-commerce business models offer competitive advantages for global producers and service providers (Malhotra & Malhotra 2006). The costs incurred establishing a system over the Internet is an important factor in the Internet model. Balboa Travel, Inc in the US estimated that, at the time, 'setting up a small system can be about $US3,000, and a larger, more sophisticated system could cost close to $US100,000' (Rodrigues 2002). (See Table 3.1 Comparison of computer-based and Internet-based technologies.)

Table 3.1: Comparison of computer-based and Internet-based technologies

	Internet (since the mid nineties)	Private Connections (during the 80s and early 90s)
Setting up costs	<$US100,000	<$US3.5 million
Number of transactions	4 million per month	83,000 per month
Per-transaction cost	$US8	$US40
Competitive advantage	Profitability and accessibility	Booking Accuracy
Users	All tourism stakeholders	Providers, wholesalers and retailers
Establishment time	90 days	2 years
Area	International	International, sometimes national

Sources: Rodrigues 2002, Holloway 1988, Internet Retailing 2008 (with calculations)

A key factor in e-commerce adoption is the removal of geographical boundaries. E-commerce across international borders simplifies trading between producers in one country and suppliers, dealers or agents elsewhere (Chen 2001). Internet trading allows

24-hour access of products or services, eliminating communications delays and leading to higher business transaction speed (Turban et al. 2010, Schneider 2008, Laudon & Traver 2009). Information is downloadable, conditions of sale clear and the transaction may be fully automated at the seller's warehouse with shipping information, customers' confirmations, and payment history readily available.

Productivity with e-commerce is enhanced within all organisations, private and public, through maximising sales or public services and minimising costs (Bu et al 2007, Chaffey 2002). A means of maximising sales and minimising costs is to maintain customers' loyalty, and e-commerce offers this by the use of clear information to elicit trust and customer satisfaction (Srinivasana, Andersona & Ponnavolub 2002, Kassim & Abdullah 2008). Sales expertise, sales attitude and price fairness are all useful approaches to enhance customers' trust and loyalty (Doong, Wang & Shih 2008). Product and service sites are enhanced by good customer relations' the ability to promptly attend to individuals' requests, and the availability to provide redress to maintain quality products. Trust and other loyalty factors are discussed below.

The advantages of e-commerce are sometimes peripheral to traditional business models, and this remains a challenge for company resources to maintain existing distribution channels whilst pursuing e-commerce growth. The e-commerce literature also raises issues regarding the use of e-commerce, such as that of a lack of relationships between manufacturers and suppliers, as the manufacturer supplies its products online (Benslimane, Plaisent & Bernard 2005). Purchasing from online shops raises issues of trust concerning fraud, privacy, security, payment, identity and contract and these points are particularly relevant to the research question (Shalhoub 2006, Kassim & Abdullah 2006, Alfuraih 2008, Pittayachawan & Singh 2004). There is also a price to pay by firms moving to e-commerce in losing experienced and knowledgeable staff, as more and more websites take the roles of employees (Abofara 2004, Rodrigues 2002). An issue raised through implementing e-commerce information systems is the risk of outsourcing (Bahli & Rivard 2005, Belcourt 2006). In a comment on service operations associated with e-commerce, Milligan and Hutcheson (2006, p.205) state that 'outsourced consumer service operations can cost almost a third more than those retained in-house'. Arguably, small and medium enterprises cannot cope with the hidden costs of IT/IS outsourcing, such as the quality of support, and they have different intentions to participate in IT/IS

outsourcing (Rohde 2004). These issues of trust and cost are findings which impact planning and implementation strategies for e-commerce.

Not all businesses adopt e-commerce, some avoiding it completely whilst others use part of the infrastructure and, with time, increase their IT-based functionality (Sumner & Klepper 1998, McKay & Marshall 2004). However, progressive organisations accept the technology in its very early stages when it contribute to the organisation's strategy and further benefits are expected from implementation (McKay & Marshall 2004). Theorists attempt to identify behaviours that lead to adoption or refusal of new technology (Davis 1989, Davis et al. 1989, Venkatesh, Morris, Davis & Davis 2003). Findings identify organisations that rely on the technology facilities as the acceptance driver, whilst others consider organisation or external technology readiness as the acceptance motivation factor (Roger 1962, Molla & Licker 2005, Kurnia 2007, Selim 2008). The following sections discuss relevant theories and findings on technology adoption.

3.3. Culture and National Influences

As e-commerce is a global phenomenon, discussion regarding the forms of adoption of its technology should consider the socio-economic environment of each country (Shareef et al 2009). Corbitt (2003) argued that 'E-business is a technical solution, but culture can challenge and differentiate that' (p.14), implying that, without appropriate attention to social mores, the marketing channel may not connect with its intended audience. Kurnia (2007) argued that developed economies offer the tangible and intangible infrastructure that encourages the technology to thrive. This infrastructure is affected by the national culture (Png, Tan & Wee 2001). For example, in a culture where shopping is viewed as a leisure activity, e-commerce may be viewed as removing an opportunity to socialise (Boerhanoeddin 2002). Shareef et al. (2009) concurred: 'the diffusion of (e-commerce) has multi-dimensional aspects, and the process of diffusion is controlled by cultural diversity' (p.81).

Cultural differences are manifest in global trade and require careful managing to avoid pitfalls. Geertz (1973, p.89) defined culture as 'an historically transmitted pattern of meanings embodied in symbols, a system in inherited conceptions expressed in symbolic forms by means of which individuals communicate, perpetuate, and develop

their knowledge about and attitudes toward life'. Hofstede (1980, p. 25), a key theorist of culture, defined culture as 'the collective programming of the mind that distinguishes the members of one group or category of people from another'.

Whilst there are many conceptualisations of culture, Gallivan and Srite (2005) stressed the contribution of Hofstede. Ford, Connelly and Meister (2003) agreed, although they question the strength of the linkages. Hofstede's cultural dimensions nevertheless form the ground for cross-cultural management and information system research. Cultural dimensions therefore impact the adoption of innovations such as e-commerce in a country, a position which is well documented in the literature. Hofstede's five cultural dimensions are:

- power distance: the extent to which power inequality is acceptable to society;
- individualism: individuals are more important than the groups to which they belong, the reverse is collectivism;
- masculinity: focuses on the degree to which traditional gender roles are assigned in a culture; the balance is influenced by femininity;
- uncertainty avoidance: the extent to which a culture values predictability and these cultures have strong bureaucratic rules; and
- long-term orientation: how the group invests for future with commitment and patience, balanced against a short-term orientation (Hofstede 1980).

Due to their strong relationship with technology adopters, Hofstede's cultural dimensions are widely used in studying development and acceptance of information systems, (Tan et al. 1998, Al-Gahtani, Hubona & Wang 2007, Silvius 2008). In an exploration of the impact of a country's culture on the level of implementation, or maturity, of business-IT alignment, using Hofstede's five cultural dimensions, Silvius (2008) warned of complexities in communicating the intent, process and expected outcomes of business-IT alignment. The researcher mapped selected countries' business-IT alignment maturity criteria against the cultural dimensions, concluding that cultural aspects, particularly those involving social interaction, impact several business-IT alignment maturity criteria.

Other studies used the cultural dimensions to compare the use of information systems between two different cultures. Al-Gahtani et al. (2007) compared IT acceptance between developed and developing economies, using a modified model of Technology

acceptance model (TAM) which was the Unified Theory of Acceptance and Use of Technology (UTAUT), (Venkatesh et al. 2003), to examine the effects of social influence and cognitive constructs on perceived usefulness and usage intentions. Hofstede's cultural dimensions were also used to show the degree of difference between North American and Saudi Arabian adoption of IT. The authors found behavioural intention and usage determinants impact IT adoption in the developing economy.

To explore national culture differences between USA and Singapore groups on computer-mediated communication Tan et al. (1998) used Hofstede's individualism and collectivism measures. The results showed that the majority influence was stronger using computers in the individualistic culture, thus concluding that culture impacts ICT acceptance. Straub (1994) also found differences in technology acceptance between US and Japan, based on the dimension of uncertainty avoidance. Using a multinational survey, Png et al. (2001) confirmed that dimensions of national culture impact corporate adoption of IT infrastructure. These studies confirm that cultural values influence technology adoption. Tredinnick (2008) expressed it thus: 'a certain kind of transformation to social practices and cultural values that accompanies the rapid adoption of computing technology is on one level difficult to deny' (p. 21).

However, Myers and Tan (2002) challenged Hofstede and his supporters' primacy in theory and findings that the five cultural dimensions or other cultural dimensions are representative of national culture. Myers and Tan cite the sample base that generated Hofstede's (1980) five cultural dimensions; that is, data collected from 40 organisations across 40 different countries. Myers and Tan (2002) found that 39 of those organiszations were subsidiaries of IBM, quoting Huo and Randall (1991, p. 159) who describe the 116,000 respondents within IBM thus 'shared the same corporate superstructure and policies, belonged to the same occupational categories, did the same kind of work, were of the same educational level and varied only marginally in age and gender'. The homogenisation of IBM's corporate culture influenced the study to a degree that its findings reflected only internal differences of IBM's culture and did not reflect the overall nature of the societies involved. Myers and Tan (ibid) reviewed a wide range of literature to confirm their challenge and 'propose that IS researchers should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent'.

As an illustration of cultural effects on the global scale, reminiscent of the IBM world mind-view, Law and Perez (2006) reported that an international service organisation acquired an Asian subsidiary. A new information system was required to integrate the subsidiary with the corporation and system requirements were outsourced on the recommendation of the consultant, tested in the USA headquarters and deployed. However, the instructions were not translated to allow for regional Asian users, and differences were such that an alternative regional system was eventually required. Cognition and management of cultural and national differences are fundamental to the successful integration of global organisations. Slack and Wise (2005) nominated three issues which frequently accompany new installations of information systems:

- technologies are developed to meet the needs of some and not others;
- technologies are not distributed evenly: there are technology haves and have-nots; and
- assumptions are made about who will use technologies and how they will be used.

These procedural issues are confirmed by Lin (2002) who argued that innovation attributes cannot translate into actual technology adoption without the individual personality attributes; the latter also affect the group's adoption decision.

In summary, the individual and social interactions form the decision-making paradigm for acceptance or rejection of change. Thus, this research considers Hofstede's cultural dimension as a theoretical lens to understand the cultural norms in practice and believes that impact technology adoption in Saudi Arabia.

3.4. Technology Adoption Theories and Models

Researchers explore the acceptance rate for new technologies through theoretical modelling. Due to the extensive literature available, many ICT adoption factors can be extracted from tested models. The following discussion considers the optimum theoretical models that emerged; innovation diffusion, reasoned action, planned behaviour, the hybrid technology acceptance models.

3.4.1. Diffusion of Innovation Theory

A study by Ryan and Gross (1943) was pivotal in establishing the theory of innovation diffusion. The researchers used funding from the Iowa Agriculture Experimental Station to study the dissemination of hybrid corn among growers. This quantitative study found the adoption process began with a small number of farmers who adopted hybrid corn soon after its release. When neighbouring farmers saw the results of this innovation, they quickly adopted the new strains of corn; thus a strategy of targeting influential farmers hastened the innovation process, facilitating greater productivity (Strang & Soule 1998).

By 1954, Rogers (1962) was part of another research team at the Experimental Station to study factors that militated against adoption of innovative farming practices. The insights gained from this research were crystallised from a plethora of research over the next half-century as Rogers explored factors affecting the adoption or rejection of innovative techniques. This culminated in the theory of innovation diffusion distilled in several versions of Rogers' opus *Diffusion of Innovation* (Rogers 2003). Rogers (2003) defined diffusion as 'the process by which an innovation is communicated through certain channels over time among the members of social system' (p. 5). The key elements in diffusion research are innovation, types of communication channels, time or rate of adoption, and the social system which frames the innovation decision process (Rogers 2003). The Diffusion of Innovation model includes five major characteristics:

- *relative advantage:* the degree to which it is perceived to be better than that superseded;
- *compatibility:* consistency with exacting values, past experience, and needs;
- *complexity:* difficulty of understanding;

- *trialability:* the degree to which it can be experimented on a no-limit basis; and

- *observability:* the visibility of its results (Rogers 1962).

The innovation diffusion process, Rogers found, occurs in stages before and after the decision category. These stages assist investigators to understand factors and events in the diffusion process (see Figure 3.1).
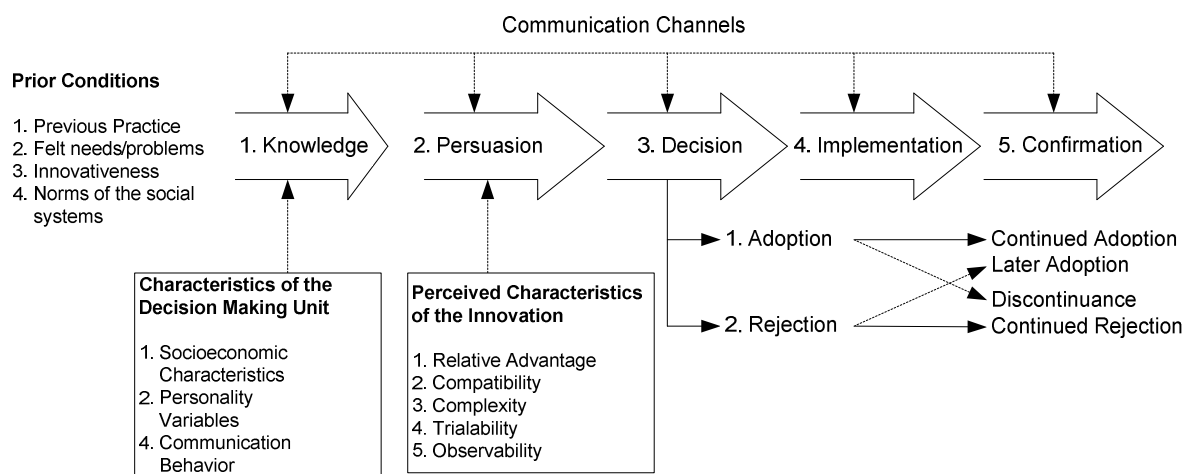
Source Rogers 2003, p.170

Figure 3.1: Stages in the innovation-decision process

Rogers's five stages of Diffusion Decision Process:

1. *Knowledge:* availability or perception of sufficient knowledge of the innovation and its issues and outcomes to proceed;

2. *Persuasion*: when individuals seek reassurance from the innovator regarding issues they raise;

3. *Decision*: based on existing knowledge, past experience and the information from the innovator, an individual will accept or reject the innovation;

4. *Implementation*: when accepted, the individual harbours concerns regarding the innovation, balanced by enthusiasm based on the innovator's claims; and

5. *Confirmation*: when the adopter does not require further encouragement, and on balance, accepts the innovation.

Adopter Categories, Rogers (2003) categorised the adopters into five groups, dependent on their engagement with innovation over time (Figure 3.2).

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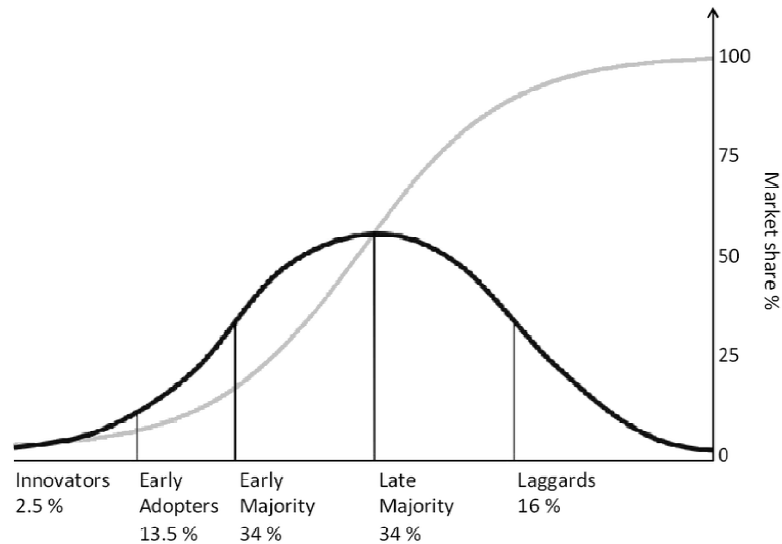
Figure 3.2: Adopter categories over time, against market share

1. *Innovators*: individuals can accept the risk and adopt the innovation when it appears. These may be *trendsetters* in retail or ICT industries who are influential in their social milieu and represent about 2.5 per cent of adopters;

2. *Early adopters*: those in the vanguard of adopters who can make an earlier decision than the majority. These early adopters are educated and knowledgeable regarding trends and represent about 13.5 per cent of the adopters;

3. *Early majority*: these people tend to conservatism regarding the value of adoption, although they have a relatively high social status; some 34 per cent of the adopters;

4. *Late majority*: somewhat sceptical, these adopters seek out the innovation after the average population; also about one third (34%) of adopters; and

5. *Laggards*: or last adopters represent the remainder who accept the technology due to social or commercial pressure. They represent about 16 per cent of adopters.

The models from innovation diffusion theory are used across many disciplines, including IS research, organisational change, customer loyalty programs and marketing products (Redmond 2003, Woodside & Biemans 2005, Tseng 2008, Lee & Liu 2008). However, innovation diffusion theory is routinely used in empirical studies by IS scholars to provide a structure for testing technology adoption variables (Moore & Benbasat 1991, Beatty, Shim & Jones 2001, Marez & Verleye 2004, Zhu, Dong, Xu & Kraemer 2006, Troshani & Doolin 2007). Others have integrated DOI into the adoption

models (Venkatesh et al. 2003). However, DOI theory does not provide a reasoned argument for action.

3.4.2. Theory of Reasoned Action

A primary factor in technology adoption is an individual's attitude, and this is subject to the Theory of Reasoned Action (Fishbein & Ajzen 1975, Ajzen & Fishbein 1980). In this theory, an individual's action is determined by the behavioural intention to act. The behavioural intention is moderated by a person's attitude toward behaviour and subjective norms. Attitude is defined as an individual's positive or negative feelings about performing the target behaviour (Fishbein & Ajzen 1975). Subjective norm refers to 'the person's perception that most people who are important to him think he should or should not perform the behavior in question' (ibid. p. 302). The Theory of Reasoned Action posits that beliefs and evaluations determine attitude, normative beliefs and motivation to the subjective norm (see Figure 3.3)
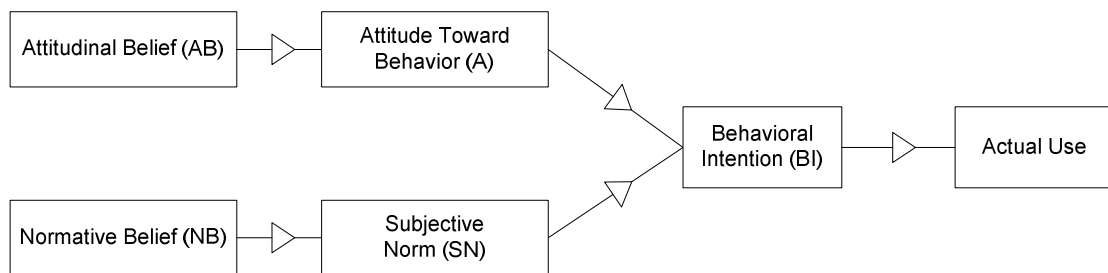
Source: Fishbein and Ajzen 1975, p.288

Figure 3.3: Theory of Reasoned Action

The Theory of Reasoned Action posits factors that influence behaviour intention indirectly through attitude and subjective norms include all external and internal variables (Davis, Bagozzi & Warshaw 1989). The authors state that the Theory of Reasoned Action is 'an especially well-researched intention model that has proven successful in predicting and explaining behaviour across a wide variety of domains' (Davis, Bagozzi & Warshaw 1989, p. 983).

It was later used by Davis (1986) in the development of the Technology Acceptance Model (TAM), discussed in its forms in this section. Other studies in IS research use Theory of Reasoned Action to study the factors impacting the adoption of technologies such as the Internet and e-trends, and wireless technologies (Hartwick &

Barki 1994, Jeffrey & Fawzy 1999, Yoh, Damhorst, Sapp & Laczniak 2003, Hansen, Jensen & Solgaard 2004). This Theory of Reasoned Action was extended over time into a behavioral model

3.4.3. Theory of Planned Behaviour

There is a significant risk inherent in the Theory of Reasoned Action regarding the nature of attitudes, since an attitude can be regarded as a norm, and the reverse can also occur (Ajzen 1985). Another limitation of the theory of reasoned action is that it considers a person can act without other external limitations. Ajzen (1985) proposed the Theory of Planned Behaviour in an attempt to resolve these limitations. The Theory of Planned Behaviour posits other variables which can be tested in this study. Both theories propound that behaviour is a direct function of behavioural intention; they also share the same roles for attitude and subjective norms. As an additional construct, Ajzen (ibid.) added perceived behavioural control to the model, when the person acting does not have complete control of the situation. Ajzen (ibid) therefore stated that perceived behavioural control represents beliefs regarding access to the resources needed to perform a behaviour. Three constructs impact attitude, subjective norms and perceived behavioural control; these are attitudinal beliefs, normative beliefs and control beliefs (Ajzen 1991, see Figure 3.4).
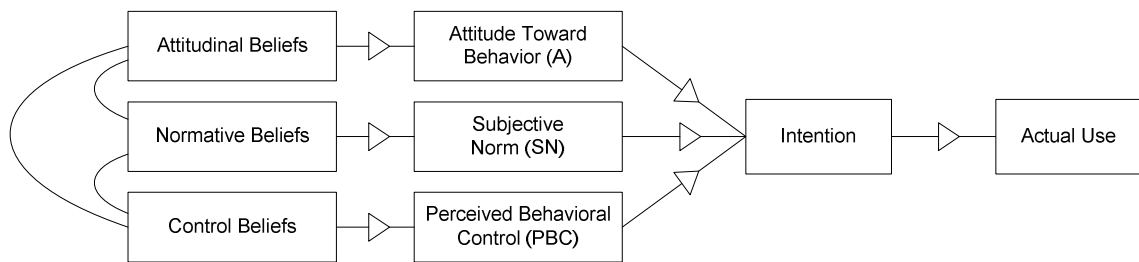
Source Fishbein and Ajzen 1975, Ajzen and Fishbein 1980, Ajzen 1991

Figure 3.4: Theory of Planned Behaviour

In Figure 3.4, the following definitions apply:

- *Attitudinal Beliefs:* an individual's belief about consequences of a particular behaviour;
- *Normative Beliefs:* an individual's perception about the particular behaviour, which is influenced by the judgment of significant others; and

- *Control Beliefs:* an individual's belief about the presence of factors that may facilitate or impede performance of the behaviour. The concept of perceived behavioural control is conceptually related to self-efficacy.

By the end of the 20th century, models from theories of Innovation Diffusion, Reasoned Action and Planned Behaviour were entrenched predictors of technology adoption. Using the Theory of Reasoned Action, a well-studied model was generated, the Technology Acceptance Model (TAM) as discussed in the following section.

3.4.4. Technology Acceptance Model

The Technology Acceptance Model (TAM) was devised by Davis (Davis 1989, Davis et al. 1989) to test the adoption or rejection of users for an information system. Davis (1989) developed TAM from Fishbein and Ajzen's (1975) Theory of Reasoned Action that explains and predicts a person's behaviour in a specific situation. The TAM traces the impact of external variables on internal beliefs, attitudes and intentions (Legris, Ingham & Collerette 2003).

> 'TAM was developed under contract with IBM Canada, Ltd. in the mid-1980s where it was used to evaluate the market potential for a variety of then-emerging PC-based applications in the area of multi-media, image processing, and pen-based computing in order to guide investments in new product development' (Davis & Venkatesh 1996, p.20).

The TAM posits that perceived ease of use and perceived usefulness are important factors in explaining systems' usage (see Figure 3.5).
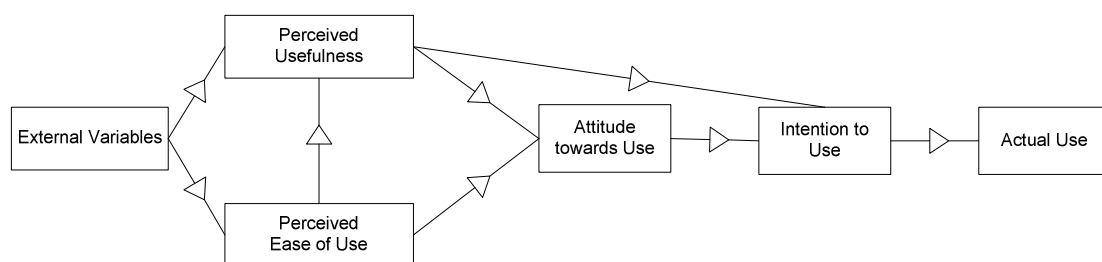
Source Davis et al. , 1989, p.985

Figure 3.5: The Technology Acceptance Model

Perceived ease of use is defined as the degree to which a person believes that using a technology will save effort. Perceived usefulness is the extent to which a person believes that the relevant technology will enhance performance of a task. The model

posits that the actual use is influenced by the intention to use which is affected by the person's altitude. Malhotra and Galletta (1999) stated that TAM is an important instrument for identifying usage and acceptance technologies in Information Systems research. Suebsin and Gerdsri (2009) concurred, that TAM 'employs the perception toward a technology, perceived ease of use (PEOU), and perceived usefulness (PU), as main determinants explaining the adoption process' (Suebsin & Gerdsri 2009, p.2639). The authors concluded that TAM is useful in understanding individual acceptance. Other empirical studies found that perceived usefulness, not perceived ease of use, is positively related to behavioural intentions to use an IS or ICT application (Hu, Chau, Sheng & Tam 1999, Chau 2002).

The TAM is a versatile instrument which was extensively employed singularly or in conjunction with other models in many different environments and disciplines. As an example of IS research, Lai and Li (2005) say that TAM was successful in empirical studies that use surveys. However, they argue that TAM 'still needs to be empirically investigated for its invariance across different respondent subgroups in order to make sure that different sample profiles would not have a negative effect on the findings' (p. 373). The researchers applied TAM on Internet banking acceptance across different gender, age, and IT competency subgroups, finding that TAM is a good model for evaluating intention and actual use of IT.

Whilst frequently used in isolation, TAM is also applied in a suite of models. In an e-commerce study, Klopping and McKinney (2004) used TAM in conjunction with the Task Technology Fit Model (TTF). TTF is a model of Information Systems theory which aligns usage of the information system when the system is integrated with the project goals or outcomes (Goodhue & Thompson 1995). Goodhue and Thompson (2004) developed a measure of task-technology fit that consists of eight factors: quality, locatable, authorisation, compatibility, ease of use, meeting production timelines, systems reliability, and relationship with users. A higher degree of fit led to higher performance and higher expectations for usefulness (Goodhue 1995). Klopping and McKinney (2004) stated that 'clearly in e-commerce use may be related to how well the consumer feels web technology fits the task' (p. 38); their combined model of TAM and TTF is illustrated at Figure 3.6. Klopping and McKinney (2004) found a strong support for the use of a modified TAM in e-commerce and there is a direct relationship between the usefulness and task fit which affects the actual use of the technology.
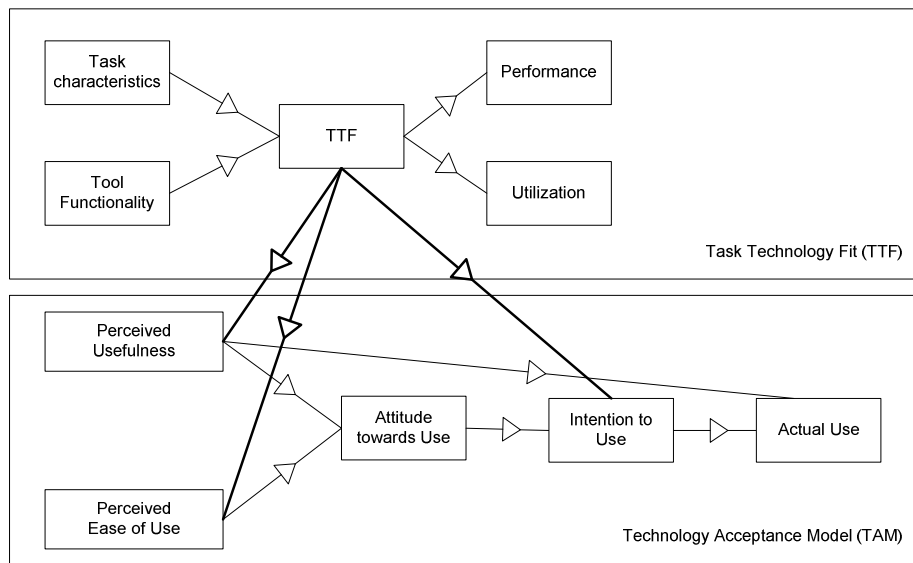
Source Klopping and McKinney 2004, p.38

Figure 3.6: Combined technology fit model and Technology Acceptance Model

Another theory associated with TAM for analysing individual IT adoption behaviour is the TAM innovation diffusion theory (IDT-TAM) (Zhang, Guo & Chen 2008). Zhang, Guo and Chen (ibid.) stated that 'in this IDT-TAM framework, the perceived characteristics of innovation are categorized as subjective evaluation, objective conditions, and interaction factors' (p. 306). The model was tested empirically in China with surveys on e-mail usage. Using Structural Equation Modelling, the results showed that the integrated model provided 'meaningful insights for understanding, explaining, and predicting the IT adoption behavior' (p. 306). This is illustrated at Figure 3.7 IDT-TAM integrated model.
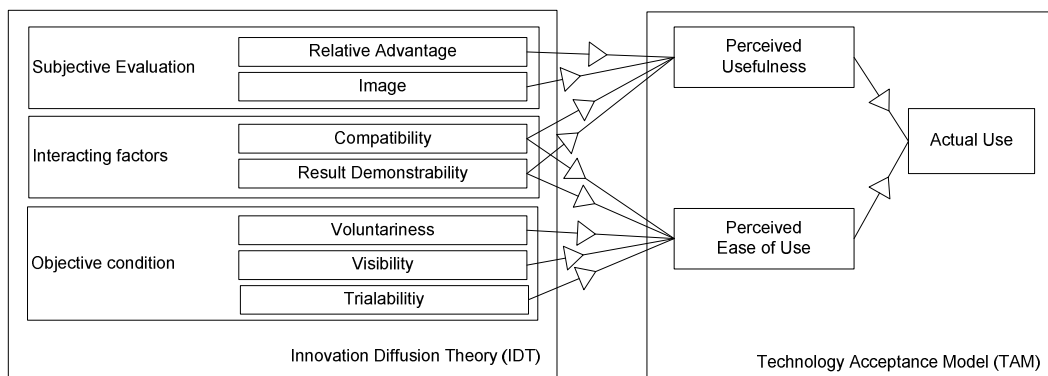
Source: Zhang, Guo and Chen 2008, p. 309

Figure 3.7: IDT-TAM integrated model

Further, Al-Jabri and Al-Hadab (2008) used the main variables of TAM, perceived usefulness and perceived ease of use, and added two further factors they posit affect attitudes on information system acceptance. Based on previous research by Kossek, Young, Gash & Nichol (1994), Al-Jabri and Al-Hadab added the expected capability and expected value variables. Kossek et al. (1994) asserted that expected capability can measure the expected abilities, features and qualities of new technology. The expected value of information system measures the perceived financial, political and overall value of the system implementation within the organisation and for its employees. The results of the study showed that perceived usefulness and expected value have significant direct effect on acceptance. However, the two constructs, perceived ease of use and expected capability, did not have significant direct effect on acceptance.

To develop an extended TAM for Internet use, Shih (2004) integrated the TAM with the information behaviour model. The information behaviour model was earlier proposed by Choo (1998) to explain that people reduce task uncertainty by an information needs-seeking-use cycle. Shih (2004) assessed the use of the Internet at work in the information cycle (see Figure 3.8, an extended model of TAM). The study investigated the proposed model by surveying 203 Taiwanese office workers. Shih (2004) states that:

> 'The empirical results not only confirmed TAM, but also showed that the relevance of information needs strongly determines perceived usefulness, perceived ease of use, and user attitudes toward Internet use for information seeking, as well as strongly influencing individual performance during the information use stage' (p. 721).

The results showed that *intranet* users had more positive attitudes toward the use of Internet.
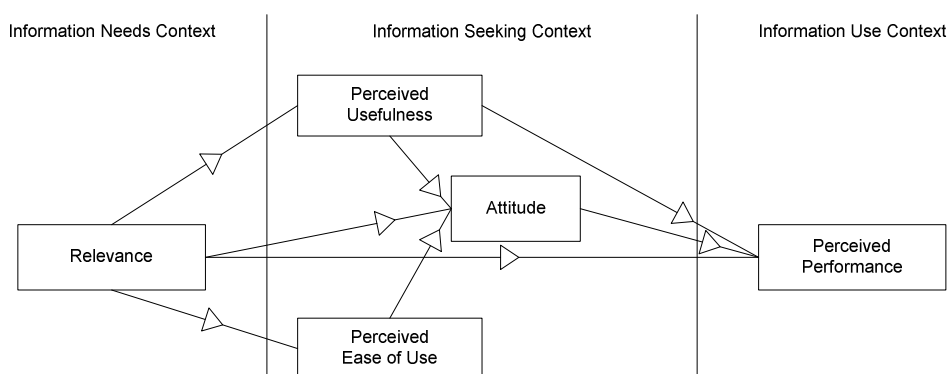
Source: Shih 2004. p.721

Figure 3.8: An extended model of TAM

In an interesting comparison study of the efficiency of the two theoretical models, TAM and the Theory of Planned Behaviour, Taylor and Todd (1995) tested the two models based on data collected from 786 potential users of a computer resources centre. Findings were that whilst two models performed well, TAM is preferable in predicting IT usage. Nevertheless, the planned behaviour model 'provides a fuller understanding of usage behaviour and intention and may provide more effective guidance to IT managers and researchers interested in study of system implementation' (Taylor & Todd 1995, p. 170).

The modifications and extensions to the TAM over two decades of testing arguably show that the original model posited by Davis (1989) is incomplete. However, Davis and Venkatesh (1996) earlier critically assessed the potential measurement biases in TAM. The researchers:

> 'conducted three experiments to directly assess the effect of item grouping vs. intermixing on the psychometric properties of TAM's scales for BI (behavioural intention), U (usage) and EOU (ease of use), while counterbalancing order of construct, order of system, and titling, which may otherwise confound the results' (p.23).

The study found that all items 'grouping and intermixing had no impact on TAM validity and reliability'. The study suggested that 'those who employ the TAM measures should continue using the original (grouped) format in order to best predict and explain user acceptance of information technology' (p. 23).

The TAM has therefore been a significant instrument in predicting technology adoption and usage. However, the perceptions of limitations to the TAM encouraged researchers to continue extending and enhancing the model and this is discussed in the following sections with the models TAM2 and UTAUT (Davis & Venkatesh 1996, Straub, Keil & Brenner 1997, Malhotra & Galletta 1999, Venkatesh & Davis 2000, Venkatesh & Bala 2008).

3.4.5. Technology Acceptance Model 2

Although there is some acceptance of TAM as the prime instrument in explaining the usage and acceptance of new technologies, others see limitations. Straub et al. (1997) tested the TAM model cross three different cultures, USA, Switzerland and Japan, using

Hofstede's dimensions[13] as indicators for their study. The study showed that TAM was not indicative of information technology usage in Japan, due to Hofstede's factors UAI, PDI, MAS, and individuality. Straub et al. (1997) concluded that cultural factors influence the use of information technology and form a barrier to technology acceptance. Furthermore, Malhotra and Galletta (1999) argued that TAM does not account for social presence, or the ability to socialise through technology. TAM2 was an enhancement in response to these findings.

In response Venkatesh and Davis (2000) adapted the original TAM, arguing that TAM2 is 'a theoretical extension of the technology Acceptance Model that explains perceived usefulness and usage intention in terms of social influence and cognitive instrumental process' (p. 186). Suebsin and Gerdsri (2009) stated that TAM2 validates the original technology acceptance model with additional factors such as social influence and cognitive instrumental process. The model also accounts for other variables: image, job relevance, output quality, result demonstrability experience and voluntariness (Venkatesh& Davis 2000), illustrated at Figure 3.9.
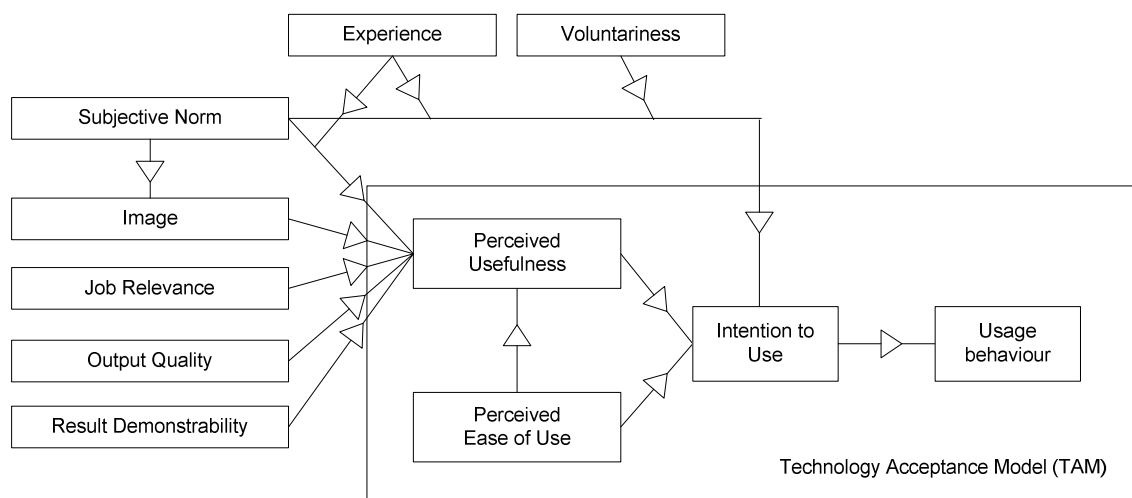
Source Venkatesh and Davis 2000, p. 188

Figure 3.9: Technology Acceptance Model 2

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[13] Hofstede's cultural dimensions : Power Distance Index (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance Index (UAI) and Long-Term Orientation (LTO), (Hofstede 1980, 2000)

Several studies used TAM2 to test its psychological and socially oriented conceptualisations. Sang and Lee (2009) stated that in the TAM2 theory that subjective norms positively influence image. They argued that important members of a group can effectively impact the acceptance of technology. Sang and Lee (ibid.) also argude that 'TAM2 found that two of the three cognitive instrumental determinants (job relevance and output quality) of perceived usefulness were significant' (p. 73). The authors concluded that TAM2 successfully develops an understanding of technology adoption and usage.

Using TAM2, Wu, Chou, Weng & Huang (2008) studied the adoption of Web 2.0 websites and their inherent business potential. Their choice of TAM2 was influenced by perceived usefulness, which is verified by four factors: job relevance, output quality, result demonstrability and perceived ease of use. According to Wu et al. (2008), these variables can evaluate whether the system is capable of supporting the task set, and the manner by which the system performs certain tasks. The results showed that all social influence processes and cognitive instrumental processes of TAM 2 impact interaction with Web 2.0. However, the effect of image on perceived usefulness did not influence that interaction.

3.4.6. Unified Theory of Acceptance and use of Technology

This modified model of TAM represents the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis 2003). In this theoretical research, all extant versions of TAM were combined, with special attention to TAM2's influences of social influence and cognitive constructs on perceived usefulness and usage intentions. Venkatesh et al. (2003) reviewed eight technology acceptance and diffusion models to formulate a unified model. The models were the Theory of Reasoned Action, the Technology Acceptance Model, the motivational model, the Theory of Planned Behaviour, a model combining the TAM and Theory of Planned Behaviour, the model of personal computer utilisation, the Innovation Diffusion Theory, and Social Cognitive Theory. Venkatesh et al. (2003) were responding to criticism the extant research in technology acceptance, where studies were undertaken on a selected model without due regard to optional theoretical models. This research aimed to develop a unified model which encompassed previous findings from testing the extant TAM models. The process of synthesis of UTAUT went through four stages:

1. review user acceptance literature and discuss eight prominent models;

2. empirically compare the eight models and their extensions;

3. formulate a unified model that integrates elements across the eight models; and

4. empirically validate the unified model.

The model developed for UTAUT contains four determinants of behavioural intention and usage behaviour: gender, age, experience, and voluntariness of use which moderate the impact of the four key constructs on usage intention and behaviour:

- performance expectancy: higher performance is gained from a proposed system;

- effort expectancy: the degree of ease;

- social influence: the impact of others beliefs on the computer user; and

- facilitating condition: organisational and technical infrastructure are available to support the use (Venkatesh et al. 2003, see Figure 3.10, the Unified Theory of Acceptance and Use of Technology)
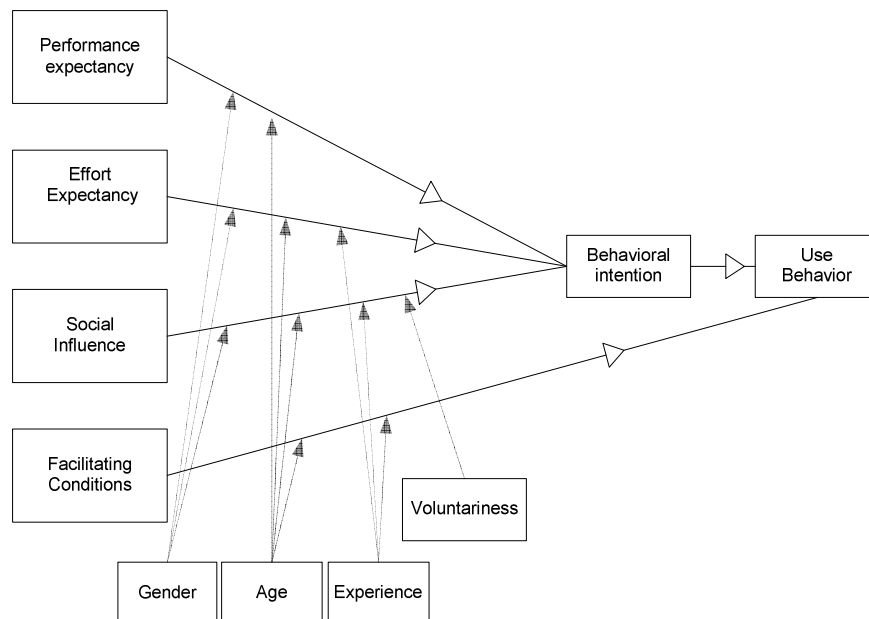
Source Venkatesh et al. 2003, p. 447

Figure 3.10: Unified Theory of Acceptance and Use of Technology

Two studies were used to empirically validate the UTAUT. The studies involved six different organisations respectively and showed UTAUT to have high explanatory ability (Venkatesh et al. 2003). Other researchers successfully tested the unified model

(Anderson & Schwager 2004, Wang & Yang 2005, Marchewka, Liu & Kostiwa 2007, Wills, El-Gayar & Bennett 2008, Shaobo & Gang 2008).

Using online share trading to examine the roles of personality traits in the UTAUT model, Wang and Yang (2005) proposed and applied an extended model using personality traits within the UTAUT. They selected the online stock or share trading platform because it is moderated by Internet technology, considered an evolving technology and related to perceived risk, which is not frequently researched. The research proposed two models: the first hypothesised that personality traits affect the intention of adopting online trading (see Figure 3.11, Model 1). The second hypothesis was that personality traits and the Internet experience will moderate the adoption of online trading (see Figure 3.11, Model 2). Wang and Yang (ibid.) simplified the UTAUT model by omitting moderators, apart from Internet experience, to investigate personality traits.
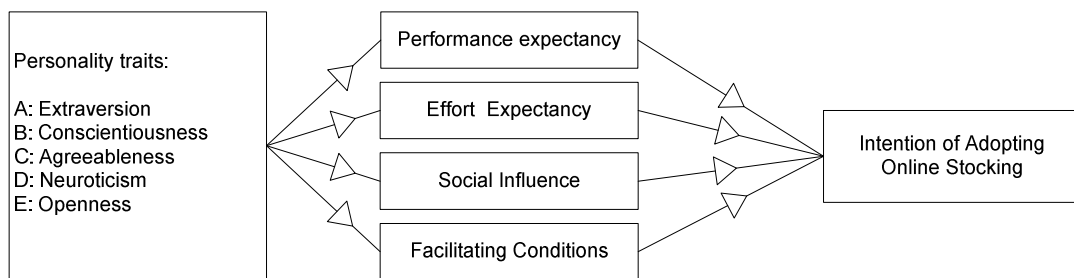
Personality traits-UTAUT, Model 1
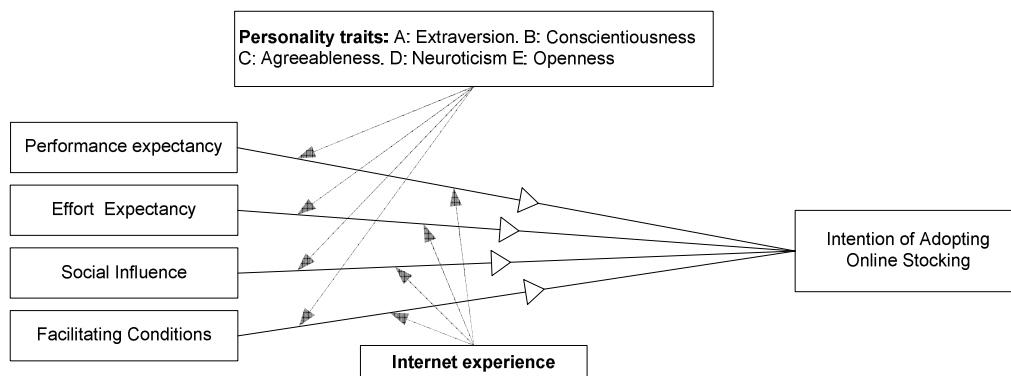
Personality traits-UTAUT, Model 2

Source Wang and Yang 2005, p. 73

Figure 3.11: Revised UTAUT: personality traits

The Wang and Yang (ibid.) research was based on 240 participants who were not necessarily share traders. The results of the study indicated that personality traits 'play more important roles as moderators than as external variables' (Wang & Yang 2005, p. 80). Also, the independent variables performance expectancy, social influence and facilitating conditions had a stronger effect on the traders with Internet experience. With reservations regarding the researchers' full use of the UTAUT, they concluded that it is constructed appropriately to test different situations and variables.

However, Marchewka, Liu and Kostiwa (2007) used UTAUT to study the reactions of students introduced to the Blackboard[14] application. An online survey was designed based on UTAUT instruments and targeted business school students. The results did not show a positive relationship between performance expectancy and behavioural intention, as could be expected from the predictive model. Further, there was no significant relationship between age and gender with respect to their hypothesised relationships with performance expectancy. Nevertheless, there was a strong relationship between effort expectancy and behavioural intention, and between social influence and behavioural intention.

Other studies were more successful in validating UTAUT in technology adoption. Wills, El-Gayar and Bennett (2008) conducted a study to further validate the model through the adoption of the electronic medical records (EMR). The study aimed to critically understand the factors that influence the acceptance and use of health information systems. The researchers collected the necessary data from EMR users through an online survey. Wills, El-Gayar and Bennett (2008) stated that 'the findings indicate that UTAUT is able to provide a reasonable assessment of health care professionals' acceptance of EMR with social influence a significant determinant of intention and use' (p. 396). The researchers concluded that the UTAUT is a valid determinant of information technology acceptance.

The study by Qingfei, Shaobo and Gang (2008) supported the conclusion of Wills, El-Gayar and Bennett (2008). They also proposed a revised model of UTAUT for information system user satisfaction; the inclusions were trust, privacy protection and cost, (see Figure 3.12).

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[14] Blackboard® is 'a Web-based tool that is becoming an important and popular course management software application in higher education', (Marchewka, Liu and Kostiwa 2007, p.93)
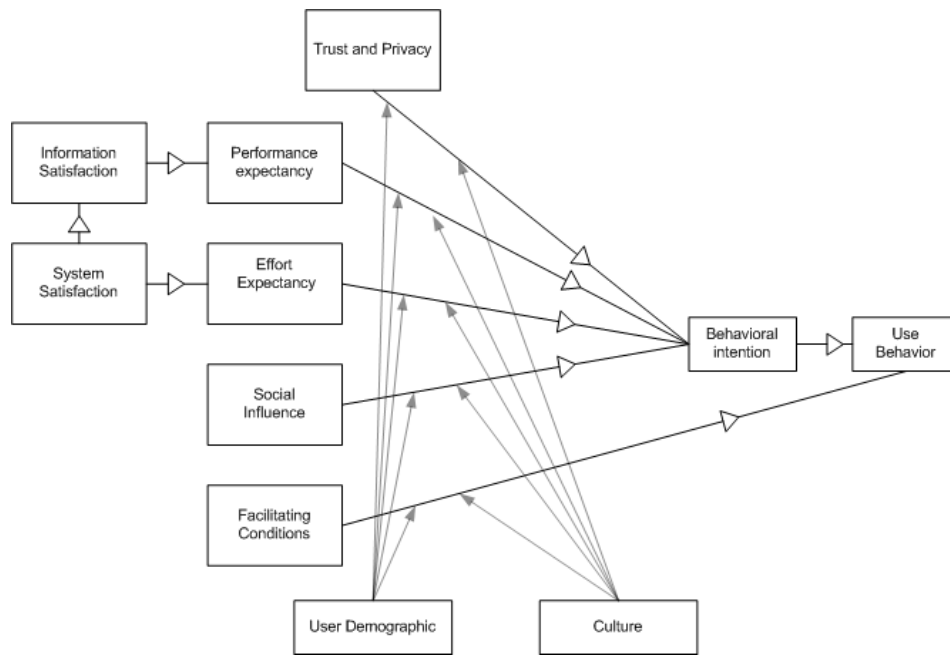
Source Qingfei, Shaobo and Gang 2008, p. 260

Figure 3.12: Revised UTAUT: trust, privacy protection and cost

The Qingfei et al. study used UTAUT to explain m-commerce user adoption in China, with particular emphasis on the cultural elements of the model. The findings proposed a revised model of UTAUT where user satisfaction factors are included in usage behavioural research. Also, the researchers posited that the trust factor should be enhanced in accepting commercial providers, thus leading to another variable of privacy protection. Thus, the researcher's modifications in their revised UTAUT related more conclusively to an emerging economy such as China.

Due to its increasingly complex iterations concerning subjective constructs and variables, the preceding models and UTAUT were at best only approximations of intentions regarding IT acceptance. Applying theoretical models on innovation as a field resulted in differing outcomes. The latest available research provides a mixed response for adoption of UTAUT as a valid predictor of technology adoption. There are few cultural studies relevant to this study; nevertheless, the model has proved superior and there are no extant theoretical constructs that challenge its dominance.

3.5. Technology Adoption in the Organisation

To address a number of issues for this research, a review of technology adoption literature should simultaneously consider the users of innovation and their organisations. In the first place, scholars found that technology adoption theories and models such as TAM focus on individuals' behaviour, not the behaviour of an entire organisation (King & Gribbins 2002, To et al. 2008, Suebsin & Gerdsri 2009).

Conversely, researchers found that technology users comprise disparate groups with different values and objectives and these groups are at some level united within an organisation. Organisations are usually the drivers for innovation in commerce and industry, as individuals cannot adopt technology for a sectoral benefit that then relates equally to all parts of the organisation (Hodges & Hernandez 1999). For example, an accounting group adopted a financial information system to improve or validate a process; nevertheless, 'Accounting' cannot apply the new system throughout the organisation without executive support.

An industry can emulate a large organisation with its many interrelated parts, and share with an organisation a unilateral form of profit motive, and industries have a customer base. The tourism industry comprised several interrelated sub-sectors, such as travel agents, airlines, hotels, car rental agencies and tour providers. The firms of these sub-sectors are bound to accept change through market pressures such as competition, customer demand and technological change. Understanding the technology adoption issues relating to organisation culture met the purpose of this research.

The adoption of technology within an organisation occurs at two levels: primary adoption within the organisation as a whole, and secondary level as it is taken up on an individual basis (Suebsin & Gerdsri 2009). The authors continue that, 'without an official decision, employees would not have an opportunity to utilize the technology . . . on the other hand, without the acceptance from individuals, the firm would not obtain any benefits from investing in the technology' (Suebsin & Gerdsri 2009, p. 2638). To place technology as a change driver within an organisation's structure and organisational culture, Cabrera, Cabrera and Barajasc (2001) presented an integrative model to assist administrators and technology designers understand and manage the interconnections

between technology and other human and organisational aspects of a business. The authors built their arguments on a 1996 Sheffield University report[15] which shows that 80–90 per cent of IT projects fail to meet their performance goals and 'that successful IT implementation requires organisations to adopt an integrated approach to organisational change in which people and technical factors are viewed as inextricably linked and interdependent' (p. 246). Organisational culture had a substantial role in technology adoption; therefore this research seeks to identify the primary factors that can effect adoption of new technology, e-commerce, by organisations or, indeed, industries.

This section discusses technology adoption within an entity from two aspects:

1. the impact of culture on an organisation's ability to change and adopt new technology; and
2. an organisation's e-readiness, which facilitates technology acceptance.

3.5.1. Organisation Culture

Technology may be an agent of change for an organisation from one business model to another, from a hierarchy to another, or for its business practices. Airlines, for example, reduce the complexity of ticketing and scheduling through the agency of the Internet, where ticketing is simplified for both airline and customer, and benefits shared through cost-effective pricing. The agent of change is unquestionably technology, which was initially adopted to automate aircraft scheduling and evolved through ticketing, seating allocations to advertising (Cento 2009). When change is profound, such as the airlines' continuing adoption of next generation technology, the effect on the airline organisations is similarly penetrating. Thus the means by which organisations manage change requires knowledge of the entity and its culture.

Organisations, as defined by Robbins and Barnwell (2002), are 'a consciously coordinated social entity with a relatively identifiable boundary, that functions on a relatively continuous basis to achieve common goals or a set of goals' (p.6). However, organisation culture is a conceptual term linked to the definition of national culture. Leung et al. (2005) defined national culture as the values, beliefs, norms, and behavioral

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[15] The referenced 1996 report, 'The performance of information technology and the role of human and organisational factors', was accessed 5 December 2009 at http://www.shef.ac.uk/~iwp/publications/reports/itperf.html.

pattern of a group of people in a society; and similarly, organisational culture relates to those factors for the staff of an organisation. Cabrera et al. (2001) defined organisational culture as 'based on differences in norms and shared practices which are learned in the workplace and are considered as valid within the boundaries of a particular organisation' (p.247). Further, Koberg and Chusmir (1987) defined organisational culture as 'a system of shared values and beliefs that produces norms of behavior and establish an organisational way of life' (p.397).

In technology adoption research for this study, Hofstede's early notion of national culture was later augmented by workplace behavior (Ali & Brooks 2008). Hofstede, Neuijen, Ohayv and Sanders (1990) listed six organisation cultural dimensions which are useful in informing the discussion:

1. *Process vs. results orientation*: the process-oriented organisation prefers to focus on the system and the way of doing business, not the goals which can also be reached in a non-mechanistic way;

2. *Employee vs. job orientation:* reflects whether the organisation is more concerned with the well-being of the person or with outcomes;

3. *Parochial vs. professional*: in professional cultures, employees identify more with their profession than the organisation;

4. *An open or closed system*: in a closed culture, the climate of communication is more secretive;

5. *Tight vs. loose control*: with the tightly controlled organisation, cost saving, for example, is a priority. Telling jokes about the organisation represents the loosely controlled organisations; and

6. *Pragmatic vs. normative* organisation: the pragmatic culture is more market driven while the normative organisation is concerned with following institutional rule.

Hofstede et al. (1990) found that organisations vary in the way their practices are perceived by their respective members. Once identified, those dimensions describe shared norms and beliefs, which in turn may inform technology adoption decisions (Leidner & Kayworth 2006).

3.5.2. The Competing Values Framework

The Competing Values Framework, initially developed by Quinn and Rohrbaugh (1981) to define two main organisational culture dimensions, perceived descriptive dimensions differently to Hofstede et al. (1990). It was extensively modified (Kalliath, Bluedorn & Gillespie 1999, Dellana & Hauser 2000). The first dimension resulted from the values of organisational flexibility or organisational order, whilst the second dimension varied from an external focus to an internal focus. The framework has four quadrants, each of which reflects a type of organisation culture (Figure 3.13).

Source: Adapted from Quinn and Rohrbaugh (1981),

Kalliath, Bluedorn and Gillespie (1999), and Dellana and Hauser 2000

Figure 3.13: The competing values framework of organisational culture effectiveness

The four quadrants comprise:

1. *Developmental (entrepreneurial) culture:* a developmental culture values flexibility and has an external focus;

2. *Rational culture:* the organisation understands the environment and market, and achieves its goals via planning and goal setting. All decisions are driven by rational-economic criteria and it has an external focus;

3. *Hierarchical culture:* the organisation focuses on its internal management and documentation and does not consider the environment. There is a focus

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on the task rather than the individual doing the task. There is an internal focus; and

4. *Group (team) culture:* the key is in maintenance of human resources, a focus on cohesive relationships and individual commitment. This culture has an internal focus.

The competing values framework of organisational culture effectiveness is acknowledged and extensively used in research to assess organisational culture as a predictor of quality improvement implementation to enhance satisfaction and adoption, among other outcomes (Bedeian 1987, Kim & Lee 2006, Harrington & Santiago 2006). The model is used in several research areas to indicate organisational culture which impacts development, change, transformation and innovation engagement (Denison & Spreizer 1991, Borell & Hedman 2001, Hedman 2000, Carlsson and Hedman 2001).

Exploring factors affecting the implementation of intranet knowledge sharing via intranet, Ruppel and Harrington (2001) used the competing values framework of organisational culture effectiveness: 'Because intranets facilitate sharing of employee knowledge, many believe that organisational culture will influence intranet implementation' (p.37). Ruppel and Harrington later showed that ethical and trusting culture factors, which measure ethical values of benevolence and concern associated with trust, are necessary dimensions for the competing values framework, as none of the four extant quadrants addressed these values. From the four lateral parts of the competing values network, another dimension was added (Ruppel & Harrington 2001, see Figure 3.14)
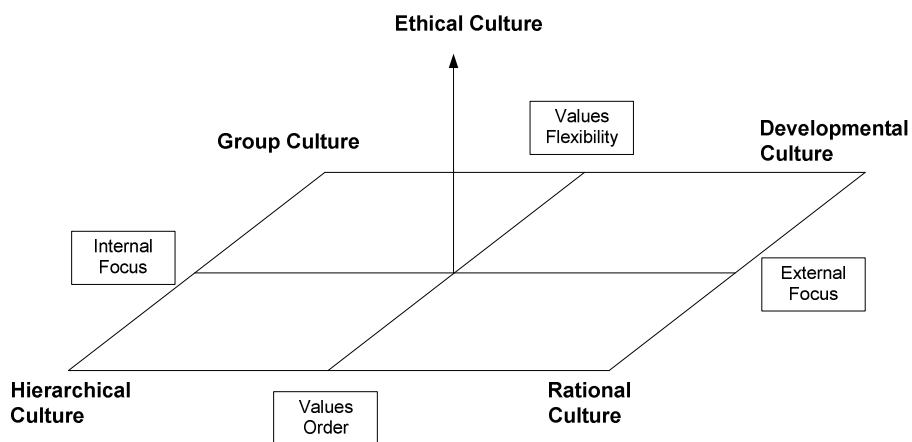
Source: Ruppel and Harrington 2001, p.41

Figure 3.14: Five dimensions of organisational culture

The results of the study registered a relationship between the organisation culture dimensions and technology implementation. The authors found that intranet implementation is directly facilitated by ethical culture (*an atmosphere of trust and concern for other people*), developmental culture (*flexibility and innovation*), and hierarchical culture *(policies, procedures and information management)*. Ruppel and Harrington (ibid.) advised decision makers to seek these values when implementing change through technology.

The Competing Values Framework model was also used by Carlsson and Hedman (2001). They applied the framework to evaluate the effectiveness of enterprise portal systems (EP)[16]. The study focused on a SAP-EP (MySAP) system:

> 'The evaluation suggests some of the strengths of current EPs, for example, their internal and control focuses, and some of their weaknesses, for example, lack of external focus and lack of support for top-managers' (p. 1052).

The research also showed that the evaluation model offered better communication between designers and users, leading to better utilisation.

These dimensions and factors on implementation of technological change also impact the initial decision on adoption. Hodges and Hernandez (1999) studied the outcomes of information system users in an organisation. They found that the decision for using an information system is grounded in organisation culture. Cabrera et al. (2001) stated that 'organisational culture is a key construct in understanding and managing the behavior of people within the boundaries of an organisation and in implementing organisational change' (p. 260). For improvement in quality through implementation of new or revised information systems, an understanding of organisation culture should be in place. Shareef et al. (2009), based on institutional theory, found that technology organisations and organisations' stakeholders affect transformation and change. Thus this discussion leads to the means by which organisations manage change: that it is an organisation's culture that is the key to successful change implementation.

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[16] Enterprise portals (EPs) aim at creating a single entry point for its users to all internal and external applications, information, and services necessary for performing their jobs.

3.6. E-readiness Models

Whilst the cognitive factors discussed in last sections of the chapter have resonance with technological implementation, it is perhaps the nature of the industry, that is, the state of technological development and the markets that are the final arbiters of adoption. Thus other researchers have focused more on these factors in the decision to adopt technological change. These researchers consider industry factors and environmental conditions as the drivers for change, not necessarily the behaviours, norms, and beliefs that come from individual, organisational or national culture.

Researchers have recognised a continuum of industry-based factors, such as strategic positioning, supply chain logistics and information-sharing, that motivate the organisations to respond (Piris, Fitzgerald & Serrano 2004, Claycomb, Iyer & Germain 2005). Others have emphasised the government's role in providing policy, regulations and incentives to invite the private sector to respond to technological change, whilst competition and market positioning are also engaged researchers (Selim 2008, Molla & Licker 2005, Claycomb et al. 2005, Thatcher & Zhu 2006). Internal factors are of research interest, inasmuch as the organisation's characteristics included ownership, leadership, size, vision and planning, all of which impact change management and technology uptake (King & Gribbins 2002, Lee & Xia 2006, Ko, Kim, Kim & Woo 2008, Claycomb et al. 2005, Ke & Wei 2008). Further, access to sufficient relevant human and technology resources impacted technology adoption (Ko et al. 2008, Selim 2008). As becomes apparent, researchers tend to cluster these aspects, factors and dimensions as external to the organisation (with government as an adjunct), and internal variables (Chengalur-Smith & Duchessi 1999, Molla & Licker 2005, Selim 2008, Thatcher & Zhu 2006).

3.6.1. The Perceived E-readiness Models

An extended e-commerce adoption model focusing on developing economies was proposed by Molla and Licker (2005), who surveyed 150 businesses in South Africa. The model considers the relevant contextual and organisational factors that can affect e-commerce adoption in developing countries. The perceived e-readiness model (PERM) comprises two constructs, first, perceived organisational e-readiness (POER), and second, perceived external e-readiness (PEER). Each construct includes factors that

impact the organisation's initial e-commerce adoption, (see Figure 3.15). The study found that the majority of these factors were meaningful predictors of e-commerce adoption.
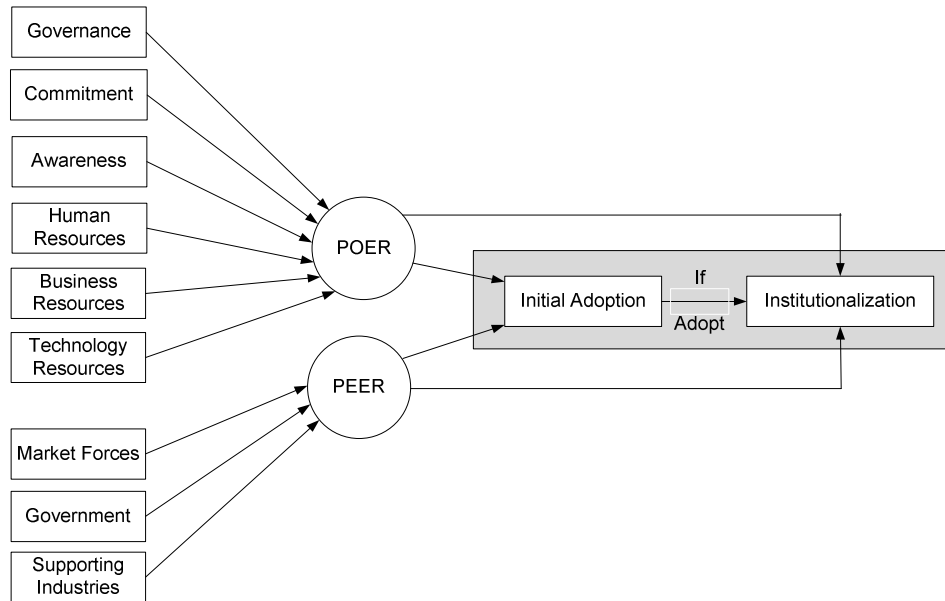
Source: Molla and Licker 2005, p.887

Figure 3.15: Perceived e-readiness model for assessing e-commerce adoption in developing countries.

In support of Molla and Licker's model, Selim (2008) listed similar and further factors on e-commerce adoption:

- external factors: industry, IT environment, government environment, competition; and

- organisational readiness factors: corporate strategy, financial status, human resources capability and anticipated benefit.

In a survey of 524 firms in Abu Dhabi in the United Arab Emirates, also a developing country, Selim (2008) extracted eight external and six internal factors affecting e-commerce acceptance. The study concluded that e-readiness is grounded in embedding e-commerce adoption at both an organisational and national, or societal, level. Interestingly, the study supported the argument that organisation culture (firm culture) is a variable of the adoption process. Firm culture in Selim's discussion referred to 'the collaboration level and style among different managerial levels and team spirit and dedication to the business processes' (p. 11).

The Technology, Organization, and Environment context (TOE) framework developed in 1990 by Tornatzky and Fleischer (1990) took this broader perspective by examining the overall contextual basis for the adoption of a technology in a particular location. It identified three aspects of an enterprise's context that can influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context. The TOE framework as originally presented and later adapted in IT adoption studies, presented an approach that shows greater cognizance of the effect of context on technology adoption. It provided a useful analytical framework for studying the adoption and assimilation of different types of IT innovation in a specific locale, (see Figure 3.16).
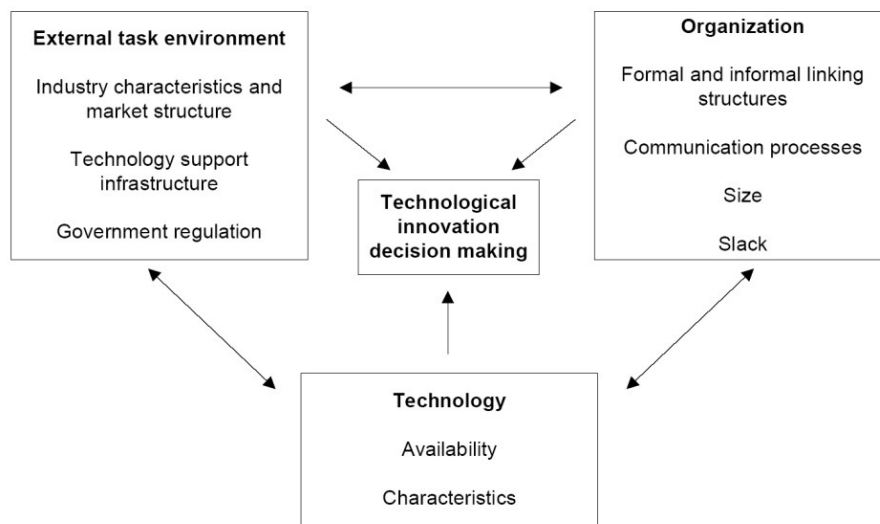
Source: Tornatzky and Fleischer 1990

Figure 3.16: Technology, organization, and environment framework

Another factor impinging on adoption is the alignment of technology development with business strategy. For example, Hyvönen (2007) studied the relationship between a customer-focused strategy and the use of financial information systems as a moderator for customer performance, showing that 'a fit between the customer-focused strategy and financial performance measures improves customer performance' (p. 343).

Organisations focused on the local market, Atkins (1994) argued, consider information systems for cost reduction. Others used information systems for market positioning, and the author concluded that an information systems strategy should support the organisation's business strategy. Pires and Aisbett (2003) concurred;

information and communication technology practices should be considered as a competitive advantage in any business strategy. They concluded that e-commerce adoption must be evaluated because it may change the organisation's internal values and thus its competitive advantage.

Part of the continuum of factors mentioned earlier was logistics, in the form of supply chain management. In this case, a specific information system relates to a number of organisations in a B2B relationship who share a common product line. The information system in this environment is not only a means to cost reduction and higher performance, but is imposed on the chain members (Lai, Wong & Cheng 2006).

3.7. Summary

This survey of early models showed a commonality of approach, although different assessments of key change points occur. In the early part of the decade, major organisations in the private and public sectors were exploring information systems as the means by which they could effectively and securely improve productivity and reduce costs. Thus the models focus on the early stages of known factors, and tend to extrapolate into visions and missions. See Table 3.2 provides a summary of the factors impacting technology adoption.

Table 3.2: A Summary of Factors Affecting E-commerce Adoption

Constructs by	Factors	Resources
Culture	**Cultural dimensions :** Power distance Individualism Masculinity Uncertainty avoidance Long-term orientation	Hofstede 1980, Tan et al. 1998, Al-Gahtani et al. 2007, Silvius 2008, Straub 1994Sang & Lee 2009, Suebsin & Gerdsri 2009, Wu et al. 2008, , Hartwick & Barki 1994, Jeffrey & Fawzy 1999, Yoh et al. 2003; Hansen et al. 2004, Hu et al. 1999, Chau & Hu 2002, Legris et al, Anderson & Schwager 2004, Marchewka et al. 2007, Shaobo & Gang 2008, Wang & Yang 2005; Wills et al. 2008
Technology Adoption Theories	Perceived ease of use, Perceived Usefulness, Attidued toward beahvior, Subjective norm, Percived behavioural control, Relative advantage, Compatibility, Complexity Trialability, Observability, Attitudinal beliefs Normative beliefs, Control Beliefs, Image Visibility, Output quality, Results, demonstrability, Voluntariness, Experiences Demographic information, Facilitating condition.	Rogers 1962, Venkatesh et al. 2003, , Davis 1989, Davis et al. 1989, Venkatesh and Davis 2000, Fishbein & Ajzen 1975, Ajzen & Fishbein 1980, Ajzen 1985,
Organisation Culture	Developmental Rational Hierarchical Group (team)	King & Gribbins 2002, To et al. 2008, Suebsin & Gerdsri 2009, Hodges & Hernandez 1999, Quinn and Rohrbaugh 1981, Bedeian 1987, Harrington & Santiago 2006, Kim & Lee 2006, Ruppel and Harrington 2001,
Organisation Internal and External e-readiness	**Internal:** Governance, Commitment, Awareness, Human Resources, Business Resources, Technology Resources **External:** Market Forces, Government, Supporting Industries	Roger 1962, Molla & Licker 2005, Kurnia 2007, Selim 2008, Abofara 2004, Rodrigues 2002, Kurnia 2007 Sumner & Klepper 1998, McKay & Marshall 2004, Bahli & Rivard 2005, Belcourt 2006, Tornatzky and Fleischer 1990

For the purposes of this study, the principles underlying the models are accepted. The next chapter (Chapter 4) discusses the theory and models selected for this research with justification of the selected research methodology to answer the research question.

Chapter 4 Conceptual Modelling and Research Methodology

Theories on adopting ICT models in tourism marketing and the situation of e-commerce use in Saudi Arabia were explained in the in the literature review and study context chapter respectively. Together, these discussions presented the empirical background and theoretical foundation for studying e-commerce adoption in this research. This chapter reviews the assumptions underpinning the theoretical models, research design, and various measurement methods used for their analyses. It examines the literature on the criteria for designing a research methodology to select the appropriate research paradigm and methods of enquiry. This chapter also includes detailed discussion of the methods for data collection and analysis used in the quantitative and qualitative parts of the study.

Figure 4.1 explains the procedure followed in this research including the methods selected and the relevant information in each stage of the research.
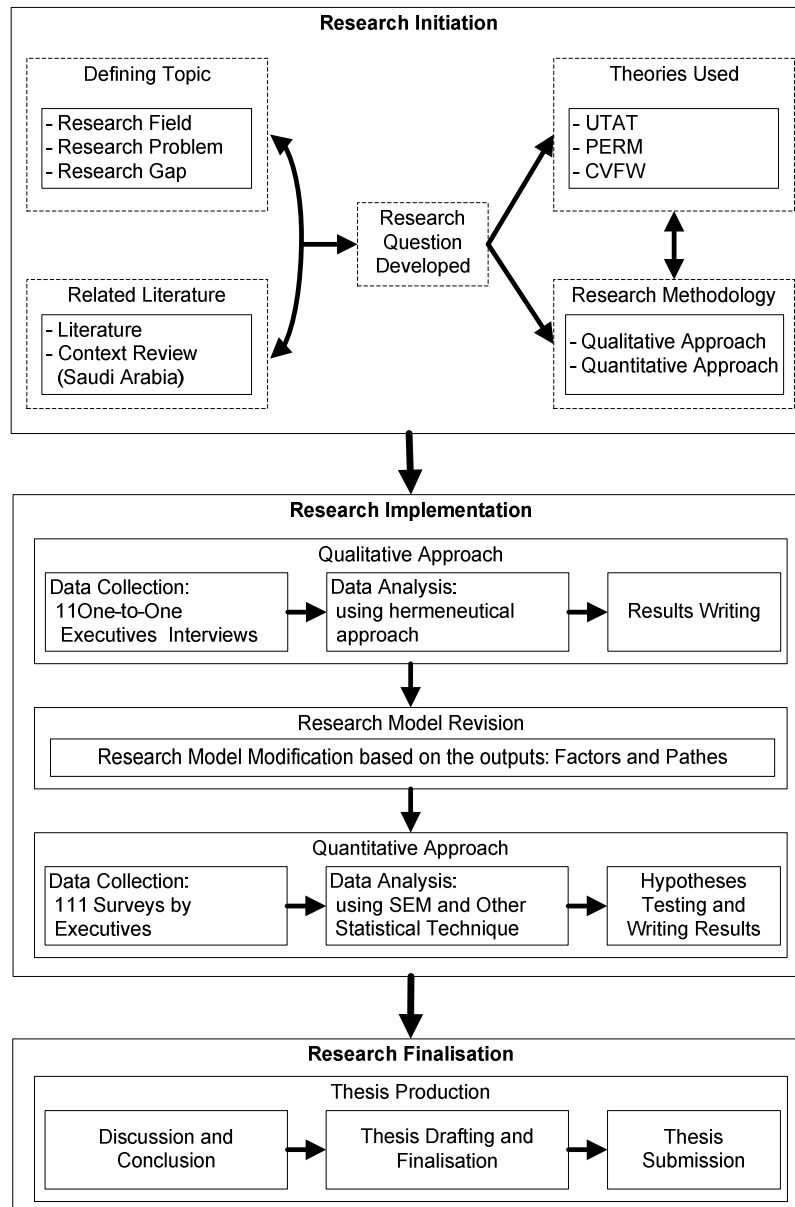
Figure 4.1: Research Process Diagram

4.1. Research Model and Hypotheses

A theoretical framework is used for establishing relationships between variables, providing a systematic framework to test hypotheses, and making inferences from samples to populations (Creswell 2009). Vanderstoep and Johnston (2008, p.4) defined theoretical models as 'sets of organizing principles that help researchers describe and predict events'. The literature review in Chapter 3 presented the theoretical framework for this study incorporating models of technology adoption that have been advanced by theorists in the field of marketing and technology adoption research See table 4.1.

Table 4.1: Comparison of Different Technology Adoption Theories

Theory	by	Factors
Innovation Diffusion Theory	Rogers 1962	**Variables:** Relative advantage, compatibility complexity, Trialability and Observability
Theory of Reasoned Action	Fishbein and Ajzen 1975	**Variables:** Attitude Toward Behavior (A) and Subjective Norm (SN)
Theory of Planned Behaviour	Ajzen 1985	**Variables:** Attitude Toward Behavior (A), Subjective Norm (SN) and Perceived Behavioral Control (PBC) Controllers: Attitudinal Beliefs, Normative Beliefs and Control Beliefs
Technology Adoption Model	Davis 1989	**Variables:** Perceived Usefulness and Perceived Ease of Use
Technology Adoption Model 2	Venkatesh & Davis (2000)	**Variables:** Perceived Usefulness, Perceived Ease of Use Subjective Norm, Image, Job Relevance, Output Quality and Result Demonstrability Moderators: Experience & Voluntariness.
Unified Theory of Acceptance and Use of Technology	Venkatesh et al. 2003	**Variables:** Performance expectancy, Effort Expectancy, Social Influence and Facilitating Conditions, **Moderators:** Experience & Voluntariness, Gender And Age

However, the theoretical framework for this study is predominantly based on the Unified Theory of Acceptance and Use of Technology (UTAUT) in combination with constructs from eight technology acceptance and diffusion models to formulate a unified model. This theory was selected for many reasons. There has been criticism of Technology Acceptance Model (TAM) for being too simplistic, and this motivated the researcher to combine it with UTAUT, which has been accepted as a more sophisticated model and extensively adopted in current studies. Although TAM and its extended versions, Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB), are the most popular models for explaining technology acceptance, these models are criticised for their relatively low explanatory power (30-40 per cent only) in terms of behavioural intentions, while the approach adopted by Venkatesh et al. (2003) reports an explanatory power of 70 per cent. Two empirical studies with six different organisations validated the UTAUT and proved its high explanatory ability (Venkatesh et al. 2003). Further, other researchers have successfully tested the unified model of UTUAT as well (Anderson & Schwager 2004, Wang & Yang 2005, Marchewka, Liu & Kostiwa 2007, Wills, El-Gayar & Bennett 2008, Shaobo & Gang 2008).

As this research targets organisational attitude to e-commerce adoption in terms of the behavioural attitudes of the decision makers in the orgainsations, the research model based on the technology adoption theories of UTUAT was modified by adding constructs from two other theories of organisational culture, namely, the Competing Value Framework (CVF) and the Perceived E-Readiness Model (PERM). The use of these further models is discussed in the following sections with their proposed hypotheses. The revised model with relevant constructs from the different theories is presented below in Figure 4.2. The hypotheses were designed from the research model using statements that reflect the nature and interrelationships of the independent, dependent and moderator variables.
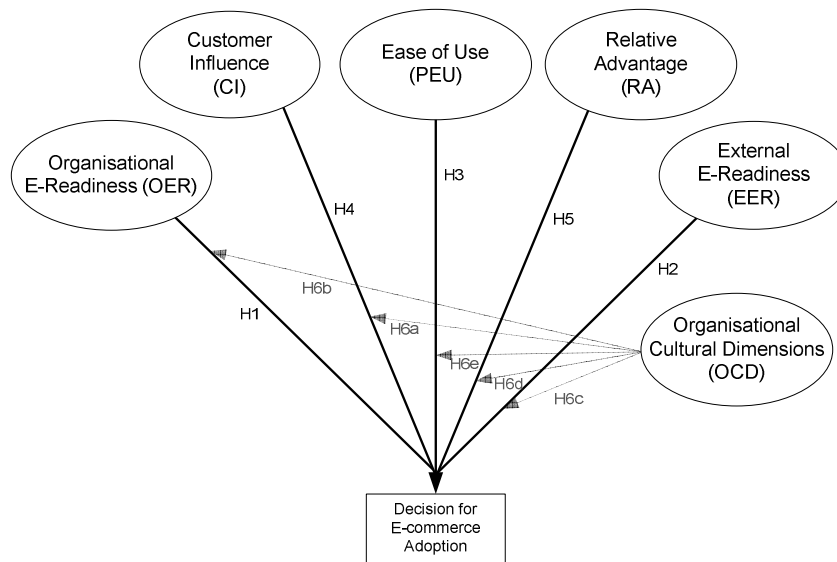
Figure 4.2: Revised UTAUT model

4.1.1. Elements of UTAUT Theory and PERM Model

The Unified Theory of Acceptance and Use of Technology (**UTAUT**) was developed by Venkatesh et al. (2003) and has been used extensively in national studies over the ensuing decade, generally with data collection at the level of the individual's response, and notably in the context of e-government and on-line shopping in Saudi Arabia (Alsharif et al. 2013, Alzahrani & Goodwin 2012, Marchewka et al. 2007, Qingfei et al. 2008, Wills et al. 2008). With its deductive reasoning, quantitative data collection, statistical analysis, and flexibility in classifications allowing choice in variables, the unified theory was selected for this study to understand the factors influencing Saudi tourism organisations' adoption of technology.

Following Molla and Licker's (2005) argument regarding organisational e-readiness, concepts of perceived organisational e-readiness (OER) and perceived external e-readiness (EER) were also adopted. The OER construct measures the firm's adoption or the decision-maker's attitude to e-commerce, whilst External E-Readiness refers to the state of the ICT industry in facilitating e-commerce adoption. Thus, organisational and external e-readiness replace the UTAUT's *facilitating condition* category. The first set of hypotheses relates to perceived organisational e-readiness on adoption of e-commerce by the firm and state that:

H1 *Perceived organisational e-readiness has a positive influence on e-commerce adoption in tourism services.*

H2 *Perceived external e-readiness has a positive influence on e-commerce adoption in tourism services.*

The perceived ease of use (PEU) concept derived from the TAM theory advanced by Davis (1989) will be used to measure the extent to which the complexity in mastering the required skills and ease of using a technology can determine the decision to adopt e-commerce. Although this concept is over two decades old, its essential point about the importance of ease of use of a particular device or technology still remains valid, especially given the large number of applications (apps) available for mobile technology. The next variable for hypotheses testing was PEU:

H3 *Perceived ease of use has a positive influence on intention to adopt e-commerce in tourism services.*

Customer influence (CI) measures the firm's perception that their customers are adopting e-commerce and thus there are market pressures for the firm to follow. The following hypothesis addresses the impact of Customer Influence on e-commerce adoption:

H4 *Customer influence has a positive influence on intention to adopt e-commerce in tourism services.*

Perceived Relative Advantage (RA) similarly measures managers' expectation that adoption of e-commerce would give the firm a market advantage, particularly, if other firms in the industry were slow to adopt such technology. Thus, customer influence and relative advantage are treated as proxies for *rational* in the original UTUAT model. It is hypothesised that:

H5 *Perceived relative advantage has a positive influence on behavioural intentions to adopt e-commerce in tourism services.*

4.1.2. Elements of CVF Model

As organisations are the focus of this research, the Competing Values Framework (Quinn & Rohrbaugh 1981) described in Chapter 3, was used to conceptualise relevant aspects of organisational culture. This framework has recently been used in a study on the Saudi banking sector by Aldhuwaihi et al. (2012) and the Iran Oil Company by Karimi and Kadir (2012). The framework includes four organisational cultural dimensions: developmental (entrepreneurial), rational, hierarchical, and group (team), which may act as moderators for the other variables within the unified theory for this study. In addition, the moderating variable of Organisational Culture Dimensions (OCD) is supported by the competing values framework. As this study focuses on the adoption of e-commerce on an organisational level, the moderating construct of voluntariness in UTAUT was removed (Al-Gahtani et al. 2007). Figure 4.2 presents the UTAUT (unified theory) model revised by use of the Competing Values Framework. The last hypotheses relating to the moderating variable of organisational culture are:

H6a *Organisation's cultural dimensions positively moderate customer influence on intention to adopt e-commerce in tourism services*

H6b *Organisation's cultural dimensions positively moderate the influence of perceived organisational e-readiness on e-commerce adoption in tourism services*

H6c *Organisation's cultural dimensions positively moderate the influence of perceived external e-readiness on e-commerce adoption in tourism services*

H6d *Organisation's cultural dimensions positively moderate the influence of perceived relative advantage on behavioural intentions to adopt e-commerce in tourism services*

H6e *Organisation's culture dimensions positively moderate the influence of perceived ease of use on behavioural intentions to adopt e-commerce in tourism services*

4.2. Research Framework

A research framework forms the fundamental rubric for the study in terms of how it conceptualises the problem and proceeds to collect data to examine the problem.

Researchers may select between a positivist versus a constructivist approach, quantitative and qualitative design, deduction versus induction, and exploratory versus confirmatory (Neuman 2005, Creswell 2009, Stephens 2009). As there can often be inexact aspects in any research enquiry and research terms can often be ill-defined, authors may need to designate and re-designate methods, models, strategies and paradigms. Figure 4.3 shows Creswell's (2009) version of the process in which research frameworks are formulated.
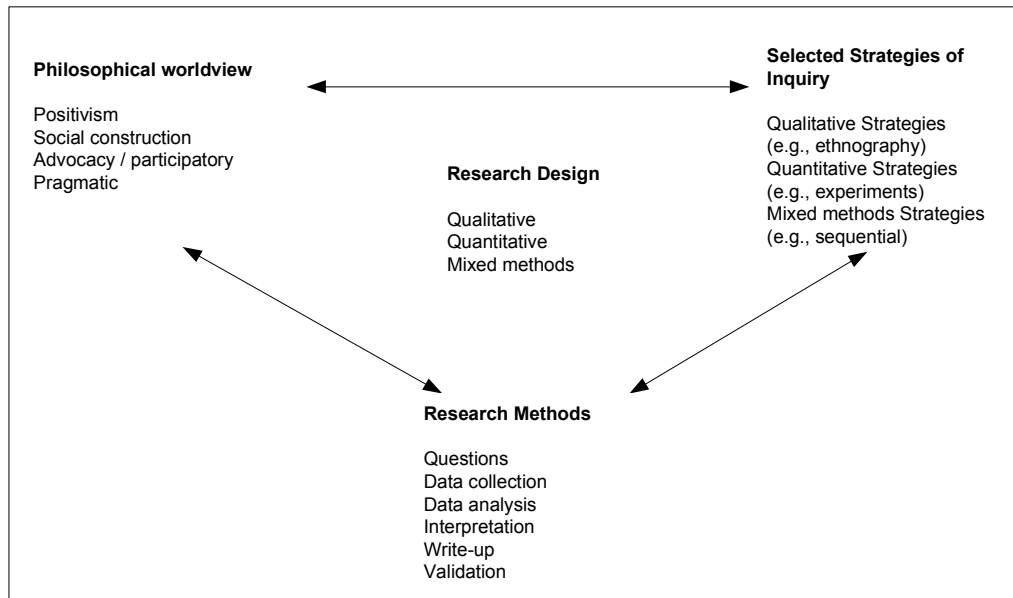
Source: Creswell 2009, p.5

Figure 4.3: A research framework

The research method itself follows a progressive schema moving on from questions, data collection, analysis, interpretation to write-up and validation. The formulation of research framework, however, involves a procedure of selecting the paradigm, research design and instruments of enquiry. In terms of the process outlined above, this research is based on positivism as a philosophical worldview or paradigm with a mixed methods research design consisting of qualitative interviews and quantitative surveys as methods of inquiry. This section explains the selection of each element of the research methodology, including, its pragmatist paradigm and mixed methods approach.

4.2.1. Pragmatist Paradigm

A paradigm is defined as 'a basic set of beliefs that guide actions' (Guba 1990, p.17). A research paradigm offers insight to the research problem, indicating models or

theories associated with the paradigm that can be used to solve the problem and guiding researchers on methodology and data gathering and analysis. Selection of an appropriate worldview provides the basic process for conducting research and avoiding errors in interpretation (Deshpande1983). Creswell (2009) describes the modern forms of paradigms as in Table 4.2.

Table 4.2: Research paradigms

Characteristics	Definition	Research approach
Positivism		
Determinism Reductionism Empirical observation Theory verification	Positivism recognises objectivity is essential in competent inquiry	Uses quantitative measures for data collection and statistical analysis to study behaviour
Constructivism		
Understanding Multiple meanings Social and historical construction Theory generation	Constructivism, also known as naturalism or interpretivism, assumes that individuals construct subjective understandings from the environment. This worldview also considers research context such as historical and cultural setting.	Uses a qualitative research approach such as interview and observation. In interviews, flexibility is key to data collection thus questions are open-ended to allow subjectivity. Analysis is inductive, as meaning is derived from data.
Advocacy/Participatory		
Political Empowerment Issue oriented Collaborative Change oriented	The advocacy approach seeks a better society. By its nature, it relates to politics and social activities. It assumes that positivism marginalises individuals. It is also known as critical research	Uses either quantitative or qualitative data collection and analysis
Pragmatism		
Consequences of actions Problem centred Pluralistic Real world oriented	Unlike positivism, pragmatism arises from actions, consequences and situations. The problem is the focus for deriving knowledge	Uses mixed methods data collection and analysis

Source: Creswell 2009

The research problem does not exist autonomously out there as a problem to be solved, but depends on how the researcher views reality and conceptualises a situation into a problem. Here, the paradigm of research not only helps in selection of the methodology to solve a problem but dictates the researcher's view of the world to conceptualise the problem in the first place (Stephens 2009). Paradigms such as positivism essentially use quantitative designs, and constructivism gravitates towards qualitative data collection and analysis. Although Lincoln and Guba (1985) do not exclude the use of quantitative data in qualitative research designs, they contend that the

constructivist parameters must not be violated. However, mixing research methods from different paradigms raises the question as to the nature of a paradigm that could accommodate both approaches. Stephens (2009) argues that a research approach should not mix worldviews, but must instead opt for a single paradigm that is able to present an integrated and holistic view of the research problem. On the other hand, pragmatism can form the framework for both quantitative and qualitative research designs, which is suited to the needs of this study. As this research is concerned with investigating the practical problems about the lack of e-commerce utilisation in Saudi Arabia, this research can be said to be based on a pragmatic paradigm. Mertens (2013) explains that 'the guiding principle throughout the mixed methods touchstones is that the research should consistently reflect the researcher's assumptions in the chosen methods, analysis and interpretation' (ibid. p.141).

4.2.2. Mixed Methods Approach

Generally, quantitative research specifies numerical assignments to the phenomena under study, whereas qualitative produces narrative or textual descriptions of the phenomena under study (Vanderstoep & Johnston 2009). Creswell (2009) defines quantitative research as 'a means for testing objective theories by examining the relationship among variables' (p.4) and qualitative research as 'a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem' (p. 4). Qualitative research has an inductive view of the relationship between theory and research. It is associated with constructivism, focussed on understanding the nature of the research problem through the views and experiences of the study participants. Quantitative research, on the other hand, is associated with a positivist paradigm, and involves collection and analysis of numerical data with a deductive relationship between research and theories (Bryman & Bell 2007). The following Table 4.3 describes the characteristics of these approaches.

Table 4.3 : Characteristics of quantitative and qualitative research design

Characteristics	Quantitative research	Qualitative research
Type of data	Describes the phenomena numerically	Describes the phenomena as a narrative
Analysis	Statistics are descriptive and inferential	Identification of themes
Scope of inquiry	Specific questions or hypotheses	Broad, thematic analysis
Primary advantage	Large sample, statistical validity, accurately reflects the population	Rich, in-depth, narrative description of sample
Primary disadvantage	Superficial understanding of participants' thoughts and feelings	Small sample, not generalised to the sample population

Source: Vanderstoep & Johnston 2009, p.7

Research findings could vary according to the approach chosen in the research design, which would affect the results for this study on e-commerce adoption. A quantitative approach could result in numerical data on the research problem with little understanding of the factors involved. On the other hand, a qualitative approach may gather relevant data, but there would be a lack of evidence in support of the research findings without validating it across a large sample. A mixed methods approach incorporating both forms of logic was selected for this research. A mixed method research design comprises a continuum between quantitative and qualitative approaches because it integrates elements of both (Creswell 2009). Using both approaches in a mixed method design tends to overcome these issues and maximise the standard of the design by cross-validation (Neuman 2005). Mertens (2013) argues that mixed methods can be associated with paradigms that are related with cultural research such as feminism (Hesse-Biber 2010), injustices in society (Mertens 2010), and biographical research (Brannen & Nilsen 2010).

According to Mertens (2013), the notion of combining research methods was first brought to attention by constructivists Lincoln and Guba (1985). The use of a mixed methods approach has been increasingly accepted for broadening the range of any research and delivering better results for the themes under investigation (Creswell 2009, Tashakkori 1998). The mixed-method approach adds depth to the research and mitigates the effects of inconsistent qualitative and quantitative findings (Rocco et al. 2003). Al-Sobhi and Weerakkody (2010) explain that the triangulation approach assists with comparison of written and spoken data collection, and increases the reliability of findings by confirming evidence from multiple sources. Other scholars also emphasise that triangulation helps to increase validity and interpretability and supports the results and

conclusions more robustly (Creswell & Clark 2010, Silverman 2011). Many recent studies on technology adoption in Saudi Arabia have used mixed methods approaches (Aldraehim et al. 2013, Al-Gahtani 2007, Al-Rashid 2012, AlSharif et al. 2013). To give one example, AlGhamdi et al. (2012) explored issues that influence Saudi retailers in their adoption of online trading with a mixed methods approach comprising of interviews with selected retailers and a final quantitative survey with a larger sample.

Mixed methods research usually follows an exploratory inductive process that begins with empirical evidence about a particular phenomenon and proceeds to hypothesis testing. The research logic underpinning the process to collect and analyse data may be deductive or inductive (Bryman & Bell 2007). Deductive reasoning commences with selection of a theory that can be tested, generally by a quantitative design, and is termed the *top-down* approach. A *hypothetical-deductive model* is based on hypotheses which are derived from a research problem and tested by the research (Bryman & Bell 2007, Creswell 2009). An inductive research process begins with observations and measures, generally qualitative in approach, and the analysis consists of detecting patterns and regularities, formulating tentative hypotheses that can be explored, and finally developing general conclusions or theories (Trochim 2005). The two processes are illustrated in Figure 4.4. This research used the deductive approach.

| Theory | Hypothesis | Data Collection | Findings | Hypotheses confirmed or rejected | Revision of theory |

Deductive

| Observation | Pattern | Tentative Hypotheses | Theory |
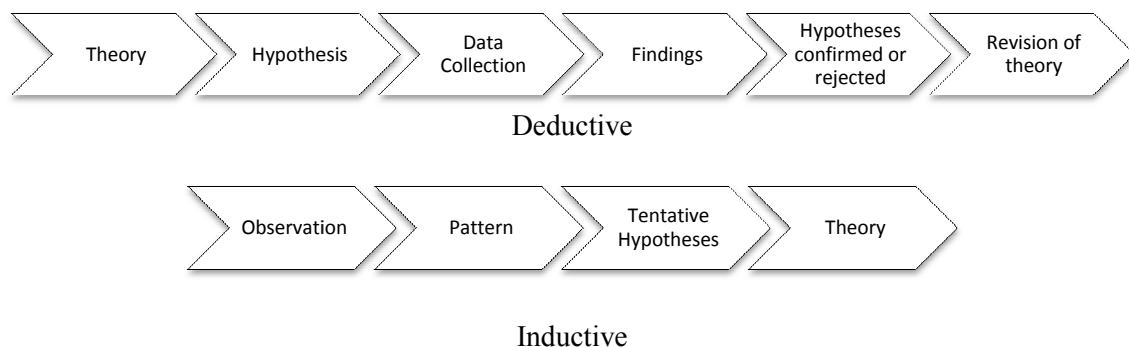
Inductive

Sources: Bryman & Bell 2007, Trochim 2005

Figure 4.4: Deductive and inductive research

After finalisation of the research methodology, approval for conducting the research with travel executives in the Saudi travel industry was obtained from the Business College Human Ethics Advisory Network, RMIT University (Ethics Application 1000164), (see Appendix 1). As the database used for collecting the samples was publically available from the Saudi Chamber of Commerce and Industry's combined

databases, no further authorisation was necessary. The next two sections explain the data instrument, collection and analysis uaed in the qualitative and quantitative parts of the research.

4.3. Qualitative Data Collection and Analysis

The qualitative approach was conducted first. As quantitative approach alone cannot specify the complexity of the phenomena, a qualitative research method supports the quantitative data in this analysis to identify themes in the adoption of e-commerce in the Saudi tourism industry (Neuman 2005, Stephens 2009). A qualitative approach is expected to provide in-depth information regarding the interviewees' experiences with technology in their firms, and their views on its usefulness in marketing their services.

4.3.1. Qualitative Data Instrument

The relevant data collection instruments for qualitative research can consist of participant observation, interviews, focus groups, or language-based approaches such as discourse analysis and conversation analysis (Bryman 2012). The selection of an appropriate instrument is important to gather data that most closely fits the research problem (Vanderstoep & Johnston 2008). The instrument used in this study was a semi-structured interview format comprising themes and questions based on the research model. An interview is a social research method with the primary aim of describing and understanding perceptions, interpretations, and beliefs of a selected sample from the target population (Carey 2012). Carey has listed the benefits of interviews, such as allowing in-depth discussions with the study participants, time-efficient in collecting data, and one-on-one interviews to gather pertinent data. Interviews must be structured in a manner that the interviewee answers the interviewer's question without embellishment. While an unstructured interview simply presents the research problem to the interviewee, without control of the direction of the response, a structured interview is too rigid. This research uses semi-structured interviews with open-ended questions in a flexible manner (Flick 2009). Semi-structured interviews allow the interviewer to follow interesting and unexpected points raised by interviewees that can be pursued to gather further information. Interviewing can cease when the data are saturated and no new information or themes are being generated (Flick 2009).

The interviews were conducted in Arabic and commenced with a brief explanation of the purpose of the research, the expected duration and the elements of the interview. An amicable atmosphere was established during the conversation prior to the interview. Notes were also taken during the interview to provide information and context for interpreting the interview transcripts during the analysis. Each page used for note taking was labelled (with codes reflecting company name and that of the participant; date, and time) (Creswell & Plano-Clark 2010).

The questions to be asked of each participant included organisational services and activities, participant's demographics, including approximate age, qualifications and years in the Saudi industry. The interview questions were based on themes about adoption of e-commerce, whether the organisation was prepared to adopt Internet trading, and opportunities and issues that the interviewee envisaged regarding e-commerce for Saudi Arabia. The full text of the questions is shown in Appendix 2. Once the interview was completed, the researcher asked whether there was anything the interviewee wished to add, the participant was thanked, and the interview was concluded. Each interview was stored electronically in a separate folder and filed with the researcher's University for safekeeping.

4.3.2. Qualitative Data Collection

In choosing the respondents for a study, sampling decisions may pick groups to be compared, or they may focus on individuals within a group (Creswell 2009). The study sample for this research was decided in advance as executives in top management in Saudi tourism firms who were responsible for technology policy in their company and interaction with the industry and customers. Flick (2009) states that probability-based sampling such as random sampling or stratification is useful where there is a differentiation between variables and testing assumptions. In mixed methods research, purposive sampling is usually selected for the qualitative data collection and probability-based sampling for the quantitative data collection (Mertens 2013). The study sample for the qualitative data collection was a purposive sample, since only management and owners from the Saudi tourism sector were in a position to provide the information on their firms' adoption of e-commerce (cf. Creswell & Clark 2010). The group of executives and owners selected through purposive sampling to reflect the knowledge, experience and attitudes toward e-commerce from the tourism industry in Saudi Arabia.

As noted in Chapters 2 and 3, the majority of technology adoption studies focus on individual user attitude and there is less research on organisational and collective societal attitudes. As organisational attitude to e-commerce is the focus of this study, the data in this study was obtained from managers of the tourism organisations who reported on their firm's technology experiences. The selection of the firm's higher executives, owners, or directors as participants in this study was based on the following criteria. Executives have the vision for their organisations' future, so that they take a long-term view of issues like technology adoption. In this case, they are in a position to inform the study of the organisation's characteristics and dimensions, the relevant factors leading to the e-commerce decision, the current situation, and future expectations. There is little e-commerce utilisation in the Saudi tourism industry, so that staff would not be expected to be knowledgeable of the factors under study.

The interviews took place in Jeddah, which is the tourism and commercial centre for Saudi Arabia, given that the city is the gateway to Makkah and Madinah where pilgrims go for the *Hajj* and *Umrah*. To select firms for participants, 20 organisations were selected from the Saudi Chamber of Commerce and Industry's inclusive database for Jeddah. These firms were approached by telephone or email, and eligibility criteria explained. The participant firms were trading in accommodation, air travel, events and attractions as well as *Hajj* and *Umrah* tourism. Because of time constraints, the most senior person available was interviewed. Of the 20 firms, 11 agreed to provide participants for the study.

Once identified, potential study participants received letters explaining the study (Appendix 3 and Appendix 4 for the Arabic version: The Plain, suggested appointment times and dates, and individual consent forms for signature, as in Appendix 5, and Appendix 6 for the Arabic version. The interviews were conducted at each firm's premises in July and August, 2010. The day before the interview, the researcher checked the availability of the participant and time was allowed before the actual interview for preparation. On arrival, consent forms including privacy constraints were confirmed and signed by the interviewee. The participants were each advised that they could withdraw from the interviews at any time. There were no identified risks to participants and all references to the interviewees were rendered anonymous. Permission to record the interview was obtained in each instance so that all interviews were audio-taped,

including voice recognition for the digital recorder, and interviews were on average 80 minutes in length.

4.3.3. Qualitative Data Analysis

The interpretation of the collected data plays an important role in the analysis as the collection of data (Kvale & Brinkmann 2009). Interpretation is not merely a simple reading of the text but a process of actively creating meaningful ideas and concepts from the text (Creswell 2009). This study used a reiterative analytical technique of taking the literature review and applying it to the data collected through a 'hermeneutical' analysis. Originating from German philosophical tradition, the hermeneutical approach was developed by Dilthey to express the manner by which meaning is constituted in human speech and actions (Rickman 1979). Hermeneutics is a means of textual interpretation or finding meaning in the written word through a process of 'structuring of the manifest of what is said to deeper and more critical interpretation of the text' (Kvale & Brinkmann 2009, p.207). As an art and science of interpreting meanings, hermeneutics also emphasises the socio-cultural and historic influences on the way in which a certain phenomenon is perceived or interpreted. Walsham (1993) suggests that 'hermeneutics can be thought of as a key strand of phenomenology since the interpretation of texts is an important part of search of meaning and the essence of experience' (p.9). The hermeneutic cycle of analysing data is presented below in Figure 4.5. Text is interpreted based on iterations of research's own experience and existing literature and research. These interpretations are used to make judgments about text, creating further reiterations and interpretations of that text until conclusions or theorising suggests further reinterpretation.
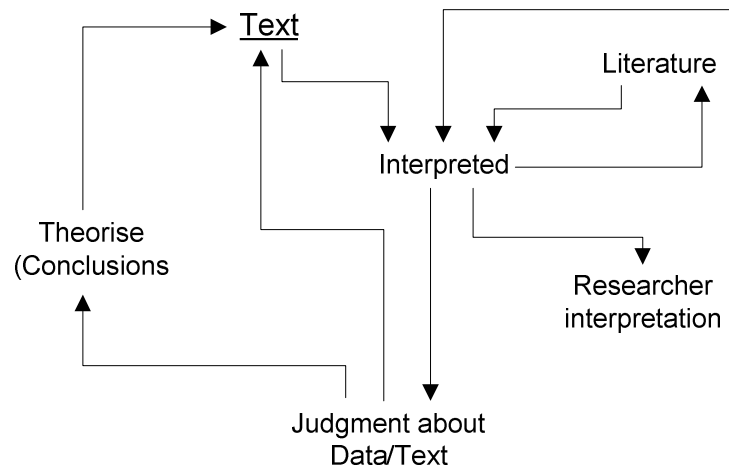
Source: adapted from Thanasankit, T, 1999

Figure 4.5: Hermeneutics Cycle

The interviews recorded on the audiotapes were transcribed and translated. Informed by Creswell (2009), Flick (2009) and Silverman (2011) steps were taken to ensure reliability of the analysis included confirmation of the accuracy of the translation and transcripts, and recheck of the transcripts against the categories to ensure that they were free from shift or drift in definition. Furthermore, negative or odd findings that were inconsistent with the majority view were included to ensure completeness and lack of bias (Creswell 2009). The critical remarks were then used to generate a revised research model before conducting the quantitative research and its data analysis as described later in Chapter 6.

The feedback from the respondents was arranged and coded for common themes to facilitate analysis and comparison with the literature. The process of data preparation and coding are described with details later in Chapter 5. Content analysis of transcribed and other textual data, according to Flick (2009), describes a systematic searching for words and concepts that match a coding structure (categories) established from the research problem or research questions. The transcribed data are subjected to further iterations until no more meaning can be derived from the texts. Categories are then searched for themes that may be used to show trends or conclusions from the categorisations (Creswell 2009). These processes result in findings and conclusions that address the research problem or answer the research questions.

It is important to establish the reliability and validity of data collected in any qualitative research (Creswell 2009). Silverman (2011) advocated standardising the

interview questions and answers to provide categories and themes, then, listening to the original audio recordings again to ensure that the interviewee's comments are correctly categorised. In this research, Silverman's point is especially important due to the necessity of conducting the interviews in Arabic and translating them for the English transcriptions. Validity in qualitative analysis, according to Silverman, concerns the impact of the researcher on the setting, and the truth of the interviewee's account. Silverman notes that triangulation of these points with quantitative data assists in validating qualitative results.

Many steps were taken to ensure reliability of the collected data. First, the researcher checked transcripts to make sure that they did not contain any mistakes made during the transcription. Second, he checked the data to ensure that the meanings of the codes were free from shift or drift in definition. Third, a cross-checking of results was also made.

For the purpose of testing the validity of the data, the researcher used rich and detailed descriptions to convey the findings of the research. Rich and detailed description, providing cohesive and information about all facets of the collected data, make it more realistic and coherent (Creswell 2009). Also, the author spent extensive time in the field, studying the Hajj & Umrah industry and conducting field research for about three months in Jeddah city. Creswell (2009) stresses the importance of spending time in the field as it helps convey details about the site and people under research that lend credibility and accuracy to its findings. Furthermore, the author did not edit negative or odd findings that run counter to the theme under discussion and presented them without bias. Such different or contrarian perspectives to an issue can actually enhance the credibility of the research as honest acceptance and presentation of contradictory evidence lends realism to the research conducted (Creswell 2009).

4.4. Quantitative Data Collection and Analysis

Quantitative research uses mathematical and statistical techniques to identify facts and causal relationships to derive results that can be generalised to larger populations within known limits of error (Creswell 2009). The process of conducting quantitative research progresses from theory selection to data collection to findings. The use of a quantitative approach allows the inclusion of a far greater number of participants

in a wider context. It also increases the validity and reliability of the findings for this study and contributes to the research design, which is a mixed methods approach. According to Muijs (2011), quantitative analyses allow scores of one variable to be predicted from scores of other variables. A further advantage is a statistical deduction of relationships among the variables for testing hypotheses positing tentative explanations that account for sets of facts (data).

4.4.1. Quantitative Instrument

After the pilot test for the interview questions and the subsequent interviewing phase of the study, the quantitative survey was constructed to add further data to the interview results. This section explains how the quantitative data collection was undertaken with survey questionnaires, and the method used in distributing it, and collecting the results.

Data collection of a quantitative nature in social research involves either large numbers of structured interviews or, usually, self-administered questionnaires. The latter are structured to gather contextual data about the participant, the situation, and the experiences or views of the participant. To describe the data in a quantifiable sense, questions can be presented as simple data collected by checking boxes in demographic data, or on coding more complex data such as experiences or beliefs in a scale. An example is the Likert scale which may encompass categories like never, rarely, sometimes, often, and always. This facilitates computerised processing which can then be subjected to a number of statistical measures to provide relationships among the variables, and to present analyses of the results (Bryman & Bell 2007).

The draft of the questionnaire was developed with questions drawn from the literature and assessed by three executives in the industry to ensure that the content was relevant, the questions were comprehensive, and there was minimal opportunity for miscomprehension. The executives made some suggestions for clarification or definition, which were then entered into SPSS to ensure that the changes were compatible with the elements of the research model (Anderson & Schwager 2004). From the feedback in this pilot survey, the final version of the survey questionnaire was generated (Appendix 7, and Appendix 8 for the Arabic version).

4.4.2. Quantitative Data Collection

Statistical sampling in a quantitative approach using probability-based sampling techniques requires substantial data from a representative proportion of the population. Vanderstoep and Johnston (2009) noted that online standardised surveys have replaced mailed paper-based questionnaires as the preferred data collection tool. Smith et al. (2013) stated that online surveys gather more complete surveys than emailed or posted surveys. In this study, if there was no email contact, a survey was mailed or sent by facsimile. The response to questionnaires could be returned by any method selected by the recipient.

The population for the quantitative sample comprised all operators and agents in the Saudi tourism sector. In Saudi Arabia, private firms are registered with the regional Saudi Chamber of Commerce and Industry, the quasi-autonomous private sector organisation for legitimate businesses. In Jeddah, there were some 360 organisations registered in the industry. Chamber of Commerce and Industry has registers with the names and details of all firms in Jeddah, Riyadh, Makkah and Dammam, which are available to the public and no permission was required to access the database and contact details. In June 2011, the survey document with the cover letter explaining the research (Appendix 9, and Appendix 10 for the Arabic version) were sent by email or facsimile to 450 organisations throughout the country, selected at random from the combined database (every second or third entry). Response to the questionnaire was anonymous and, whilst it collected demographic information about the firms, this was only used for analysis and personal data, sensitive information, intellectual property or information would be not disclosed in the study. The initial response from the tourism industry was not as high as expected; however, follow-up with the respondents delivered the requisite number of responses. After two reminders there were 111 returns, a response rate of 25 per cent, of which 107 were valid, and only three were in English. This return rate can be considered to be quite satisfactory as the Saudi firms were not used to such requests from non-government sources and they were unwilling to give time or divulge information for such research.

4.4.3. Quantitative Data Analysis

Quantitative analysis, according to Creswell (2009), should begin with establishing the response rate of the surveys as a high level of non-respondents may

indicate bias due to missing data. After entry of the data into SPSS, the data can be subjected to descriptive analyses such as means, standard deviations and range of scores for these variables (ibid.). Next, the statistical procedures for testing the hypotheses and the research model are explained as part of the research design. Tables and figures that interpret the results from the selected tests are presented and explained, then, the researcher draws conclusions from the results for the researcher questions, hypotheses, and the larger meaning of the results (ibid.).

The statistical procedures used in this study involve the use of Structural Equation Modelling (SEM) to test and estimate causal relationships among the data (Anderson & Schwager 2004). This application also assists in gaining insights into the causal nature and strength of the relationships (Streiner 2013). Al-Gahtani et al. (2007, p.686) noted that SEM enables the simultaneous analysis of up to 200 variables, 'allowing the examination of extensive interactions among moderator and latent predictor variable indicators'. Further, validity can be tested by extracting the factor and cross leadings of all indicator items to their respective latent constructs (ibid.). The model validation process for this study is described in Figure 4.6.
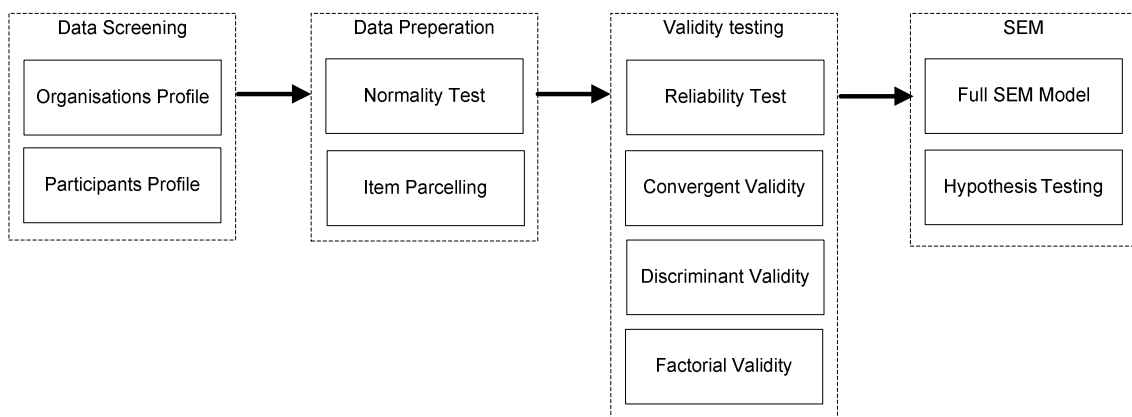
Source: cf. Al-Ghatani et al. 2007

Figure 4.6: Quantitative Validation Model

Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to ensure that all the constructs in the model possessed convergent validity, construct validity, discriminant validity and factorial validity (Byrne 2010, Hair et al. 2012). A SEM procedure tested the full structural model and the interrelationships between the constructs. A sample size over 200 is required for such research, but the

small sample size (n=107) in this research was overcome with Bayesian analysis when testing the full measurement model in SEM (Byrne 2010). The Mplus Statistical Analysis package with Latent Variables was used for the EFA, CFA and full SEM model. It provides maximum likelihood estimation for continuous, censored, binary, ordered, categorical with three or more categories, counts, or combinations of these either with or without latent variables (Schmitt 2011).

Forming hypotheses requires presenting the null hypothesis (H_o) and the desired alternative hypothesis (H_1). A third form is the mediating hypothesis, where another variable may influence the relationship between the variables (Muijs 2011). The statistical acceptance or rejection of a null hypothesis occurs based on a selected probability of the null hypothesis being incorrect. A Type 1 error occurs when the researcher rejects the null hypothesis when in fact it is correct; a Type 2 error occurs when the researcher fails to reject the null hypothesis, when the intervention has a real effect (Murphy et al. 2010). Kline (2011) noted that statistical tests for SEM analysis are usually conducted at $p = .05$ or $p = .01$, although $p = .01$ was considered unnecessary. In this case, a Type 2 error of not rejecting a null hypothesis was of greater concern, and this could occur if a more rigorous probability was selected. The results from testing the model and the hypotheses are explained in Chapter 7 to determine the factors that impact the decision toward e-commerce adoption in Saudi Arabia tourism and travel companies.

4.5. Summary

This chapter has described the different elements of methodology used for this research. This research is based on a pragmatic paradigm which permitted the use of a mixed methods approach. The process of qualitative data collection and analysis using semi-structured interviews with open-ended questions was explained. After a pilot study, the questionnaire was formalised and the quantitative surveys were distributed to a sample of executives/owners from firms registered on the Jeddah Chamber of Commerce and Industry database. After having established the methodology for the study, the next chapters focus on the data collection and analysis, commencing with the results of the interviews in Chapter 5, and the development of the surveys in Chapter 6, and the results of the surveys in Chapter 7.

Chapter 5 Interviews Data Analysis

The focus of this research is on what has affected the extent of e-commerce adoption in the Saudi tourism industry as well as what would facilitate its use in future. This chapter presents an analysis of the data collected from a series of interviews with tourism firm executives in the qualitative phase of the study. The analysis of the interview data uses thematic analysis based on the principle of hermeneutics (Chapter 4) within the research context. Key factors are identified that relate to e-commerce adoption in the Saudi tourism industry.

5.1. Characteristics of Participants

Chapter 4 descried the research methodology and research model selected for this research. The research methodology included two research approaches, qualitative and quantitative. This chapter provides an analysis of the data collected from the interviews using the qualitative approach. The data was attained via 11 interviews with tourism executives in Jeddah city in Saudi Arabia. The demographic information for the 11 male participants is shown in Table 5.1 below.

Table 5.1: Characteristics of interviewees

Participants	Qualification	Approximate age (years)	Experience (years)	Industry sector
P1	PhD candidate (Bus. admin)	30s	6	Accommodation, tourism & attractions
P2	Bachelor's (Tourism)	40s	25	Travel agency
P3	Masters (Bus. admin)	40s	22	Accommodation & religious tourism (*Umrah*)
P4	Diploma (Computer)	30s	12	Travel agency
P5	Bachelor (Comp. science)	40s	8	Travel agency
P6	Masters (Bus. admin)	20s	7	Religious tourism (*Hajj*)
P7	Bachelor (Bus. admin)	40s	20	Events
P8	PhD (Strategic management)	50s	32	Religious tourism (*Hajj*)
P9	Diploma (Commerce)	60s	40	Religious tourism (*Hajj* & *Umrah*)
P10	Not advised	50s	31	Aviation
P11	Not advised	40s	23	Travel agency

Table 5.1 shows that participants varied in their demographic characteristics: their ages ranged upwards from 20 or more years, and these ages were reflected in length of work experience between 6 and 40 years. Work experience also varied with the industry sector: religious travel and transport including airlines had executives with higher levels of experience, while accommodation and travel agents had lesser years of experience. In this case, the highest levels of experience were noticed in managers in religious travel, and those with least experience were mostly venue and event organisers. When recorded, the level of education was generally high, from undergraduate qualifications to a doctorate. Further, in a country where women may own a business but are subject to a male manager for finance and administration, all participants were males. In a country with large numbers of expatriate professionals, only eight of the participants were Saudis.

5.2. Use of E-commerce

The participants reported that their organisations mainly used ICT in many areas to support their business transactions, but the use of e-commerce in the Saudi tourism industry is not widespread, as shown in Table 5.2.

Table 5.2: Use of e-commerce and ICT among participant firms

Participants	Industry sector	E-commerce Use
P1	Accommodation, tourism & attractions	None
P2	Travel agency	None
P3	Accommodation & religious tourism (*Umrah*)	Business to business
P4	Travel agency	Business to business
P5	Travel agency	Partial business to consumer
P6	Religious tourism (*Hajj*)	None
P7	Events	None
P8	Religious tourism (*Hajj*)	None
P9	Religious tourism (*Hajj* & *Umrah*)	None
P10	Aviation	Business to consumer
P11	Travel agency	None

In common with retailers in Saudi Arabia, the majority of participants (10) were not fully engaged in e-commerce. There was some use of websites for booking, and ICT

was used for business-to-business transactions; however, the airline representative was the sole adopter of e-commerce to consumers.

5.3. Data Preparation for Analysis

This chapter presents the results of the on-site participant interviews conducted with eleven tourism companies located in Jeddah city in Saudi Arabia over six weeks during July and August 2010. Then, the researcher transcribed the eleven interviews. The digital audio recordings were transcribed in Arabic language, the same as the interview language. Information collected from the company participants (executives and top management) were separated and coded for common themes to be compared with findings in the scholarly literature. The goal was to obtain new data that can better help understand the Saudi context. The researcher read through the transcripts and highlighted the important quotes.

The researcher then cut those quotes and pasted them in a Microsoft Excel worksheet. The quotes were then translated to English language. Each quote was classified under two main categories: emergent or pre-set category depending on the research model. The researcher listened to the other eight interviews and recorded the important quotes directly to the same Microsoft Excel worksheet. A total of 186 quotes were found to be useful. The researcher also generated another worksheet in the same file which was used to record the frequency of each factor. Both worksheets were used by the researcher for sorting the themes and writing analyses.

5.3.1. Coding and Analysis Process

As the interviews were conducted in Arabic language, the use of English-based software like NVivo for the analysis process could miss some of the contextual details and linguistic patterns that are distinct to the Arabic language and environment. The narrative of collected data was checked for the general sense of data. The transcribed data was coded using a pre-set of codes correlating to the research questions. For the analysis and interpretation of those codes, several emergent themes arose that were then related back to the research questions.

The data analysis was based on the framework of how e-commerce is used or accepted in Saudi tourism organisations. For the purpose of evaluation, the researcher

kept in mind the main research question to find out its answer during analysis. The main research question is: *What are the key factors affecting e-commerce adoption in tourism industry in Saudi Arabia?* The researcher started this way to focus on the overall topic, not to focus on each participant's answers. The responses were first grouped according to the themes. The second stage considered responses that provided useful background explanations, sub-themes. The third stage considered the group of responses that provided a deeper insight to emerging but related issues, which were not in the research model.

5.3.2. Special Considerations

The researcher has no experience in the field of tourism. All information obtained from the interviewees was reported accurately and without bias. Further, nonbiased peers were asked to review results of the interviews before the results were published in the study.

In semi-structured interviews, the researcher has to be prepared to follow unexpected leads that appear during the interviews (Flick 2009). Sometimes, a further explanation by the participant would be required to understand how the informant thinks about things. This allows the researcher to enter into new ideas related to the study (Creswell & Clark 2010).

5.4. Thematic Discussion

This section considers the results from the analysis of the interviews, which was designed to address the main research question. The key themes extracted from the data analysis for e-commerce adoption in marketing tourism in Saudi Arabia are as follows:

1. Perceived Relative Advantage (RA);
2. Perceived Ease of Use (PEU);
3. Social Influence (SI);
4. Organisational E-Readiness (OER);
5. External E-Readiness (EER);
6. Organisational Culture (OC); and
7. National Culture (NC).

The e-commerce adoption model developed as part of this research is the focus of this section (see Figure 4.2). The five identified themes predicated for the model are used as nodes for extracting sub-themes, with other factors from the findings classified separately. If 'other factors' are found to be substantial, they are used to modify the e-commerce adoption model. Each of these themes is accompanied by a selective reporting of some noteworthy responses from the participants[17].

5.5. Theme 1: Perceived Relative Advantage

Participants generally acknowledged that their firms should adopt new marketing strategies offered by ICT, particularly when there are emerging markets for the tourism industry such as e-commerce. All interviewees noted the use of ICT, the internet and e-commerce for a number of purposes, which can be grouped variously under the sub-themes of cost management, time management, productivity, customer service, and new profit centre. The key findings identified within each of these sub-themes are as follows.

5.5.1. Cost Management

Based on frequency of mentions during the interviews, cost reduction is not seen in Saudi tourism as a significant advantage of e-commerce adoption. However, for the single e-commerce practising firm, reducing costs was a critical advantaged derived from their move into enhanced e-commerce, as illustrated by this quote.

> "We try to reduce the use of the global booking systems, which charged us for every transaction per segment of route, for instance, Jeddah to Riyadh is a segment. We were paying about SAR 350 million ($AU94m) annually for these services. Because of excessive costs, we moved to internet booking. We also plan to launch a mobile booking function and to use kiosk facilities for our booking. We can then reduce the number of branches both in Saudi and internationally . . . it's all to reduce the cost" [P10].

The factor of cost management of e-commerce functions was therefore not a priority for the other participants; in fact the project cost for establishing e-commerce may have been a deterrent if the existing market conditions were considered satisfactory.

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[17] Note that the participants are signified by the letter P followed by their particioant number.

On the other hand, cost management of physical functions, as P10 noted in a desire to close branches, is also inherent in e-commerce.

5.5.2. Time Management

The recurring frequency of this sub-theme (12) in participant responses indicated its critical importance: all participants commented on time savings through ICT usage. Comments included reference to product preparation and publishing and business process automation. For one participant, customer service would be streamlined through e-commerce:

> "Customers require a range of information, frequent updates and often change or refine their travel decisions so that our staff are continually providing answers and emailing information. I think we could save considerable time in servicing these customers once we provide online booking in a website, which we are currently planning" [P 2].

Thus, time management was generally acknowledged as a factor in pursuing ICT and e-commerce strategies, whether through administration, business-to-business communications and data transfer, or through e-commerce.

5.5.3. Productivity

The majority of participants considered e-commerce as a tool that would enhance their productivity, particularly in improving work processes. But there decision to move or contemplate moving to e-commerce was not entirely made out of the firms' own volition. The government required all businesses involved in *Umrah* religious travel to operate online and encouraged greater adoption of e-commerce in the travel and tourism industry. There are about 40 *Umrah* agents licensed by the Ministry of *Hajj* (pilgrims' affairs) and they are required to administer to each pilgrim from arrival at Jeddah airport until the end of pilgrimage, which may end with a holiday in Saudi Arabia, or return home. *Umrah* agents provide a range of products that are offered to the agents' international networks of dealers. The dealers offer packages based on these products together with travel to Jeddah. On acceptance, the dealer obtains a special *Umrah* visa for each pilgrim from the Saudi Ministry of the Interior, and advises and pays the *Umrah* agent.

The religious travel system has built up over centuries and is complex. At this time the *Umrah* agents are involved with four organisations which together provide the pilgrimage and the numbers of pilgrims involved, approaching 4 million each year, was the impetus for the Ministry of *Hajj* adopted an online system, (مخاع *Makha'a*). There are five *Makha'a* Internet providers to serve the *Umrah* agents:

> "We continually update our *Makha'a* website with prices and packages. The (international) dealer sends us a request for a certain number of pilgrims and payment through the Internet. The conditions of our contract with the Ministry of Interior include permission to approve inclusion of the pilgrims to *Umrah* and the numbers of pilgrims are also referred to the Ministry of the *Hajj*. We could not productively administer this trade without the online system" [P3].

As potential customers increasingly use the internet to scout for information and compare prices, other participants see this as an opportunity to both improve their productivity and improve their marketing. For instance, databases can be used to find trends in travel arrangements preferred by customers and to use these for market segmentation. Customer information and industry-wide data can lead organisations to consider direct marketing programs through email or social networking sites. These are considered to be avenues of marketing which can be explored by individual organisations to discover which profitable approaches. One study participant said that he had no information on e-commerce or how to enter the market:

> "Once I'm convinced that marketing my firm's products through the internet is useful and productive, we will adopt it. The problem at the moment is that no one has approached our firm and explained how it could improve our business; if this was set out as a project we would accept it" [P1].

> Another participant noted that the internet is always available and enhances productivity:

> "Our decision to go online is influenced by the 24/7 availability of services . . . the fact that the information we need is always available allows staff to undertake more transactions" [P2].

Productivity was a high priority for the participants, and direct quotes and inferences from the transcriptions continually address issues of productivity that could be addressed through ICT in general: updated and primary information, price comparison, allocation, ticketing. Productivity was mentioned often in the interviews (27 times) as a

probable advantage of adopting e-commerce, however, the participants were not convinced of this enough to use it as a motivating factor.

5.5.4. Customer Service

All participants acknowledged the need for good customer services to attract and retain customers. They collectively voiced the view that customer service represented competitive advantage and that e-commerce presented a unique approach to offer a high standard of services. P10, the B2C e-commerce adopter commented:

> "The massive number of calls into our customer service centre prompted us to offer online booking services through e-commerce. There are so many people calling the centre that we can't serve even four per cent of our customers. We have automated software monitoring the number of callers and there are actually 850,000, almost a million calls per day whereas we can answer only 23,000 to 27,000 per day. This is intolerable, so we had to develop some other system to answer the huge number of callers" [P10].

Another organisation (P4) is using a third party outsourced provider, a business to business system. P4's management contracted a provider to consolidate all their agency services in a single online portal to manage external relations with customers and other firms, and internally, to manage office procedures and business processes such as customer databases, human resources, finance and marketing functions. He said:

> "Another function of this outsourced system [B2B online] is that it allows customer services customisation. We can determine how often a customer visited a location, their enquiries about other locations, information about family preferences for attractions and accommodation. Using this information allows us to target packages and send the customer information to suit their needs. I am sure this will make our customers feel more comfortable with us" [P4].

However, another participant considered that shopfront services provide better customer services than online booking, e.g. P5 said:

> "What prevents us from simply using a website for all our services such as those offered by (*xx.com*) is that the user has to be aware of everything: timing, destinations, appropriate airline services and acceptable accommodation. In a shopfront store, we can advise the customer and tailor the travel package to specifically suit each person, with fewer issues regarding the logistics of travel. This is better customer service" [P5].

There is an argument for individualised travel advice which complements, rather than replaces, e-commerce in customer services, a factor of concern with participants (reported in 20 comments). This supports the argument that good customer service from e-commerce can lead to customer satisfaction (Turban et al. 2010, Schneider 2008, Laudon & Traver 2009)

5.5.5. New Profit Centre

In entering into e-commerce, firms can service both local and global markets, allowing potential customers to access travel information at any time. This was a perceived benefit for many participants:

> "I see that e-commerce leads towards higher turnover and thus greater profit. We hear about entrepreneurs who have built up an excellent business over the Internet. Global companies in delivery and online booking went to online services because it increases their revenues and boosts their business network . . . but here in Saudi we have not started this yet" [P1].

A profit centre based on e-commerce can use new products such as mobile ICT platforms to enter new markets, or extend services to target different markets. P10's organisation which fully adopted e-commerce is pursuing these opportunities:

> "We have a plan to improve our booking system to offer greater specialisation . . . this will include services for *Hajj* pilgrims, *Umrah* pilgrims, business travellers, and students . . . this way we will increase sales through reaching a greater potential market" [P10].

5.5.6. Summary

Perceived Relative Advantage of e-commerce utilisation by the tourism executives in Saudi Arabia, according to this analysis, is predicated on sub-themes of achieving productivity and customer service, with an awareness also of the marketing implications of the firm's continual presence online. As the majority of firms did not have an online strategy, cost effectiveness was mentioned as a factor only by those that depended on online sales. A similar response was received from participants regarding e-commerce, inasmuch as the others were unaware of many aspects of online trading.

5.6. Theme 2: Effort Expectancy

A sector of the technology adoption literature focuses on perceived ease of use, or effort expectancy, as an underlying aspect that attracts people or organisations to adopt new technology (Al Ghatani et al. 2007, Gupta et al. 2008, Nistor et al. 2010). Extant studies tend to investigate this factor from initial adoption of ICT; however, participants of this research cite familiarity with a range of information systems and claim that e-commerce would not be overly difficult for their staff to adopt. Participants noted that new software and ICT packages include training courses to facilitate competency.

"All new technology is to an extent unfamiliar . . . at first, nothing is easy . . . so we offer training (to staff) for all new practices we introduce" [P3].

However, other participants focused on an effort expectancy approach, saying that ICT should be easy-to-use and firms should not have to rely on extensive staff training for successful implementation. Systems are user-friendly and people without much experience can use them. On the other hand, the more training you have on a system, the greater benefit you get from it.

P9 agreed that technological change could be successfully implemented. He said:

"We do not experience difficulties in the ICT systems we use because we have maintenance technicians throughout the organisation. We also offer new staff appropriate training" [P9]

It was also important to P2 that technology was easy to use. He said:

"If our front office systems were not user-friendly, we would lose a lot of time. Our staff need to deal with customers and wholesalers, and follow up with international dealers and hotels . . . this requires easy-to-use applications (to allow) more focus on sales and less on data entry" [P2]

One organisation in the study adopted a partial form of e-commerce where customers could order a package on the internet but there was no online payment facility. The participant from this organisation noted the growth in online business. He said:

"We improved the usability and user interface for our system through four steps until we reached this stage . . . all the improvements were based on customer search (patterns) and our experience. For example, a customer asked by phone for information about a holiday destination and I wondered why he did not get the information online . . . so the icons and links were improved along with the

interface on the customer site. We do not have problems with the administrator site as all the employees are familiar with the systems" [P5].

Another participant disagreed slightly that effort expectancy was the criterion for selecting an information system solutions in general. For him, relative advantage was the main reason for selection of IT over effort expectancy. He noted:

"We use several global business systems . . . we do not prefer one over the other because of how it easy it is to use. It depends on price . . . and as to which portal covers a geographical area better than the others" [P11].

The effort expectancy criterion then did not have as significant an impact on the intention of these tourism executives to adopt e-commerce. The participants considered effort expectancy as part of e-commerce planning and implementation; however, the website or user-computer interface was seen as a matter for competency training to overcome any usability issues.

5.7. Theme 3: Social Influence

A culture's norms, its attitudes, beliefs and behaviours, have a profound effect on the social interactions of its citizens (Fuchs 2007). This extends to industry and commerce. Particularly, Kulviwat et al. (2007, p.706) observe that 'social influence and adoption intention is stronger when an innovation is publicly consumed rather than privately consumed'. Organisational creativity and innovation are inherently complex phenomena, and subject to myriad contextual and social influences (Agars et al. 2008). For the purpose of this study, it is assumed that the tourism representatives participating in this research adopt responses to social influence, including adoption of new technologies.

The parameters for this theme are the internal and external consumers of Saudi tourism products. As the travel industry largely serves travellers in their religious observances, this social influence was evident in the analysis of participants' transcripts. There were three issues involved, customer demand, customer awareness, and customer trust. These are discussed in turn.

5.7.1. Customer Demand

In this age of on-demand information, customers use the Internet to decide on their travel purchases, particularly flight information and accommodation (Buhalis & Law 2008). To counter this direct approach, travel agents organise packages which serve the same experience, often with extras or benefits, and sell these online (Kim et al. 2009). Indeed, Kim et al. find evidence to suggest that there are monetary savings with bundled offerings from online travel agents. According to participants, this practice of bundling travel products is also a characteristic of the Saudi tourism industry.

Participants were supportive of the customers' use of the internet for their travel arrangements, and this was instrumental in some firms' decisions to move online, as P10 affirmed:

> "Nothing else was involved in encouraging our organisation to offer online booking, but the demand of loyal customers" [P10].

Other participants supported this comment, stating:

> "We know that people are moving now to electronic media; it is becoming necessary to do so. We have to plan and meet their needs because we are service providers, and services can be easier online than tangible products like car trading" [P4].

> "I see many organisations responding to this move online with travel advertisements on social media. There are several companies attracting customers with well-designed ads. I think this will hasten our move online, otherwise we are going to lose business . . . I understand this is the future" [P2].

The last comment shows that the executive still considered e-commerce a trend for the future in the Saudi context. This attitude reflects the social influence of traditionalist Arab commerce where trading is subject to personal contact; a relationship between supplier and purchaser is forged over time, and has certain defined protocols. As online trading negates this formal process of building up a client base, Saudi traders may still find it distasteful.

Participants raised the point of personal contact saying that whilst they should move online to respond to customer demand, internet sales cannot give the customer the same experience as a travel agent in a shopfront set-up, e.g. P4 said:

> "Good customer service prevents a full online service . . . although the customer may find a cheaper price online he/she does not get a personal touch. For

example, a customer may like to holiday at an island resort, but online booking does not say whether the date selected would be too cold or too hot, but the sales representative does" [P4].

The respondents argued that other customers prefer the shopfront experience of browsing through brochures, asking questions, selecting options and making their travel decisions to facilitate an enjoyable trip. To them, planning and decision-making are part of the travel experience. Participants therefore said that the majority of customers would not consider online purchasing as they preferred to shop personally, e.g. P3 said:

"The problem facing the adoption of e-commerce in Saudi is very weak demand . . . I think people feel it does not work for them" [P3].

This participant, who uses a B2B information system for *Umrah* services, does not see future growth in customer demand for online booking. As a local agent for a luxury hotel chain that offers online booking on its global website, the participant reported that only ten per cent of the hotel's bookings are sourced online, and no online bookings are made by Saudi residents. P3's observation was supported by P1, who was a provider of activities and attractions and an agent for another luxury hotel chain. The interviewee could not see demand for online bookings increasing for Saudi customers. He said:

"The international hotel's website receives only seven per cent of local bookings, only two per cent made by Saudis . . . it's nothing. The hotel cannot make its revenue this way . . . we have not yet moved our attractions sector online for this reason" [P1].

However, another participant successfully integrated a shopfront travel agency with e-commerce. He commented:

"Our prosperity, reputation, and customer trust illustrate our success. In fact, going online fits the social mores of Saudi community and its privacy requirements. Many families do not like discussing their holidays in a shopfront because of the women's need for privacy. At the same time, they would still like to discuss the trip details properly . . . so our online booking and inquiry facility offers them the solution without discomfort to their privacy needs" [P5].

Participants were ambivalent about adoption of e-commerce, and this attitude is also discussed in other sections.

5.7.2. Customer Awareness

This sub-theme is related to the discussion above regarding individual differences in the approach to travel service purchases. Customer awareness regarding the use of ICT in general, and internet and e-commerce in particular, is another driver for innovation acceptance (Zolait et al. 2009). The participants made some 19 comments on this in the interviews. Comments about customer e-commerce awareness also included factors that organisations consider when planning e-commerce adoption. One interviewee was adamant about low customer awareness of online trading, comparing online travel purchases to retailers who locate shops to meet local demand. P9 said:

> "In developed countries, customer awareness about e-commerce forces retailers to provide online services. (In Saudi Arabia) see how (few) bookshops there are in your suburb, and count how many restaurants . . . in a kilometre, you find only five restaurants . . . the reason is that businesses go where the customers are and believe me, the Saudi tourist is unaware of e-commerce" [P9].

This statement does not concur with reports that online international trade amounts to some SAR 3 billion each year (BMI 2009). Indeed, another interviewee mentioned the growth in online trading. P2 said:

> "The general way of thinking about this [ICT] has changed during the last two years. People are interested in electronics . . . their views about technology are changing" [P2].

A participant, P5, whose firm allowed orders online but not payments, was concerned about potential customers' reactions as the firm did not have a street-based shop. The firm's business strategy was that people sufficiently familiar with the internet and online trading would book the agency's packages after they became aware of the firm through advertising. He said:

> "We started the other way around; we launched our online booking first unlike other travel agencies. At the start, we were very concerned about customer reaction that they may not accept online trading, but we found that we had exaggerated that concern. The customers liked the idea and with time the acceptance rate is higher" [P5].

The interviews also highlighted Saudi reticence to online trading. The main reasons for avoiding online trading were unfamiliarity through educational level and age. e.g. P9 and P7 noted:

"The solution for a community to deal with e-commerce is education. The only people who use this now are highly educated . . . the coming generation will be much more aware" [P9].

"Age directly affects usage of e-commerce. For example, those people over 40 years have illiteracy rates over fifty per cent, whilst the age group between 12 and 25 (years) I think does not exceed twenty per cent . . . and this group will adopt an electronic culture over the next decade" [P7].

Whilst the second interviewee's observation was undoubtedly part of his experience, the statistics quoted are debatable[18]. Notwithstanding this, the views of the participants are that the young, educated consumers will readily adopt e-commerce for their travel arrangements. Thus emerging e-commerce technologies should be adopted to meet the needs of future young customers. For the older generations, public sector consideration may be needed for some form of awareness training, perhaps in local centres, so that people become familiar with technology. Here, they can learn to trade online as opportunities online may be more advantageous without storefront overheads.

5.7.3. Customer Trust

The various sales channels influence potential customers and are exploited by firms in a bid to gain and maintain interested customers (Kassim & Abdullah 2008, Doong, Wang & Shih 2008). The sales channels can range from a shopfront set-up, to direct contact through telemarketing, or online retail, and people's perceptions of the security of a particular system may differ (Shalhoub 2006, Alfuraih 2008, Pittayachawan & Singh 2004, Al-Gahtani 2011, Al-Mowalad & Putit 2012). The participants in this research stated that older people may have trust issues with the internet for payment. Further, the interviewees felt that online sales were impersonal and distant. This could hinder the building of rapport and trust between the travel firm's staff and a potentially long-term customer. Two participants noted:

"Going online is an aim for my company, but we will not be able to personalise customer relations. From experience, most of our customers agreed to make their *Hajj* arrangements through our company because they trusted our staff to personalise their experience. This advantage will not be available on the Internet .

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[18] In 2003, the CIA's World Factbook showed 79 per cent Saudi adult literacy rate, and UNICEF noted a 2007 literacy rate of 98 per cent for Saudi males aged 15 to 25 years, and 96 per cent for females.

. . I also do not believe other technologies can duplicate the process of meeting customers and talking through their travel plans" [P6].

"Arabs naturally prefer the opportunity to see what they are buying, not just to hear about it. So you can see how busy travel agents are. Customers go to the agents to meet the agent, talk about their plans, build a trusting relationship and negotiate prices" [P9].

Given this situation, participant P4 still prefers face-to-face sales for the security and trust afforded in this method. He said:

"Customer trust is a high priority for our agency. We gain trust through face-to-face interactions. Customers trust our travel agency reputation and we have been in the market for 30 years. Online frauds publicised in the media decrease the level of trust and prevent clients booking over the internet . . . fraud happens and fraud is easy" [P4].

An agency's reputation is, therefore, considered more secure through face-to-face sales than online trading. However, another participant P5, whose firm offered online travel arrangements, felt otherwise. This interviewee argued that as their customers shared their experience with the agency on online forums, the firm's reputation rose. This was responsible for customer numbers increasing rapidly over the past eight years as reviews from loyal customers attract new customers. He added:

"We are half way to full e-commerce, we did not offer online payment because of lack of customer trust of e-payment . . . this is an old idea and I think over time we may offer it, as our reputation in the market has been increasing for over eight years . . . our customers advise others to travel through us on the online bulletins" [P4].

Other comments were made regarding customer trust. Security issues, issues with prototypes on e-shopping, and payment logistics were other reasons cited by participants. P3 was convinced that fear of fraud and robbery were uppermost on the minds of potential customers in regard to any purchases. He said:

"Saudi people are really scared about taking credit cards out of their wallets, so what do you think about putting their (credit card) numbers online? It's a big issue. Saudi people are very cautious and they are worried about credit card misuse, products not delivered, or not as they expect. We are in Saudi, and this is an important aspect of business! " [P3]

5.7.4. Summary

The results of this study confirm the literature on social influence, particularly those reported in the case of Arab–based studies (cf. Al-Ghatani et al. 2007, Baker et al. 2010). Social influence would arguably be most evident in a business like religious tourism with a pilgrim's expectation of an intensely personal experience. This underlies the perceptions of the participants and their various business strategies within the Saudi travel industry, and highlights a differentiated acceptance of using e-commerce in Saudi tourism. The majority of participants were concerned to use religious-based travel arrangements which supported traditionalism and conservatism in their travel service practices. However, the principle of face-to-face rapport, trust-building and negotiation may have limited effect, given the increasing prosperity of global Muslims and their desire to undertake the *Hajj*. Indeed, the firm of one study participant had been operating online without a physical shopfront for nearly a decade.

5.8. Theme 4: Organisational E-readiness

This theme seeks to understand the attitudes of management and to some extent their staff, towards online operations for the firm. E-readiness could encompass a range of factors that provide underpinning for internal financial and administrative processes, and external communications and data transfers with suppliers, government, customers and all enquirers. The analysis takes place under a number of themes: the organisation's awareness of the online environment, an online business model, commitment to systems change, and the skills and knowledge and technology resources available to support change. Other organisational aspects are also considered.

5.8.1. Organisational Awareness

Governments around the world are targeting small to medium sized firms with incentives and encouragement to be 'wired up to the digital marketplace' (Martin & Matlay 2001, p. 399). However, these ICT initiatives tend to neglect the diverse nature of small firm needs, such as firm size, age, managerial structure and ICT adoption levels. Dignum (2002) also found that firms introduce e-commerce functions in different areas, with different objectives and different outcomes, based on their markets and on managements' ICT awareness. Dignum sees that these objectives are manifold, from cost

minimising for purchase procedures to increasing customer communications. Further, ICT awareness and adoption in firms can range from one personal computer for the whole office to a complete online service for each employee.

Awareness and understanding of the online environment in marketing, that is, the advantages of e-commerce and an understanding of its properties, prompted a reasonable number of comments and observations from the study participants. The majority responded with some degree of enthusiasm towards the change from shopfront or personal services type sales, to mass online provision of elements or packages of travel services. A minority did not intend to move very far from shopfront sales, citing the value of personal services. However, the majority of providers did not have a grasp of the essentials of e-commerce. They could not describe a clear objective of an online environment, nor could they articulate the resources, systems and implementation steps required. For example, many did not know the basics of online marketing and a few knew so little about ICT that they could not differentiate properly between email and websites.

The literature and indeed an internet search of travel providers shows the depth and breadth of firms across the globe offering themed and location-based travel services and products. Saudi Arabia is no exception and websites[19] show significant supply of online products and services. Notably, participants were not impressed with the online travel industry environment and considered that Saudis preferred the assistance of a shopfront travel service rather than making their own tourism selections. Participant P8 gave an example of this:

> "We have not offered interactive services on our website to our clients because Saudis do not yet have an Internet culture. Customers do not use the internet freely. For example, jobseekers will not enter their information online" [P8].

A similar comment was made by participant P9:

> "Saudi tourists have no knowledge about using the internet for booking, and they find the traditional method of going to a travel store much easier. You see how busy travel agencies are and this proves that those customers still prefer purchasing their travel services from shops" [P9].

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[19] For example, http://www.saudiarabia-travel.org/; http://wikitravel.org/en/Saudi_Arabia; http://www.araboo.com/dir/saudi-travel-tourism

This participant, P9, appeared to lack a basic understanding of internet security. Asked about the firm's information systems, the participant said they had a monitoring and following up database which is separate from the firm's website. When asked why, he replied:

"The monitoring and following up database should be isolated. Nobody should have access to it, we must not upload it to the internet" [P9].

This participant was of the opinion that any uploaded information to the firm's website can be seen by anybody browsing the internet, and was unaware there are tools like passwords, secure sessions, administrator login and also visitor login, which provide security and privacy. Such limited ICT knowledge may have hindered e-commerce adoption in many firms. Interestingly, P9 and P8 are both over 50 years of age, which may indicate that the decision makers' age range can impact on ICT awareness or understanding, and consequently, the level of e-commerce adoption. Participant P7 talked about this issue:

"A person's age has an effect on their understanding of e–commerce. For example, less than fifty per cent of the generation aged over forty years are involved with the electronic culture. The generation aged between twelve and twenty-five years have a greater than 80 per cent adoption rate. This is the generation who will easily understand and adopt e-commerce" [P7].

Thus, a minority of participants were not aware of ICT adoption processes or of gaining an online presence, although other participants said they had been in discussion with ICT providers. The minority may, therefore, not have the confidence to approach website developers or the large travel sales websites to use their services, which are admittedly highly complex. However, there were others that were passively waiting for offers to be made from website providers or travel search providers. Participant P1 held this attitude and said:

"The ICT providers do not make any offers regarding online business opportunities. They are not even confident in offering basic electronic services. As a specialist company in tourism, I do not know any Saudi company who can service my industry" [P1].

Participant P3 supported this view

"My current website as it stands is not viable. I intend to develop it, but I cannot find a capable website designer who can fulfil my needs at a reasonable price. If I could find someone, I'm willing to sign a contract" [P3].

P1 is representative of the group as the interviewee could not see a potential use of e-commerce by his firm's clients. There were requests for customers to answer an online service survey, but nobody replied. He said:

> "Sometimes we ask our clients to fill in a survey online, but nobody replies. I'm sorry to say that, people only like to check news or look at pictures on websites, that is why I cannot move to online selling" [P1].

This view was supported by P4, who is experienced and well-known in the travel industry. A colleague decided to start an online travel business, with the following results:

> "One of my friends is an ex-banker and worked for years in the travel business. Using his experience in both fields, he launched a website offering online travel packages. He had an excellent website which enabled online payment through a provider. Transactions were increasing and he thought everything was going well. Unfortunately, a foreign hacker was making fake transactions using stolen credit cards. My friend lost a lot of money and closed down the business" [P4].

Including the false assumption of hacking from a person who would be expected to understand online trading, these views illustrate the reticence that the participants have towards e-commerce: if anything at all, they prefer to have a website that merely illustrates their offers, similar to a brochure that is handed out at the store. When a participant indeed had a website, the next step to interact with the client online was typically missing, thus any potential interest would not transfer into bookings unless the client could make direct contact, unlikely with international bookings.

5.8.2. Business Model

A business model, according to Osterwalder and Pigneur (2002, p.2), 'describes the logic of a 'business system' for creating value, that lies behind the actual processes'. They state that a well-planned e-commerce model assists organisations to introduce a stepped approach that takes account of the firm's ICT, physical and human resources and introduces change and innovation to achieve objectives over time. A good business plan facilitates online strategies and allows the firm to assess and measure its progress and adjust to new technology and a changing business environment. Kshetri (2007) notes, however, that organisations from emerging economies tend to find economic, sociopolitical and cognitive issues with e-business implementation. These issues relate to security in a legislative and financial framework (digital signatures and unavailability of

credit cards) and cognitive barriers that relate to knowledge, skill and confidence in using e-commerce.

Business models, objectives and operations vary from one company to another, even in the same industry. There are differences in the business processes, marketing channels, selling options and serving customers. Each participant in this research was asked for their opinion about such differences in terms of how each company had to adopt e-commerce in comparison with others in the industry. Participant P1, whose firm was involved with promoting Saudi destinations, spoke about how well-known theme parks in holiday destinations around the world offer cheaper entry prices to travellers over their websites. P1 explained:

> "We do not have online ticket sales for our theme parks because we do not charge for entry. Our profit comes from the games. Each game has its rate and its ticket is available onsite" [P1].

In this business model, there is no need for selling tickets online, but it may be beneficial when selling offers online to guarantee the sale before the customer come to the location, or to reduce number of visitors queuing in front of ticket booths.

Given the great numbers of visitors involved and the complex logistics, a point was made earlier in the thesis that the government requires designated *Umrah* pilgrimage providers to work online with their international dealers. However, whilst the official *Umrah* providers set up online business to business models, local travel agents are not permitted to offer *Umrah* services directly to pilgrims around the world and international dealers have to facilitate transaction as middlemen. P3 noted:

> "The marketing process for *Umrah* goes to international dealers as part of the official provider networks. International dealers promote our offers in each country; we cannot offer services direct as this is the Saudi government directive" [P3].

Similarly, there are international *Hajj* arrangements offered by Islamic governments and organisations around the world, and the Saudi travel providers cannot advertise to these markets. P8, a *Hajj* provider to non-Saudi pilgrims (مطوف, a *Motawef*) explained:

> "*Hajj* pilgrims from any Muslim country can apply to governments or *Hajj* organisers in their countries. Our mission starts when we receive the pilgrim in Saudi Arabia, we cannot undertake any marketing in those countries" [P8].

This means that to a certain extent the tourist agents' business model is determined by government policy: they may not offer international *Umrah/Hajj* packages, although they can be designated as providers of services. For non-Muslim countries, an Australian provider[20] offers regular escorted *Umrah* travel and *Hajj* packages. These examples show that varied access through licensing for religious travel influences firms' business decisions. Also, as the theme park example suggests firms may elect to undertake agencies for activity providers. Thus, e-commerce may be adapted to conform to the business model, or the reverse may occur. Following on from the theme park agency example, travel agents can bulk-book rooms in international hotels and offer them online or as packages to potential customers. Others do not take up agencies or bulk purchases due to risk, e.g. P11 said:

> "Every season we book allocations in selected hotels in desirable destinations. These allocations are paid up front by our agency and we cannot allow online booking as a customer might cancel at the last minute and there will not be enough time to resell the room" [P11].

P5, a travel agent, explained a similar situation:

> "We offer four main services: land and air transport, packages, hotel bookings and cruises. Hotel booking is the only service that can be offered online because it has a fixed price. The variable components need a direct link to the provider" [P5].

Logically, P5's argument does not make sense because if it is a package it contains a set of priced elements – air transport, shuttle to the airport and back, hotel and set attractions. They are all set prices that can be quantified and paid. However, this example illustrates the Saudi industry's ad hoc concept of online activities. It is an arbitrary means of dividing online and offline activities that reflects nothing more than the firm's initial response to computerisation, and in the majority of tourism firms there has been little innovation since. Whilst the business model they advocate may be e-commerce, it appears that the model is not being adequately pursued.

5.8.3. Organisational Commitment

Commitment in this instance refers to the degree of enthusiasm by which the management and staff embrace e-commerce (Eastlick, Lotz & Warrington 2006, Jung,

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[20] Ourworld Travel, Wollongong, NSW: http://www.duniana.com/*Hajj*-travel.php#details

Han & Byun 2009). Research shows that commitment has a great impact on the successful performance of an organisation (Chesbrough 2007, Nusair, Parsa & Cobanoglu 2011, Singh, Chopra & Desai 2009). This section analyses participants' views on online trading.

There were variations in the extent to which participants in this research adopted ICT and were committed to further investment, with some noting the circumstances which led to their adoption of ICT elements. The chief executive officer or the owner was cited frequently as the driving force behind technology adoption. Other factors leading to greater reliance on technology were derived from the evolution of the firm's systems. P2 commented on both these aspects in his explanation of the organisation's ICT advanced practices:

> "Since the group's establishment, the president sought to automate all the business systems in its profit centres and departments. You cannot build a company on people or individual performances unless they have appropriate tools with which to work. Business systems can be accessed by all, and the absence of an individual cannot cause the work to stop. That is why the president is very keen to automate the system" [P2].

In regard to extending attention from business automation to include other technologies like e-commerce and online booking, P2 answered:

> "We had several informal plans to go online, but our first priority is the back office system. We will spend a lot of time maintaining and developing this system until we get it right. I think by next year we will be able to do something in this regard [online booking]" [P2].

Although participant P10, representative of the fully e-commerce adopting organisation, was not satisfied and thought the company was under-performing, the interviewee felt that this was perhaps caused by an older organisation manager and his management style. He said:

> "One of the things that held us back was the decisions of our ex-president and for fourteen years, we had no real development. With the current management it is a different story. Since coming to this organisation, the president is working toward the future in our industry. He wants to integrate the current ICT platform with improved systems, and with this systems change, existing and potential competitors will have to take the lead from us" [P10].

There were many comments on the perceived lack of commitment of firms' managers to exploit the new technologies. Participants criticised the standard of decision-making in the industry, particularly after the global economic crisis. Nor do

tourism managers take due regard of the need for future development, lacking a plan or business strategy for moving into global business channels. They are cautious to the extreme in moving into new markets and new technology, using excuses such as government instructions, or online payment security. One participant argued that most managers in tourism firms do not have a sufficient understanding of the industry. He said:

> "Many of the organisations' leaders and senior people are not qualified. As a result, their decisions do not support efforts required for organisational performance even in the area of adopting net technologies" [P7].

Further, travel agents are restricted to local clients and are satisfied to service their busy shops, not considering that business will move online as the bulk of the population matures and seeks information online, are as the education system shifts to online delivery. P1 was an advocate for the status quo and sees no motivation to move online:

> The concept of e-commerce is not interesting to Saudi companies. We know of its advantages but this is not the time for investing in online business. Other countries are successfully moving online, but we need more time" [P1].

Another participant, P7, was more interested in the content of travel services than the means of marketing those packages. This participant represents an event management organisation which offers many services, including website designs for the client's event. The firm's own website is not consistently updated as the clients' websites take priority. He said:

> "As an event organiser, I concentrate more on our clients' event websites and make sure they are fully operational, attractive and the information is current. I always try to keep the firm's website up to date, sometimes I overlook our company website" [P7].

Other participants spoke of the greater necessity of maintaining and serving current customers before developing e-commerce. To illustrate this further, P3 had recently lost 10 hotels in a government project of expanding the Holy Mosque in Makkah. All of them were owned by his firm. The participant's priority was therefore business maintenance rather than developing an e-commerce presence:

> "We stopped all development initiatives after we lost the ten hotels. It was a big loss for us. We are working now to raise the number of hotels and rooms, and this doesn't allow time to work on e-commerce. But the issue of moving into

electronic booking is important and we will do it immediately once the hotels issue is out of the way" [P3].

Participant P9, the *Umrah* and *Hajj* services provider, agreed:

"We do not have any current plans to invest further in information technology because our information systems perform well. Further we are focusing on expanding our bus fleet and building or buying new hotels. Yet, this does not mean we are not going to adopt new technology, if it is necessary" [P9].

This view was supported by a travel agent participant, P2:

"We focus on internal development more than planning electronic business. We are restructuring our organisation with new organisational services and profit centres. We recently moved from paper to online records and staffs are being trained in the new systems. It is an expensive program with training staff in 15 locations and we have to ensure that all records are changed over successfully as well" [P2].

The findings, therefore, show that the industry representatives are undertaking ICT development, however, this is not necessarily directed at e-commerce. The ICT standards in the majority of minor firms differs from the larger providers who appear to be reasonably satisfied with their online activity. The organisations that can resolve this impasse can market their products to a global market where potential clients are long used to selecting and purchasing travel services online. Complexity in travel information, content of the offer, communications with the firm, or means of payment will simply mean the potential client will go elsewhere. Lack of commitment contributes considerably to absence of the business on e-commerce channels in the Saudi tourism industry.

5.8.4. Human Resources

ICT innovation is a decisive factor in improving employee competency and the reverse is also true (Zhang & Ma 2009). An investment in employee ICT-based skills and knowledge accelerates the introduction of e-commerce as the level of technological awareness and understanding increases in the firm (Carayannis et al. 2006).

Despite a lack of commitment to e-commerce, the participants stated that staff attitudes and ICT competency were vital to a successful e-commerce model. Further, the industry representatives said that marketing and product innovation were dependent on the quality of website designers and the availability of in-house or accessible IT support personnel, who could train staff, perform help desk services, address user issues, and

perform upgrades. Interviewees had similar views regarding IT staff, e-commerce acceptance, and technology.

Participant P5, a manager of a travel agency, strongly supported e-commerce. Interestingly, this participant had a bachelor's degree in computer science from an overseas university and work experience included a travel agency in a third country where e-commerce was not a priority. Upon moving to Saudi Arabia, the participant found a firm where the leadership was equally enthusiastic in e-commerce, and this company is now the Saudi leader in online travel marketing. Another example of ICT competency was given by P4, whose company was preparing an off-shore Business to Business e-commerce system:

> "Our IT department is an important part of the business. We employ seven well qualified IT specialists who have produced several useful solutions for the firm. They are implementing a new IT system for us and we rely on them implicitly" [P4].

On the other hand, the participants mentioned issues concerning the lack of ICT assistance, either through lack of qualifications or lack of competence in a particular system:

> "We employ several IT staff. Most of them lack the competency to manage complex tasks. They do not have the capacity to install an ICT system throughout the organisation. I believe that if the IT department was better qualified that the firm could do better also. I think this is a reason we have not moved to e-commerce" [P1].

One of the participants, P2, also mentioned website competencies for staff. Qualified and knowledgeable operators were required if the firm's website moved from being passive to being interactive:

> "We need to contract with travel wholesalers, so we need online operators for those wholesalers, one or two to check for prices and others for booking and following up. It [online booking] depends on the operators and good IT support for the website. This may put cost pressures on our profit, but we have a special budget for this profit centre as an initiative" [P2].

Another participant said that technical staff can make their own changes. P10 said that the introduction of an internet booking engine within the firm was initiated by IT staff and formally approved by management. Thus, the participants commented some 19 times, directly and indirectly, on skilled human resources as an important factor in e-commerce and ICT adoption and use in the Saudi tourism companies.

5.8.5. ICT Resources

Technological resources underpin all ICT activity as the infrastructure is a fundamental requirement for firms wanting to move their business online. However, the decision to adopt these technology applications is a consequence of awareness, commitment and a business plan underpinning investment in technology. Similarly, skills and knowledge are required to advise management on their ICT investments (Ndlela & du Toit 2001). Once these decisions are made, then staff and operator training can fulfil the remaining functions.

Greater ICT usage intensity within an organisation implies greater technological readiness in relation to both technological infrastructure and ICT human resources (Zhu & Kraemer 2005). The technology infrastructure and facilities available in an organisation allows it to respond to the challenges and opportunities of e-commerce. Technological resources are the ICT capacity of an organisation, the extent of computerisation, and experience with network-based applications (Powell & Dent-Micallef 1997, Hartman, Sifonis & Kador 2000). In other words, the extent of computerised work and network-based applications indicate the stage of e-commerce attained. Participants reported that continuing investment in ICT infrastructure by their firms was a motivator for further upgrades toward e-commerce. However, this requires compatibility of existing ICT systems with future applications relating to online booking for varied travel services. P4 said:

> "I believe that nothing is impossible, but we have to have strong support from the IT department. The recent information systems upgrade should be capable of being easily connected with online booking in the future" [P4].

Another participant, P2, could not imagine significant ICT investment without in-house professional support. P11 concurred:

> "To offer an internet booking facility we have to find IT professionals that specialise in administering and maintaining the company's website. They must follow up all technical issues and offer support" [P11].

The participant from the events company, P1, has the responsibility for the firm's online profile, and admits that it is not progressing as preferred. The interviewee said that as a late entrant into e-commerce, Saudi Arabia was lagging behind many countries,

including some other GCC countries[21]. The size of the firm and the capabilities of the IT staff in tourism firms did not extend past technical issues and systems maintenance. They could not deal with complex issues relating to online booking or contracting travel wholesalers that need very different capabilities. P2 noted the complexity of IT services:

> "We have two IT staff members. The back office system [new systems technology] takes all their time. They do not have time to undertake research, study or plan for online booking. As part of a business group, we have access to their IT centre which has 19 IT staff and we asked them to design a new website. They asked us for a great deal of information which should rightly have come from hotels and airlines. We didn't have time to obtain all this information and the details changed too quickly to keep up. Actually, we as business staff don't have time to do this either" [P2].

The comment by P2 regarding website construction and maintenance illustrates an issue with outsourced website providers. These ICT firms specialise in websites, whereas a travel firm assumes that the designer knows the travel industry and how it operates. There is a role for outsourced website construction, but it will not reflect the firm's values. Here, in-house designers, being more conversant with their employer's industry and organisation, would be more suited than an external designer.

5.8.6. Organisation Size

Other organisational attributes can influence decisions about technology adoption. Some scholars suggested that enterprise size plays an important role in information systems implementation on several key dimensions (Mabert, Soni & Venkataramanan, 2003, Harris & Katz 1991). Gremillion (1984, p.4.) argues that 'organisation size has often been viewed as a predictor of the adoption of administrative innovations, including computerization or information system use'.

Participants in this research put forth several views that support Gremillion's (1984) assertion. Increasing size is said to either place further demands on ICT resources or at least facilitate more extensive use of ICT. That demand may happen by providing greater investment in ICT to achieve performances or to solve communications and integration problems which arise from increasing size.

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[21] Gulf Cooperation countries: Saudi Arabia, Bahrain, Kuwait, Qatar, Oman and United Arab Emirates.

Participant P2 replied to a question on an organisation's motivation to invest in advanced information systems. He said:

"The demand cannot be stopped because we have to submit a quarterly progress report to the group's board. This report is audited. Without automation we cannot gather, analyse and present the data. However, a small to medium sized company can have their financial reports completed manually. In a group that has over 200 employees a fully automated information system must be in place to allow better cash and work flow management" [P2].

Another participant supported that observation regarding firm size, stating that a larger company needs more ICT resources to operate. The interviewee equated size with turnover:

"I hope to find a (internet) provider who understands the size of my business. For instance a company that has a yearly turnover of about two hundred thousand Saudi Riyals cannot afford an e-commerce solution of fifty thousand Riyals, but one that has perhaps two million annually can give it a go" [P7].

In a view relevant to e-commerce, participant P11 related the level of adoption to the firm size and its investment size:

"An organisation that offers its products online has to be sufficiently large. It should have investment amounting to billions in the market, like Gulliver Travel which has offices around the globe and employees from different backgrounds work depending on the region. Going this way needs high levels of capital for investment" [P11].

This analysis of ICT resources shows that size is a key factor in a company investing in e-commerce activities such as online shopping. The key finding from this analysis is that companies of different sizes approach e-marketing differently across a range of issues like number of employees, number of transactions, or turnover.

5.8.7. Summary

This theme of e-readiness has encompassed themes such as the organisation's awareness and understanding of the online environment, the participants' business models that may support online trading, commitment to systems change, and the skills and knowledge and technology resources available. There is also the aspect of firm size that impacts e-readiness.

Participants generally conveyed scepticism about e-commerce, preferring a brochure approach rather than the onerous work of instituting e-commerce. They were

not sure that Saudis would prefer to purchase travel services online, and with the annual *Hajj* and *Umrah* traffic, perhaps they were satisfied with their levels of trade. Religious travel involving millions of visitors is strongly controlled by the government for reasons of both security and logistics. Perhaps this mindset pervades non-religious travel opportunities external to Saudi Arabia as the agency system manages *Hajj* travel, so it may unofficially control leisure and business travel to the peninsula. In this way, the e-business model concept was not really pursued: business styles and objectives within Saudi Arabia differ widely from other travel firms, and Saudi travel agencies easily access global travel offers.

Propelled by government direction on *Hajj* travel arrangements, Saudi industry representatives are investing substantially in ICT development, however, this rarely extends to e-commerce. Transactions are rarely completed online; the internet may be used for marketing and for suppliers; and an intranet is often used for internal matters such as administration, financial reports and human resource functions.

There does not appear to be an adequate ICT support industry in Saudi, as there were no references to high quality support firms; for these and other reasons they preferred their own IT professionals. They also acknowledged the importance of well-trained operators, although a participant occasionally confused a trained operator with an IT professional, particularly in the instance of ICT investment or a move toward trading online. Further, size was a strong variable in the industry, and the ability to move online was taken as being a function of size and importance of a particular firm in the industry.

Thus, the Saudi tourism organisations that can resolve these issues and have the commitment to grow their business should be able to take the lead in the Saudi travel industry. However, as one participant acknowledged, the country is late to e-commerce and is marked by a reticence to change. It is possible that the next generation has the imagination and initiative to keep in pace with global activity and growth to harness the 21st century online market.

5.9. Theme 5: External E-readiness

Relative to the Saudi travel industry, a firm's ICT infrastructure and the technological competency of its staff reflect its ability to compete when others may have

access to larger markets or are using ICT to become more cost-effective. In this section, the competitiveness of the participants' firms within their industry is explored.

The interviewees stated that the competitive forces within the tourism industry were instrumental in decision-making, with the majority agreeing that industry practice in adopting ICT influences a firm's decision to innovate. In this section, the innovation relevant to the Saudi tourism industry was online booking services, so that the industry member's website could be used for interactive marketing and thus sales, rather than an information service for the firm's products. The strongest influences for the industry members were competition, the practices of industry leaders, the size of target market, and potential loss of business. Finally, the government programs that encouraged online marketing were also a factor. These are discussed in turn.

5.9.1. Industry Competitiveness

To thrive in a market, organisations seek competitive advantage through superior products and services, cost controls and competitive pricing, and especially innovation (Wagner & Hollenbeck 2010). There are a range of e-commerce solutions that can meet these criteria. Molla and Licker (2005) note that 'organizations that perceive market forces as ready for e-commerce are likely to adopt e-commerce or embark on more sophisticated e-commerce implementation from fear of competitive disadvantage or perceived e-commerce benefit' (p. 90).

The Saudi travel market is moving slowly towards a greater use of ICT in business. However the rate of adoption is not consistent across the travel industry. Some firms create online businesses for niche markets, and others are content with ICT to support their shopfront businesses. This is due to the fragmented nature of the tourism and travel industry in Saudi Arabia, from small traditional providers to the large accommodation, airline and travel agent corporations. Thus ICT implementation, its type and penetration in the firm, is subject to the level of ICT awareness and in some cases to the competency of the manager. If the manager does not understand the nature of the technology, or is unable to evaluate the available technology to meet the firm's needs, this will lead to disconnect between need and procurement, and fuel doubts about successful implementation. To explain the firm's avoidance of online trading, P4 relies on the reticence of the industry to adopt innovation:

"Not only are the travel firms slow in adopting e-commerce and providing online services, but this is also true for the Saudi social and business environment. We have only had the internet in our schools and homes over the last few years. Even the banks and newspapers have had the internet for not much more than a decade. But when a couple of banks offered online services, the others struggled to catch up. This is the state of the Saudi market. We watch each other, see what technology is successful for our competitors, then we follow suit. Investing in technology is risky, given the amount of finance involved and the lack of good technology service firms, so we wait until something works well. In this case, our main competitor does not have online service on his website. Every time I check online, I find that message "coming soon" - but if he has online services today I will have the same tomorrow" [P4].

A similar comment was made by participant P7. He said:

"When I see a competitor offer online bookings for events and conferences, my top priority will be offering services online" [P7].

These comments are indicative of the industry members' reluctance to be the first to offer a service for fear of failure, so they are wait for others to make the first move.. They are perhaps not convinced that this marketing mode is accepted by their clients, or feel that they may lose sales if clients are confused, or suspicious of the online offers. They appear unaffected by the vast array of information and offers already offered online and the fact that their smaller local markets are insufficient to sustain growth.

Participants were well aware of the effects of change in their decisions to adopt new technology. Two participants gave examples of competitive advantage that could affect their responses to e-commerce adoption. P3 acknowledged the influence of change in an industry. He noted:

"This is human nature. Yes, if my competitor was successful with an initiative, I would definitely follow. But I need to make sure that when I invest one riyal in e-commerce, I get back ten. . . I can give you an example on the impact of competition. In the nineties, Mercedes Benz and BMW dominated the global luxury car business. Then the Japanese introduced the Lexus with higher standards and cheaper prices. What happened? The two brands improved their standards to retain their positions in the market" [P3].

Participant P1 gave another example, this time technology. Before privatisation of the Saudi telecommunications sector, services were minimal. Now with three telecommunication providers, services are of higher quality and relatively less expensive. This occurs in all industries and tourism is no exception. He said:

"There's no doubt the local industry is competitive, but no one takes the lead in introducing change as happened in telecommunications. They just follow each other. So when one goes online, we all will" [P1].

These two examples show that participants were well aware of the effects of competition in the country; however, this was not sufficient to motivate the tourism industry. Whilst competition was acknowledged as a factor in their e-commerce decision making, participants offered other important factors such as technology availability, skilled human resources, and market research regarding online competition. The participants were also well aware of the use of online sales in the wider tourism industry. However, they used the Saudi standards of infrastructure and technological skills as factors concerning adoption. P11 said:

"Adoption of online services by our competitors would motivate us to adopt e-commerce, but other matters must be considered for my decision to go online. Budget, contracts, human resources, technology and good market research are examples" [P11].

A similar comment was made by participant P4:

"We know what's going on in the market, not only with the local competitors, but also globally. Those global tourism companies offer online booking, and we need to respond, but first we must build internal business capacity. We need to create the back office infrastructure, accounting and booking systems, and then we can compete with anyone" [P4].

However, these observations were not universally shared as primary factors. Competitive innovation requires justification and P6, a licensed *Hajj* provider for Saudi nationals, said that a competitor is not considered to have an innovative advantage unless a real threat to the business is detected. He said:

"In the case of e-commerce, my competitors could use online booking to offer a more convenient marketing channel to their customers. I won't immediately respond, but will wait and see what happens. If I feel that this is working for them, I will then plan for change" [P6].

P10, the airline industry representative admitted that competitive advantage from the local industry forced the firm to introduce online booking services. P10 said:

"Because of new competitors in the local market who are taking market share, my organisation established an Electronic Commerce Department a year ago. This department's duties include strategic planning for e-commerce, infrastructure, and operating online customer services" [P10].

The majority of participants accepted that e-commerce can provide competitive advantage, and would adopt online services once it was established in their industry and when they were convinced it was financially acceptable. Participants commented on competitive advantage some seventeen times during the eleven interviews, and this reflected their attention to market conditions.

5.9.2. Market Size

Each business has its customers, a potential number of transactions, and a profit projection. However, any organisation can access a wider pool of potential customers, and can adopt innovative means to increase sales to their own customers and interest potential customers. These aspects of marketing are also drivers for tourism organisations to innovate through effectively introducing and managing technology.

The majority of tourism participants in the study did not use e-commerce primarily because of the low number of Saudi nationals who buy their services online. However, one participant agreed that using the internet as a marketing channel can attract new clients, thereby, increasing the firm's customer base. Participant P5 represented a travel agency that used the internet as a passive marketing tool without offering online booking services. He noted:

> "Offering packages on the internet helps us reach a greater number of customers. Our deals reach millions of Saudi web users and those across the Arab world. We get hundreds of sales each day that we close offline; it is really worth doing business this way" [P5].

Other participants did not support this view, and were generally sceptical of the number of customers who would book online. Participant P3, a representative of a national hotel corporation argued that the size of the potential market was a critical factor in the adoption of e-commerce. He added:

> "The whole issue [of online booking] has been on my mind for a while, but a visitor from Egypt, for example, is not going to be able to book online due to Saudi visa restrictions. In this case, I can only offer online bookings to citizens of the GCC countries[22], expatriates living in Saudi, and nationals" [P3]

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[22] Gulf Cooperation Council countries: Saudi Arabia, Oman, United Arab Emirates, Qatar, Bahrain and Kuwait

Non-business travellers to Saudi Arabia are restricted by severe visa constraints. Due to security concerns and the logistics of conducting the annual *Hajj*, Saudi visas are available for *Umrah* and *Hajj* pilgrims only through national and international agents who book services with designated Saudi providers. This restricts the international leisure and travel markets for the Saudi tourism industry. In support of P3's view, two other religious tourism providers noted the limits set by Saudi government for the number of pilgrims for *Hajj* and *Umrah* each year. Therefore, the agents could not see a need for online booking as their allocations are easily sold through their stores. They noted:

> "I think only two per cent of our clients would book online for *Hajj*. Thus, the investment in an e-booking system would be costly, and the potential number of customers very low, that is way I'm not motivated to go online. Also, each *Hajj* agent is assessed and graded by the government and this grade affects the pilgrim package allocation. For example, we are grade A, so we are allocated sales to a thousand pilgrims and I can sell this number of vacancies without e-commerce" [P6].

> "We get a number of vacancies each season from the Ministry of *Hajj*. We depend highly on referrals to market those vacancies. Most of our customers use word of mouth in their selection of *Hajj* agent. I don't think there is any need for e-commerce in this case" [P9].

Whilst these comments reflect the agents' views that online booking is redundant for sales of local *Hajj* and *Umrah* packages, this is not the case for the government's e-commerce policy for *Hajj* agents and providers. New regulations in Saudi Arabia are designed to track all *Hajj* pilgrims online from booking to leaving the country.

5.9.3. Loss of Business

Loss of business was seen as a possible outcome of failure to innovate. Participants recognised that a failure to address the issue of interactive online sales may lose customers and thus market share; if not through local competition, then through global competition. As a travel agent, P2 understands the risk in loss of existing and potential customers if the Saudi tourism industry cannot retain its place in the world market. He said:

> "The tourism firms that do not develop e-commerce will fail or their owners will sell out. The trend now is to use the internet for communications. I have customers from other countries who telephone me and I assist them. Internet communications allow me to manage many more customers. I think tourism companies should improve their services otherwise they will lose market share.

Online marketing adds value and it helps develop business. Ignoring online marketing will severely affect future business strategies" [P2].

However, other participants were not concerned about the threat of online sales to their future business and they were in no hurry to adopt e-commerce. P11 explained this situation in the following words:

"I know that internet travel agencies attract some of our customers, but I'm not worried, as sales volumes increase each season. The reason is that we provide good service and are adaptable, so we can quickly meet the changing needs of the local market. Our customers compare our prices and services with products offered on the internet and usually most choose our agency" [P11].

This participant also mentioned customer concerns about financial security issues. Therefore, there was little agreement among the participants on the extent of business loss if they did not adopt an e-commerce strategy. The first group did not see a high risk from internet buyers. The second group saw a real threat to future business from e-commerce from the wider industry. However, other factors such as infrastructure issues and the lack of skilled technicians restrained them from adopting e-commerce. Further, industry leadership from the major companies was lacking. Participants mentioned that once the leaders adopted online trading then the small to medium sized businesses would follow. The researcher asked participant P2 about factors that he considered would force the tourism companies to adopt full e-commerce and the projected timeframe for this future adoption. He said:

"I think within five years all travel firms will be using the internet for marketing. There are about four hundred tourism companies in Jeddah, of these, there are about 20 market leaders. Those 20 companies have 80 per cent market share and the other 80 per cent of the firms have the remaining 20 per cent of tourism sales. So if the leading firms adopt e-commerce, the smaller firms will follow. I also include the quasi-government companies like Saudi Airlines that can command greater confidence from their customers and that opens the way for us" [P2].

The view put forward by P2 identifies the role of large business entities as a significant external factor that impacts e-commerce adoption.

5.9.4. Government E-commerce Initiatives

Saudi Arabia is a developing economy and an absolute monarchy. Government policy and programs form a significant part of its business structure, both in the public and private sectors. As noted by the study's participants, governments have two forms of powers, regulation and financial policies and programs. Several studies support this

argument (cf. Baqir, Palvia & Nemait 2009, Contini & Lanzara 2009, Goulden 2005). Some studies find that economies that are subject to government initiatives to incorporate ICT adopt technology more so than others who are not so affected (Kuan & Chau 2001, Molla & Licker 2005).

Participants noted the minor positive effects of supplementary information from the government ministries' websites where ICT-based data was used, such as uploading *Hajj* information onto an agent's website for local pilgrims. P6 said:

> "Information on the Ministry of *Hajj* and Ministry of Islamic Affairs, 'Da`wah, Guidance and Endowments' website assisted us to create a well-informed website. We uploaded and re-formatted details to offer an easier understanding of *Hajj*. Pilgrims appreciate this additional information and it gives them a positive impression of our services" [P6].

Another participant, P8, the *Motawef* for internal *Hajj* pilgrims, also valued the Ministry of *Hajj*'s information system, which was used by all *Motawef* agencies to record and process *Hajj* activities, and for the issue of visas.

The majority of participants, however, argued that there was insufficient government action in the form of regulations, infrastructure and programs to support local business. The absence of these government initiatives was a major factor impacting e-commerce adoption in Saudi Arabia. Participant P7 compared the situation in Saudi Arabia with world-class ICT examples, such as the neighbouring United Arab Emirates and another Islamic country, Malaysia, both of which have well-promoted ICT visions with workable objectives that support innovation diffusion, but Saudi Arabia has no such vision. He added:

> "Saudi Arabia cannot even be compared to countries like UAE and Malaysia as those two countries have worked hard to realise their national vision. Their governments have ensured that all the country's organisations, public and private, should work together to reach shared objectives, including technological development. We do not have such a vision. If you take say 10 Saudi public organisations like education, health, tourism . . . you will find about 7 of them do not have vision, and 3 have visions that are too vague. This undermines attempts to develop the country. There are no clear plans" [P7].

This participant suggested that there was a need for more support from the government in making its objectives clear and fully supporting these objectives. During the interviews, however, there were varying forms of assistance identified as required by different tourism managers from different government organisations. The religious

tourism companies called for assistance from the Ministry of *Hajj*; those in entertainment, events and local tourism from the Ministry of Commerce or its chamber and from the Supreme Commission for Tourism. P11 noted:

> "The Saudi Chambers of Commerce and the Supreme Commission for Tourism should get closer to the tourism industry and learn about its needs and the issues that it confronts. I consider technological development to be one of those needs, but it is unlikely that future assistance (in ICT) will be very different from what it is now" [P11].

Participant P1 supported P11's assessment as he also believed that there is unlikely to be real technology support for the industry from the Supreme Commission for Tourism even though the Tourism Commission has an annual budget of billions to offer real improvement in the industry. As a suggestion, P6 said that the Commission could provide a tourism portal, not only for information, but to allow all tourism firms to advertise online. This may eliminate some challenges like high cost, awareness and sourcing a competent ICT provider. He said:

> "I feel that a public organisation should take the responsibility for online marketing by creating a web portal for Saudi tourism. The portal would be sufficient to offer Saudi tourism firms space to advertise their packages and prices and to take sales online. A government-run website would be perceived with greater credibility by customers, and there would be no need for every firm to develop its own online booking system" [P6].

Other industry representatives in the study supported the view that the Saudi government needs to make a greater intervention to support online sales. There were comments regarding regulations that may be introduced and the need for full legislation to manage ICT on a national level. P7 noted:

> "There is a big legal issue regarding potential problems between sellers and buyers. We need legislation that can resolve possible conflict" [P7].

Participant P9 thought current legislation was sufficient, although there were issues for government:

> "I do not believe that there is a need for more legislation for e-commerce, because the courts for commercial conflicts can also consider those that occur online" [P9].

However, participants thought that the government could extend its administrative powers into ICT. Several comments were made in respect to procedures that could encourage the uptake of e-commerce, for example, making it more difficult for

the industry to file paper forms, or by improving ministerial portals for e-government. Another participant, P4, mentioned that the pressure placed by government policy for computerising services in national banks should also be applied in the tourism sector. Further, the government could ease its current restrictions on the use of credit cards[23] for online payment. He said:

> "The Saudi Arabian Monetary Agency in many ways pressures local banks to offer better services to citizens. But I do not know why it does not use pressure so that credit cards can be used on the internet. If this happened, it would be a big boost for e-commerce" [P4].

Participant P9 also mentioned online banking, arguing that Saudi citizens only used online banking because most public sector organisations had lower government charges to pay for services online. The respondent said that online booking would not progress without this type of encouragement.

> "Let's take electronic banking services as an example. People did not use these services until the government made them go online to pay for passports and other public sector accounts. But it doesn't apply in the travel industry" [P4]

Also, the hotel chain and external *Umrah* agency manager, P3, argued for more government directives. *Umrah* agencies must use a national information system, *Makha'a* (مخاع). This is a single information system licensed to five private providers, who tailor their portals according to the subsectors in the industry:

> "We use *Makha'a* because the Ministry of *Hajj* made this a condition of an *Umrah* licence. We have to contract annually with a *Makha'a* firm but we can select a firm we prefer" [P3].

The comments and suggestions offered by the different tourism industry participants show the need for the government to provide further infrastructure and improved logistics. Infrastructure limitations were of concern to the majority of interviewees, who questioned the dedication and efficiency of the government in providing the ICT systems necessary to reach all homes and businesses. Whilst wireless hand-held devices offered respite for personal communications, large data transfers and data storage needs, by businesses require excellent technology, ongoing finance, appropriate networking and skilled operators.

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[23] Shari'a law prohibits paying interest, integral for credit cards that have overdue payments.

P1 expressed great concern over slow internet connections, saying that his firm spends billions in building top quality hotels, however, they could not offer fast and reliable internet connections. This reflected the government's lack of commitment to ICT. He said:

> "We are stalled by the state of the national ICT environment which needs to be developed further. For example, we pay a good deal of money for the internet connections, but the signal is very weak. We hope to improve in this area, but it is impossible without adequate ITC infrastructure" [P1].

Participant P9 explained further:

> "Generally, those responsible for building the infrastructure just consider current needs and probable usage, and design the equipment accordingly. Future needs are not taken into consideration because of a lack of strategic vision or cost issues" [P9].

Finally, participant P10 noted that there could be a large growth in sales if the infrastructure could improve its capacity:

> "If the infrastructure for the internet was better than what we have now, I think our sales from online booking would double. Customers don't like slow internet speed and find it is easier to pick up tickets from our branches rather than trying to download them" [P10].

5.9.5. Supporting Industry

For participant tourism organisations contemplating online business, issues regarding ICT infrastructure and the standard of local providers were a priority, eliciting 48 comments. The ICT sector comprises many forms: logistics, infrastructure, solution providers, information providers, online financial services. Respondents to the study said that secure online financial support from the local banks was not robust enough to encourage full online funds processing. Other comments noted that regional web developers did not understand the travel industry and were indifferent to sales promotion opportunities. Overall, the industry representatives were not convinced of the capacity and commitment of the IT firms. For web design, interviewees preferred freelance or global providers.

Developing Arabic E-commerce

In Saudi Arabia, as elsewhere, trade and commerce are interdependent and the least capable provider in a particular sector often brings down its capacity and ability to engender growth. In this case, substandard regional ICT infrastructure impacted the tourism industry and its ability to compete in the online commercial environment. Participants said that they did not see progressive ICT organisations within the country that could guide them to better understanding and utilisation of e-commerce innovation and infrastructure; nor could they envisage them as being capable of providing support for even lesser technologies.

Dedicated Websites

A few of the participants were aware of the competitive advantage of full online commerce and agreed that it must be pursued for long term growth of the firm. However, local providers were not capable or available. Whilst tourism firms could access global e-commerce support, the largest travel industry contingent, *Hajj* and *Umrah*, lacked that support. Although parts of the *Hajj* package were conducive to online sales, such as air transport and to a certain extent accommodation, pilgrims required a full travel service that could also observe religious sensibilities. Placing this logistical complexity entirely online was plausible to an extent. However, secular tourism was another matter. P1 added:

> "For market advantage, we would have no problem in establishing (e-commerce) immediately. If you know a firm that can deliver this, please let me talk to them. We usually seek out new technologies. For example, we contracted a global provider for a customer relations system, but we cannot find local IT companies that can help us in any significant way" [P1].

The absence of dependable local e-commerce providers does prevent Saudi tourism firms seeking innovation. Thus, travel agencies and tourism organisations use international providers. One participant, P4, had experience with several Saudi travel agencies, and was knowledgeable about the technology limitations in the country. Considering this, he had formed a partnership with an Indian provider:

> "We understand that international firms offer superior and cost-effective solutions. We selected one from an international exhibition. Also they understand our needs as a travel agent, we speak the same language [business language] . . . we retain commercial intelligence and utilise their products" [P4].

Furthermore, the web developers, programmers and designers who work for the local firms are expatriates. As the majority are not fluent in Arabic, the resultant websites

are not attractively designed to induce customer purchases. To overcome this issue, P5 said that his corporation had developed its online booking website in Canada. However, those who produced the website had an Arabic background. The ability of the global provider to source professionals knowledgeable in Arabic social norms to service an Arab corporation shows that the expertise is available. However, the Arab developers have sought employment elsewhere. P5 noted:

> "We developed our online booking through a Canadian company but the developers were Arab. This is much better than contracting a Saudi company because most of the developers are Indians, which causes many implementation problem. Also, surprisingly the final cost of working with foreign providers turns out to be cheaper" [P5].

Online Booking Providers

Whilst the larger firms of some participants in this research were knowledgeable about global outsourcing of their ICT needs, other organisations were not. There is thus an opportunity for Saudi entrepreneurs to access tailored ICT capability from global providers and distribute it to the local market. P11 supported this initiative, questioning the lack of interest in international firms to access the large available Saudi market:

> "I have never met someone from an ICT company that offered an online booking site. Our agencies need ease of access to technology because we focus on business but not development . . . I remember a tourism international conference where a speaker talked about the impact of online agencies on (shopfront) travel agencies, but nothing about operating e-commerce" [P11].

Other interviewees mentioned the high cost of local ICT providers in implementing full e-commerce successfully, an issue that is discussed later in this section of analysis. However, P6 suggested that Saudi organisations may bypass local ICT issues by using common facilities, mentioning an international online booking service as an example. An approach to P6's firm by a local online booking agency, Arab or Saudi, he said would be welcomed. An Arab website could be available to local tourism organisations to upload their packages and prices. P6's firm is licensed by the Ministry of *Hajj* to offer *Hajj* travel services for a thousand pilgrims annually. He said:

> "The cost of providing a dedicated online booking service would not be justified for a thousand people, but an offer from a local online booking firm certainly makes sense . . . I am ready to go in this case" [P6].

Information Providers

The main barrier against a common online Saudi booking provider, as P6 suggests is the lack of information produced by the industry. The participants noted that no booking portal can operate without reliable information and performance guarantees. Potential customers demand full information and certainty about their travel arrangements, standard of services, details of locations and times, and some foreknowledge of the experience they are purchasing. This information is available from shopfront agencies where plans can be discussed in full with a knowledgeable agent who advises on settling the travel arrangements, and adjusts the itinerary if required. This detailed planning and information process is a norm for Arab business culture, particularly in service delivery.

For global tourism, travellers also have access to full information. Global online booking providers interlink with vast networks within the tourism industry worldwide, offering detailed information to customers about destinations, accommodation, air travel, tours and lifestyle experiences. P4 commented on the success of international online booking providers, noting that the depth of information from their global networks is the driver of their success:

> "Let us talk about (global booking agency) as an example, because I consider it a travel agent. The tourism information includes car rentals, packages, air lines . . . that assisted (the agency) to grow . . . their task was only to connect with these providers and operate their business" [P4].

For instance, more information about the locations of the various attractions in Jeddah would assist the tourist to select relevant accommodation. It is unlikely that this tourist would be accommodated near the attraction, as this type of information is not available in the Arab web environment, as P2 commented. He added that his organisation's adoption of virtual marketing had to be superior to that available in the local and even the global market. Thus, there is a need for supporting industries that can offer complex and timely information on destinations. He said:

> "We are missing the destination websites that we could link to for detailed information. If they were available, it would just be a matter of connecting to them. If we had sufficient detail on travel and accommodation for destinations that travellers are interested in, pictures of the accommodation and attractions, and information on access, this would assist us move to online booking. We cannot just consider e-commerce as a booking engine, our online presence must be an informative integrated customer service website. We would love to

implement technology with a high degree of certainty of success; however, the information links are not there to begin" [P2].

Providers' Tourism Knowledge

The discussion to this point highlights the needs for ICT provider specialisation, another limitation for the Saudi tourism industry. Participants frequently stated that it is not enough to engage an e-commerce provider, but that the provider had to understand the tourism industry to the extent that its services could be marketed well online. P3 had many years of experience in hotel management and stated that the outsourcing firm for e-commerce must be flexible, and the system employed for e-commerce must be adapted to the client and respond to changing circumstances. P3 also noted that, although his firm had made many attempts to use local ICT providers, they had all failed and been replaced by others with offshore services. He said:

> "We tried server information systems made by local vendors, they were not reliable enough. The difference between the locals and the 'big name' providers is that locals rely too much on tailor-made solutions, whilst the others focus on an industry and keep improving their services. Systems improvement adds value for the user and allows us to offer product improvements which work brilliantly . . . but locals want us to team with our business so they can computerise it" [P3].

Similarly, P2 did not like to be distracted by ICT staff who are uninformed about the industry. He said that a systems provider should understand the firm's processes and not have to rely on staff for information:

> "We need to know which companies are capable of creating and e-commerce website without constantly requiring guidance from our employees. I will not allow any provider to involve us in the implementation work as we have our own duties and cannot spare time for this purpose" [P2].

Outsourcing Options

Some participants preferred the generic, off-the-shelf solutions, as their management believed that this form of e-commerce solution minimised risk of failure and was cost-efficient. Other participants preferred customised systems, or purpose-built solutions. The third group preferred proven freelancers, as they were disinclined to approach industry leaders. The last group have used global web developers quite successfully. But across all the groups, participants were not confident that their providers could take their online presence to the next step for e-commerce.

The research literature suggests that the capacity of ICT providers and the support industry underlies the success of e-commerce adoption in any business sector (Rodrigues 2002, Holloway 1988, Internet Retailing 2008). As discussed in the literature, the 1990s tourism sales model comprised travel agencies and computer network providers working through dedicated accommodation and travel wholesalers (Rodrigues 2002, Al Rasheed & Mirza 2011). The sales model changed as systems moved to the internet and linked in the form of business to business (B2B) e-commerce, described by participant P2: 'the support from our systems providers assisted our move to work on the internet'.

P3's organisation, a chain of Saudi hotels, had tested two customised booking systems offered by local providers. Neither was satisfactory and a global provider was later appointed to implement the service. He said that the disappointing experience of the local providers and the greater complexity of the e-commerce applications would make global providers with their proven e-commerce systems the only choice. He added:

> "There is an English saying, 'why reinvent the wheel?' My business is not new and there are many adequate systems for online reservations. Why spend years of effort starting from scratch? Honestly, from my 22 years of experience I know that proven systems applications grow business" [P3].

E-commerce presents challenges for tourism industry members who prefer not to depend on intermediaries, or wholesalers, to sell their services. However, to sell directly to consumers (B2C), some companies prefer to work with free lancers who can develop a specialised system to meet client needs. Frequently, the decision to use freelancers is based on competency and value for money. P2 said:

> "I am looking for someone who is competent in developing websites. I do not seek website firms because most of them quote me different prices. A non-technical manager like me cannot decide whether a company offer is reasonable. Even when I find a freelancer who can offer me exactly what I need, two issues matter: one is reliability, particularly as most of them are expatriates; the second is professionalism, which is not available in our local market" [P2].

This view indicates the issues encountered by smaller tourism firms that lack familiarity with the supporting industry's providers. Finding a competent website developer or booking service system is difficult; sifting through their offers leads to further issues of comparison, with technical jargon and conflicting claims.

Competency Issues

Although the interviews with the participants were conducted separately, most participants' views were complementary. Further, the information of one participant tended to enlarge on and support the view of another. Consequently, the previous quote by P2 highlighted another aspect: that of the general opinion of the participants, and thus the Saudi tourism industry, towards their local ITC providers.

Participant P3 was a hotel chain representative and, as noted, accepted a booking system by a local ICT provider for testing. The provider installed the demonstration system for staff to load and trial. However, the test was disappointing due to the transactions speed. He said:

> "A local company came to us and demonstrated their system. I was not convinced because the system was slow; you needed 15 minutes to upload a few items of information. There was no advantage in the system they offered. We are in the age of speed and the demonstration we saw could not cope with customer needs" [P3].

The competency of the local ICT industry support is perhaps the greatest barrier to tourism development for Saudi Arabia. The ICT barrier is probably the gravest of threats to private sector growth in Saudi Arabia. The participant noted that this lack of support underlies private sector reluctance to compete online, let alone to embrace e-commerce. Only those organisations with international affiliations can access their partners' global standard e-commerce capabilities. P3 said:

> "Honestly, the issue for e-commerce in Saudi is lack of ICT support. Getting the right support is very hard in our county. Once a provider has a contract, the level of support diminishes. Thus any local company would know that is why we moved to global providers" [P3].

Participant P1 was a representative of entertainment and accommodation in the tourism industry and his corporation invested heavily in ICT, without local issues. He added:

> "We employed a well-known local IT solutions company. They promised to make fundamental changes in our work practices. We paid this company handsomely, after payment, the company contractor vanished. They did not deliver on their promises" [P1].

Cost Effectiveness

Participants in this research commented on the cost of ICT providers in Saudi Arabia. As noted, there was reluctance by the sophisticated participants to employ local ICT support firms due to a perceived lack of competence. However, cost for these services was a separate issue. Participants linked the size of their business to their ability to justify the outlay for elaborate websites and online services. Small and medium sized organisations were not able to afford high cost e-commerce solutions. P7 noted:

> "I hope to find a company that offers web solutions that meets the requirements and the size of the business. For example, an event management company like mine with a turnover of a quarter of million Saudi Riyals annually will not be able to contract an e-commerce site for SR50,000, but a larger company with sales of two million can easily afford this" [P7].

P6's organisation used an online portal *Yosr* (يسر), which assists many *Hajj* providers to organise their client travel data from pilgrim registration to the finish of the *Hajj* rituals. The annual cost of the portal is reasonable because development costs are shared by the *Hajj* travel providers. P6 added:

> "We had an ERP [enterprise resource planning] information system specified for our company. It was fine for our needs at that time, but the annual cost was prohibitive. However, when we moved to *Yosr*, technological advances were absorbed by many firms at reasonable prices because it is available for many *Hajj* travel providers" [P6].

Participants also linked quality with cost, as higher quality deserves higher value. P3 noted:

> "IT companies inflate the costs in their quotations to build a website which offers online sales, I do not why . . . even testing a trial version involves a high cost. . . . Actually I searched for other services and I found much better solutions but they would cost us 10 times more . . . you should keep the cost in mind. Research is a critical factor for websites" [P3].

Online Payments

To adopt e-commerce, online payment is a key issue for tourism organisations in Saudi Arabia. All participants mentioned the importance of the availability of payment channels on the internet. There were statements to the effect that the local banking institutes do not allow payment providers to be connected with e-commerce websites. Participant P4 argues that there can be no e-commerce without online payments, and these services are not available within the Saudi financial industry. He noted the perceived risk of online financial transactions with global payment engines, stating:

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"I will not upload prices and packages online without purchasing facilities. This is a real issue in Saudi Arabia. Local banks try to offer online payment via credit card, but nothing makes sense. In this case the customer still has to visit our branches, this is not online booking . . . also I cannot contract foreign payment providers that do not have local agents because I do not like to get into judicial matters" [P4].

He illustrated this statement by referring to a colleague who had started his business with an online booking site contracted with a foreign online payment provider. The business prospered for the first few months, and then the payment provider was asked for the resultant funds. The provider had disappeared and the matter amounted to fraud. Similar anecdotes affect the attitude of business owners toward online commerce who return to the local financial industry for assistance.

P2 concurred in this view of global finance managers regarding online services. Regulatory and logistical restrictions on funds flow between tourism industry stakeholders: customers, banks and the tourism industry are further barriers to e-commerce. There was a suggestion that a local bank offers a link to online payment; however, it was not well publicised. P2 said:

"Over the last years there were some restrictions on online payment through local banks. [A local bank] started to offer this service recently, but it is still very limited because the fear of hackers . . . this lack of online payment availability was fundamental in the decision to move to online services, but I think by the end of this year all local banks will offer this" [P2].

In this study, some participants knew about Saudi online payment providers and others did not. This variation in awareness level is problematic; it may be related to the size of the tourism organisation, its industry sector, or simply be an argument used by the owner to avoid e-commerce.. In contrast, P5 could not envisage a problem in relation to Saudi online payment providers, and his firm was moving entirely online, with no other transaction channel:

"In our next phase we will separate the hotel bookings and offer online payment on the website . . . then it will be full e-commerce website. This plan will assist the customer to get cheaper hotel prices. We are currently negotiating a deal with the (a Saudi bank) to offer these services" [P5].

Finally, P10, the airline representative praised a Saudi provider of online payments *Sadad* (سداد). *Sadad* is a recent online payment option made available to

citizens to facilitate all their financial transactions, including bills, fees and online tickets, from their home computers or mobile devices, or ATM machines. He said:

> "*Sadad* helped us to control online booking, as in the past we were accepting seat booking with no payment commitment. Now, the booking website asks the passengers to make payment within 6 hours through *Sadad* to retain the seat" [P10].

To date, it is difficult for all tourism firms to utilise two Saudi banks and *Sadad* as these organisations do not promote their services well to reach all tourism organisations. This makes the adoption of e-commerce difficult for these organisations.

5.10. Theme 6: Organisational Culture

Evidence from the literature shows that the decision of using an information system is grounded in an organisation's culture (Cabrera-Suarez et al. 2001, Carlsson & Hedman 2001, Hodges & Hernandez 1999, Ruppel & Harrington 2001, Shareef et al. 2009). To inform this research, therefore, it is necessary to identify and explain the cultural dimensions of Saudi organisations. During the interviews, the participants were questioned about the preparedness for change in their workplace cultures. Further, questions were directed towards identifying organisational attitudes and behaviours that reflect the workplace culture in achieving organisational objectives (Quinn & Rohrbaugh 1981, Kalliath, Bluedorn & Gillespie 1999, Dellana & Hauser 2000).

Figure 5.1 shows the four quadrants of the competing values framework of organisational culture effectiveness: *developmental (entrepreneurial) culture, rational culture, hierarchical culture, and group (team) culture* (Dellana & Hauser 2000)*.* In the context of this study, the model shows cultural forms as moderating factors to organisations' effectiveness, that is, their potential to adopt e-commerce (online bookings).

	Flexibility	**Control**
Internal	**Group (Team) Culture** **Dominant Attribute:** Cohesiveness, participation, teamwork, sense of family **Leadership Style:** Mentor, facilitators, parent-figure **Bounding:** Loyalty, tradition, interpersonal cohesion **Strategic Emphasis:** Toward developing human resources, commitment, and moral	**Hierarchical Culture** **Dominant Attribute:** Order, rules and regulations, uniformity, efficiency **Leadership Style:** Coordinator, organizer, administrator **Bounding:** Rules, policies and procedures, clear expectations **Strategic Emphasis:** Toward stability, predictability, smooth operations
External	**Developmental Culture** **Dominant Attribute:** Entrepreneurship, creativity, adaptability, dynamism **Leadership Style:** Innovator, entrepreneur, risk taker **Bounding:** Flexibility, risk, entrepreneurship **Strategic Emphasis:** Toward innovation, growth, new resources	**Rational Culture** **Dominant Attribute:** Goal achievement, environment exchange, competitiveness **Leadership Style:** Production and achievement oriented, decisive **Bounding:** Goal orientation, production, competition **Strategic Emphasis:** Toward competitive advantage and market superiority

Source: Dellana & Hauser 2000

Figure 5.1: The Competing Values Framework of Organisational Culture Effectiveness

For the purposes of this study it is noted that, whilst Saudi firms may not meet some assumptions of the model; that is, legislative and financial framework, structure, size, or operations, these constraints do not negate the application of the model to the culture within a firm or its relationships external to the firm. The following analysis aims to identify the cultural dimensions of the participants' firms to provide a relationship between the organisational culture and the level of online marketing acceptance; utilisation or intention to adopt online booking may be extracted from these views. Part of the discussion includes individual differences, that is, the participant's attitude, and this is a variable within this study.

5.10.1. Organisation One

Participant P1, with a master's degree in business administration, occupied an executive position in a leading family-based firm in entertainment and accommodation in Saudi Arabia. The participant had less than ten years' tourism experience in tourism. In the interview, P1 was not confident that Saudi Arabia was using ICT appropriately:

"Compared to well-known global companies such as *Walt Disney's* theme parks, our firm does not have complex technology in our operations . . . however, within

the country we certainly lead the market as far as our competition is concerned. We use smart card machines for admission to the attractions and to play games. Other companies still use coins" [P1].

Further, from the previous discussions, the most frequent observations regarding adoption of online business was the lack of competition from the industry to drive innovation toward online trading, and this is supported by the evidence that only two participants had adopted business to business e-commerce. Participant P1's approach in comparing local and global firms gave an indication that his firm could be characterised as a rational culture organisation (see Figure 5.2). The rational culture strategy emphasises competitive advantage and market superiority (Dellana & Hauser 2000).

Participant P1 also referred to organisation goals, with annual financial goals relating to sales and profit, and other profit centre-based objectives. He said:

> "We set up specific goals for all projects. For example, a few years ago we targeted (number) accommodation rooms in Saudi, now we want to achieve 10% more). In the end, we are planning to hit double the original number, and we will do it. However, our yearly achievement is related to size of sales . . . nothing happens by chance, everything is well-planned and related to target dates and specific businesses" [P1].

The dominant attribute of goal achievement reported by P1 reflected a rational culture. The participant also mentioned goal achievement factors such as employee training, although the discussion related more to overall corporate performance than the particulars of the strategy. As market leader, the firm had not considered online booking, with issues relating to logistics, customer demand and competition. According to Dellana and Hauser's (2000) model, the cultural values of the firm played a role, as the organisation was focusing more on reaching financial and sales goals and improving service competency; these were considered competitive advantages. It could therefore be concluded that, whilst rational culture organisations may be innovative, such innovation can be through a competitive environment in this instance, using smart card technology rather than online bookings.
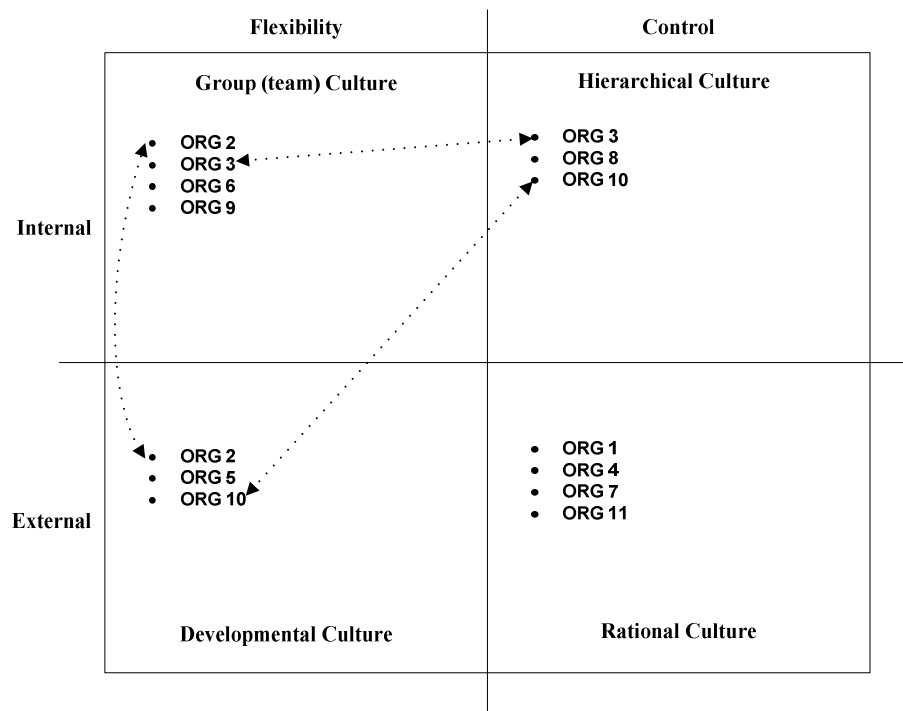
Figure 5.2: The Distribution of the Eleven Organisations Based on their Cultural Dimensions

5.10.2. Organisation Two

The second participant was responsible for three branches of a large travel agency group, and held a bachelor's degree in tourism. The interviewee had considerable experience in tourism, reflected in the individual's age, which was in late 40s. The participant was enthusiastic about online marketing and was willing to engage in online booking; however, the country's infrastructure, the inefficiency of the Saudi ICT industry, and customer demand were barriers to adoption.

Organisational culture, as noted, can influence innovation and technology adoption. Several comments from the participants gave information about their workplace culture. This particular organisation had a joint focus on both the external competitive environment and internally, on their human resources. Several remarks were made on the importance of teamwork and developing a workplace culture for customer satisfaction. P2 said:

> "We are different, we work as friends and a teamwork spirit dominates. New employees adapt to this environment and work well with longer term staff. Every Thursday we gather together and talk about our experiences and discuss issues and the means to address them . . . we motivate employees with annual bonuses based on sales, budgets, and targets" [P2].

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This example represents an internal focus, thus indicating a group (team) culture However, this participant also concentrated on technology, and the extent to which the organisation was changing their office systems to streamline operations and place as many processes as possible online. The firm worked for several years in developing an integrated information management system, whilst their competitors used only online booking systems without integrating these into their organisations' management systems. Therefore, this organisation also met the criteria for a development culture, as it sought growth through innovation by introducing an integrated office management system and it intended to quickly move bookings online as well. This analysis leads to the observation that organisations that exhibit a development and a team culture are more willing to adopt new innovations like online marketing (see Figure 5.2).

5.10.3. Organisation Three

Participant P3 shared post-graduate qualifications and executive ranking with P1, although P3's was an *Umrah* firm for international bookings. Whilst not accepting online sales, the participant acknowledged the importance of e-commerce to this part of the business. The participant said that the firm had tried several times to outsource the online part of the business. However, they found barriers similar to P3's firm. The local ICT industry did not have the capacity to deliver complex information, decision making choice, purchasing facilities and financial confirmation. There were structural barriers to incoming visitors; *Hajj* and *Umrah* bookings could not be satisfied online as the Saudi government required that pilgrim services were marketed through on overseas agent. Further, there were limited annual numbers of visas for non-GCC pilgrims, and P3's firm could not provide online hotel bookings under this regime. Nevertheless, given the government restrictions, P3 was willing to use online booking for other customers.

Participant P3's portrayal placed the firm in two quadrants of Dellana and Hauser's (2000) model, hierarchy culture and team culture (see Figure 5.2). The hierarchy culture organisations follow the rules, policies and procedures and emphasise stability and predictability. This was precisely P3's observations in the interview regarding organisational values. He said that every employee gets a contract setting out rights and responsibilities to the firm, and encouraging behaviour that embraces best work practices and procedures. He added:

"We have a job description for each employee that includes workplace polices and procedures . . . in fact we have considerable experience in hotel management, the board and I. I have never been far from the business. That's why I know who to employ for what position and which vision we should achieve. Thus, we set policy and practices for all parts of the organisation and these are followed . . . we are very keen to let our employees know about their objectives, and the incentives that they earn like the bonuses for the *Hajj* and *Umrah* seasons, and certificates of appreciation we give periodically for high performance . . . we reward senior management (in other ways) privately. It makes a lot of difference for the following season" [P3].

The participant explained the manner by which the corporation set annual targets for each workplace, using statistical programs. Through long experience, P3 stated that the firm avoided the ICT industry; once through an unfortunate experience with a local provider, the second time with high cost and significant underperformance from a reputable global provider. The ICT systems were therefore built in-house and managed finance, human relations, administration, customers and suppliers, and warehouse stock, and allowed the firm to forecast sales, income and profits. The systems had a hierarchical function so that they supply information from the data to the appropriate profit centre, and the appropriate team member or manager at that centre. For example, if a hotel needed to buy spare parts for air-conditioners, the hotel manager uploaded an order on the intranet information system which was then approved at three levels; and this illustrated a hierarchical corporate culture. The observation is therefore that such firms can be innovative and move their management systems online. A further conclusion from the first three participants is that their education level does not moderate the level of e-commerce adoption, but may affect the intention to adopt e-commerce.

5.10.4. Organisation Four

The participant P4 had over a decade of tourism experience in other travel agencies, and an executive position in the current agency. However, P4 found the management culture 'aggressive' towards employees and that this was reflected in the workplace environment. Because of this, P4 was seeking to implement organisational policies and practices that would lead to an improved workplace environment. The interviewee noted that management had a high priority on sales and profit achievements, and number of customers. When requested, P4 said there were issues in adoption of business to business commerce:

"To summarise the reasons that stopped us doing business through the Internet, first, Saudis are not yet ready to use e-commerce; second, Saudis do not embrace change; and third, the investment in such technology is very high and would take available capital needed elsewhere" [P4].

Further, the participant spoke of a business to business information system the firm was purchasing from an Indian ICT company. The system was planned to achieve a range of objectives, including service customisation for clients. In this example, P4's firm intended to use the new system in tracking customer preferences and later offering promotions based on that information. They already gained competitive advantage from these customisations. He said:

"We know that service customisation takes us to a different sector of the market. The system we are implementing will offer this facility . . . also we are really keen to gain better control of the sales and payment process and this will be another advantage from the system. I think the system will be ready to use by few months later" [P4].

He also mentioned competition; that competitor websites were checked regularly to compare the services provided by P4 with other offers. This monitoring also extended to business strategies and the interviewee stated that once e-commerce was implemented and successful, they too would go online with their sales. As this firm focussed on goals achievement, competition, and business targets, these factors reflect a rational culture. Therefore, this example supports the finding reported by P1, that organisation 1, another in rational culture (see Figure 5.2), had no priority for innovation such as online bookings, although they were quite willing to market their services on the Internet.

5.10.5. Organisation Five

It was explained previously that P5 was a national advocate for online booking. P5 differed from the others, as the interviewee's degree is in ICT and thus the interviewee was enthusiastic in promoting online tourism packages. Arguably, a professional discipline is adapted to whichever industry the interviewee later adopts, in this case, the use of e-commerce in tourism. P5 noted that there were three factors in online marketing. He said:

"There were a number of reasons that motivated us to use online offers. We wanted a high number of customers so that the Internet offered us exposure to the market. Another reason was the social structure of Saudi community, where women like to compare destinations and offers and most of the time they are the ones who make the decision, not their husbands. Also, as you know, Saudi men

do not like to take their wives to travel agencies, so they can easily check travel offers at home" [P5].

The participant also talked about the firm's values such as teamwork and the workplace ethics they are committed to. However, the firm's business strategy was online marketing, and the discussion centred on advantages for both P5's firm and for their customers. To this firm, Internet marketing represents market reach and market growth; this indicated that the firm seeks innovation and new resources, placing it in the developmental culture dimension (see Figure 5.2). Therefore, firms exhibiting a developmental culture are more likely to adopt e-commerce and use online sales.

5.10.6. Organisation Six

This organisation valued their employees and stressed the value of teamwork. The firm used their workplace values in marketing *Hajj* services to local customers which aligned the family values of the pilgrims with the company's employees. P6 mentioned this alignment several times, noting how it affected the business strategy, marketing, and customer services. The organisation's website also articulates this marketing strategy. The interviewee explained that the majority of the firm's staff were contractors working for the *Hajj* season, so that it was important that they liked the work and would return next season, as recruiting and training staff was expensive and time consuming. Thus managers and employees worked and socialised together, and discussed issues. P6 believed this commitment and family spirit was reflected in customer service:

> "I like making a family work environment for the workers; then the employees are satisfied and this is reflected in the care they give our customers. After each season we ask the pilgrims who were customers to fill out a questionnaire. Most of the responses talk about the family environment they feel during the *Hajj*. This evaluation leaves a good impression and encourages them to refer us to their friends and relatives" [P6].

Further, the participant commented on the firm's values inasmuch as rewarding the staff, who receive bonuses and certificates of appreciation. This firm is a strong example of the group (team) culture (see Figure 5.2). Linking this work environment to the firm's attitude toward e-commerce adoption, the participant was also willing to use the Internet for marketing. However, cost was a strong disincentive. The interviewee suggested that the government could provide a commercial portal for all tourism providers to market their services. The participant P6 stated that the firm would

immediately market their *Hajj* services if such a portal was available. It is again clear that team culture organisations are flexible and willing to adopt online booking.

5.10.7. Organisation Seven

Participant P7 had some twenty years of experience in tourism and event management. Although the interviewee represented a mid-sized firm, P7 reported that providers do not consider organisation size when quoting on contracts for website or e-commerce solutions. This shows that larger firms are in a better situation when contemplating significant financial outlay to move to an online sales strategy. As noted, this has an impact on the Dellana and Hauser (2000) model, as firm size is assumed to be consistent with the variables under discussion. However, for the purpose of this research, P7's explanation of the firm's operations indicated the firm's strategy of goal achievement:

> "We have few employees, we only work for a few events during the year, thus we don't have corporate governance as we focus on the success of each project . . . we measure our achievements on the success of the event or conference . . . and the financial return from each project" [P7].

The firm that P7 represented was goal-oriented and thus adopted a rational culture. The firm had a website address, now defunct. That there was no online marketing by the firm was attributed several times by P7 to the high cost and low quality of ICT providers, and this situation, the participant said, was unlikely to change in the near future. This was the third firm termed as a rational culture that took a pragmatic view of turnover and profits and was less interested in e-commerce until it was proven to be more accessible and cost-effective (see Figure 5.2).

5.10.8. Organisation Eight

This firm was a full provider of non-GCC pilgrim services *Motawef*. The interview with participant P8 was the shortest, as the activities of the firm were under the control of the Ministry of *Hajj* which provided the structure and the logistics for the millions of pilgrims who arrive in the country annually. The participant said that the firm was a service provider to the ministry, rather than a marketing agency who could unilaterally increase its customer base. The firm was limited by the Ministry to a given number of pilgrims and direct online *Hajj* booking was not available to the firm without arrangements with the ministry and the *Hajj* grants' organisations in the pilgrims'

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countries. Delivering *Hajj* and *Umrah* services are highly controlled by select Makkah families who hold the rights to contract with all offshore *Hajj* pilgrims. The family businesses were granted by King Abdulaziz Ibn Saud, the nation's founder, thus the nature of these organisations is inherited and hierarchical (see Figure 5.2), with *Hajj* business allocated and retained by each family. These firms have no position except that allocated through history and thus do not see the need for innovative practices.

5.10.9. Organisation Nine

Participant P9 had more the 40 years' experience in religious and non-religious tourism. The interviewee, previously with the Ministry of the Interior, also worked in shipping, airlines, travel agencies, and now *Hajj* and *Umrah* services. The participant was of the opinion that Saudi people did not understand the concept of e-commerce, and because of this, the firm would not adopt e-commerce at that stage.

It should be noted that this constant 'reason' that participants reported against adoption of e-commerce reflected a recent situation where dial-up Internet services to some extent negated the benefits of online sales for Saudis. With greater access to high-speed Internet, and the proliferation of mobile services on a range of hand-held devices such as the iPad, technological advances had overcome many issues. If online travel services are available in Saudi Arabia, they will be accessed and perhaps used. With few opportunities to purchase online, Saudis indeed will not be purchasing their travel from national firms.

Participant P9's firm was team-based, and experienced. Without formal policies and procedures, staff served customers and were rewarded according to the seasonal outcomes. This performance was measured by customers' comments on the services they received on *Hajj*. He said:

> "We are in a tough business. It's tough because you have to deliver optimum service to each customer in very limited time, but everyone here works together to deliver the best client services. If someone makes a mistake, we may work it out later, because often the team works out problems between them and there's no need for management intervention" [P9].

It is clear that this firm had a team culture (see Figure 5.2). Because their business is the *Hajj* and *Umrah*, the firm's actions are governed by the Ministry, and

there is no benefit of going online. Thus team culture firms appear less interested in practising e-commerce.

5.10.10. Organisation Ten

In this semi-public organisation, participant P10 was the head of e-commerce. This was the only organisation with an e-commerce strategy and a separate function with a core responsibility for serving customers online. Thus the e-commerce group was responsible for the administrative as well as the technical functions for the organisation's online booking services. P10 spoke about the history of the organisation and its primary position within the Saudi tourism industry. The executive's current strategy was to realign its structure and work processes to reflect a change in ownership from the government to the private sector. He said:

> "Consulting with global tourism organisations and the Saudi industry, the leadership is re-structuring the organisation. Six strategic units are being created, converting cost centres into profit centres . . . for example in the current status, the ICT unit is a cost centre, but in the new structure it will serve the other units by charging for its services" [P10].

This arrangement served to allow the ICT group to focus on improving productivity through using the best technology available for the purpose, and taking responsibility for the function of technology throughout the organisation. This comment showed that the organisation, by improving work processes and upgrading its technology, was focused on performance and therefore exhibited a developmental culture. However, due to its antecedents in the public sector, it also had a hierarchical cultural dimension. The participant was not comfortable with this facet of the organisation, mentioning the approval process several times. An example was that a group decided to reduce its service charges and applied for permission to the organisation's decision makers but was yet to receive a response after some months. P10 said:

> "There are many reasons for such a delay in making decisions on important issues. One is the centralisation of the decision making process so that it takes an inordinate time to get a response. Another is that the organisation is still under public administration which means a lot of bureaucracy and that all financial issues are referred to the Ministry of Finance. Third, for important decisions you need cross-unit support and getting such support from other parts of the organisation is really difficult" [P10].

Again, the organisation's leaders lacked appropriate engagement with staff. The participant was tasked with creating a new group to improve organisational performance and spent several months at this work. Nearing completion, and without consultation, P10 was summarily taken off this task and placed in the e-commerce position. The participant considered this evidence of bureaucracy and hierarchical decision-making. Relating these two cultures, hierarchical and developmental, to the level of e-commerce adoption, the organisation adopted online bookings at an early stage on the understanding that it would improve sales and make the entity more attractive to the private sector. Therefore the organisations that exhibit a developmental culture are possibly the most willing to adopt e-commerce; further, hierarchical culture firms also appear to have a higher level of intention to use e-commerce (see Figure 5.2).

5.10.11. Organisation Eleven

Participant P11's story was similar to P4 in many aspects, as their firms were both profit-oriented. The notion of teamwork and employee consultation was not in evidence. P11's firm did not have formal policies or procedures for staff and they worked under direct instruction from their supervisors. P11 stated that achievement was recorded through the number of files (customers) each season:

> "Our work plans are not as much toward strategic development as a focus on sales and improving customer offers . . . we instruct staff to tailor the offer to meet the customer's needs, and performance is rewarded through bonuses and free trips" [P11].

The firm is goal- and performance-oriented and this was evidence of a rational culture. P11 stated that the firm would prefer to wait for the competition and for market interest in regard to using online bookings; this may occur later. This firm further entrenches the view that rational culture organisations have less intention to use online marketing (see Figure 5.2).

5.10.12. Summary

The majority of study participants had not yet considered e-commerce. The above analysis shows that there is an apparent relationship between the cultural dimension of an organisation and its level of interest in e-commerce adoption. Table 5.3 shows the firms' cultural classifications compared with the level of online marketing adoption.

Table 5.3: Comparison of organisation culture and intention/adoption of online booking

Comparison Dimensions	Organisations										
	1	2	3	4	5	6	7	8	9	10	11
Group (team) culture emphasis	L	L	H	L	L	H	L	L	H	L	L
Developmental culture emphasis	M	H	M	M	H	L	L	L	L	H	L
Hierarchal culture emphasis	L	L	H	L	L	M	L	H	M	H	M
Rational culture emphasis	H	M	L	H	M	M	H	L	M	M	H
Use of technology	M	H	H	M	M	M	M	M	M	H	M
Online marketing adoption	L	L	L	L	H	L	L	L	L	H	L
Intention to use online booking	L	H	M	L	H	M	L	L	L	H	L

L: Low   M: Medium   H: High

From the analysis, the finding is that the organisations with a rational culture have less intention to use e-commerce e.g. online booking; the hierarchal and group (team) culture organisations have some intention to adopt e-commerce; whilst those firms with a developmental culture had the highest level of adoption or intention to adopt e-commerce. These findings support confirmed that the organisational cultural can impact the level of e-commerce adoption which is also tested in the data analysis in Chapter 7, using a revised research model (described in Chapter 6). The next section considers the final theme: National Culture.

5.11. Theme 7: National Culture

Although Saudi Arabia is a member of international organisations, such as the World Bank, the United Nations organisations, and business regulatory groups, the context reveals differences between commercial practices in developed economies and those in Saudi firms grounded in traditional Arabic and Islamic socio-economic business practices. Thus, the Saudi culture and its influence on the private sector is important in understanding adoption of e-commerce in Saudi tourism. Indeed, the interviews with the participants were rich in explanation of Saudi cultural values that affect decision-making in tourism firms, particularly in the adoption of technologies such as online booking and e-commerce. This is particularly relevant for this research, which seeks remodelling of the UTAUT model to fit the national experience. This study focuses on tourism firms' behaviours, and thus it explores the attitudes, perceptions and behaviours of their executives. To analyse the effects of national culture, this section contains direct quotes and indirect reactions and opinions that shape the organisational attitude toward technology. To undertake this task, a range of traits and values are adopted.

5.11.1. Masculinity

A cultural dimension described by Hofstede (1980, 2001) and discussed in the literature review, masculinity refers to the distribution of roles between the genders. In 'masculine' countries, women may be assertive, but not to the same extent as men, so that these countries show some differences between men's and women's values. Saudi Arabia is an instance of acute gender exclusion where women are not permitted to direct men, thus they cannot take an executive position in a mixed-gender workplace, although they can own the firm where a male general manger holds power of attorney over their affairs (Qithami 2009). There are therefore no senior women in the Saudi tourism industry. This was not known to this researcher before data collection, therefore all study participants were males. Hofstede found that Saudi Arabia, as part of the Arab world, scored 52 in masculinity, lower than a different culture such as Australia, at 61 (Hofstede Centre 2013), thus Australia is expected to have a higher degree of gender differentiation regarding male-female roles and values than Saudis in the Arab world. Whilst the absence of women from the firms' workplaces is certainly of consequence, particularly to their economic welfare, this low dimension of male-female Arabic and Islamic values

are such that women accept patriarchal values more so than women in Australia, so would more likely tend to support male management decisions, including the adoption of new technology.

5.11.2. Leadership and Management Competency

Several participants referred to leadership and risk-taking in business. Participants P4 and P5 commented on the lack of initiative in the tourism industry, stating that industry members tend to leave things as they are and wait for someone to make a move, then follow if they are successful. As a member of a firm in religious tourism, P5 confirmed they would adopt any new technology only after it was successfully introduced by competitors. This trait against risk-taking extended to any new venture, with nearly complete reliance on the annual *Hajj* and Saudi families' domestic and international tourism. The focus for these participants was to maintain their businesses as growth was occurring naturally through increased population and the government's controlled (and increasing) intake of pilgrims on *Hajj*.

Participants also noted that the majority of tourism firms' leaders were not technology literate and practised basic business models. The participants broadly attributed this to two phenomena in Saudi commerce: the first was overrepresentation of family businesses among the major firms where there are no performance criteria in the family succession. P6 Said:

> "There is a real issue regarding the use of websites for promoting services, and this is the nature of a family business. Usually the owner was the founder and is still in full control of the business. Sometimes relatives are employed in executive positions and they may not be able to make the right decisions to develop their firms" [P6].

Interviewee P3 was another example, stating that good management of the firm was dependent on the participant's brother, the Deputy Chief Executive. As noted earlier, the *Motawefs*, offering *Hajj* services, receive their status through inheritance and there is little need for performance criteria. As a Deputy Chief Executive Officer of a *Hajj* firm, P8 said that e-commerce in *Hajj* services was "tantamount to dreaming, it was not a valid concept".

The second reason that owners and executives need not be technology literate was, (الواسطة, *Alwasta*), nepotism. Ramady and Sohail (2010) note the role of nepotism, *Alwasta*, in Saudi businesses and, to address this situation, advocate listing these

businesses on the *Tadawul* (Saudi Stock Exchange). The reduction of the *Alwasta* controlling structures would reduce the impact of recommendation, entrenched interest, and family and tribal relationships. He said:

> "In Saudi, managers are not nominated for positions because of their qualifications, experience and capability, but relationships play an important role here! Consequently the managers' decisions do not maximise potential benefits for their firms and that includes technology" [P7].

Risk-taking and growth are therefore not a high priority for Saudi businesses. Their revenue from sales is largely controlled by the government through its capacity to accept millions of guests over a short period of time, and the Saudi government is significantly increasing its infrastructure from transport to hotels to accommodate more pilgrims; hence there is growth. If not public sector controls on business, then traditional controls of *Alwasta* and inheritance come into effect and the consequence is that the ruling elite have no reason for changing the status quo. This is however, to the country's disadvantage, as Ramady and Sohail (2010) note, as despite the growth in pilgrim numbers, and the price of oil, the country is not achieving better economic performance from its current physical and human resources, therefore there is no real growth in its GDP. Productivity gains from adopting technology, where a person's capacity to serve customers is multiplied many times, which is a critical factor for the Saudi economy.

5.11.3. Trust Issues

There is an argument that Saudis do not trust online trading. Eid (2011) studied trust among students and staff of King Fahd University of Petroleum and Minerals in the Eastern province. Eid finds that perceived security and privacy risks indirectly influence trust. Website quality with a greater level of integrity, reliability and credibility reduces consumers' concerns and builds online trust toward e-commerce websites. In studying online risk perceptions of young Saudis shopping for apparel online, Almousa (2011) finds that time (receiving goods from overseas) and performance risks outweigh concerns regarding privacy and social (disapproval) risks. These recent studies may lead to a greater acceptance of e-commerce emerging; arguably, less technological-oriented sectors of Saudi society may not be aware of this trend. In this study, participants P2, P4 and P5 viewed greater acceptance of online trading if the government introduces the concept and offers reassurance to the population in using it. In this case, these participants preferred that the government provide the industry with a portal, risk-free, to

market tourism services online. Participant P3 was of the opinion that payment online was a perceived barrier to online trading by the public and that government support for the concept would enhance citizen's trust. It was noteworthy that the private sector depended on the public sector to provide 'trust' (security) for potential customers, as the firms themselves promoted trust in their services to clients for repeat business.

5.11.4. Marketing Strategies

In a study of risk-taking among Saudi executives, Sadi and Al-Dubaisi (2008) found that self-confidence is a barrier to creativity in marketing. The authors advocate for training to improve self-confidence among executives in positive behavioural factors such as self-image and optimism and to minimise negative elements such as fear of evaluation and status consciousness.

Following on the trust sub-theme, participants explained that their ongoing business was based on clients' recommendations of the firm's *Hajj* and other tourism packages, and their professionalism in service delivery. Given the lack of interest in e-commerce, this somewhat surprisingly was obtained not only from friends and relatives, but from Internet social sites. P5 said:

> "Most of our customers initially find out about our services from the forums on the Internet. Then they visit our website and choose from the packages we offer. They would trust our offers without any guarantees because they found recommendations for our services" [P5].

Whilst direct knowledge of the person recommending a firm improves trust, it is problematic that a stranger recommending a service would be more trustworthy than the firm itself or its website. A more relevant example was made by P6, who stated that potential customers prefer to discuss their travel arrangements face-to-face, and negotiate for the best price:

> "Selling and marketing is all about word of mouth. From my experience, most of our customers like to discuss their preferences at length, asking many questions and getting reasonable answers about their concerns. Actually, offering an e-commerce website selling our *Hajj* packages would help but still we need to make face to face contact with our customers because of the personal touch and that's the way we like it" [P6].

Participant P4 supported this view. Therefore, Saudis decision-making behaviour when making a purchase is clearly influenced by personal recommendation and an opportunity to discuss their tourism purchases (cf. Rahadian 2007). These matters should

be taken into account when building a website, whether or not for e-commerce, so that there is sufficient information for a potential purchaser to make the correct decision. In this case, participants' online marketing strategies arguably reflected their printed advertising, with insufficient information, which then must be elaborated by an employee.

5.11.5. Family

As discussed in previous, Saudi women are likely to make the family decisions on travel arrangements. The majority of Saudi men are not concerned with negotiating details of travel, as they generally lack time (P6). Participants P5 and P6 considered that websites offered women opportunities for browsing and comparing travel content and prices. Indeed, P5 had a booking website and considered this an effective form of marketing for families.

5.11.6. Commitment

Participant P9 said that Saudis lacked initiative to seek new experiences unless they were encouraged to try, giving the example of banks' attempts to move their clients online (cf. Al-Somali et al. 2009). They reduced staff and closed branches, forcing long queues. Further, they closed down services such as bill-paying to force the use of online payment and the use of automatic teller machines for cash and other services. Similarly, P5 does not now produce printed material for promotional purposes, referring all enquiries online, although this had not been well received. Participant P10 also commented on time spent from enquiries that do not result in sales:

> "About 70 per cent of enquirers contacting our call centres make reservations, but they don't confirm and pay for their reservations. Also some of the 30 per cent who finalise the transaction do not take the flight they booked" [P10].

There is therefore an issue with online booking, as it requires immediate payment and thus a decision by the purchaser that must be carried through. This is a commitment that most Saudis are not prepared to make, and it is this reticence that may influence executive decisions to build e-commerce capacity.

5.11.7. Religion

One successful Saudi online purchasing site required that the potential customer makes a commitment to God (القسم بالله تعالى), in the form of a sentence with a tick option to ensure that payment for site use is made. Participant P3 commented on the ethics of this example, which appears to force a decision more in keeping with a life-threatening situation, and is highly opportunistic. Invoking God's name in a minor transaction should not be condoned and was considered by P3 to have an effect.

5.11.8. Cooperation

The concept of shared ventures is part of Saudi culture as well; similar to the notion of the government providing a portal platform for e-commerce (Kayed & Hassan 2011). Participant P11 elaborated on the concept: the interviewee and a number of tourism executives in Jeddah formed a business group to promote tourism within their market. They met several times, set goals, constructed travel packages using their combined resources, offering facilities and services around price groups. One goal was to produce an online portal to place their marketing information on one website. However, some of the group were not interested in e-commerce, so the whole idea faded. This example may be at odds with Hofstede's collectivism dimension, at least in business. Also, weak cooperation between industry stakeholders would lead to a lower level of technology adoption and implementation.

5.11.9. Systems Evolution

Several comments by the participants showed management allowed change to occur without intervention. Participant P10 noted that an Internet booking facility was undertaken in-house, but there was no plan to make it available to the firms' customers. It was not management's decision to implement the technology, although the executives were unaware of the information systems used in their firms. Therefore, it is part of the Saudi culture that systems evolve through their own impetus so that executives, if not operational as this section shows, cannot expect to be in a position to make an informed decision. If there are innovators in the firm who are driving their own successful project, and they leave, the capacity of the original firm is reduced, and the ex-employee can use the knowledge elsewhere.

5.12. Summary

From the analysis, the advantages of e-commerce are evident to Saudi tourism industry firms. The analysis of the data from a series of interviews with tourism operators found that the factors motivating and/or barriers affecting e-commerce use depend on a range of internal and external variables (see Table 5.4).

Table 5.4: Factors Affecting E-commerce Adoption

Factors	Impact on E-commerce Adoption	Frequency during the interviews
Perceived Relative Advantage		
Cost management	trivial	3
Time management	motivator	12
Productivity	motivator	27
Customer service	motivator	20
New profit centre	trivial	5
Perceived Ease of Use	trivial	**8**
Social Influence		
High Customer Demand	motivator	19
High Customer Awareness	motivator	19
Low Customer Trust	Barrier	18
Organisational E-readiness		
Organisation Size	trivial	3
Business Restrictions	Barrier	7
Lack of Commitment	Barrier	5
Owner or Presidency Force	Barrier	7
Priority & Proper Time	motivator	15
Organisational Awareness	motivator	14
Previous Experiences	trivial	5
Human Resources availability	motivator	19
Business Resources	trivial	5
Lack of Technology Resources	Barrier	20
External E-readiness		
Market Force	trivial	4
Competition	motivator	17
Impact of Major Companies	trivial	3
Size of Targeted Market	motivator	9
Fear of Losing Business	trivial	6
Government Support	motivator	18
Government Force	motivator	9
Lack of Infrastructure	Barrier	7
Lack of Supporting Industries	Barrier	32
Perceive Service Quality	trivial	2
Trusting Supporting Industries	medium	6
Customized Solution	trivial	5
Marketing information	trivial	4
E-commerce Set up Cost	motivator	19
Organisational Cultural Dimensions		
Developmental Cultural Dimension	motivator	NC*
Team Cultural Dimension	medium	NC
Hierarchal Cultural Dimension	medium	NC
Rational Cultural Dimension	trivial	NC
National Cultural Influence		NC
Leadership and Management Competency	motivator	NC
Family	trivial	NC
Commitment	medium	NC
Religion	trivial	NC
Cooperation	medium	NC

 * NC means not calculated.

External Factors: Government initiative is one of the critical issues influencing usage of e-commerce in the industry, and indeed, government intervention through creation of mandatory e-business portal, *Makha'a* and *Yosr*, has been a key factor behind the shift to ICT use by *Hajj*/ *Umrah* operators. Competitiveness in the travel industry as a whole could also prove to be a potential factor motivating individual firms to adopt e-commerce. However, problems in accessing ICT resources and the relative backwardness of the local ICT industry have discouraged some operators from adopting online business systems like e-commerce. None of the tourism organisations used global payment methods such as credit cards which are essential to conducting business online, as these methods of payment charge interest which is prohibited in Islam. This appears to be a factor impeding the adoption of e-commerce in the Saudi tourism industry.

Organisational E-readiness: Apart from these broader systemic factors in the Saudi industry at large, the individual business model of the company and its e-readiness had a significant effect on e-commerce adoption. There are several factors negatively affecting e-commerce adoption; however the quality of ICT supporting industries were of the most concern. The Saudi tourism industry needs efficient support from ICT providers to practice e-commerce. Whilst the respondents from the Saudi tourism industry professed their indifference whether the ICT providers were local or global, there was a prevailing perception that the quality of service in local providers was less than international ICT support firms. Furthermore, even though local ICT providers, particularly website developers, were considered substandard, their costs were significantly higher than those prevailing in the global market for a particular service. Cost of e-commerce implementation was an issue for the tourism industry, which was resisting government encouragement to move *Hajj* and *Umrah* bookings online.

Relative Advantage and Ease of Use: The analysis of the participants' responses shows that the perceived ease of use did not appear to have a major effect on the issue of adoption of e-commerce in the context of this research. The participants considered ease of use as part of e-commerce planning and implementation but the website or user-computer interface was seen as a matter for competency training. Many studies have also shown that perceived relative advantage of e-commerce utilisation and not perceived ease of use, is positively related to behavioural intentions to use ICT (Hu et al. 1999, Chau 2002).

On the other hand, the analysis shows that relative advantage of e-commerce is an important factor. Relative advantage of e-commerce is predicated on the advantages it provides in terms of cost benefits, productivity increase, time-savings, profit generation and improved customer service. It must, however, be noted that as the majority of firms did not have an online strategy, and cost effectiveness and profit generation were only mentioned by the minority whose business model included, or depended on, online sales.

Market Forces: The findings showed that external factors of market forces can make a significant impact on a firm's intention to use e-commerce in the Saudi tourism industry. The results of this research confirm the extant literature on technology acceptance on the importance of social influence on technology adoption, particularly in the case of Arab–based studies (cf. Al-Ghatani et al. 2007, Baker et al. 2010). The adoption of e-commerce also depends on the nature of clientele of the individual firm. Firms normally use a traditional shopfront business approach which is preferred by local customers and only firms with a larger client base of foreign customers take the trouble of investing in e-commerce apparatus. In addition, their perceptions about customer service also negatively impacted e-commerce use as most participants generally felt sceptical about e-commerce, preferring a brochure approach rather than the onerous work of instituting e-commerce. The discussion also identified three main variables of customer attitudes that may encourage Saudi firms to adopt and use e-commerce customer demand, customer trust and customer awareness. The analysis shows that the issues of online payment and trust should be supported by legal initiatives created by organisational policies as well as government intervention.

Organisation Cultural Dimensions: The research also identified organisational values to explain why certain organisations made the decision to use integrated systems and e-commerce in their marketing. The Competing Values Framework was used to classify the firm's culture. While firms that exhibited a developmental culture had the highest level of adoption or intention to adopt e-commerce, there appears to be little relationship between executive education level and interest in e-commerce, but executives personality and attitude plays an important role. Arab conservatism particularly in religious matters was a significant issue in online marketing for religious tourism in Saudi Arabia. There are significant structural impediments for firms in *Hajj* or *Umrah* tourism to modernise or expand due to trade controls as well as the nature of the business. Finally, the established organisational culture and corporate structure in the

country impede the drive to technological innovation like e-commerce as the management was often averse to risk-taking and a family-business model often preferred to stick to the status quo.

Cultural Values: This study has identified a host of contextual factors in the Saudi market that impede the uptake of e-commerce. Low levels of customer trust and awareness particularly for a relatively novel service like e-commerce can indirectly dissuade organisations to adopt e-commerce systems. Also, respondents felt that Saudi customers would not be comfortable with e-commerce systems as they lacked human interaction and required prompt purchase. However, this does not necessarily mean that e-commerce has no avenue for future growth in the country. As some of the participants in the survey indicated, the awareness level of e-commerce is growing, particularly with the youth population of the country. While all the characteristics of Saudi society, such as emphasis on human interaction, low education level, seem to conflict with e-commerce at this point in time, online business in the country could flourish with proper marketing and acculturation over time. In fact, participant P5 in this study, who had been running a business without a physical shop for some time, argued that the perception of customer apathy to e-commerce was not only greatly exaggerated but it was possible to recruit customers through good networking. Saudi Arabia can be designated as a collectivist culture in Hofstede's (1980, 2000) model and Saudis decision-making behaviour is clearly influenced by personal recommendations, so good networking and social influence from friends, family or peers can help promote e-commerce. As Saudi women are likely to make decisions about domestic matters like travel arrangements, online business could be marketed as a safe and comfortable medium for women to make their purchases without having to venture outside or talk to strangers.

The next chapter (Chapter 6: Survey Development) explains the possible modifications to the research model based on the results of the analysis discussed in this chapter. Chapter 6 shows the measurement items used in the questionnaire with a detailed explanation on the theories and models they came from.

Chapter 6 Survey Development

In marketing and Information Systems research, a first draft of the survey is developed on the basis of the theories that have been previously used and validated in the literature (Davis et al. 1989, Venkatesh et al. 2003, Molla & Licker 2005, Quinn & Rohrbaugh 1981). However, as this first draft is created on a purely theoretical basis, its relevance to the specific context of research needs to be validated (Sarantakos 2005, Straub, Boudreau & Gefan 2004). Similarly, the preliminary conceptual model in this research was developed on basis of an extensive literature review, but the basic orientation of the model and its theoretical premise had to be verified to enhance the validity of the surveys and its findings. For this purpose, some interviews were conducted with a few participants (detailed in Chapter 5) to test the relevance of the selected concepts and make any necessary changes.

This chapter explains the process of developing the questionnaire survey used to collect responses from the tourism company operators. Some items were modified after considering the changes necessitated by the results of the interviews. This chapter details the feedback from the interviews and the changes made with reference to each construct. The discussion on each construct describes the manner in which each variable was presented in the survey and develops the indicators used to measure each variable. Synthesising the findings from the interviews and the literature review, the sections also present the hypotheses positing the nature and extent of the effect of each factor on e-commerce adoption. The chapter ends with a summary accompanied with graphical illustrations of the revised research model in contrast to the initial research model and a detailed model of the relationships between the factors and their components from the hypotheses developed in this chapter.

6.1. Perceived Ease of Use (PEU)

Perceived ease of use measures the degree of ease associated by organisations with the use of e-commerce and how that can prompt them to incorporate e-commerce platform in their business model (Davis 2000, Davis et al. 1989). Interviews with the tourism company participants showed that the Perceived Ease of Use does not seem to have a major effect on adoption of e-commerce in the context of this research. Responses

from participants in the interviews suggests that they consider the issue of ease of use of e-commerce as a matter of planning and implementation and the ease in handling website or user-computer interfaces was seen as a matter for competency training. Many studies have also found similar results rejecting the significance of Perceived Ease of Use as a factor that is positively related to behavioural intentions to use ICT (Hu et al. 1999, Chau 2002). For this reason, the factor Perceived Ease of Use was excluded from the revised research model. The rejection of PEU by participants can be justified by the fact that this concept was generated with the TAM model (Davis 1989, Davis et al. 1989) in the early 80s when computers and Internet were just being introduced for public use and the ease of use of this new technology was an issue. But the general public is now much more technology-savvy and IT literate and computing technology pervades different aspects of everyday life in Saudi Arabia, so this issue is not as relevant anymore.

6.2. Customer Influence (CI)

The concept of social influence measures the degree to which individuals perceive the adoption of a particular technology to be desirable as a direct result of the social pressure of significant others in their social milieu (Venkatesh et al. 2003). However, for the purpose of this research the factor was adapted into Customer Influence as this research targets organisational behaviour towards the use of e-commerce and not individual intentions. Customer Influence measures the degree to which customers' expectations influence an organisation's decision to adopt e-commerce for tourism services and comprises of three sub-themes of customers' demand, trust, and awareness. The analysis of the interviews, however, showed they do not exert a direct effect on the final decision to adopt e-commerce but appear to be mediated through Organisational E-Readiness. In other words, a shift in Customer Influence in favour of e-commerce would have to cause a re-orientation in organisational infrastructure and policy, which would then result in the actual decision to adopt e-commerce.

Participant P3 justified the delay in e-commerce utilisation as a result of weak customer demand in Saudi:

> "The problem facing the adoption of e-commerce in Saudi is very weak demand. I think people feel it does not work for them" [P3].

Customer trust was cited as an issue of importance. Participant P4 had a perception that the Saudi customers are willing to have their products and services via face to face selling which is hard to do online:

"Customer trust is a high priority for our agency. We gain trust through face to face interactions. Customers trust our travel agency reputation and we have been in the market for 30 years. There have been many online fraud cases. These decrease the level of trust and prevent clients from booking over the Internet. Fraud happens and fraud is easy" [P4].

Finally, participants also acknowledged the importance of customer awareness of e-commerce before this service could be fully launched in Saudi Arabia. P5 mentioned that once the customer demand shift online and customers are comfortable with online transactions and arrangements, this firm would consider moving to e-commerce. He explained:

"What prevents us from simply using a website for all our services such as those offered by (*xx.com*) is that the user has to be aware of everything: timing, destinations, appropriate airline services and acceptable accommodation. In a shopfront store, we can advise the customer and tailor the travel package to specifically suit each person, with fewer issues regarding the logistics of travel. This is better customer service" [P5].

These arguments suggest that Customer Influence affect the level of e-commerce adoption in an organisation if it is able to influence organisations to change their marketing strategy. This means that Customer Influence can promote e-commerce adoption when it is mediated through Organisational E-Readiness. Therefore it is hypothesised that:

H1: *Customer Influence has a positive impact on Organisational E-Readiness for a positive decision for e-commerce adoption by an organisation*.

Table 6.1 lists all the measurement items used to measure the factor Customer influence in the survey.

Table 6.1: Measurement Items of Customer Influance(CI)

Context	Items	Question
Demand	CI 1	My firm believes that more customers want e-commerce than in person shopfront services
	CI 2	My firm believes that Saudis are increasingly interested in buying online
Awareness	CI 3	My firm believes that our customers are aware and ready to do business on the Internet
	CI 4	My firm believes that only the educated category of Saudis buy online
Trust	CI 5	My firm believes that Saudis trust local online sellers
	CI 6	My firm believes that Saudis trust international online sellers

6.3. Organisational Cultural Dimensions (OCD)

The Organisational Cultural Dimensions (OCD) variable measures the degree to which an organisation's decisions are impacted by the norms and practices observed in an organisation. This variable was developed on basis of the Competing Values Framework (Quinn & Rohrbaugh 1981) and supported by the results of the interviews analysis explained in Chapter 5. The interviews showed that the norms and practices in certain organisation motivate them to have a more positive view of online marketing, while others displayed recalcitrance or scepticism about e-commerce. The following quote indicates that the computer literacy can be an enabler of e-commerce adoption. P9 said:

> "We do not experience difficulties in the ICT systems we use because we have maintenance technicians throughout the organisation. We also offer new staff appropriate training" [P9].

Many other comments further illustrated the manner in which the organisational culture can influence decision making, where some organisations are inherently more open to e-commerce than others. For instance, P5 noted:

> "We started the other way around; unlike other travel agencies we launched our online booking first. At the start we were very concerned about customer reaction, that they may not accept online trading, but we found that we had exaggerated that concern. The customers liked the idea and with time the acceptance rate has increased" [P5].

Thus, the preliminary interviews showed that Organisational Cultural Dimensions factor affected e-commerce adoption when it was able to influence the overall readiness of organisation and positive attitude of executives to e-commerce adoption. Therefore it is hypothesised that:

H2: *Organisational Cultural Dimensions moderate the relationship between Organisational E-Readiness and the decision for e-commerce adoption by an organisation.*

H3: *Organisational Cultural Dimensions moderate the relationship between Executives' Attitude and the decision for e-commerce adoption by an organisation.*

Table 6.2 lists all the measurement items used for Organisational Culture Dimensions in the survey.

Table 6.2: Measurement Items of Organisational Culture Dimensions

Context	Items	Question	Source
Team	OCD 1	My firm is very personal place like an extended family	
	OCD 2	My firm emphasizes developing human resources	
Development	OCD 3	In my firm, there is an emphasis on being first with services and innovations in our market	
	OCD 4	My firm emphasizes growth through developing new ideas	Ruppel & Harrington 2001
Hierarchical	OCD 5	My firm is a very formal and structured place	
	OCD 6	Staffs in my firm pay high attention to procedures and rules to get things done.	
Rational	OCD 7	My firm is very productive and goal achievement oriented	
	OCD 8	My firm seeks market superiority	

6.4. External E-Readiness (EER)

External E-Readiness (EER) measures the degree to which an organisation perceives the role of the support provided to IT service by external factors like the government, IT industry and market conditions can help or hinder travel firms in e-commerce adoption. The results of the analysis of the interviews also indicated that External E-Readiness of the IT sector and infrastructure can improve an organisation's overall readiness for adopting IT innovations. The analysis also showed several examples to confirm that the effect of External E-Readiness was mediated by Organisational E-Readiness.

Some participants passively waited for offers to be made from ICT providers or travel search providers. Participant P1 represented this attitude. P1 said:

> "The ICT providers do not make any offers regarding online business opportunities. They are not even confident in offering basic electronic services. As a specialist company in tourism, I do not know any Saudi IT company who is able to confidently provide the services needed in my industry" [P1].

P1 continued:

"We would have no problem in establishing (e-commerce) immediately if it gave us some competitive advantage. If you know a firm able to provide good IT support, please refer them to us. We usually seek out new technologies. For example, we contracted a global provider for a customer relations system, but we cannot find local IT companies that can help us" [P1].

Further, other respondents noted that the market pressure put by competitors could directly motivate their organisations to put innovation adoption on their business agenda. As P11 noted:

"Adoption of online services by our competitors would motivate us to adopt e-commerce, but other matters must be considered before any decision to go online. Budget, contracts, human resources, technology and good market research are examples" [P11].

But while market pressure was accepted as a significant motivator, it was also noted that the tourism sector in general was quite oblivious to e-commerce. If there was a more positive environment for IT adoption in the whole sector, then firms would get onto the e-commerce platform. P1 explained:

"There's no doubt that the local IT industry is competitive, but no one takes the lead in introducing change in e-commerce unlike what happened in the telecommunication sector with mobile phones. For matters like e-commerce, tourism companies just tend to follow each other. So when one goes online, we all will" [P1].

Responses also highlighted some other factors related to External E-Readiness can work to promote IT adoption, such as government initiatives and restrictions. One respondent explained how the government should offer support to the organisations to enable their decision to adopt e-commerce. P11 commented:

"The Saudi Chambers of Commerce and the Supreme Commission for Tourism should work more closely with the tourism industry to understand its needs and issues. I consider technological development to be one of those needs, but it is unlikely that future assistance from the government (in ICT) will be very different from what it is now" [P11].

Apart from government support for infrastructure development, respondents pointed out the need for appropriate legislation to manage the complexities of trading online. P7 stated that the government needed to pass laws for resolution of online conflicts:

"There is a big legal issue regarding potential problems between sellers and buyers. We need legislation that can resolve possible conflict" [P7].

This means that External E-Readiness can impact the Organisation E-Readiness but it cannot make a direct impact on the final decision of actual adoption. Therefore it is hypothesised that:

H4: *External E-Readiness has a positive impact on Organisational E-Readiness for a positive decision for e-commerce adoption by an organisation.*

Table 6.3 lists all the measurement items used for the factor of Perceived External E-Readiness in the survey

Table 6.3: Measurement Items of External E-Readiness (EER)

Context	Items	Question	Source
Industry Competitiveness	EER 1	My firm believes that without e-commerce, we risk losing existing and potential customers	
	EER 2	If my firm's competitor was successful with e-commerce initiative, we would definitely follow	
Market forces e-readiness	EER 3	My firm's customer base is large enough for e-commerce implementation	Molla & Licker 2005
	EER 4	My firm believes that our business partners are ready to conduct business on the Internet	
Government Initiatives	EER 5	My firm believes that the legal environment encourages to conduct business on the Internet	Molla & Licker 2005
	EER 6	My firm believes that the government demonstrates strong commitment to promote e-Commerce	
Supporting Industry	EER 7	My firm believes there are sufficient online resources to support e-commerce in Saudi	Molla & Licker 2005
	EER 8	We feel that there is efficient and affordable support from the local IT industry to support our move on the Internet	
Supporting Human Resources	EER 9	My firm believes that local skilled IT staff are available to either employed or outsourced	
	EER 10	My firm believes that use of expatriate IT staff impedes dedicated Arabic e-commerce growth	
Infrastructure	EER 11	My firm believes that the telecommunication infrastructure is reliable and efficient to support e-commerce commerce plans	
	EER 12	My firm believes that the online payment solutions by local providers is sufficient and trustworthy to use for e-commerce	

6.5. Organisational E-Readiness (OER)

Organisational E-Readiness (OER) is a variable that measures the degree to which an organisation perceives the role of the existent levels of IT infrastructure and literacy in an organisation in e-commerce adoption. The analysis of the interviews revealed that the executives perceived Organisational E-Readiness as an important factor influencing the position of decision makers to adopt e-commerce. Several other issues were brought up in the discussion to explain the importance of organisational e-

readiness, including, management competency, business model, organisational awareness, and human and ICT resources. All of these factors are incorporated together in a broader construct encompassing the readiness of organisation to adopt e-commerce.

Highlighting the importance of management in Organisational E-Readiness, P10 explained that past delays in his organisation were caused by the recalcitrance of its ex-president to adopt e-commerce. He said:

> "One of the things that held us back was the decisions of our ex-president. For the past fourteen years, we had no real development. With the current management it is a different story. Since coming to this organisation, the new president is working toward bringing the firm up to the future standards expected in our industry. He wants to integrate the current ICT platform with improved systems. With this systems change, we aim to leave existing and potential competitors far behind" [P10].

He also explained that with managerial change, the whole organisational hierarchy had shifted to a more positive ground enhancing their Organisational E-Readiness. He mentioned that a group from the Information Technology department has worked together to develop an online booking system from scratch without even an order from the top management. This highlighted the importance of proper management of human resources and decentralisation of authority in the organisational hierarchy to enhance Organisational E-Readiness.

Many other examples show the dependency of Organisational E-Readiness on External E-Readiness. The above example shows that the availability of skilled IT personnel can directly impact the organisation's capability to engage e-commerce. P4 noted:

> "Our IT department is an important part of the business. We employ seven well qualified IT specialists who have produced several useful solutions for the firm. They are implementing a new IT system for us. I believe that e-commerce utilisation is possible, but we have to have strong support from the IT department" [P4].

Further, business model is another constituent of Organisational E-Readiness which can play a role in influencing the decision to adopt e-commerce. If there is no formal business model in place to incorporate e-commerce, any decision of adoption becomes unconceivable. As P1 noted:

> "We do not have online ticket sales for our theme parks, because we do not charge for entry. Our profit comes from the games. Each game has its rate and its ticket is available onsite" [P1].

As these comments show, the level of Organisational E-Readiness can directly influence e-commerce adoption as well as change executives' attitudes towards e-commerce adoption. It also seemed that executives' positive attitude to ICT can lead to a cohesive policy of IT management which in turn can reduce resistance towards e-commerce. Therefore it is hypothesised that:

H5: *Organisational E-Readiness has a positive impact on Executives' Attitude for a positive decision for e-commerce adoption by an organisation.*

H6: *Organisational E-Readiness has a direct positive impact on the decision of e-commerce adoption by an organisation.*

Table 6.4 lists all the measurement items used to collect responses from participants on Organisational E-Readiness.

Table 6.4: Measurement Items of Organisational E-Readiness

Context	Item	Question	Source
Awareness	OER1	My firm's board/owner thinks e-commerce is important	Molla & Licker 2005
	OER2	Stories about e-commerce motivate my firm using full online sales	
Business Model	OER3	My firm's business is compatible with e-commerce business models	
	OER4	My firm's size requires e-commerce business model	
Commitment	OER5	E-commerce is a priority for my firm	Molla & Licker 2005
	OER6	Management of my firm is committed to technologies like e-commerce	
Human Resources	OER7	Most of our employees are computer literate	Molla & Licker 2005
	OER8	Most of our employees can understand e-commerce business model	
	OER9	We have sufficient staff to develop, handle & follow-up online orders system	
	OER10	E-commerce implementation interrupts sales staff who have to work with website developers and editors	
ICT Resources	OER11	We have sufficient experience with network-based applications	Molla & Licker 2005
	OER12	Our existing information systems are flexible to accept integrate with e-commerce improvements	
Business Resources	OER13	We have a policy that encourages e-commerce initiatives	Molla & Licker 2005
	OER14	Our organization is capable of dealing with rapid changes	

6.6. Perceived Relative Advantage (RA)

Perceived Relative Advantage of e-commerce utilisation was shown to be a significant contributor to e-commerce adoption in the analysis of the interviews. This variable measures the degree to which an organisation's perception of the possible gains that can be made through online sales of tourism services motivates it to adopt e-

commerce. This means that the construct of Perceived Relative Advantage can prove to be an essential contributor to e-commerce adoption in Saudi Arabia, but only when it is able to influence executives' attitude to e-commerce. In other words, the construct of Perceived Relative Advantage has to be mediated by Executives' Attitude to have any bearing on the final decision to adopt e-commerce. This was made clear on many occasions during the interviews. The representative of an organisation attributed their use of e-commerce for all-hours access to online service. P2 said:

> "Our decision to go online is influenced by the 24/7 availability of services . . . the fact that the information we need is always available allows staff to undertake more transactions" [P2].

Another participant acknowledged the advantages of e-commerce but also noted how these benefits had not been exploited in the Saudi market. P1 said:

> "I see that e-commerce leads towards higher turnover and thus greater profit. We hear about entrepreneurs who have built up an excellent business over the Internet. Global companies engaged in delivery and online booking went online because it increases their revenues and expands their business network. But here in Saudi we have not started this yet" [P1].

On the other hand, some participants pointed out that e-commerce was not always advantageous as arrangements made through face-to-face meeting were more likely to be finalised. Although e-commerce websites allow passengers to freely browse all their options, this often does not materialise into actual transactions as such arrangements are perhaps not seen as binding. P10 explained:

> "About 70 per cent of enquirers contacting our call centres make reservations, but they don't confirm and pay for their reservations. Also some of the 30 per cent who finalise the transaction do not take the flight they booked" [P10].

P10 explained that without convincing executives of the benefits of e-commerce, the factor of Relative Advantage cannot be a motivation on its own. It has to make sense to the business and the management to motivate an organisation to adopt e-commerce. He said:

> "We have a plan to improve our booking system to offer greater specialisation for all our services including those for Hajj pilgrims, Umrah pilgrims, business travellers, and students. But we still need to be convinced of the capacity of online marketing to increase sales" [P10].

Thus, the findings from the preliminary interviews confirmed that if executives were convinced of the Relative Advantage of using e-commerce, they would be more positive about the eventual adoption of e-commerce. Therefore it is hypothesised that:

H7: *Perceived Relative Advantage of e-commerce use has a positive impact on Executives' Attitude for a positive decision for e-commerce adoption by an organisation.*

Table 6.5 lists all the measurement items used to test the factor Perceived Relative Advantage.

Table 6.5: Measurement Items of Relative Advantage

Context	Items	Question	Source
competitive advantage	RA 1	My firm believes that e-commerce generates competitive advantage	Venkatesh et al. 2003, Zhang & Dhaliwal 2009
Efficiency	RA 2	My firm believes that e-commerce increases productivity	
	RA 3	My firm believes that e-commerce reduces time	
Cost Effectiveness	RA 4	My firm believes that e-commerce reduces cost of operations	

6.7. National Cultural Influence (NCV)

National Cultural Influence was added as another factor to the conceptual model after the analysis of the interviews highlighted its importance. This variable measures the degree to which the larger societal norms in Saudi national culture could motivate or hinder an organisation in adopting e-commerce. Responses from the participants alerted the researcher to the fact that decisions of e-commerce adoption were not just influenced by pragmatic calculations of technical advantages, but broader cultural factors embedded in the Saudi market often exerted an intangible influence.

P6 noted the challenges posed by the nature of ownership to the Saudi market as most organisations are owned and operated as family businesses, which often reduces their competitiveness and competency. He said:

> "As family businesses, most travel firms are quite backward in their use of websites for promoting services. That is the nature of a family business. Usually the owner is the founder and fully controls the business. Sometimes relatives are employed in executive positions and they may not be able to make the right decisions to develop their firms" [P6].

P7 directly highlighted the damaging effect of nepotism in Saudi organisations in the recruitment process leading to the lack of effective management personnel who have

the capability to make right decisions on issues like e-commerce adoption. As P7 explained:

> "In Saudi, managers are not nominated for positions because of their qualifications, experience and capability, but relationships play an important role here! Consequently the managers' decisions do not maximise potential benefits for their firms and that includes technology" [P7].

The importance of broader cultural factors of socialisation and etiquette on the purchasing behaviour of Saudis was also highlighted. As Saudis are used to discussing with the trader and perusing the object before purchasing anything, this could reduce their preference for the online mode of doing business. P9 added that customer demand is supported by the level of trust they can gain from a buyer and the quality of the product:

> "Arabs naturally prefer the opportunity to see what they are buying, not just to hear about it. Customers go to the agents to meet the agent, talk about their plans, build a trusting relationship and negotiate prices" [P9].

A comment by P6 illustrates the direct influence of national culture and customer demand on e-commerce:

> "Selling and marketing is all about word of mouth. From my experience, most of our customers like to discuss their preferences at length, asking many questions and getting reasonable answers about their concerns. Actually, offering an e-commerce website selling our Hajj packages would help but still we need to make face to face contact with our customers because of the personal touch and that's the way we like it" [P6].

The results of the qualitative analysis highlighted several arguments stressing the role of national culture as a normative factor influencing attitude to technology adoption. This prompted the researcher to include the factor of National Cultural Influence within the research model so that it could be statistically tested to measure the influence of social norms, assurance, behaviour, gender, tradition, and religion on technology adoption. Therefore it is hypothesised that:

> **H8:** *National Cultural Influence has a positive impact on Customer Influence for a positive decision for e-commerce adoption by an organisation.*
>
> **H9:** *National Cultural Influence has a positive impact on Organisational E-Readiness for a positive decision for e-commerce adoption by an organisation.*

Table 6.6 lists all the measurement items used to test the factor National Cultural Influence.

Table 6.6: Measurement Items of National Culture Influence

Context	Items	Question	Source
Norms	NCV 1	My firm believes that Saudi culture motivates business decisions to go online	
	NCV 2	My firm believes that Saudi's limited Internet usage influences businesses' e-commerce decisions	
Assurance	NCV 3	My firm believes that e-commerce will gain greater acceptance if the government fully supports online trading through regulation and enforced guarantees The	McKnight, D & Chervany, N2002
	NCV 4	My firm believes that e-commerce will gain greater acceptance if the firm provides reasonable guarantees on online orders	
Behaviours	NCV 5	My firm believes that *Alwasta* impedes the quality of decision making in Saudi	
	NCV 6	My firm believes that family businesses in Saudi impacts decision makers on making their decision toward technology	
Gender Traditions	NCV 7	My firm believes that e-commerce allows Saudi women to conveniently manage their firms	
	NCV 8	My firm believes that E-commerce allows Saudi women to conveniently book their travel destination anytime and anywhere	
Religion	NCV 9	My firm believes that Islamic ethics enhances the level of trust	
	NCV10	My firm believes that Islamic ethics supports e-commerce use	

6.8. Executives' Attitude and Knowledge

This variable of Executives' Attitude and Knowledge measures the degree to which an organisation leader and his/her organisation's decision to adopt e-commerce are impacted by the executive's attitude and his/her ICT knowledge and personality. From the preliminary empirical research with participants in this study, it appears that the executives' attitude has a significant role in the technology adoption process in Saudi Arabia. The analysis of the interviews with the tourism operators showed the extent to which executives influence the decision to adopt e-commerce. The influence exerted by executive decision making is also supported by Hofstede's (1980, 2001) characterisation of Arab countries as a high power distance culture. As the organisational hierarchy is highly stratified with power vested at the executive level, any decisions of organisational change regarding technology adoption will only be made by executives.

The study did not find much research that clearly elaborates the impact of executives' attitudes that conceptualised Executive Attitude as an independent factor. Generic theories of technology adoption like the Theory of Reasoned Action (TRA) proposed by Fishbein & Ajzen (1975) posit attitude or an individual's positive or negative feelings about performing the target behaviour as an important factor in change adoption. But this has not been further extrapolated into a construct representing executive attitude in studies looking at organisational change. In studies that do consider Executives' Attitudes as a concept, it is often subsumed under Internal E-Readiness factor of the organisation (Teo et al. 2006, Liu 2008, Selim 2008). However, other research however has focused on the role of the 'champion' in organisations in having a key positive impact on the decision to adopt e-commerce or technology (Premkumar & Ramamurthy 1995, Howell & Boies 2004, Soo, Berta & Baker 2009, Murphy & Southey 2003, Mehrtens et al. 2001).

On many occasions during the interviews, responses from the executives indicated that executives play a key role in organisational change. The executives indicated that their attitude toward an innovation was often a decisive factor in an organisation's plan to adopt e-commerce. As one of the participants noted:

"Once I'm convinced that marketing my firm's products through the Internet is useful and productive, then, we might make the decision to adopt it [e-commerce]" [P1].

In the above example, the personal attitude of executives towards e-commerce appears as the key enabler of e-commerce adoption. This means that the mindset of executives cannot be ignored and it is important to conceptualise executive attitude as a factor influencing impact e-commerce adoption in Saudi Arabia.

There was evidence supporting the importance of the role of executives' ICT and e-commerce knowledge in e-commerce adoption. The level of ICT and e-commerce knowledge of the participants was therefore incorporated as a factor in the conceptual model. Executives, who were aware of wider trends in technology like social networking, demonstrated their understanding of the importance of e-commerce as a way of marketing and promoting products. They understood that the technological shift to e-commerce adoption was imminent. As P2 noted:

"I see many organisations responding to this move online, with travel advertisements on social media. There are several companies attracting customers with well-designed ads. I think this will hasten our move online otherwise we are going to lose business. I understand this is the future" [P2].

Such comments illustrate that the positive attitude of executives can act as a major enabler in decisions on adoption of innovations like e-commerce. As a result, this construct is incorporated in the study by including an independent factor constituting executives' attitude and knowledge about e-commerce. The importance of this factor of executives' personality and attitude is further compounded as it not only directly affects the final e-commerce adoption decision but plays a subsidiary role as a mediating factor in the chain of causality linking some other factors. Therefore it is hypothesised that:

H10: *Executives' Attitude has a direct positive impact on the decision for e-commerce adoption by an organisation.*

Table 6.7 lists all the measurement items used to collect responses on Executives' Attitude and Knowledge in the survey.

Table 6.7: Measurement Items of Executives' Attitude

Context	Items	Question
Gender	EPA 1	Gender
Age	EPA 2	Age
Education	EPA 3	Education
Experience	EPA 4	Number of years
Position	EPA 5	Current position
IT knowledge	EPA 6	Level of IT knowledge
NetYears	EPA 7	How long have you been using the Internet?
NetWeekly	EPA 8	How often do you use Internet?
ECPurchase	EPA 9	How often do you make personal online purchase?
ECKnowledge	EPA 10	How do you rate your knowledge about marketing on Internet (e-commerce)?
Attitude	EPA 11	E-commerce is important to my organisation
	EPA 12	I am committed to fully supporting e-commerce in my firm

6.9. Organisation Profile and Current E-commerce Situation

The researcher also included some questions in the survey to collect information on the current status of e-commerce use along with other characteristics of the participants' organisations. This additional information will not be included in the conceptual model. However, it will be referred to in the discussion chapter to highlight if any organisational characteristic are significantly related to any of the hypotheses. The

questions on this part in the survey asked respondents to give information on two main themes relating to organisation size and history and the current level of Internet and e-commerce use. Table 6.8 lists all the items of the organisations' profile in the survey.

Table 6.8: Measurement Items of the Organisations' Profile

Context	Items	Question
Firm's current Decision	DUOM 1	Does your firm sell products or services on the Internet? (select only one)
	OP1	Main industry
	OP2	Operation in years
	OP3	Number of branches
	OP4	Firm's headquarter location
	OP5	Number of employees
	OP6	Number of IT staff
	OP7	Does your firm have a website on the Internet?

6.10. The revised Conceptual Model

The changes made to the conceptual model and the relationships posited between constructs in light of the results of the interviews analysis is clearly highlighted in the comparative illustration of the initial and revised research model. Figure 6.1 depicts the research model initially proposed in Chapter 4, while Figure 6.2 represents the conceptual model after it was modified in this chapter.
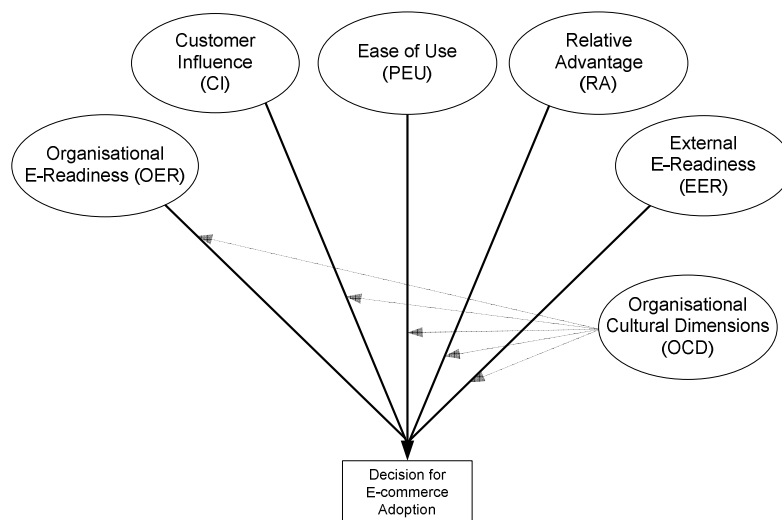
Figure 6.1: Initial Research Model
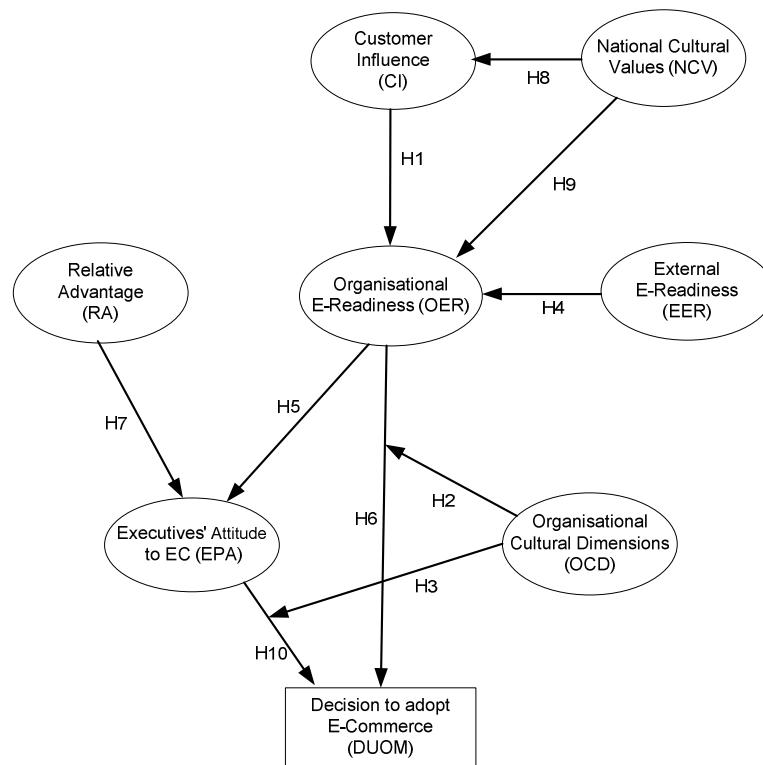
Figure 6.2: Revised conceptual model after considering the qualitative results

The revised model can be depicted in further detail with relationships between the factors and sub-themes to show the hypotheses that will be tested using structural equation modelling. Figure 6.3 summarises the factors with their items and their proposed hypotheses showing how national, organisational and behavioural factors influence the final decision of e-commerce adoption.
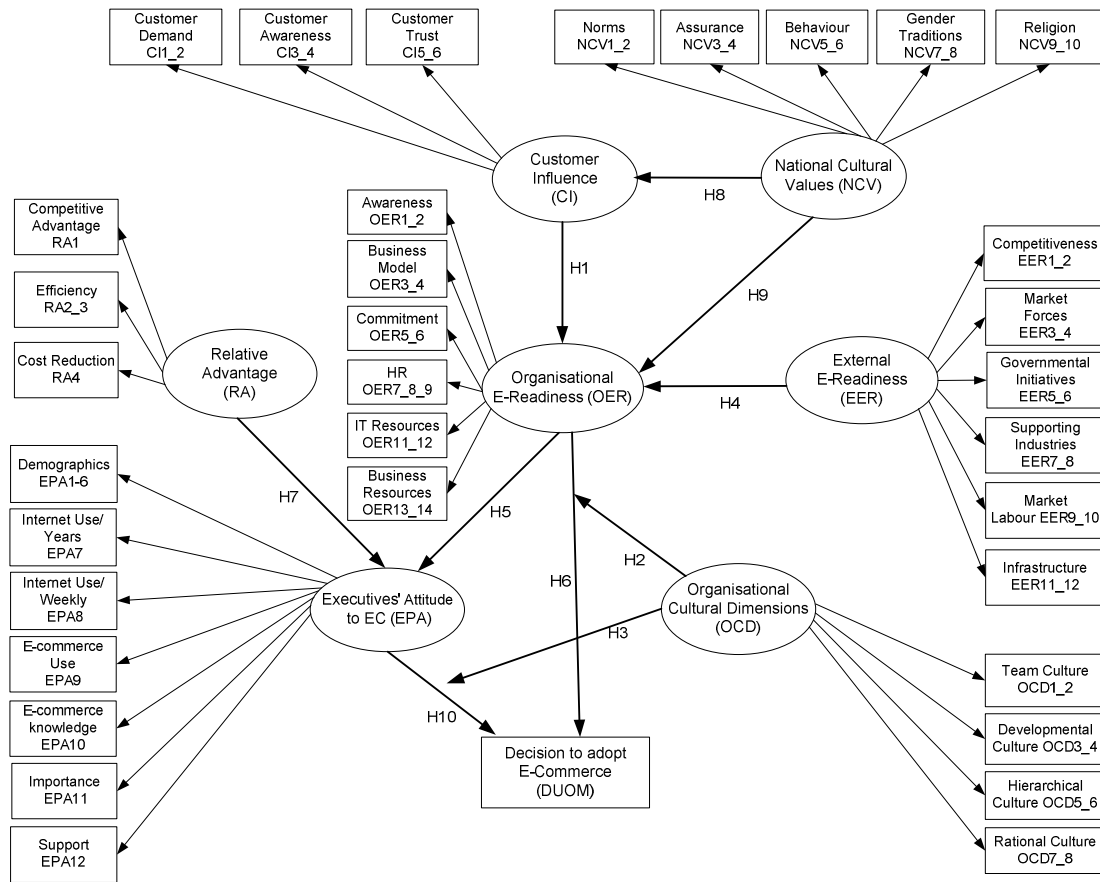
Figure 6.3: Revised Research Model with Factors and Items

6.11. Summary

This chapter was concerned with explaining the steps in the process of developing the survey and the rationale for the factors included in the survey. While the preliminary conceptual model was proposed through an extensive literature review in Chapter 4, certain constructs were added and relationships were modified in light of the changes necessitated by the qualitative interviews with participants from the Saudi tourism industry. As explained earlier, the concepts were developed on basis of the relevant literature but modified with additional inputs from tourism executives, particularly, in new items like NCV and EPA. The participants' responses for the constructs were discussed in detail along with the measurement items used for each construct in the final survey and the hypotheses to be tested through the quantitative analysis.

A questionnaire was designed to test the set of hypotheses using statements that reflect the role of independent, dependant and moderator variables and data was collected from 111 respondents. To avoid neutral answers that may be made by the participants, most statements in the survey measure the variable using a 6-point Likert scale (i.e. 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree). The survey instrument was designed in a manner that assured the anonymity of the respondents and all collected data was aggregated to avoid any possibility of identification. The research survey was accompanied with a cover letter that provided participants with key definitions of concepts and themes to facilitate their understanding of the questions and statements. The next chapter, Chapter 7, discusses the results from the survey analysis of the obtained data to explore the factors impacting e-commerce adoption in Saudi Arabia.

Chapter 7 Survey Analysis

The literature review directed the researcher to an appropriate conceptual model which was subsequently validated and revised after analysis of a set of interviews in the first stage of the study as described in Chapter 5. In Chapter 6 a questionnaire was developed and distributed among selected participants at the research locale. The process and research methodology used is described in Chapter 3. The data gathered from the survey was analysed with various statistical techniques. This chapter reports the results from the analysis of the surveys guided by the main research question for this study: *What are the factors impacting e-commerce adoption in Saudi Arabia?*

The chapter begins with a brief descriptive analysis of the demographic profile of the sample used in this study for the individual participants and their organisations. Before the data can be analysed, a short process of data preparation involving item parcelling, normality testing and reliability testing is conducted. The first major step of data analysis is the preparation of the survey measurements to ensure validity of the measures to minimise the potential for measurement error for the third step. For this purpose, a range of statistical tests with EFA and CFA were conducted to ensure that all the constructs in the model possessed construct validity: convergent validity, discriminant validity and factorial validity. This is followed by a SEM analysis to test the full structural model and the interrelationships between the constructs in the model. The chapter concludes with the results from the testing of the hypotheses which are explained to identify factors impacting the decision toward e-commerce adoption in Saudi Arabia with full hypothesis testing. Figure 7.1 summarises the various steps involved in the data analysis and illustrates the order in which these are described in the chapter.
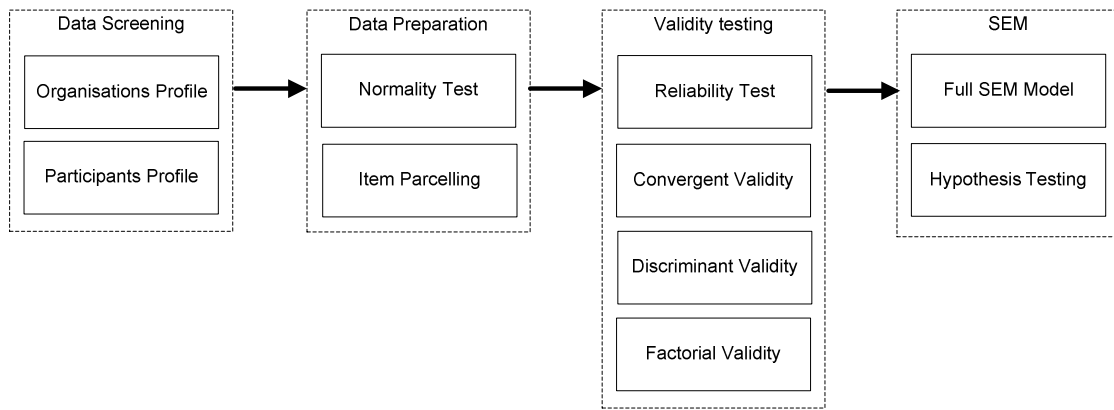
Figure 7.1: A Flowchart of Model Validation

7.1. Data Screening

In mid-2011, the survey was sent by email or facsimile to 450 organisations throughout the country, selected at random from the combined database (every second or third entry). After two reminders there were 111 returns in late 2011, a response rate of 25 per cent, of which 107 were valid. Detailed information about data collection was described in Chapter 4.

7.1.1. Participants Profile

The response rate for the 10 questions regarding the participants profile was high as all 107 participants answered the questions, with the exception of the question relating to education, which was not answered by 1 respondent. Of the total 107 participants, the overwhelming majority, 105 were male and only 2 were female. In terms of age, the sample consisted of 48 people under the age of 35, 46 people between the age of 35–50, and only 13 people over the age of 50. The majority of the participants held a bachelor degree or higher (n = 78), while 23 had a diploma, and only 5 had just passed high school.

The average work experience of the participants in the tourism industry was 12.87 years (Std. = 7.63). In terms of the occupational role in their current job, 25 participants were owners, 47 were managers and 10 were CEO's. Twenty-five respondents indicated other and of these 6 participants worked as supervisors, 3 as sales executives, 1 as a consultant, 1 as a tourism guide, 1 as an e-booking manager, 1 as an e-

commerce executive, and finally 1 as a *Motawef*. The Table given below (Table 7.1) provides an overview of the educational and occupational details of the participants.

Table 7.1: Education level and occupational role of participants

Education	Current Position			
	Owner	Manager	CEO	Other
School Years	2	1	1	1
Diploma	2	11	1	9
BA or Higher	20	35	8	15

The majority of participants reported having either excellent or good IT knowledge with responses for each category at n = 49 and n = 47 respectively. Only 7 participants said that they had moderate IT knowledge and 4 said they had little IT knowledge. Furthermore, the average experience of participants with using the Internet was 11.40 years (Std. = 4.37), while they used the Internet for an average amount of 31.75 hrs (Std. = 21.09) per week.

Additionally, the majority of participants (n = 59) reported that they occasionally made online purchases, while 25 said never, 18 said usually, and 4 reported trying with no success. Regarding knowledge about marketing on the internet, only 1 person reported none, 20 reported having little knowledge and 32 reported moderate knowledge, while 38 respondents or the majority of the sample reported having good knowledge, and 16 said they have excellent knowledge.

7.1.2. Participants' Organisations Profile

The response rate for the 8 questions relating to the participants' organisations profile was high as all 107 participants answered each question in the section. These figures are given in a percentile form as some of these firms could belong to more than one option in each category and the percentile form can also give a clearer description of the comparative distribution of the firms. The majority of the organisations in this survey i.e. 25 per cent were in the accommodation sector, with 24.17 per cent in the travel agency business. Religious tourism accounted for the next 15 per cent and the other tourism sectors constituted the rest. This is shown in Figure 7.2 below.
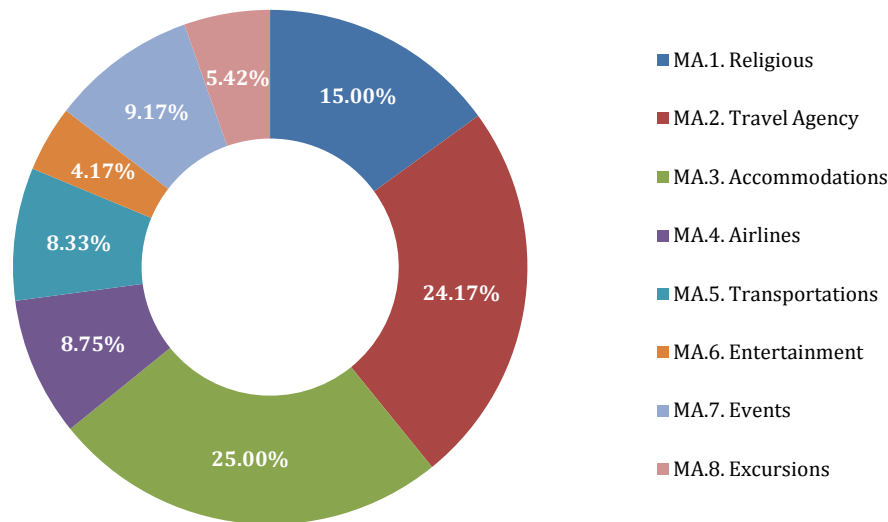
Figure 7.2: Organisations' Main Industry

The geographic distribution of the participating firms is not evenly spread across the country as most firms have their headquarter locations (i.e. 44.9 per cent) in Jeddah. Jeddah also appears to have the most diverse mix of tourism industries, while other places only seem to have fewer types of firms, but this could also simply be due to the greater number of participants and in Jeddah. This dominance of Jeddah-based firms is not considered to be sample bias but actually helps the purpose of this research to understand e-commerce use in the tourism sector as Jeddah is the main gate for Makkah and Madinah and the number one tourist destination in Saudi Arabia.

Other relevant statistics relating to the organisations, such as number of working years, number of branches, number of employees and number of IT Staff, were also extracted from the survey. The results showed high standard deviations due to the uneven distribution of the population, particularly in number of branches (Mean=328.95, Std.=1109.77) and number of employees (Mean=5054.35, Std.=22562.78). This was due to the purposeful variation in organisation size during the sampling process to survey tourism firms of different scales and sizes. Also, the age of organisation varied dramatically between 1 to 100 years, but the standard deviation for number of years at 20.22 was mostly even with the mean value of 20.72.

Regarding the level of electronic readiness and utilisation in the organisations, barring for 1, all 106 participants responded to the question 'does your firm have a website on the Internet'. 10 said they did not have a website, 8 reported it was under

construction, and 3 said they had a website for less than 1 year, while the majority of 85 participants reported having a website for the last 1 to 14 years. Again, 106 people responded to the question 'does your firm sell products or services on the Internet'. Only 6 reported 'no and no intention to do so' while the large majority 38 reported 'no but plan to in the future'. Of those who indicated yes, 5 indicated 'yes but not successful', 26 said 'yes with offline sales and payment system', and lastly, 31 indicated 'yes with full online transactions'. These preliminary results from the questionnaire give evidence of the low level of Internet and e-commerce use in Saudi tourism firms and show the need for encouraging e-commerce adoption in these organisations.

7.2. Data Preparation

7.2.1. Item Parcelling

During survey development the researcher made two or three items represent one major item in order to facilitate better understanding of the question which would perhaps appear complicated and unclear if fragmented into numerous indicators. This operation is called item parcelling. As Nasser and Takahashi (2003, p.76) explain, 'item parcelling is used to reduce model complexity and to reduce the number of parameters estimated without researchers having to pay the price of eliminating items and losing information that may contribute to the meaning of a latent variable'.

This reduction of the number of indicators also leads to the small sample size requirement for the study. One hundred and seven samples are considered to be a small sample size (Bentler & Chou 1987, Baumgartner & Homburg 1996). Based on the original research model, the data was parcelled in order to solve issues of multidimensionality present in the data Holmes-Smith's (2010) with parcelling applied to all items which had more than one meaning.

Item parcelling is performed in latent variable analysis techniques like SEM. The researcher calculated the mean value for each item to represent the major item in order to signify the model in the structural equation modelling (SEM) (Hall et al. 1999, Yuan et al. 1997, Marsh et al. 1988, Nasser & Takahashi 2003). IBM SPSS was used to calculate the parcelled items by calculating the average values for the parcelled items. The following Figure 7.3 shows the major factors with the calculated items included.

Following Holmes-Smith's (2010) suggestion that any such item should be deleted, item OER10 was removed from all future analyses as it caused conflict of multi-dimensionality.

After item parcelling, the number of items (and the number of questions in the questionnaire) was reduced to match the original indicators in the research model for each factor. Each factor was then ready for validation in the next stage. Figure 7.3 shows the remaining items with their determining factors in the proposed research model.
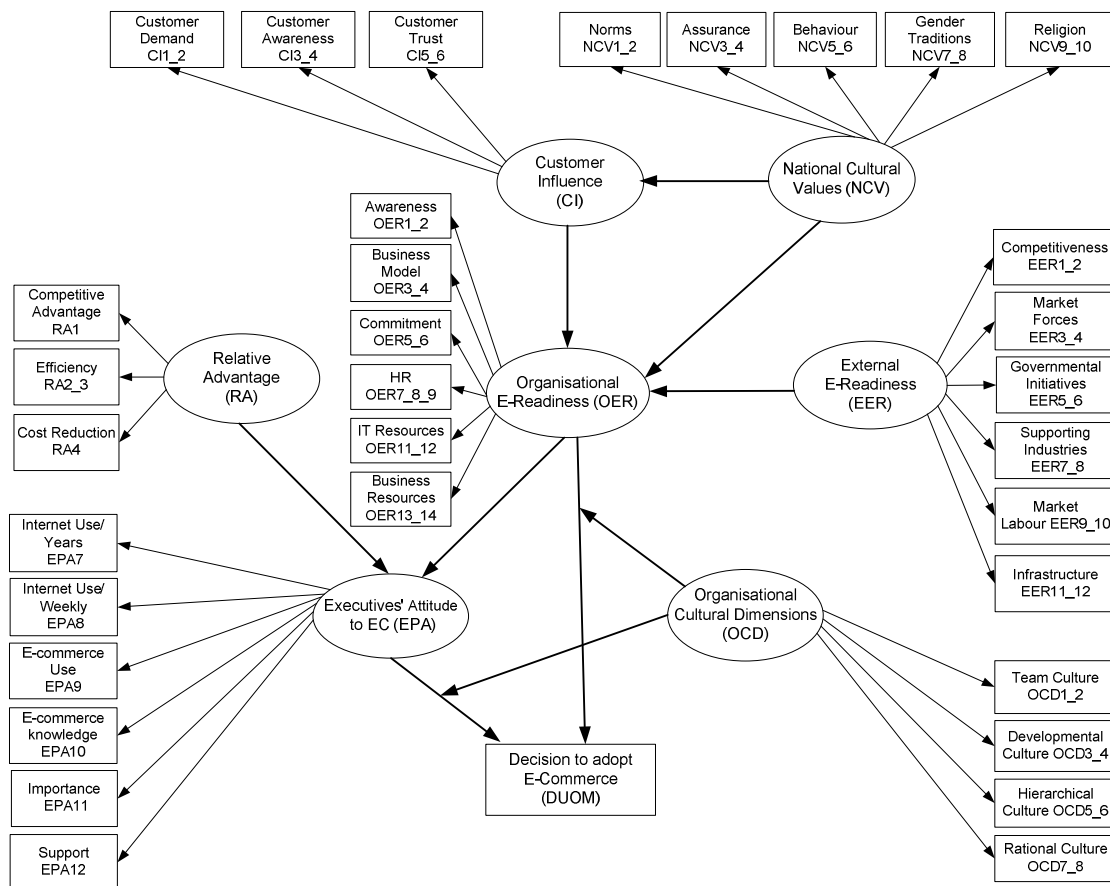
Figure 7.3: The Researcher Model After Item Parcelling

7.2.2. Normality Testing

A normality test is one of the first measures required to ensure that the data collected is usable and representative of the target population. Normality is a key assumption of multivariate data analysis (Hair et al. 2006, Byrne 2010) and it measures whether the data is normally distributed across the population sample and there are no excessively high or low scores from a few respondents which can then skew the overall

result. Normality is tested by looking at the shape of distribution of scores across the sample and the characteristics of the statistics for a single individual metric variable that approximates the normal distribution (Hair et al. 2010).

The value of Kurtosis, Skewness and their standard errors is regularly used to measure the shape of distribution of data on variables across the sample (Groebner & Shannon 1990, Hair et al. 2006) and is indicative of the normality of the data. Skewness indicates the orientation of the distribution, whether it is to left, right, or centred, where a right skew shift is called negative and a left skew is called positive. Kurtosis measures the peak and tail of a distribution and measures the relationship between a distribution's tails and its most numerous values.

A positive skew represents a distribution shifted/skewed to the left and a negative skew reflects a distribution skewed to the right. A negative Kurtosis value denotes a flatter distribution, whereas a positive Kurtosis value indicates a peaked/taller distribution, (DeCarlo 1997, Byrne 2010). IBM SPSS is usually used to obtain the Kurtosis and Skewness values. The cut-off value of Skewness and Kurtosis should be within the +2 to -2 range when the data are normally distributed (Lewis-Beck, Bryman & Liao 2004). However, Hair et al. (2006) suggest a more lenient measure of +10 to -10 for Kurtosis which is also supported by Kline (2010, p. 63). The results of the normality test are displayed in Table 7.2 below.

Table 7.2: Results of Normal Distribution Test

Variable	N	Skewness	Kurtosis	Variable	N	Skewness	Kurtosis
EPA.2.Age	107	0.522	-0.771	OER13_14	107	-0.769	0.870
EPA.3.Education	106	-1.631	1.746	OCD1_2	107	-1.104	1.617
EPA.4.Experience	104	0.624	-0.272	OCD3_4	107	-0.968	0.434
EPA.5.Position	107	0.458	-1.059	OCD5_6	107	-.583	0.034
EPA.6.ITknowledge	107	-1.135	1.335	OCD7_8	107	-1.215	1.361
EPA.7.NetYears	107	0.684	0.751	EER1_2	107	-0.462	-0.590
EPA.8.NetWeekly	106	0.866	-0.062	EER3_4	107	-0.438	-0.649
EPA.9.ECPurchase	107	2.574	2.997	EER5_6	107	-0.456	-0.050
EPA.10.ECKnowledge	107	-0.120	-0.810	EER7_8	107	-0.188	-0.389
EPA.11	107	-1.338	1.259	EER9_10	107	-0.256	-0.101
EPA.12	107	-1.178	0.886	EER11_12	107	-0.257	-0.749
RA.1	107	-0.959	0.585	CI1_2	107	-0.180	-0.243
RA2_3	107	-1.076	0.966	CI3_4	107	-0.485	0.839
RA.4	107	-1.786	2.712	CI5_6	107	-0.586	-0.140
OER1_2	107	-0.749	-0.201	NCV1_2	107	-0.527	0.405
OER3_4	107	-1.156	1.313	NCV3_4	107	-1.208	2.177
OER5_6	107	-0.734	0.169	NCV5_6	107	-0.337	-0.413
OER7_8_9	106	-0.367	-0.182	NCV7_8	107	-1.181	1.212
OER11_12	107	-0.790	0.094				

Table 7.2 demonstrates that all values for the items fall within the range of the rigorous level of -2 to +2 for Skewness and/or Kurtosis (Lewis-Beck, Bryman & Liao 2004). Only three items (EPA9), (RA4) and (NCV3_4) are outside the -2 to +2 range for Skewness and/or Kurtosis. However, they meet the more lenient -3 to +3 range for Kurtosis (Hair et al. 2006). Therefore, all variables can be considered to be normally distributed.

7.2.3. Reliability Testing

A reliability test is a vital test in the process of data preparation as it ensures the accuracy of the measurement used in the survey (Straub et al. 2004). Straub et al. (2004) explain that reliability is concerned with finding measures that reflect the 'true scores' for the surveyed items examining the phenomenon of interest. This research assessed the internal consistency of the measurement to test its reliability by calculating Cronbach's alpha for each measurement within a dimension using IBM SPSS (Churchill 1979, Hair et al. 2006). A cut-off value for Cronbach's alpha is acceptable when it is greater than .60 for internal consistency in exploratory research or greater than .70 for internal consistency in confirmatory research (Straub et al. 2004).

The measures of reliability tested by Cronbach's alpha are shown in Table 7.3 below. The results show that Cronbach's alpha coefficient scores ranged from .70 to .92 across all factors. This shows that Cronbach's alpha values are higher than the .70 mandated by Straub et al. (2004) which means that the results demonstrate a good level of internal consistency.

Table 7.3: Reliability of indicators within the instrument

Factor	Indicators	Cronbach's Alpha
Relative Advantage (RA)	RA.1: Competitive advantage	
	RA2_3: Efficiency	.81
	RA.4: Cost Effectiveness	
Organisational E-readiness (OER)	OER1_2: Awareness	
	OER3_4: Business Model	
	OER5_6: Commitment	
	OER7_8_9: Human Resources	.86
	OER11_12: ICT Resources	
	OER13_14: Business Resources	
External E-readiness (EER)	EER1_2: Industry Competiveness	
	EER3_4: Market forces	
	EER5_6: Governmental Initiatives	
	EER7_8: Supporting Industries	.80
	EER9_10: Supporting HR	
	EER11_12: Infrastructure	
Executives' Attitude to E-commerce (EPA)	EPA.11: Importance	
	EPA.12: Support	.92
Customers Influence (CI)	CI1_2: Customer Demand	
	CI3_4: Customer Awareness	.73
	CI5_6: Customer Trust	
National Culture Values (NCV)	NCV1_2: Cultural Norms	
	NCV3_4: Assurance	
	NCV5_6: Behaviours	.70
	NCV7_8: Gender Traditions	
	NCV9_10: Religion	
Organisational Culture dimensions (OCD)	OCD1_2: Team Culture	
	OCD3_4: Developmental Culture	
	OCD5_6: Hierarchical Culture	.78
	OCD7_8: Rational Culture	

7.3. Descriptive Analysis of the Questionnaire

The following is a descriptive report of the responses to all the items in the questionnaire that are targeted in the validity and SEM analyses. IBM SPSS was used to obtain mean, standard deviation for each dimension's items that are related to the 6-point Likert scale used in the survey (i.e. 1 = Strongly disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly agree).

7.3.1. Relative Advantage (RA)

The results of the analysis of the mean of each indicator in the RA dimension ranged from 5.01 to 5.26 (see Table 7.4). The RA dimension's standard deviations ranged from 0.781 to 1.071. This indicates that respondents generally agreed with the statement that Relative Advantage could be gained from e-commerce adoption in their organisation.

Table 7.4: An Analysis of the Mean of the (RA) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
RA.1: Competitive advantage	107	5.01	1.014
RA2_3: Efficiency	107	5.26	0.781
RA.4: Cost Effectiveness	107	5.21	1.071

7.3.2. Organisational E-readiness (OER)

Six indicators related to the OER dimension were listed in the questionnaire. The results of the analysis of the mean for each indicator in the OER dimension ranged from 4.47 to 4.95 (see Table 7.5). The OER dimension's standard deviations ranged from 0.878 to 1.276. This shows that respondents generally agreed with the statement that Organisational E-readiness could motivate their organisations to adopt e-commerce.

Table 7.5: An Analysis of the Mean of the (OER) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
OER1_2: Awareness	107	4.79	1.122
OER3_4: Business Model	107	4.95	1.064
OER5_6: Commitment	107	4.47	1.276
OER7_8_9: Human Resources	106	4.57	0.878
OER11_12: ICT Resources	107	4.54	1.143
OER13_14: Business Resources	107	4.80	0.970

7.3.3. External E-readiness (EER)

There were six indicators related to the EER dimension. The results of the analysis show that the mean of each indicator in the EER dimension ranged from 3.64 to 4.49 (see Table 7.6). The EER dimension's standard deviations ranged from 1.04 to 1.337. This implies that respondents' views are divided between slight agreement and slight disagreement, with the statement that External E-readiness could not be positively playing a direct role in e-commerce adoption.

Table 7.6: An Analysis of the Mean of the (EER) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
EER1_2: Industry Competiveness	107	4.17	1.337
EER3_4: Market forces	107	4.49	1.174
EER5_6: Governmental Initiatives	107	3.88	1.216
EER7_8: Supporting Industries	107	3.79	1.255
EER9_10: Supporting Human Resources	107	3.64	1.104
EER11_12: Infrastructure	107	3.72	1.316

7.3.4. Executives' Attitude to E-commerce (EPA)

Two indicators related to the EPA (11 and 12) dimension were used with the adopted Likert scale. The results of the analysis show that the mean of each indicator in the EPA dimension ranged from 5.11 to 5.19 (see Table 7.7). The EPA dimension's standard deviations ranged from 1.065to 1.067. This means that respondents generally agreed with the statement that Executives' Attitude to E-commerce could be a motivation for e-commerce adoption.

Table 7.7: An Analysis of the Mean of the (EPA) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
EPA.11: Importance	107	5.19	1.065
EPA.12: Support	107	5.11	1.067

7.3.5. Customers Influence (CI)

There were three indicators related to the CI dimension. The results of the analysis show that the mean of each indicator in the CI dimension ranged from 3.58 to 4.18 (see Table 7.8). The CI dimension's standard deviations ranged from 0.917 to 1.184. This indicates that respondents selected 'agree', 'slightly agree', or 'slightly disagree'

option for the statement. The different responses indicate that participants were somewhat divided about the positive role of Customer Influence on e-commerce adoption, however, the degree of agreement was higher and only a few respondents chose 'slightly disagree' as their option.

Table 7.8: An Analysis of the Mean of the (CI) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
CI1_2: Customer Demand	107	4.00	1.039
CI3_4: Customer Awareness	107	4.18	0.917
CI5_6: Customer Trust	107	3.58	1.184

7.3.6. National Culture Values (NCV)

Five indicators related to the NCV dimension were used in the questionnaire. The results of the analysis show that the mean of each indicator in the NCV dimension ranged from 3.93 to 5.05 (see Table 7.9). The NCV dimension's standard deviations ranged from 0.937 1.141. This implies that respondents mostly chose 'agree' or 'slightly agree' to answer the statement that National Culture Values could only slightly affect e-commerce adoption.

Table 7.9: An Analysis of the Mean of the (NCV) Dimension

Descriptive Statistics			
Indicators	N	Mean	Std. Deviation
NCV1_2: Cultural Norms	107	3.93	0.937
NCV3_4: Assurance	107	4.99	0.960
NCV5_6: Behaviours	107	4.22	1.141
NCV7_8: Gender Traditions	107	5.05	0.947
NCV9_10: Religion	103	4.95	1.017

7.3.7. Organisational Culture Dimensions (OCD)

Four indicators related to the OCD dimension were listed in the questionnaire. The results of the analysis show that the mean of each indicator in the OCD dimension ranged from 4.67 to 5.28 (see Table 7.10). The OCD dimension's standard deviations ranged from 0.777 to 1.073. This shows that respondents generally agreed with the statement that Organisational Culture Dimensions could motivate e-commerce adoption.

Table 7.10: An Analysis of the Mean of the (OCD) Dimension

Descriptive Statistics			
Indicators	**N**	**Mean**	**Std. Deviation**
OCD1_2: Team Culture	107	4.96	0.977
OCD3_4: Developmental Culture	107	4.97	1.011
OCD5_6: Hierarchical Culture	107	4.67	1.073
OCD7_8: Rational Culture	107	5.28	0.777

After screening the data, all indicators and dimensions were shown to be significant and ready for validity testing in the next stage of analysis.

7.4. Validity and Goodness of Fit

The second stage of the analysis involved running statistical procedures for some vital validity tests before assessing the full model with SEM. Convergent validity testing is achieved through exploratory factor analysis (EFA) to determine the sub-factors that underlie a set of items measuring each theoretical construct of a nomological network that suits the research context (Kline 2010). Next, the model factors should be confirmed via construct validity test using confirmatory factor analysis (CFA) (Byrne 2010, Hair et al. 2010). Finally, CFA was also used to test for discriminant and factorial validity (Campbell & Fiske 1959, Hair et al. 2006). Discriminant validity measures the extent to which latent variables differ from each other, while factorial validity tests whether a set of latent variables represents an underlying pattern in the data (Straub et al. 2004, Holmes-Smith 2010).

Model-fit is a critical concern when conducting structural equation modelling. Good model-fit indicates high correspondence between the data and the relationships represented in the model and validates the model for the purpose of research (Byrne 2010). Alternatively, poor model-fit indicates low correspondence between the model and the data and relationships represented, suggesting that a different model may better represent relationships between the factors (Byrne 2010). There are some limitations within fit indices in general which must be considered when conducting these tests. Measures of fit only serve to present the average or overall fit of the model. This means that even a seemingly good-fitting model may contain portions that have poor fit to the data (Kline 2010). Additionally, measures of model-fit only focus on a particular aspect of model-fit, and cannot by themselves indicate a good fit. So numerous measures of model-fit must be used and then to compared to arrive at the overall measure of model-fit

(Kline 2011). While a large number of fit indices are available, Kline (2010) presents a list of what he considers a compulsory set of measures of fit that should be reported and discussed whenever reporting the results of a SEM analysis. These statistical measures of fit are a) chi square, b) the Steiger-Lind root mean square error of approximation (RMSEA) along with its 95% confidence interval, c) the Bentler comparative fit index (CFI), and (d) the standardized root mean square residual (SRMR) (Kline 2010).

With regard to model chi square, a model chi-square value equal to zero means that a model with zero degrees of freedom would seem to fit the data perfectly (Kline 2010). Model-fit becomes less and less acceptable as the chi-square value increases, with this serving to test the null hypothesis that the model is correct. If a non-significant result is found, this null hypothesis would not be rejected; however, this hypothesis would be rejected in cases where the chi-square test was found significant (Kline 2010).

Furthermore, this test is sensitive to the magnitude of the correlations between the measures included in the SEM model where larger correlations typically lead to larger chi-square values given a model is incorrect (Kline 2010). It is also very common for this test to achieve significance when larger sample sizes are included in the analysis (Kline 2010).

Kline (2010) also recommends reporting RMSEA. With regard to this measure, when comparing multiple different SEM models with a similar level of explanatory power, the simpler models will provide a measure of model-fit indicating better fit (Kline 2010). In terms of the RMSEA measure, a value of zero indicates the best possible fit, while higher values indicate poorer fit. Specifically, it is suggested that RMSEA values of .05 or below indicate good fit, while values between .05 and .08 indicate acceptable fit (Kline 2010). Additionally, RMSEA values of .10 or above indicate poor model-fit. Kline also recommends reporting the 90% confidence interval associated with the RMSEA value, and this can also be used for the interpretation of model-fit. As an example, if the lower bound of the 90% confidence interval is less than or equal to .05, this would be suggestive of the fact that the model has good fit. The interpretation of the confidence interval may lead to some differing interpretations (Kline 2010).

Kline (2010) also recommends reporting the CFI. This is a measure which focuses upon the improvement in model-fit of the researcher's model as compared with

the baseline model, which is typically the independence or null model assuming zero covariances between all observed variables. Generally, CFI values above .95 are used to indicate good fit.

The SRMR is a measure of fit based on covariance residuals, which consist of the differences which exist between observed and predicted covariances. Ideally, these residuals should be close to zero in order to indicate good fit. Generally, values of SRMR below .06 serve to indicate good model-fit.

The Mplus Statistical Analysis package with Latent Variables is used in the research for illustration of the EFA, CFA and Full SEM model because of the extraordinary generality of its applications to situations for which missing values may be problematic (Acock 2005, Muthén & Muthén 1998-2010). It provides maximum likelihood estimation for continuous, censored, binary, ordered categorical, categorical with three or more categories, counts, or combinations of these either with or without latent variables (Acock 2005).

This next sections report the validity tests and their results in following order: 1) Content Validity, 2) Exploratory Factor Analysis (EFA), and 3) Confirmatory Factor Analysis (CFA) which includes, 4) Discriminant Validity and 5) Factorial Validity.

7.5. Content Validity

A test for content validity is run to ensure that the survey and all its instruments are well-presented and the construct is sufficiently measured, (Sarantakos 2005, Straub, Boudreau & Gefan 2004). Content validity exists if the items look fine and the sample is appropriate (Churchill 1979). This research applied four steps to validate the contents of the survey.

First, the researcher used theories previously used and validated in the literature review (Davis et al. 1989, Venkatesh et al. 2003, Molla & Licker 2005, Quinn & Rohrbaugh 1981). These theories helped the researcher to ground the questions for the interviews to confirm or reject the proposed research model. Second, the researcher used the output of the analysed interviews to produce a revised research model. Third, two researchers were engaged to validate the items to ensure that the sense and meaning were clearly represented. The two researchers added four questions on participant and

organisation profile which may be beneficial to the research. Fourth, three pilot surveys were sent to three of the contributing participants in the interviews to ensure that the content was readable and its meaning legible. The participants pointed out some concepts that needed more clarification or definition. From the feedback in this pilot survey, the final version of the survey questionnaire was generated.

7.6. Convergent Validity

A convergent validity test was used to ensure that a theoretical construct is a uni-dimensional construct representing only one dimension that it is meant to signify and is not a multidimensional factor that is spread over more than one dimension (Holmes-Smith 2010). EFA is also conducted to understand whether a theoretical construct is a uni- or multi-dimensional item (Holmes-Smith 2010). EFA is used when no specific model structure has been determined by the researcher. The total number of factors as well as the variables loaded upon those factors is not predetermined, but is instead determined by the researcher from the results of the initial EFA.

7.6.1. EFA: Organisational E-Readiness (OER)

The next analysis conducted consisted of an EFA conducted on the parcelled data.
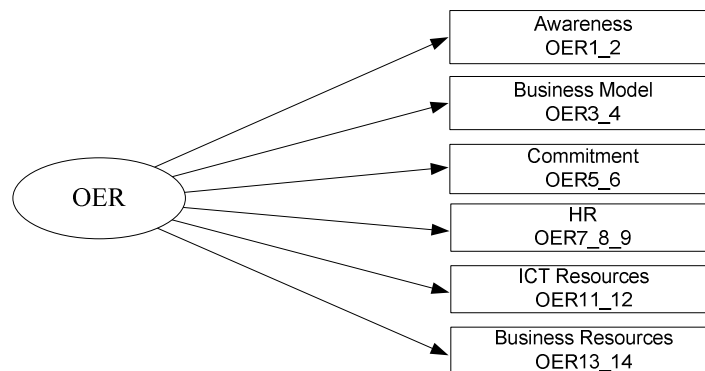

Figure 7.4: Organizational E-Readiness Factor and its measurement items

The EFA utilised oblique rotation. The following Table summarises the eigenvalues resulting from this analysis. Following Kaiser's criterion, only the first two factors with eigenvalues above 1.0 were retained, (Hair et al. 2010)

Table 7.11: Organisational E-Readiness (OER): EFA Eigenvalues

Factor	Eigenvalue
1	3.612
2	1.059
3	0.508
4	0.386
5	0.262
6	0.173

Additionally, as a supportive criterion for model selection, the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) were used. BIC is a criterion for model selection among a finite set of models. It is based on the likelihood function, and it is closely related to AIC (Hirotugu 1980, Burnham & Anderson 2002, Kuha 2004). In this analysis, an AIC of 1674.390 was found, while a BIC of 1722.501 was indicated as the largest with one factor selection. The sample-size adjusted BIC was found to be 1665.630. The chi-square test of model-fit was found to achieve statistical significance with $\chi^2(9) = 75.823$, $p < .001$. RMSEA had a value of .263, with a probability of less than .001 that this value was below the accepted level of .05. The 90% confidence interval for the RMSEA was found to range from .211 to .320. CFI was found to have a value of .807, while TLI had a value of .679. The following Table 7.12 summarises the rotated factor loadings associated with this analysis. All measures were found to load strongly on this single factor.

Table 7.12: EFA on Parcelled Data: Factor Loadings (One Factor)

Measure	Factor Loading
OER1_2	0.830
OER3_4	0.774
OER5_6	0.894
OER7_8_9	0.477
OER11_12	0.537
OER13_14	0.721

The second EFA retained two factors in total. An AIC of 1616.097 was found and a BIC of 1677.572 was indicated. The sample-size adjusted BIC was found to be 1604.903. The chi-square test of model-fit was not found to achieve statistical significance, showing scores or $\chi^2(4) = 7.529$ and $p = .1104$. Additionally, RMSEA was found to be .091, with a probability of .203 that this value was below .05. The 90% confidence interval associated with the RMSEA was found to range from .000 to .190. CFI was found to be .990, while TLI was found to be .962. The rotated factor loadings

associated with this analysis are summarised in Table 7.13. As indicated, OER measures of OER1_2, OER3_4, OER5_6, and OER13_14 load strongly upon the first factor, while the measures of OER7_8_9, OER11_12, and OER13_14 load strongly upon the second factor. The correlation between these two factors was found to be .408.

Table 7.13: EFA on Parcelled Data: Factor Loadings (Two Factors)

Measure	Factor Loading 1	Factor Loading 2
OER1_2	0.838	-0.005
OER3_4	0.801	-0.034
OER5_6	0.907	0.028
OER7_8_9	0.217	0.470
OER11_12	-0.002	0.990
OER13_14	0.488	0.432

Overall, this analysis found two factors retained in the final analysis. One factor was named *Business Readiness*, while the second factor retained was termed *Internal Resources*. The factor of *Business Readiness* encapsulates items OER1_2, OER3_4 and OER5_6, while the factor of *Internal Resources* includes items OER7_8_9 and OER11_12. The researcher decided to remove the Item OER13_14 as it behaved as a multidimensional item.

7.6.2. EFA: External E-Readiness (EER)

The EFA conducted on EER utilised a maximum likelihood estimator and oblique rotation.
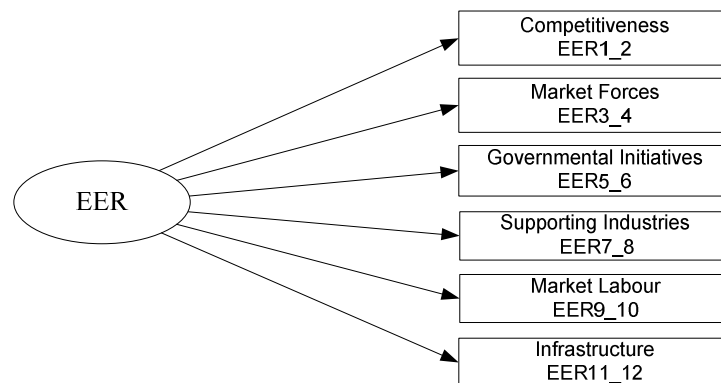

Figure 7.5: External E-Readiness Factor and its measurement items

The eigenvalues found in this analysis are presented in the following Table 7.14. Using Kaiser's criterion (Hair et al. 2010), only the first factor with an eigenvalue above

1.0 could be retained. Based on the preliminary results, it was decided to retain the first two factors.

Table 7.14: External E-Readiness (EER): EFA Eigenvalues

Factor	Eigenvalue
1	3.064
2	0.884
3	0.664
4	0.596
5	0.426
6	0.367

The final EFA included two factors in total. With regard to model-fit, the chi-square test of model-fit did not achieve significance, $\chi^2(4) = 1.784$, $p = .7754$. RMSEA was found to be 0, with its 90% confidence interval ranging from 0 to .097. The probability that the value for RMSEA was below .05 was found to be .848. CFI was found to have a value of 1.000, while TLI had a value of 1.047. Finally, SRMR was found to have a value of .015. Overall, these results indicate excellent model-fit.

The following Table 7.15 presents the factor loadings associated with this exploratory factor analysis. EER1_2 and EER3_4 were both found to be associated with the first factor, while EER5_6, EER7_8, EER9_10, and EER11_12 were found to be associated with the second factor. The first factor was named *Industry Forces*, while the second factor was named *External Resources*.

Table 7.15: External E-Readiness (EER): EFA: Factor Loadings

Measure	Geomin		S.E. Geomin		Est./S.E. Geomin	
	Fac. 1	*Fac. 2*	*Fac. 1*	*Fac. 2*	*Fac. 1*	*Fac. 2*
EER1_2	0.407	0.253	0.436	0.395	0.934	0.640
EER3_4	0.975	0.000	0.453	0.003	2.153	0.036
EER5_6	0.135	0.595	0.227	0.198	0.596	3.013
EER7_8	0.012	0.835	0.044	0.070	0.273	11.961
EER9_10	-0.088	0.599	0.129	0.129	-0.683	4.645
EER11_12	-0.071	0.648	0.145	0.140	-0.491	4.619

7.6.3. EFA: Customer's Influence (CI)

The next set of EFA focused upon CI. This section presents the results of the EFA conducted. Maximum likelihood was used in this analysis along with the oblique method of rotation.
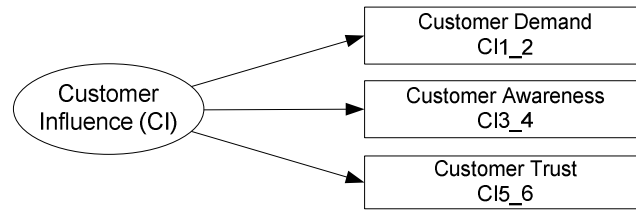
Figure 7.6: Customer Influence Factor and its measurement items

The following Table 7.16 summarises the eigenvalues resulting from this analysis. Following Kaiser's criterion (Hair et al. 2010), only the first factor with a value above 1.0 was retained.

Table 7.16: Customer's Influence (CI): EFA: Eigenvalues

Factor	Eigenvalue
1	1.762
2	0.719
3	0.519

With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(0) = .000$, $p < .000$. RMSEA was found to be zero. CFI was found to have a value of 1.000, while TLI had a value of 1.000. Finally, SRMR was found to have a value of .000. Overall, these results indicate perfect model-fit, which was expected in this case as the degrees of freedom were zero.

The following Table 7.17 summarises the factor loadings associated with this analysis. Strong factor loadings were found in all cases, indicating good model-fit.

Table 7.17: Customer's Influence (CI): EFA: Factor Loadings

Measure	Geomin	S.E. Geomin	Est./S.E. Geomin
	Fac. 1	Fac. 1	Fac. 1
CI1_2	.705	.112	6.307
CI3_4	.682	.110	6.184
CI5_6	.472	.101	4.677

7.6.4. EFA: National Culture Values (NCV)

The next EFA was conducted on National Culture Values (NCV). This analysis also used maximum likelihood estimation along with oblique rotation.
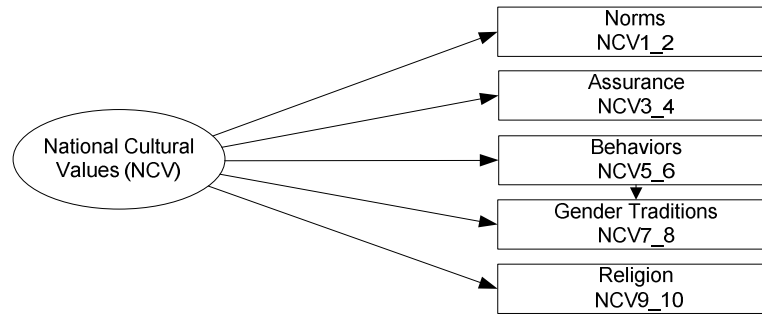
Figure 7.7: National Culture Values Factor and its measurement items

The following Table 7.18 presents the eigenvalues associated with this analysis. Following Kaiser's criterion (Hair et al. 2010), only the first factor out of these five with a score above 1 was retained. This factor would represent National Culture Values.

Table 7.18: National Culture Values (NCV): EFA: Eigenvalues

Factor	*Eigenvalue*
1	2.183
2	.985
3	.766
4	.601
5	.465

With regard to model-fit, the chi-square test of model-fit did not achieve significance, $\chi^2(5) = 5.350$, $p = .3747$. RMSEA was found to be .026, while its 90% confidence interval was found to range from zero to .139. The probability that RMSEA was below .05 was found to be .524. CFI was found to have a value of .995, while TLI had a value of .990. Finally, SRMR was found to have a value of .039. Overall, these results indicate excellent model-fit.

The following Table 7.19 presents the factor loadings associated with this analysis. Factor loadings were found to be high in all cases, indicating an appropriate factor structure.

Table 7.19: National Culture Values (NCV): EFA: Factor Loadings

Measure	*Geomin*	*S.E. Geomin*	*Est./S.E. Geomin*
	Fac. 1	*Fac. 1*	*Fac. 1*
NCV1_2	0.440	0.096	4.592
NCV3_4	0.713	0.083	8.592
NCV5_6	0.411	0.099	4.160
NCV7_8	0.742	0.083	8.955
NCV9_10	0.400	0.099	4.044

7.6.5. EFA: Relative Advantage (RA)

The next factor analysis consisted of an exploratory factor analysis conducted on Relative Advantage (RA). The weighted least squares mean variance estimator was used in this analysis with oblique rotation.
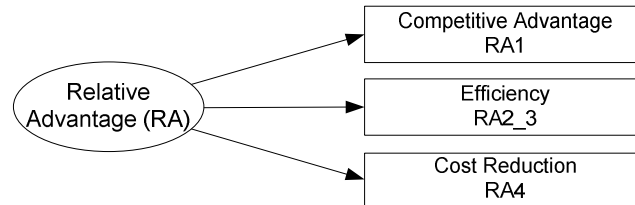
Figure 7.8: Relative Advantage Factor and its measurement items

The following Table 7.20 presents the eigenvalues resulting from this analysis. Kaiser's criterion would suggest only retaining the first factor with a score above 1.0 in this analysis, (Hair et al. 2010). The researcher decided to only retain one factor in this analysis as recommended by Eigenvalue 2.218.

Table 7.20: Relative Advantage (RA): EFA: Eigenvalues

Factor	Eigenvalue
1	2.218
2	.504
3	.279

With regard to model-fit, perfect model-fit was indicated as there were no degrees of freedom in this model. The following Table 7.21 presents the factor loadings resulting from this analysis. Factor loadings were found to be high in all cases, indicating an appropriate factor structure.

Table 7.21: Relative Advantage (RA): EFA: Factor Loadings

Measure	Geomin Fac. 1	S.E. Geomin Fac. 1	Est./S.E. Geomin Fac. 1
RA1	0.845	0.055	15.332
RA2_3	0.854	0.070	12.263
RA4	0.647	0.049	13.156

7.6.6. EFA: Executive's Personality & Attitude (EPA)

Next, an EFA was conducted on Executive's Personality & Attitude (EPA). The weighted least squares mean variance estimator was again used in this analysis, with the oblique method of rotation also being used.
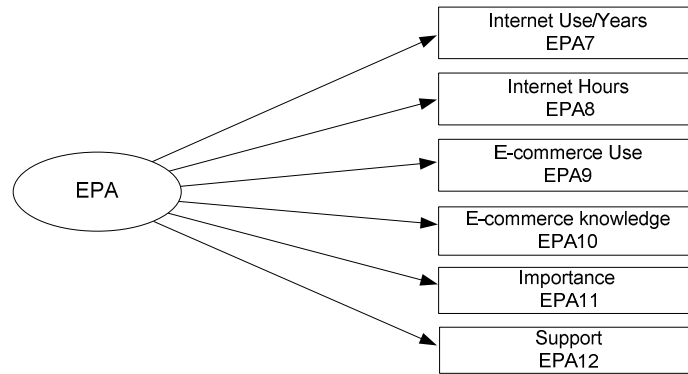
Figure 7.9: Executives' Personality & Attitude Factor and its measurement items

The Table 7.22 below presents the eigenvalues associated with this analysis. Kaiser's criterion would suggest retaining the first two factors resulting from this analysis (Hair et al. 2010). Therefore, these two factors were retained by the researcher.

Table 7.22: Executive's Personality & Attitude (EPA): EFA: Eigenvalues

Factor	*Eigenvalue*
1	2.167
2	1.547
3	0.821
4	0.739
5	0.592
6	0.134

With regard to model-fit, the chi-square test of model-fit did not achieve significance, $\chi^2(4) = 3.563$, $p = 0.4683$. RMSEA was found to be 0.000, with its 90% confidence interval ranging from zero to 0.139. The probability that the value for RMSEA was below .05 was found to be 0.596. CFI was found to have a value of 1.000, while TLI had a value of 1.031. Overall, these results indicate excellent model-fit.

The following Table 7.23 presents the results of this exploratory factor analysis. EPA 7, EPA 8, EPA9 and EPA10 were found to load strongly on the first factor which was called *Executive's IT/e-commerce knowledge*, while EPA11 and EPA12 were found to load most strongly on the second factor which was named *Executive's attitude.*

Table 7.23: Executive's Personality & Attitude (EPA): EFA: Factor Loadings

Measure	*Geomin*		*S.E. Geomin*		*Est./S.E. Geomin*	
	Fac. 1	*Fac. 2*	*Fac. 1*	*Fac. 2*	*Fac. 1*	*Fac. 2*
EPA7	0.461	-0.007	0.119	0.031	3.876	-0.221
EPA8	0.465	0.015	0.125	0.099	3.710	0.151
EPA9	0.603	-0.140	0.121	0.103	5.001	-1.353
EPA10	0.594	0.044	0.117	0.118	5.098	0.376
EPA11	-0.011	0.969	0.013	0.130	-0.865	7.439
EPA12	0.038	0.883	0.071	0.132	0.531	6.713

7.6.7. LCA: Organisational Culture Dimensions (OCD)

A latent class analysis was conducted on Organisational Culture Dimensions (OCD) in order to differentiate between the participants based upon the organisational culture dimensions of team, development, hierarchical and rational (Hagenaars & McCutcheon 2002, Muthén & Muthén 1998-2010). For example, it is hypothesised that team-oriented individuals are less likely to adopt e-commerce. The results are summarised in the Table 7.24 given below. In the first group, individuals have high scores for team dimension as well as higher scores on the remaining organisational culture dimensions. In the second group of respondents, individuals have moderate scores for team dimension, and also have moderate scores for the remaining dimensions. Finally, in the third group of respondents, individuals have low scores on team dimension as well as the remaining dimensions.

Table 7.24: Organizational Culture Dimensions (OCD): LCA: Results in color Scale

Items	Latent Class One		Latent Class Tow		Latent Class Three	
#1	1	2	3	4	5	6
#2	1	2	3	4	5	6
#3	1	2	3	4	5	6
#4	1	2	3	4	5	6
#5	1	2	3	4	5	6
#6	1	2	3	4	5	6
#7	1	2	3	4	5	6
#8	1	2	3	4	5	6

The researcher was unable to make organisation groupings based on their cultural dimension as the dimension value is not discrete. In this case, the purpose of this factor (OCD) is no longer valid. Therefore, a decision was made and this factor was dropped from the research model.

7.6.8. Summary of EFA

In summary, the EFA was performed to understand whether each theoretical construct is a uni- or multi-dimensional item. Three factors successfully passed the EFA and remained as they are with their items: Relative advantage (RA), National Culture Values (NCV), and Customer Influence (CI). However, other three factors did not pass the EFA and each one divided into two factors. Organisational E-Readiness (OER) was split into two factors: 1) Business Readiness (BR), and 2) Internal Resources (IR). Also, External E-Readiness (EER) was split into two factors: 1) Industry Forces (IF), and 2) External Resources (ER). Lastly, The Executive Personality and Attitude (EPA) was

divided into two factors: 1) Executive Attitude (EA), and 2) Executive E-commerce Knowledge (EEK). Figure 7.10 shows the restructured model after EFA.

In order to distinguish between participant views upon organisational culture dimension, a latent class analysis was conducted to (OCD). The results show that participant did not give the proper indication for their organisation culture dimension. Mostly they selected equal values from the Likert scale for each dimension which prevented the researcher to get benefit of this dimension in the model, and caused an omission for this factor.
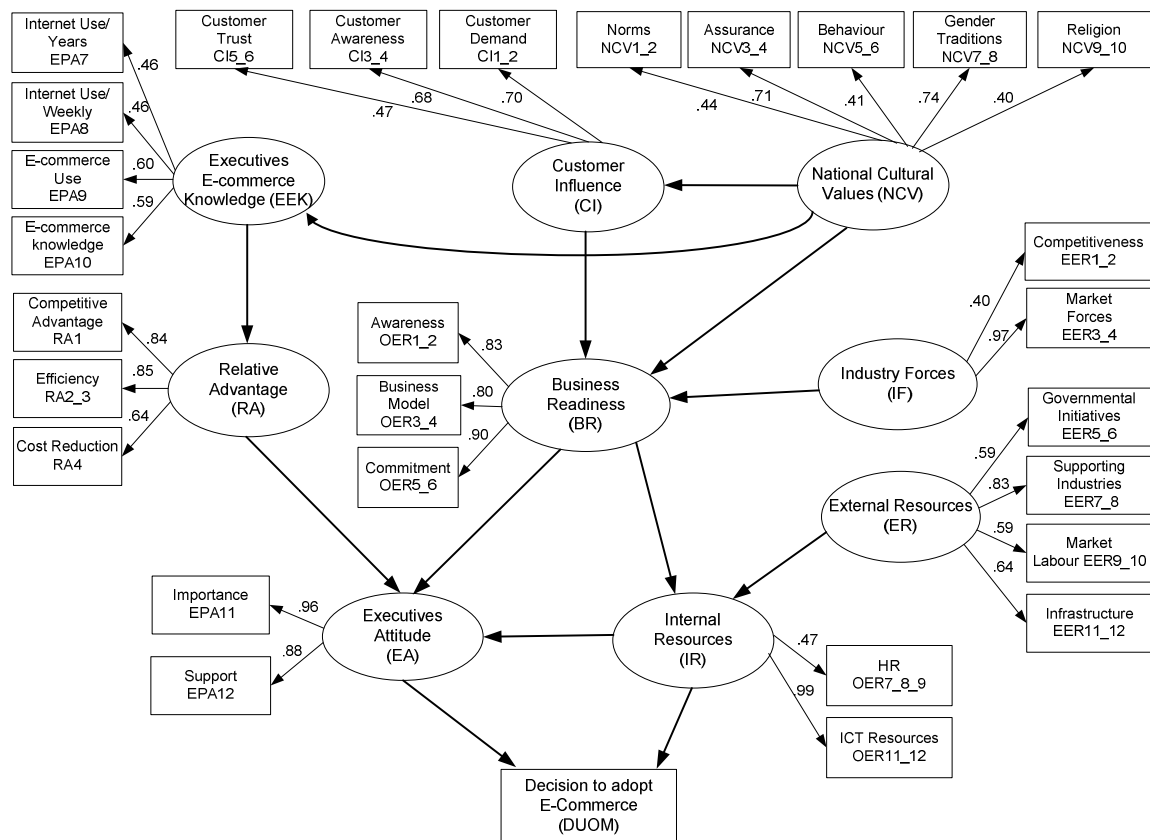

Figure 7.10: The Research Model after EFA

7.7. Confirmatory Factor Analysis

CFA is used to confirm a specific factor structure developed from previous literature on the subject. When conducting confirmatory factor analysis, the number of factors as well as the variables loaded on each factor is determined before using the model structure for analysis.

7.7.1. CFA: Organizational E-Readiness (OER)

The final analysis consisted of a CFA of these two factors in order to ensure that this factor structure has good fit. This model achieved an AIC of 1705.168 and a BIC of 1753.279. The sample-size adjusted BIC was found to be 1696.407. The chi-square test of model-fit was found to be significant, $\chi^2(9) = 16.6$, $p = .061$. RMSEA was found to be .031 in this analysis, with a probability of less than .001 that this value was below .05. Additionally, the 90% confidence interval associated with the RMSEA was found to range from .266 to .374. In this model, CFI was found to be .93, while TLI was found to be .94. Significant results were found in all cases, suggesting an appropriate factor structure.

The following Table 7.25 summarises the standardised coefficients. High standardised coefficients were found in all cases, with significant results also being indicated in all cases. These results strongly support the factor structure as determined through the exploratory factor analyses.

Table 7.25: Organizational E-Readiness (OER): CFA Factor Loadings

	STD YX Standardization			
	Estimate	**S.E.**	**Est./S.E.**	**P-Value**
Factor 1				
OER1_2	0.810	0.041	19.595	0.000
OER3_4	0.768	0.046	16.770	0.000
OER5_6	0.955	0.030	32.259	0.000
Factor 2				
OER7_8_9	0.737	0.084	8.726	0.000
OER11_12	0.818	0.086	9.500	0.000

7.7.2. CFA: External E-Readiness (EER)

The CFA on External E-Readiness was conducted with maximum likelihood measures. With regard to model-fit, the chi-square test of model-fit did not achieve significance as the values were $\chi^2(8) = 4.493$, $p = .8101$. RMSEA was found to be zero, with its 90% confidence interval ranging from 0 to .071. The probability that the value for RMSEA was below .05 was found to be .900. CFI was found to have a value of 1.000, while TLI had a value of 1.037. Finally, SRMR was found to have a value of .025. Overall, these results indicate excellent model-fit.

The following Table 7.26 presents the factor loadings associated with this analysis. In all cases, both the unstandardised as well as the standardised factor loadings were found to be high, indicating good model-fit.

Table 7.26: External E-Readiness (EER): CFA Factor Loadings

| | STD YX Standardization | | | |
	Estimate	S.E.	Est./S.E.	P-Value
Factor 1				
EER1_2	0.676	0.075	8.987	0.000
EER3_4	0.810	0.073	11.164	0.000
Factor 2				
EER5_6	0.699	0.064	10.986	0.000
EER7_8	0.842	0.051	16.483	0.000
EER9_10	0.528	0.080	6.562	0.000
EER11_12	0.587	0.074	7.890	0.000

7.7.3. CFA: Executive's Personality & Attitude (EPA)

A CFA was then conducted on Executive's Personality & Attitude (EPA). Weighted least squares mean variance was again used in this analysis. With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(10) = 9.360$, $p = 0.4983$ While this can be considered to indicate poor fit, a significant chi-square test result is very common, especially with larger sample sizes, and by itself does not indicate poor model-fit. Some other measures must be undertaken to ascertain the level of model-fit. RMSEA was found to be 0.000, with its 90% confidence interval ranging from 0.000 to 0.100. The probability that the value for RMSEA was below .05 was found to be .047. CFI was found to have a value of 1.000, while TLI had a value of 1.018. Additionally, WRMR was found to be 0.398. These results, overall, indicate excellent model-fit. The following Table 7.27 presents the results of the factor loadings associated with this analysis.

Table 7.27: Executive's Personality & Attitude (EPA): CFA Factor Loadings

| | STD YX Standardization | | | |
	Estimate	S.E.	Est./S.E.	P-Value
Factor 1				
EPA7	0.449	0.104	4.316	0.000
EPA8	0.490	0.129	3.796	0.000
EPA9	0.474	0.133	3.562	0.000
EPA10	0.672	0.118	5.719	0.000
Factor 2				
EPA11	0.928	0.012	79.678	0.000
EPA12	0.927	0.011	78.668	0.000

7.7.4. CFA: Relative Advantage (RA)

Next, a CFA was conducted on Relative Advantage (RA). This analysis also used weighted least squares mean variance estimator. With regard to model-fit, the chi-square test of model-fit did not achieve significance, $\chi^2(1) = .038$, $p = .8444$. RMSEA was found to be .000, while its 90% confidence interval was found to range from .000 to .147. The probability that RMSEA was below .05 was found to be .864. CFI was found to have a value of 1.000, while TLI had a value of 1.019. Finally, WRMR was found to have a value of .042. Overall, these results indicate excellent model-fit.

The following Table 7.28 presents the factor loadings associated with this analysis. Factor loadings were found to be higher in all cases, indicating good model-fit and an appropriate factor structure.

Table 7.28: Relative Advantage (RA): CFA Factor Loadings

	Estimate	S.E.	Est./S.E.	P-Value
STD YX Standardization				
Factor 1				
RA 1	.842	.061	13.779	.000
RA2_3	.843	.039	21.893	.000
RA 4	.655	.058	11.365	.000

7.7.5. CFA: National Culture Values (NCV)

A CFA was then conducted on National Culture Values (NCV). Maximum likelihood estimation was also used in this analysis. With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(5) = 5.350$, $p = .3747$. RMSEA was found to be .026, while its 90% confidence interval was found to range from zero to .139. The probability that RMSEA was below .05 was found to be .524. CFI was found to have a value of .995, while TLI had a value of .990. Finally, SRMR was found to have a value of .039. Overall, these results indicate excellent model-fit.

The following Table 7.29 presents the factor loadings associated with this analysis. Factor loadings were found to be high in all cases, indicating good model-fit.

Table 7.29: National Culture Values (NCV): CFA Factor Loadings

	STD YX Standardization			
	Estimate	S.E.	Est./S.E.	P-Value
Factor 1				
NCV1_2	0.440	0.096	4.593	0.000
NCV3_4	0.713	0.083	8.593	0.000
NCV5_6	0.411	0.099	4.160	0.000
NCV7_8	0.742	0.083	8.955	0.000
NCV9_10	0.400	0.099	4.044	0.000

7.7.6. CFA: Customer's Influence (CI)

The next analysis consisted of a CFA conducted on Customer's Influence (CI) using maximum likelihood estimation. With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(0) = .000$, $p < .000$. RMSEA was found to be zero. CFI was found to have a value of 1.000, while TLI had a value of 1.000. Finally, SRMR was found to have a value of .000. Overall, these results were unable to indicate model-fit as the degrees of freedom in this model was zero.

The following Table 7.30 presents the standardised factor loadings associated with this model. In all cases, factor loadings were found to be high, indicating good model-fit.

Table 7.30: Customer's Influence (CI): CFA: Factor Loadings

	STD YX Standardization			
	Estimate	S.E.	Est./S.E.	P-Value
Factor 1				
CI1_2	0.705	0.112	6.307	0.000
CI3_4	0.682	0.110	6.184	0.000
CI5_6	0.472	0.101	4.677	0.000

7.7.7. Summary of CFA

In summary, EFA and CFA with various statistical measures were used to rigorously test convergent validity. CFA results successfully confirmed the EFA results. The following Figure 7.11 shows the summary of factors with their items.
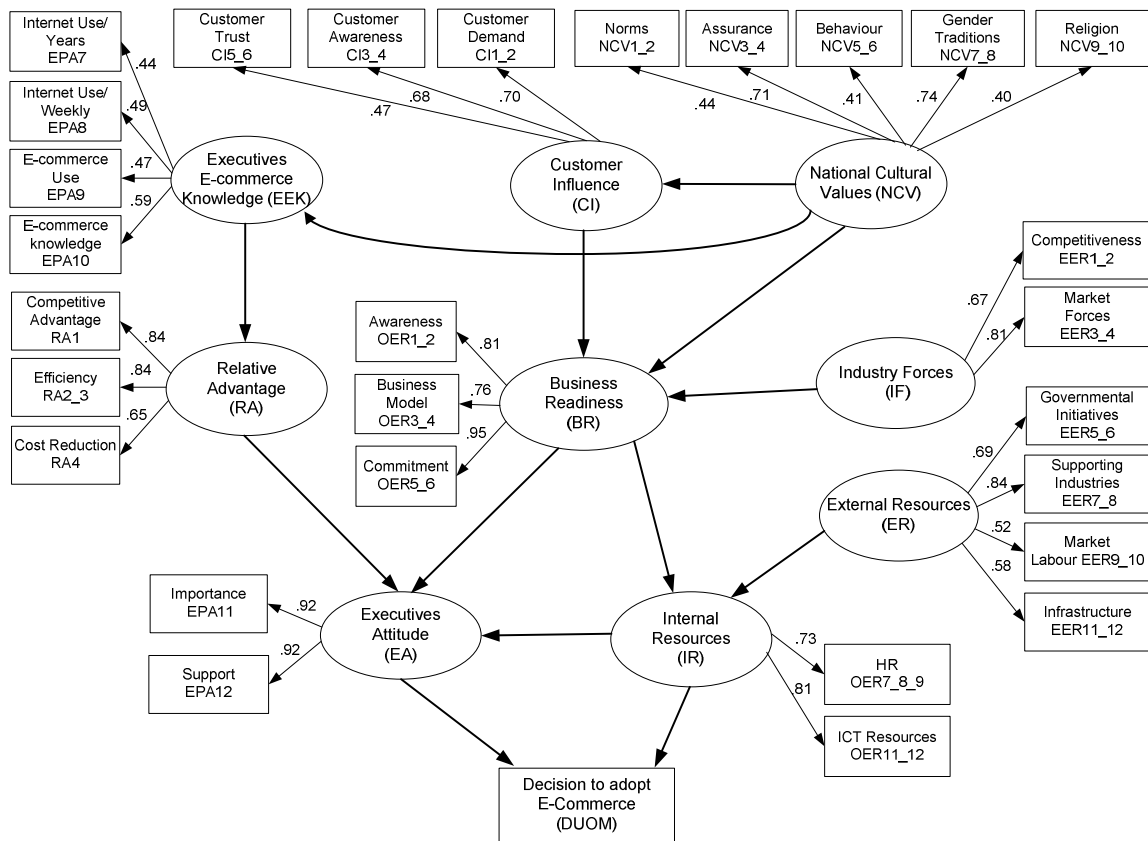
Figure 7.11: The research Model after CFA

7.8. Discriminant Validity

After identifying and schematising the factor structure through EFA and CFA, the next step is to test the discriminant validity of all the constructs used in the model structure. Discriminant validity demonstrates interrelations and differences between dimensions in a model showing the extent to which each dimension is able to captures some phenomena that other constructs do not (Holmes-Smith 2007). SEM can be used to assess Discriminant Validity (Anderson & Gerbing 1988). If the values of correlations between factors (latent dimensions) exceed .80 (Fornell & Larcker 1981), this can suggest a lack of discriminant validity. The average variance extracted (AVE) for two dimensions is calculated, and a score greater than the square of the correlation between the dimensions is needed to satisfy the requirements of discriminant validity (Holmes-Smith 2007).

In this section, the results from the test of discriminant validity tested between different factors by the researcher are reported. As the requirement in this research, the

analysis used discriminant validity to test the dimensions in the model that have a correlation, were tested in order to confirm if those dimensions actually represent the data in different ways.

7.8.1. Industry Forces and External Resources (IF & ER)

Discriminant Validity was used to test the correlation between Industry Forces (IF) and External Resources (ER) as it was found that the correlation (.74) between IF and ER was less than .80 (see Figure 7.12).
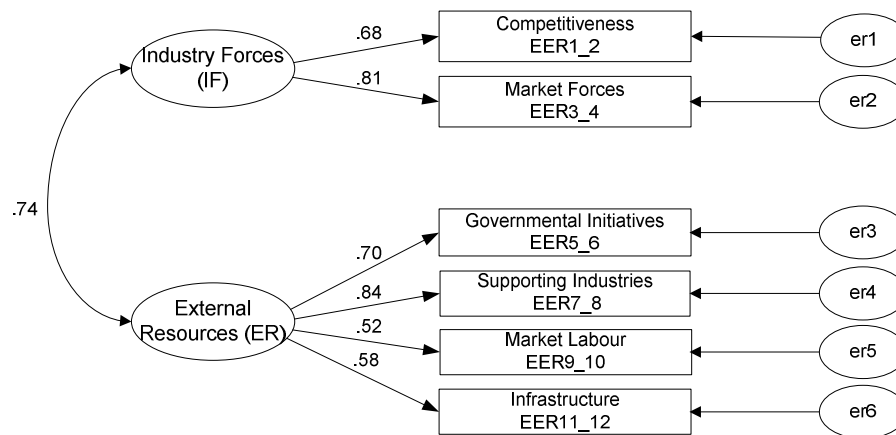

Figure 7.12: Discriminant Validity of IF and ER

In the dimensions assessment, the IF dimension was tested with the ER dimension to confirm that both dimensions were different from each other. The AVE value of IF and ER did not meet the required level as it was higher than the squared correlation between the dimensions, as shown in Table 7.31.

Table 7.31: IF and ER for Discriminant Validity test

Industry Forces (IF)	F1	BY	R^2	Error	AVE
	EER1_2	0.676	0.456	0.543	
	EER3_4	0.810	0.656	0.343	
		$\Sigma=$	1.113	0.886	0.556
External Resources (ER)	F2	BY			
	EER5_6	0.699	0.488	0.511	
	EER7_8	0.842	0.708	0.291	
	EER9_10	0.528	0.278	0.721	
	EER11_12	0.587	0.344	0.655	
		$\Sigma=$	1.820	2.179	0.455
	F2	WITH			
	F1	0.747		$\rho^2 =$	0.558

This indicates that both dimensions could be related to one dimension (O'Leary-Kelly & Vokurta 1998). Due to their unidimensionality, the researcher combined the two

dimensions IF and ER to reform the original factor called External E-Readiness (EER) (Molla & Licker 2005). But before combining them, they had to be retested using CFA to confirm the reformed EER factor.

The CFA was then conducted on EER with maximum likelihood estimation. With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(8)$ = 4.493, p = 0.810. RMSEA was found to be 0.000, while its 90% confidence interval was found to range from zero to 0.071. The probability that RMSEA was below .05 was found to be 0.900. CFI was found to have a value of 1.000, while TLI had a value of 1.037. Finally, SRMR was found to have a value of 0.025. Overall, these results indicate excellent model-fit. Table 7.32 and Figure 7.13 show the factor loadings for each item.

Table 7.32: External E-Readiness (EER) CFA Factor Loadings

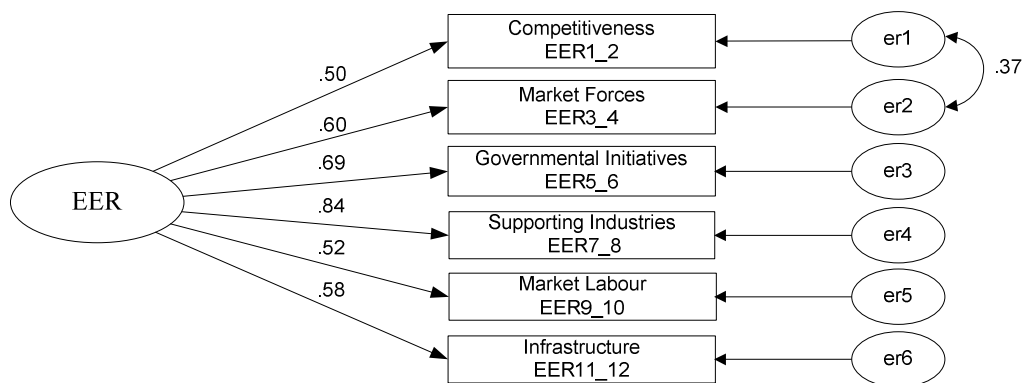|	STD YX Standardization			
	Estimate	S.E.	Est./S.E.	P-Value
Factor 1				
EER1_2	0.505	0.084	5.998	0.000
EER3_4	0.605	0.074	8.219	0.000
EER5_6	0.699	0.064	10.987	0.000
EER7_8	0.842	0.051	16.482	0.000
EER9_10	0.528	0.080	6.562	0.000
EER11_12	0.587	0.074	7.890	0.000

Figure 7.13: EER congeneric measurement model

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Due to these changes, a reliability test was calculated for each of the six items in the reformed EER dimension with Cronbach's Alpha to determine the internal consistency of the statements. The reliability test found the Cronbach's Alpha for the six items to be 0.804 which suggests good reliability of all the items.

However, as it has been often been suggested that Cronbach's alpha may underestimate construct reliability (Cortina 1993, Hancock & Mueller 2001), coefficient H was also calculated to determine construct reliability. Hancock and Mueller (2001) have devised a SEM approach known as coefficient H which is flexible enough to accommodate congeneric measures and overcome the dampening effect of items that load into a construct but do not contribute to the construct's meaning/ interpretation on construct reliability or only do so marginally. The idea behind coefficient H is that the construct reliability of congeneric measures should not be less than the reliability of the best item in a construct. The coefficient H 0.839 was higher than Cronbach's Alpha 0.804. These results suggest good construct reliability.

7.8.2. Customer Influence and National Cultural Values (CI & NCV)

Discriminant Validity was used to test the correlation between Customer Influence (CI) and National Cultural Values (NCV) as the correlation (.66) between CI and NCV was less than .80 (see Figure 7.14).
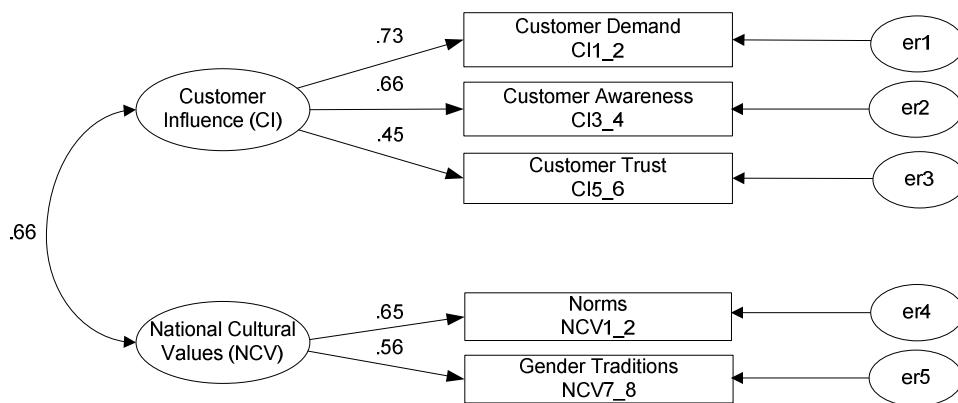

Figure 7.14: Discriminant Validity of CI and NCV

According to dimensions assessment, the CI dimension was tested with the NCV dimension to confirm that both dimensions are different from each other. The AVE value

of CI and NCV did not meet the requirement that it be lower than the squared correlation between the dimensions, as shown in Table 7.33.

Table 7.33: CI and NCV for Discriminant Validity test

National Cultural Values (NCV)	F1	BY	R^2	Error	AVE
	NCV1_2	0.659	0.434	0.565	
	NCV7_8	0.562	0.315	0.684	
		Σ=	0.750	1.249	0.375
Customer Influence (CI)	F2	BY			
	CI1_2	0.735	0.540	0.459	
	CI3_4	0.662	0.438	0.561	
	CI5_6	0.455	0.207	0.792	
		Σ=	1.185	1.814	0.395
	F2	WITH			
	F1	0.668		ρ^2 =	0.446

This indicates that both dimensions related to one dimension (O'Leary-Kelly & Vokurta 1998). Due to their unidimensionality, the researcher combined the two dimensions CI and NCV to form a new factor called Customer Culture Influence (CCI) (Ajzen & Fishbein 1980, Venkatesh et al. 2003). Before combining them, they had to be retested using CFA in order to confirm CCI as the new factor.

The CFA conducted on CCI with maximum likelihood estimation showed the following results. With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi^2(4) = 3.582$, p = 0.900. RMSEA was found to be 0.000, while its 90% confidence interval was found to range from zero to 0.096. The probability that RMSEA was below .05 was found to be 0.930. CFI was found to have a value of 1.000, while TLI had a value of 1.097. Finally, SRMR was found to have a value of 0.014. Overall, these results indicate excellent model-fit. Table 7.34 and Figure 7.15 show the factor loading for each item.

Table 7.34: Customer Culture Influence (CCI), CFA Factor Loadings

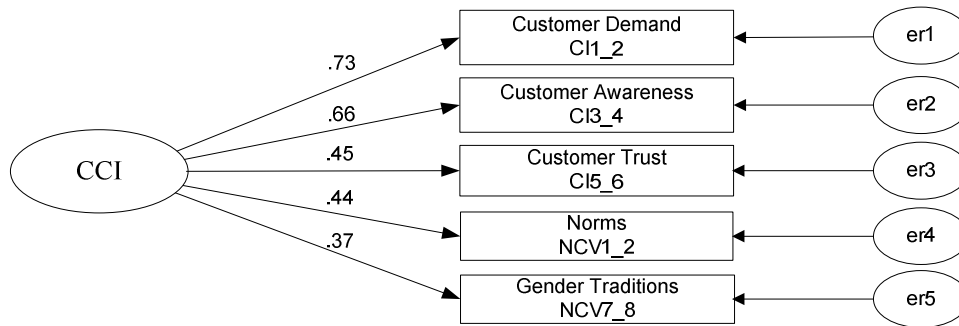|	STD YX Standardization			
	Estimate	**S.E.**	**Est./S.E.**	**P-Value**
Factor 1				
CI1_2	0.735	0.094	7.788	0.000
CI3_4	0.662	0.094	7.054	0.000
CI5_6	0.455	0.099	4.574	0.000
NCV1_2	0.445	0.101	4.418	0.000
NCV7_8	0.379	0.103	3.671	0.000

Figure 7.15: EER congeneric measurement model

A reliability test was also calculated for each of the six items of the new CCI factor with Cronbach's Alpha to determine the internal consistency of the statements. The reliability test found the Cronbach's Alpha for the six items to be 0.70 which suggested good reliability among items. Coefficient H 0.725 was higher than Cronbach's Alpha 0.70. These results suggest good construct reliability.

The Cultural Factors' loadings (Norms NCV1_2 & and Gender Traditions NCV7_8) do not represent the new factor well and the measurement errors correlate with the other measurement errors in an unreasonable way. Thus, the researcher excluded those two factors from the rest of the analysis.

7.8.3. Successful Discriminant Validity of All other factors

Discriminant Validity was used to test the correlation between all other factors (BR, IR, CCI, EA, EEK, EER, and RA) as the correlation between all of them was less than .80. In the assessment of all these factors, each factor was tested with another to confirm that both dimensions are different from each other. The AVE values of each factor are greater than the squared correlation between the dimensions (ρ^2), as shown in Table 7.35 below. Thus, each dimension holds discriminant validity.

Table 7.35: Successful Discriminant Validity of All other factors

	CCI		EER		EA		RA		EEK		IR		BR	
	AVE	ρ²	AVE	ρ²	AVE	ρ²	AVE	ρ²	AVE	ρ²	AVE	ρ²	AVE	ρ²
CCI			0.414 / 0.403	0.316	0.395 / 0.863	0.377	0.617 / 0.403	0.262	0.249 / 0.395	0.142	0.643 / 0.394	0.075	0.781 / 0.504	0.477
EER	0.403 / 0.414	0.316			0.864 / 0.417	0.068	0.628 / 0.413	0.060	0.300 / 0.416	0.016	0.603 / 0.416	0.183	0.780 / 0.413	0.372
EA	0.863 / 0.395	0.377	0.417 / 0.864	0.068			0.625 / 0.863	0.291	0.302 / 0.861	0.052	0.643 / 0.923	0.028	0.770 / 0.925	0.298
RA	0.403 / 0.617	0.262	0.413 / 0.628	0.060	0.863 / 0.625	0.291			0.484 / 0.615	0.226	0.636 / 0.615	0.068	0.636 / 0.615	0.068
EEK	0.395 / 0.249	0.142	0.416 / 0.300	0.016	0.861 / 0.302	0.052	0.615 / 0.484	0.226			0.680 / 0.271	0.184	0.734 / 0.389	0.190
IR	0.394 / 0.643	0.075	0.416 / 0.603	0.183	0.923 / 0.648	0.028	0.615 / 0.636	0.068	0.271 / 0.680	0.184			0.719 / 0.606	0.288
BR	0.504 / 0.781	0.477	0.413 / 0.780	0.372	0.925 / 0.770	0.298	0.389 / 0.734	0.190	0.615 / 0.636	0.068	0.606 / 0.719	0.288		

7.8.4. Summary of discriminant validity

The purpose of conducting a discriminant validity analysis was to demonstrate interrelations and differences between dimensions in a model showing the extent to which each dimension is able to captures some phenomena that other constructs do not. The structural model included nine factors generated after convergent validity using EFA and CFA. After discriminant validity analysis, the total number of factors is seven factors, see Figure 7.16. The factor National Culture Values (NCV) was merged with Customers Influence (CI) to generate one dimension, Customer Culture Influence (CCI) as they capture the same phenomena and do not hold discriminant validity. Likewise, the factors Internal Resources (IR) and Industry Forces (IF) recombined together in their original factor External E-Readiness (EER). However, all other factors were retained as all of them hold discriminant validity. Figure 7.16 shows the final structural model after discriminant validity analysis.
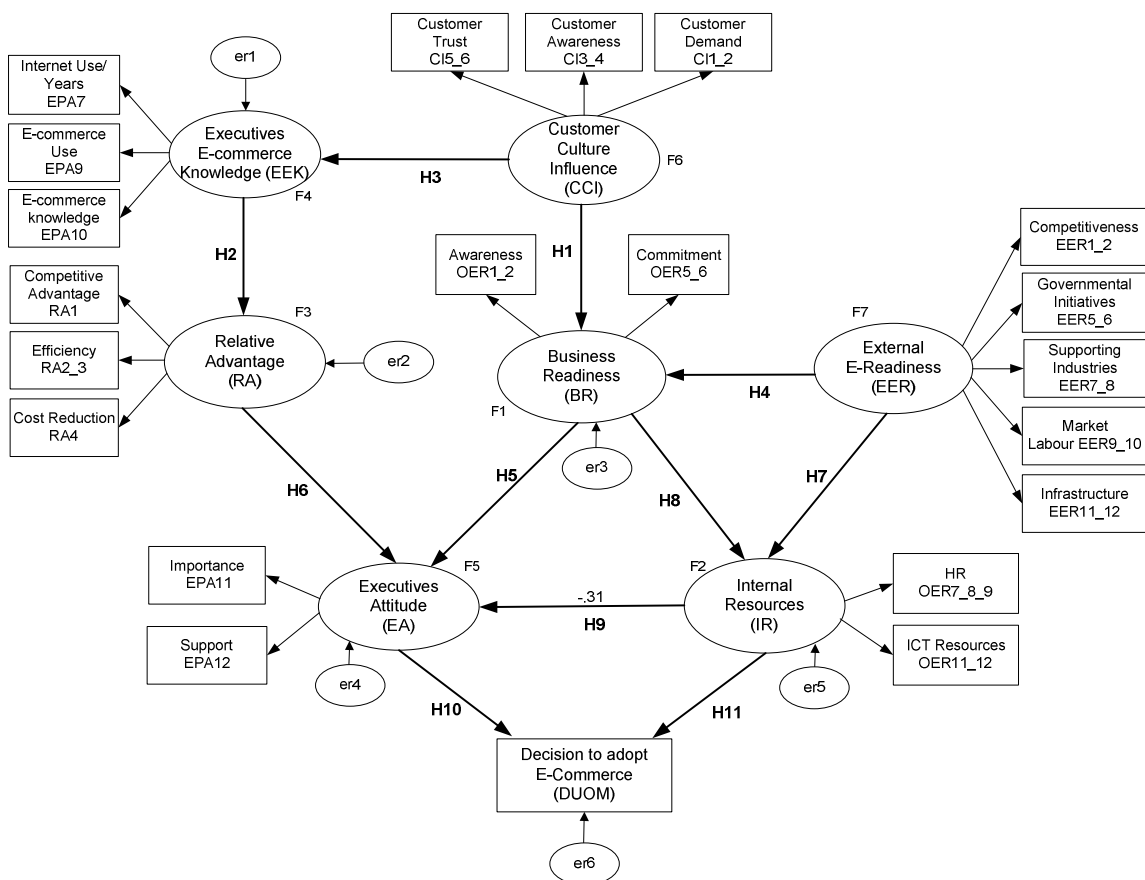

Figure 7.16: Structural Model after Discriminant Validity

7.9. Factorial Validity

Factorial validity is a test of whether or not a set of latent variables represent an underlying pattern in the data (Straub et al. 2004). This was achieved by performing CFA with the measurement model including all the factors that hold both convergent and discriminant validity. The CFA was then conducted on the measurement model. Maximum likelihood estimation was also used in this analysis. Table 7.36 summarises the final measurement model made up of 7 factors and 20 items with their factor loading.

Table 7.36: Factor Loading for Each Item

STDYX Standardization					
The 7 Factors	*Items*	*Estimate*	*S.E.*	*Est./S.E.*	*P-Value*
Business Readiness (BR)	OER1_2	0.846	0.036	23.514	0.000
	OER5_6	0.915	0.029	32.061	0.000
Internal Resources (IR)	OER7_8_9	0.774	0.067	11.600	0.000
	OER11_12	0.779	0.066	11.855	0.000
Relative Advantage (RA)	RA1	0.815	0.061	13.320	0.000
	RA2_3	0.871	0.064	13.519	0.000
	RA4	0.666	0.061	10.899	0.000
Executives E-Commerce Knowledge (EEK)	EPA7	0.515	0.105	3.964	0.000
	EPA9	0.518	0.132	2.414	0.000
	EPA10	0.741	0.17	4.356	0.000
Executives Attitude (EA)	EPA11	0.940	0.047	19.929	0.000
	EPA12	0.916	0.042	21.660	0.000
Customer Culture Influence (CCI)	CI1_2	0.753	0.062	12.230	0.000
	CI3_4	0.588	0.083	7.114	0.000
	CI5_6	0.519	0.081	6.368	0.000
External E-Readiness (EER)	EER1_2	0.599	0.105	5.703	0.000
	EER5_6	0.651	0.093	7.020	0.000
	EER7_8	0.838	0.061	13.755	0.000
	EER9_10	0.537	0.091	5.913	0.000
	EER11_12	0.533	0.087	6.165	0.000

With regard to model-fit, the chi-square test of model-fit did achieve significance, $\chi 2(147) = 153.3$, p = 0.344. RMSEA was found to be 0.020, while its 90% confidence interval was found to range from zero to 0.050. The probability that RMSEA was below .05 was found to be 0.947. CFI was found to have a value of 0.985, while TLI had a value of 0.981. Finally, WRMR was found to have a value of 0.554. Overall, these results indicate excellent model-fit.

These Goodness-of-fit indices illustrate that the measurement model fits the data well. It also indicates that the values of the estimated parameters are valid and replicable with another sample and the validity of the model is not merely a result of chance (Carlson & Mulaik 1993). In light of the favourable results of this process, no items were dropped from the model. Figure 7.17 represents the new modified measurement model that was used to determine the reliability of the instrument along with its indicators.
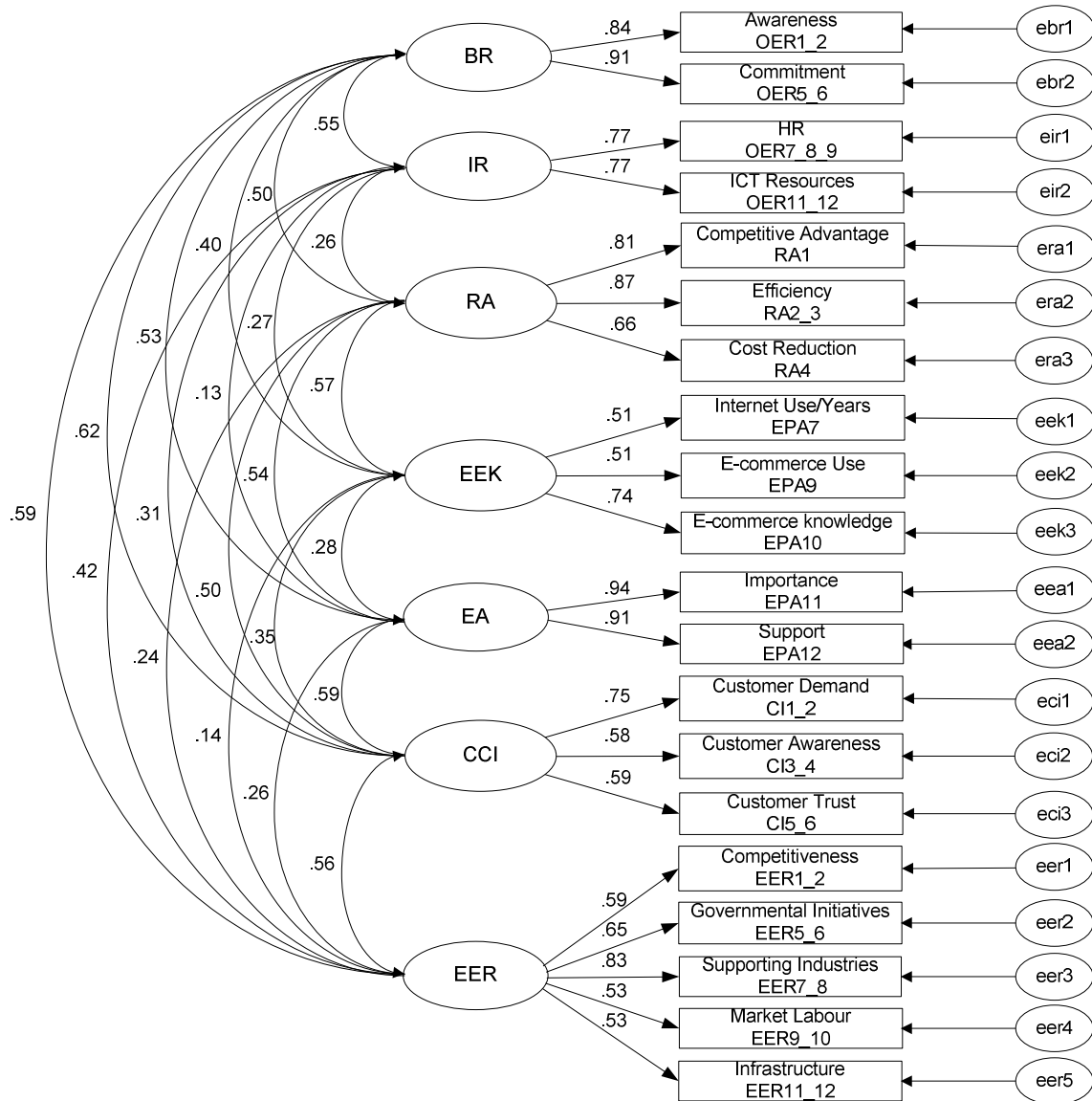

Figure 7.17: The Measurement Model of E-commerce Adoption in Saudi Tourism Companies

Summary of factorial validity

Using CFA on the factors that hold both convergent and discriminant validity, a factorial validity was performed to test whether or not a set of latent variables represent an underlying pattern in the data. The results indicated a good model fit, thus no items were dropped from the model.

7.10. Full Model Testing with Structural Equation Modelling (SEM)

Structural Equation Models (SEMs) using latent variables provide a general framework for modelling relationships in multivariate data (Bollen 1989). Two main steps should be taken during SEM to achieve a good model-fit for the relationships between variables in multivariate data (Hair et al. 2006). Step one involves testing for construct validity and full measurement of the model's fit to the data. The main purpose here is to check how well the observed variables of a hypothesised construct relate to one another. This process was accomplished in the previous sections by conducting factor analyses using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), Discriminant Validity, and Factorial Validity. The results show acceptable model-fit and validity on all accounts. Now, step two aims to test the full measurement model in order to establish the fit and validity of the structural model as a whole rather than as an end in itself (Hair et al. 2006). This process requires testing of the structural model as well as the significance of the structural relationships. This section reports the results from the testing of the structural model.

7.10.1. Bayesian SEM

This study adopted a Bayesian SEM approach for testing the full structural model. Bayesian SEM approach is well recognised in the statistics literature as an attractive approach to analyse a wide variety of models (Berger 1985, Box & Tiao 1973, Congdon 2003). To give a general explanation of this approach, consider M to be an arbitrary statistical model with a vector of unknown parameters θ, and let Y be the observed dataset of raw observations with a sample size n. In a Bayesian approach, θ is considered to be random with a distribution (called the prior distribution) and an associated (prior) density function, say $p(\theta)$. Let $p(Y, \theta|M)$ be the probability density function of the joint distribution of Y and θ under M. The behaviour of θ under the given data Y is fully described by the posterior distribution of θ. Let $p(\theta|Y,M)$ be the density

function of the posterior distribution, which is called the posterior density function. The posterior distribution of θ or its density plays the most important role in the Bayesian analysis of the model (Song & Lee 2012). Commonly, the concept of posterior distribution is the initiator of the *p*-value to confirm the structural model-fit (Song & Lee 2012). The generated *P*-Value should be greater than 0.05 and less than 0.95 to indicate good model-fit. The results of *P*-Value for this study are shown in the next section.

According to Hair et al. (2006), the validity and acceptability of a structural model can be evaluated in terms of three issues: (a) the outputs obtained from Goodness of Fit (GOF) indices; (b) the magnitude of variance explained, that is, R^2; and (c) the size of effect, direction and significance of the estimated structural parameters. However, this study uses a different approach to validate the construct model using Bayesian SEM analysis for testing the structural model. Several reasons motivated the researcher to use Bayesian SEM analysis:

(1) Sample size: In general, careful consideration of the relationship between sample size and model complexity is desirable in SEM. Some would argue that the minimum sample size for SEM analysis has to be more than between 150 and 200 or to provide a convergent and proper solution to the research problem (Barrett 2007, Anderson & Gerbing 1984). However, Bayesian SEM analysis provides an alternative solution to overcome the small sample size (n=107) used in this research (Schines et al. 1999, Dunson 2000, Lee & Song 2004). Many important articles in Bayesian analyses of SEM have pointed out that a good feature of sampling-based Bayesian methods is that they depend less on asymptotic theory, which enables them to produce reliable results even with small samples (Song & Lee 2012).

(2) SEMs can be regarded as regression models with observed and latent variables. Although they have been widely applied in research, the classical methods and commercial software generally used in this area are based on the covariance structure approach, which could encounter serious difficulties when dealing with complicated models and/or data structures (Song & Lee 2012). In contrast, the Bayesian SEM approach has much more flexibility in handling complex situations (Arminger & Muthén 1998, Lee & Song 2004). As model complexity needs to be handled properly in this research, Bayesian SEM approach appears as a more suitable analytical technique.

(3) The Bayesian SEM approach directly incorporates prior knowledge into the analysis. More precise estimates of the parameters can be obtained under situations in which good prior information is available. The posterior distributions of parameters and latent variables can be estimated, and the means as well as quantiles of posterior distributions can be obtained (Tanner & Wong 1987).

(4) Finally, interpreting the model into a Bayesian SEM framework provides more realistic estimates of the existing knowledge/predictive uncertainty by taking into account both the uncertainty about the parameters and the uncertainty that remains when the parameters are known (posterior predictive distribution). Bayesian SEM approach has several advantages over classical methods in resolving the issue of predictive uncertainty (e.g. maximum likelihood, generalized and weighted least squares) (Congdon 2003), thus, helping to make research findings more robust.

7.10.2. Results of Testing for Structural Model Fit

The testing of the structural model was used to show that all factors represented their relevant dimensions. An analysis of SEM was performed with the Bayesian SEM analysis method to measure the relationship among the dimensions, in order to confirm or reject the research hypothesis. Assessment of the goodness-of-fit between the model outputs and the observed data was based on the posterior predictive p-value. The p-value is defined as the probability that the replicated data (i.e. the posterior predictive distribution) could be more extreme than the observed data (Gelman et al. 1996). As Bayesian SEM analysis only concerns the overall P-Value of the construct model to observe model-fit, the posterior predictive P-Value is found to be 0.068 which indicates good structural model-fit (Kass & Raftery 1995). In addition, 95% Confidence Interval for the difference between the observed and the replicated Chi-Square values ranged between -13.672 and 100.384. The Bayesian iterations were found to be 5400, meaning that 5400x107 = 577,800 samples were randomly generated for testing the structural model. Figure 7.18 shows the Bayesian posterior predictive checking scatter plot. It shows that the model underestimates the replicated data but not enough to be statistically significant.
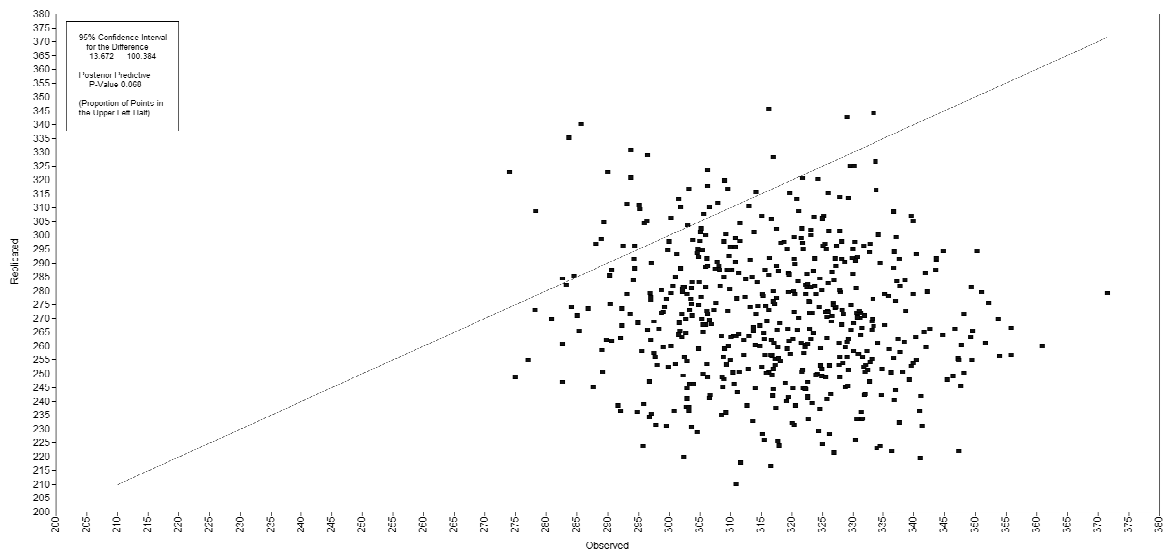
Figure 7.18: Bayesian posterior predictive checking scatter plot

As discussed under the conceptual model, the structural relationships between the theoretical constructs represent hypotheses derived in combination from the existing literature and exploratory study of the current research. Figure 7.19 and Table 7.37 present the full structural model. The full structural model includes the seven factors concluded from the previous construct validly tests and their measurement items. Each item is included with its effect size (factor loading).

Table 7.37: The Factor Loading for Each Item of the Structural Model.

| STDYX Standardization				
The 7 Factors	*Items*	*Estimate*	*Posterior S.D.*	*One-Tailed P-Value*
Business Readiness (BR)	OER1_2	0.801	0.045	0.000
	OER5_6	0.966	0.028	0.000
Internal Resources (IR)	OER7_8_9	0.708	0.079	0.000
	OER11_12	0.806	0.079	0.000
Relative Advantage (RA)	RA1	0.884	0.052	0.000
	RA2_3	0.832	0.051	0.000
	RA4	0.674	0.073	0.000
Executives E-Commerce Knowledge (EEK)	EPA7	0.396	0.093	0.000
	EPA9	0.425	0.108	0.002
	EPA10	0.950	0.163	0.000
Executives Attitude (EA)	EPA11	0.938	0.023	0.000
	EPA12	0.914	0.024	0.000
Customer Culture Influence (CCI)	CI1_2	0.654	0.093	0.000
	CI3_4	0.622	0.091	0.000
	CI5_6	0.532	0.090	0.000
External E-Readiness (EER)	EER1_2	0.428	0.100	0.000
	EER5_6	0.670	0.066	0.000
	EER7_8	0.861	0.051	0.000
	EER9_10	0.529	0.083	0.000
	EER11_12	0.583	0.078	0.000
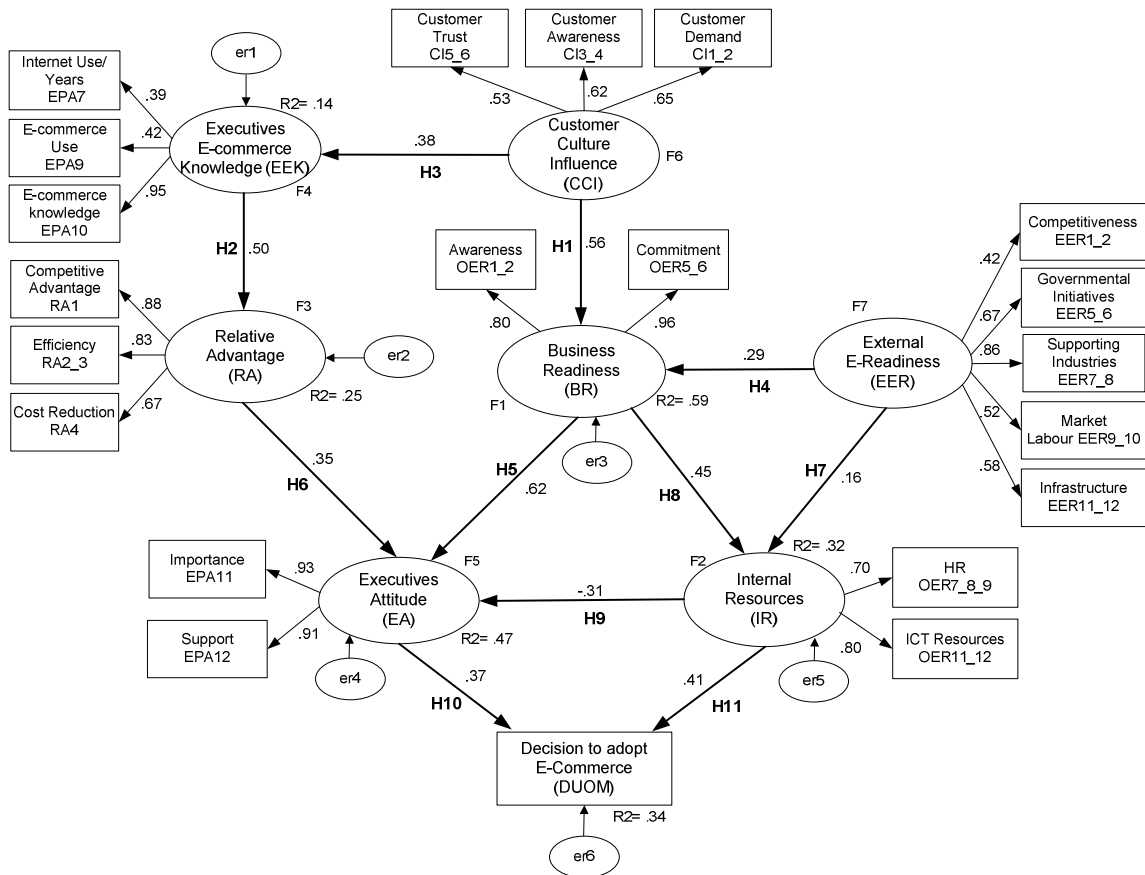
Figure 7.19: The structural model of e-commerce adoption in Saudi Arabia

6.6 Results from Hypotheses Testing

In light of the results of the statistical analyses conducted so far, this research proposes that the factors affecting travel and tourism organisations' decision to adopt e-commerce in Saudi Arabia are: Internal Resources (IR), Executives' Attitude (EA), Business Readiness (BR), External E-Readiness (EER), Relative Advantage (RA), Executives E-Commerce Knowledge (EEK), and Customer Culture Influence (CCI). These factors are, therefore, validated in SEM to confirm the significance of the individual factors and relationships between them to understand e-commerce adoption in Saudi tourism organisations.

SEM is also used for pre-conceptualisations that reflect research questions or existing understanding of system structure that form the initial framework for model development. In contrast to multivariate regression, SEM can evaluate effects between two explanatory variables, i.e. effects between variables within a model (Bollen 1989).

Therefore, SEM is also used for testing the hypotheses that postulate relationships and effects between the different variables in the model. Table 7.38 shows the final structural coefficients between dependent factors and their independent factors with the final P-value.

Table 7.38: The effect size of structural coefficients of the model with P-value

			STDYX Standardization		
Hypotheses	Dependent factors		Independent factors	Estimate	Posterior S.D.	One-Tailed P-Value
H1	BR	←	CCI	0.568	0.128	0.000
H2	RA	←	EEK	0.502	0.148	0.000
H3	EEK	←	CCI	0.383	0.161	0.003
H4	BR	←	EER	0.290	0.128	0.022
H5	EA	←	BR	0.623	0.122	0.000
H6	EA	←	RA	0.353	0.096	0.001
H7	IR	←	EER	0.160	0.146	0.041
H8	IR	←	BR	0.452	0.133	0.001
H9	EA	←	IR	-0.312	0.132	0.008
H10	DUOM	←	EA	0.377	0.090	0.000
H11	DUOM	←	IR	0.417	0.108	0.000

The P-value of all factors is less than 0.05, which indicates that all parameter values are statistically different from 0. Except the correlation between EA ← IR, all the effect sizes are positive and in the acceptable range for practical significance which starts when an effect size is 0.1 or above. Thus, it can be concluded that most of the structural coefficients have practical application for the hypotheses being tested in this research. These results from the testing of the model-fit and path analysis between factors validate the initial findings of the interviews analysis in Chapter 5. However, there are also some changes from the initial conceptual structure used there. Some of the factors from the initial qualitative study are now divided into two types after the statistical analyses. For example, during the EFA, the initial factor External E-Readiness was separated into two factors of BR and IR and the EPA factor was also separated into two factors of EA and EEK. Lastly, the OCD factor was no longer valid in the EFA and deleted.

SEM was utilised with Bayesian SEM analysis (due to small sample size and to improve analytical reliability and generalisability, as explained earlier) to further analyse the data. As Byrene (2001) suggests, 95% confidence interval with p-value can be used to ensure that the results were truly reflective of the issue at hand and not merely a product of chance. As the structural model was accepted, the research hypotheses can now be tested. The following paragraphs discuss the results of the hypotheses testing. Interpretation of the effect size is reported here as well whether they are trivial (0 to .1),

small (>.1 to .3), medium (>.3 to .5), or large (>.5), (Cohen 1992). Figure 7.20 illustrates the restructured research model and the hypotheses with the effect size for each hypothesis.
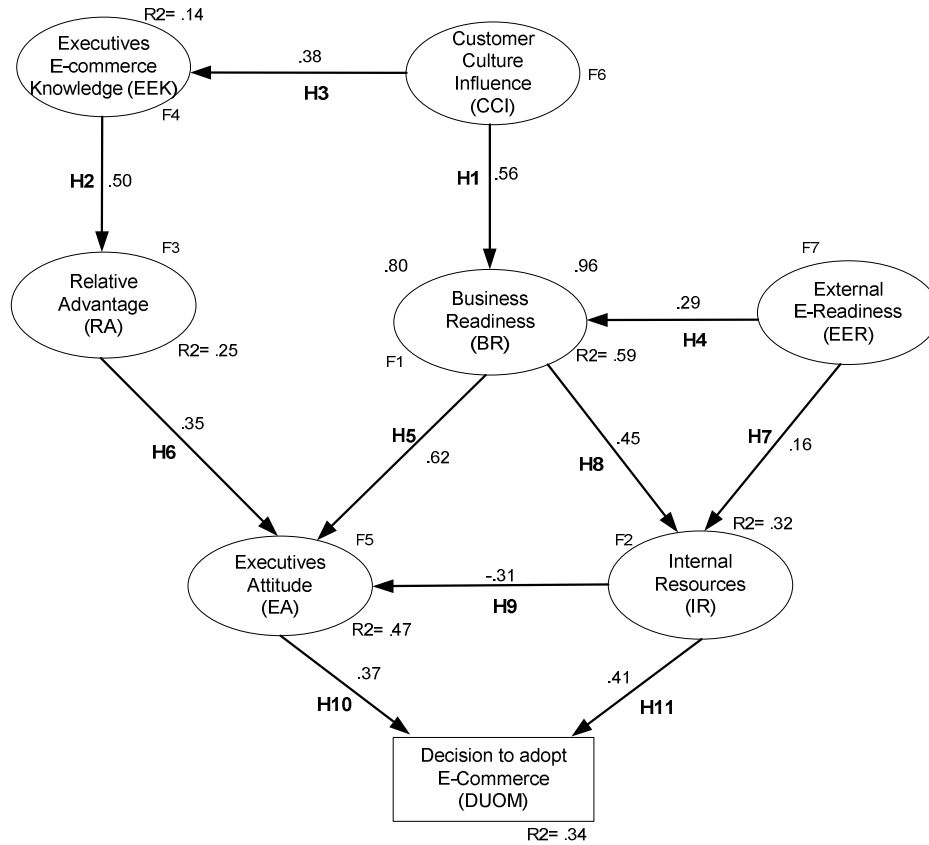

Figure 7.20: Research Model and Hypotheses

H1: *Customer Culture influence has a positive impact on Business readiness for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Customer Culture Influence (CCI) and Business Readiness (BR) for a positive decision towards e-commerce adoption is 0.000 < 0.05. Therefore, it can be argued that Customer Culture Influence (CCI) has a positive "large" effect (.56) on Business Readiness (BR) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H2: *Executives E-Commerce Knowledge has a positive impact on Relative Advantage for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Executives E-Commerce Knowledge (EEK) and Relative Advantage (RA) for a positive decision towards e-commerce adoption is 0.000 < 0.05. Therefore, it can be argued that Executives E-Commerce Knowledge (EEK) has a "large" effect (.50) on Relative Advantage (RA) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H3: *Customer Culture Influence has a positive impact on Executives E-Commerce Knowledge for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Customer Culture Influence (CCI) and Executives E-Commerce Knowledge (EEK) for a positive decision towards e-commerce adoption is 0.003 < 0.05. Therefore, it can be argued that Customer Culture Influence (CCI) has a "medium" effect (.38) on Executives E-Commerce Knowledge (EEK) in generating a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H4: *External E-Readiness has a positive impact on Business readiness for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between External E-Readiness (EER) and Business Readiness (BR) for a positive decision towards e-commerce adoption is 0.022 < 0.05. Therefore, it can be argued that External E-Readiness (EER) has a "Small" effect (.29) on Business Readiness (BR) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H5: *Business readiness has a positive impact on Executives' Attitude for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Business Readiness (BR) and Executives' Attitude (EA) for a positive decision towards e-commerce adoption is 0.000 < 0.05. Therefore, it can be argued that Business Readiness (BR) has a "large" effect (.62) on Executives' Attitude (EA) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H6: *Relative Advantage has a positive impact on Executives' Attitude for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Relative Advantage (RA) and Executives' Attitude (EA) for a positive decision towards e-commerce adoption is 0.001 < 0.05. Therefore, it can be argued that Relative Advantage (RA) has a "medium" effect (.35) on Executives' Attitude (EA) in producing positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H7: *External E-Readiness has a positive impact on Internal Resources for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between External E-Readiness (EER) and Internal Resources (IR) for a positive decision towards e-commerce adoption is 0.041 < 0.05. It can be argued that External E-Readiness (EER) has a "Small" effect (.14) on Internal Resources (IR) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H8: *Business readiness has a positive impact on Internal Resources for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Business Readiness (BR) and Internal Resources (IR) for a positive decision towards e-commerce adoption is 0.001 < 0.05. Therefore, it can be argued that Business Readiness (BR) has a "medium" effect (.45) on Internal Resources (IR) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H9: *Internal Resources has a positive impact Executives' Attitude for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Internal Resources (IR) and Executives' Attitude (EA) for a positive decision towards e-commerce adoption is 0.008 < 0.05. Therefore, it can be argued that Internal Resources (IR) has a negative "small" effect (-0.31) on Executives' Attitude (EA) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is not accepted.

H10: *Executives' Attitude has a positive impact the Decision to Use E-commerce for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Executives' Attitude (EA) and Decision to Use E-commerce (DUOM) for a positive decision towards e-commerce adoption is 0.000 < 0.05. Therefore, it can be argued that Executives' Attitude (EA) has a positive "medium" (.37) on Decision to Use E-commerce (DUOM) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

H11: *Internal Resources has a positive impact the Decision to Use E-commerce for a positive decision for e-commerce adoption by an organisation.*

The P-value for the relationship between Internal Resources (IR) and Decision to Use E-commerce (DUOM) for a positive decision towards e-commerce adoption is 0.000 < 0.05. Therefore, it can be argued that Internal Resources (IR) has a "medium" effect (.41) on Decision to Use E-commerce (DUOM) in producing a positive decision for e-commerce adoption by an organisation. Therefore the hypothesis is accepted.

7.11. Mediation Analysis

Path analysis is a statistical technique that partitions correlations into direct effect and indirect effects, and differentiates between correlation and causation (Bernstein et al. 1988). The direct effect of a variable upon another variable is easy to explain since it implies the path coefficient as discussed in the previous section. However, some factors in the structural model mediate the relation between other independent and dependant factors. The mediation in its simplest concept represents the addition of a third or more variables to the relation between two factors (David et al. 2007).

For the purpose of this analysis, the indirect effects arise because a variable can mediate the relation between other variables. The sum of the direct and indirect effects upon a particular variable is known as the total effect (Ming 1990, Wright 1934). In applying path analysis and based on the structural model, one can make certain assumptions about which variables affect other variables and the direction of causation (Ming 1990, Wright 1934).

Three major values are needed to conclude the path analysis results: 1) the indirect effect size between two factors through one or major mediated factors, 2) the total effect sizes between two factors for all paths through all mediated factors, and 3) the P-Values generated with all calculated effect sizes to report significance (David et al. 2007, Ming 1990, Cohen 1992, David et al. 2007). The MPlus software was used to calculate the unstandardised estimate for the indirect effect size and P-Values. Unfortunately, MPlus does not report the standardised estimate for the indirect effect sizes. To overcome this limitation, the researcher applied MacKinnon's (2008) logic that says we could fully standardise the indirect effect by multiplying the correlation coefficient between the independent variables and dependent ones all the way through all the mediated variables.

The path diagram showing the mediation model is presented above in Figure 7.20 abobe. Table 7.39 lists the standardised indirect effect size factors' correlations of the structural model with P-value, next to each indirect hypothesis.

Table 7.39: The effect size of the indirect effects of the structural model with P-value

STDYX Standardization							
Hypotheses	Dependent factor	Indirect paths	Independent	Estimate	Posterior S.D.	One-Tailed P-Value
IND_CCI1	DUOM ←	EA←RA←EEK ←	CCI	0.0256	0.046	0.004*
IND_CCI2	DUOM ←	EA ←BR ←	CCI	0.1336	0.119	0.000*
IND_CCI3	DUOM ←	IR←BR ←	CCI	0.1072	0.112	0.001*
IND_CCI4	DUOM ←	EA ←IR ←BR ←	CCI	-0.0302	0.043	0.009*
IND_EER1	DUOM ←	EA ←BR ←	EER	0.0682	0.107	0.022*
IND_EER2	DUOM ←	EA ←IR ←	EER	-0.0188	0.054	0.145
IND_EER3	DUOM ←	IR ←	EER	0.0666	0.168	0.041*
IND_EER4	DUOM ←	EA← IR←BR ←	EER	-0.0154	0.033	0.031
IND_EER5	DUOM ←	IR ←BR ←	EER	0.0547	0.097	0.024*
IND_BR1	DUOM ←	IR ←	BR	0.1885	0.123	0.001*
IND_BR2	DUOM ←	EA ←	BR	0.2350	0.112	0.000*
IND_BR3	DUOM ←	EA←IR ←	BR	-0.0531	0.048	0.009*
IND_EEK1	DUOM ←	EA ←RA ←	EEK	0.0668	0.059	0.001*
IND_RA1	DUOM ←	EA ←	RA	0.1330	0.043	0.001*

* Significant (p < .05).

The P-value for most indirect effects is significant, except for (IND_EER2, IND_EER3, and IND_EER4) which are insignificant. There is an indirect impact for Customer Culture Influence (CCI) on the Decision to Adopt E-commerce (DUOM) in the Saudi tourism market with a small effect size (0.133), that is, through other determinants in the model, Business Readiness (BR) and Executives Attitudes (EA).

Likewise, Customer Culture Influence (CCI) another small effect size (0.107) on the Decision to Adopt E-commerce (DUOM) through Business Readiness (BR) and Internal Resources (IR).

Further, Business Readiness (BR) has a small effect size (0.2350) through Executives Attitudes (EA). Also, Business Readiness (BR) has another small effect size (0.188) through Internal Resources (IR). Relative Advantage (RA) has an indirect small effect size (0.133) through Executives Attitudes (EA). Apart from these four indirect paths, all other effects sizes are trivial (effect size < .1), (Cohen 1992).

Total Indirect Effect Size

The total indirect effect for each independent factor to the Decision to Adopt E-commerce (DUOM) is calculated. Table 7.40 shows the total effect size for Customer Culture Influence (CCI) on the Decision to Adopt E-commerce (DUOM). The total effect size (0.236) is small effect size. The P-Value (0.017) is less than 0.05 which indicates a significant indirect correlation between CCI and DUOM.

Table 7.40: Total Indirect Effect Size for Customer Culture Influence (CCI)

STDYX Standardization							
Hypotheses	Dependent factor		Indirect paths		Independent	Estimate	Posterior S.D.	One-Tailed P-Value
IND_CCI1	DUOM	←	EA←RA←EEK	←	CCI	0.0256	0.046	0.004*
IND_CCI2	DUOM	←	EA ←BR	←	CCI	0.1336	0.119	0.000*
IND_CCI3	DUOM	←	IR←BR	←	CCI	0.1072	0.112	0.001*
IND_CCI4	DUOM	←	EA ←IR ←BR	←	CCI	-0.0302	0.043	0.009*
Total indirect effect size and P-Value =						0.2362	0.320	0.017*

* Significant (p < .05).

Also, the total indirect effect for the factor External E-Readiness (EER) to the Decision to Adopt E-commerce (DUOM) is calculated. Table 7.41 shows the total effect size for EER on the DUOM. The total effect size (0.1006) is small effect size. The P-Value (0.339) is grater than 0.05 which indicates an insignificant indirect correlation between EER and DUOM.

Table 7.41: Total Indirect Effect Size for External E-Readiness (EER)

		STDYX Standardization					
Hypotheses	Dependent factor		Indirect paths		Independent	Estimate	Posterior S.D.	One-Tailed P-Value
IND_EER1	DUOM	←	EA ←BR	←	EER	0.0682	0.107	0.022*
IND_EER2	DUOM	←	EA ←IR	←	EER	-0.0188	0.054	0.145
IND_EER3	DUOM	←	IR	←	EER	0.0666	0.168	0.141
IND_EER4	DUOM	← EA←IR←BR		←	EER	-0.0154	0.033	0.031
Total indirect effect size and P-Value =						0.1006	0.362	0.339

* Significant (p < .05).

Further, the total indirect effect for the factor Business Readiness (BR) to the Decision to Adopt E-commerce (DUOM) is calculated. Table 7.42 shows the total effect size for BR on the DUOM. The total effect size (0.370) is medium effect size. The P-Value (0.018) is less than 0.05 which indicates a significant indirect correlation between BR and DUOM.

Table 7.42: Total Indirect Effect Size for Business Readiness (BR)

		STDYX Standardization					
Hypotheses	Dependent factor		Indirect paths		Independent	Estimate	Posterior S.D.	One-Tailed P-Value
IND_BR1	DUOM	←	(IR)	←	BR	**0.1885**	0.123	0.001*
IND_BR2	DUOM	←	(EA)	←	BR	**0.2350**	0.112	0.000*
IND_BR3	DUOM	←	(EA←IR)	←	BR	-0.0531	0.048	0.009*
Total indirect effect size and P-Value =						0.3704	0.283	0.018*

* Significant (p < .05).

However, the other two paths (IND_EEK1 and IND_RA1) have no total indirect effect as they have only one indirect path for each of them and it is reported before.

7.12. Summary

This chapter has described the results from the various statistical analyses conducted. Items that could not be accurately estimated should be dropped from the model since their estimated parameters would not precisely provide any useful insight about e-commerce adoption. The EFA identified some latent factors and led to some changes in the initial factors proposed for the model. For instance, the OER factor was split into two factors Business Readiness (BR) and Internal Readiness (IR), the EER factor was split into two factors of External Readiness (ER) and Industry Forces (IF) and EPA was divided into two factors of Executive E-commerce Knowledge (EEK) and Executive Attitude (EA).

Additionally, the OCD factor was removed because was found to be irrelevant for the study as a dimension. A critical issue to be considered when using CFA is sample size. Usually, a sample size over 200 is required for such research. But the small sample size (n=107) in this research was overcome with Bayesian SEM analysis when testing the full measurement model in SEM. The final structural model derived from the hypotheses testing show that EEK→RA, CCI→EEK, BR→EA have a large positive effect on e-commerce adoption, while CC→BR, EER→BR, RA→EA, EER→IR, IR→DUE have medium positive effect and only IR→EA has a negative effect.

The analysis shows that there are direct as well as indirect effects of the independent variables. The factors that most directly affected the Decision to Adopt E-commerce were Executives Attitudes (EA) and Internal Resources (IR). There was also a small indirect effect for Customer Culture Influence (CCI) on the Decision to Adopt E-commerce (DUOM) in the Saudi tourism market, via Business Readiness (BR) and Executives Attitudes (EA). Also, Customer Culture Influence (CCI) had a small indirect effect on the Decision to Adopt E-commerce (DUOM), through Business Readiness (BR) and Internal Resources (IR). Business Readiness (BR) had a small indirect effect through Executives Attitudes (EA). Business Readiness (BR) had another small indirect effect through Internal Resources (IR). Finally, Relative Advantage (RA) had a small indirect effect through Executives Attitudes (EA). However, External E-Readiness (EER) and Executives' E-commerce Knowledge (EEK) were found to have trivial indirect effect sizes. The next chapter (Chapter 8) discusses the results of this research and concludes this thesis with some final remarks.

Chapter 8 Discussion and Conclusion

8.1. Introduction

This research has focused on identifying what factors have affected the adoption of e-commerce in the tourism industry in Saudi Arabia and understanding why that adoption is limited. The study showed that many decision makers in the Saudi tourism industry did not understand the benefits of online shopping and most executives interviewed considered online travel and tourism deals to be a future trend, which is counter to the growing figures of Saudis spending billions on e-commerce channels (BMI Industry Report 2012, BMI 2009).

Apart from the low level of e-commerce penetration in the tourism sector in Saudi Arabia, this research found that the Saudi tourism companies were not aware of the diverse range of business models that can be implemented in their e-commerce practices. This research shows that even those Saudi tourism organisations that have partially utilised e-commerce technologies did not achieve the expected benefits.

This final chapter evaluates the findings of the research and proposes an altered model of e-commerce adoption in the Middle Eastern context; the chapter examines the limitations of the research and discusses possible future research projects and concludes the thesis.

8.2. Research Findings - Factors Supporting E-commerce Adoption in Saudi Tourism Companies

To evaluate the voracity and utility of an e-commerce adoption model in the Saudi context and thus assess the implications of this research, it was important to compare and discuss the findings from the interviews and surveys used in this research with previous research to draw implications in terms of what the research has added to what we already know.

The analysis of the set of interviews (Chapter 5) done with Saudi Tourism company executives identified a number of factors that had an effect on their decisions and actions in adopting e-commerce technologies in their companies. These factors were

the perceived commercial advantages of using e-commerce and the impact this would have on their competitive position; their readiness to adopt and use IT; the availability of the local infrastructure and government policy and initiatives to support their decisions; their own willingness to want to adopt technology; the attitudes of customers and clients and their perceived willingness to but tourism products online; the influence of culture both national and organisational on their managerial practices and their decisions in the company.

In Chapter 6, these factors were then built into a model establishing the relationships and direction of influence between factors to elaborate how they impact the decision on e-commerce adoption (See Figure 8.1). The issues identified were re labelled within the existing constructs terminology in the literature as Perceived Relative Advantage (RA), Organisational E-readiness (OER), External E-readiness (EER), Executives' Personality and Attitude to E-commerce (EPA), Customer Influence (CI), National Culture Values (NCV), and Organisational Culture Dimension (OCD). The model was then tested as a whole to determine the strength of the relationships hypothesised in the model to impact on successful e-commerce adoption.
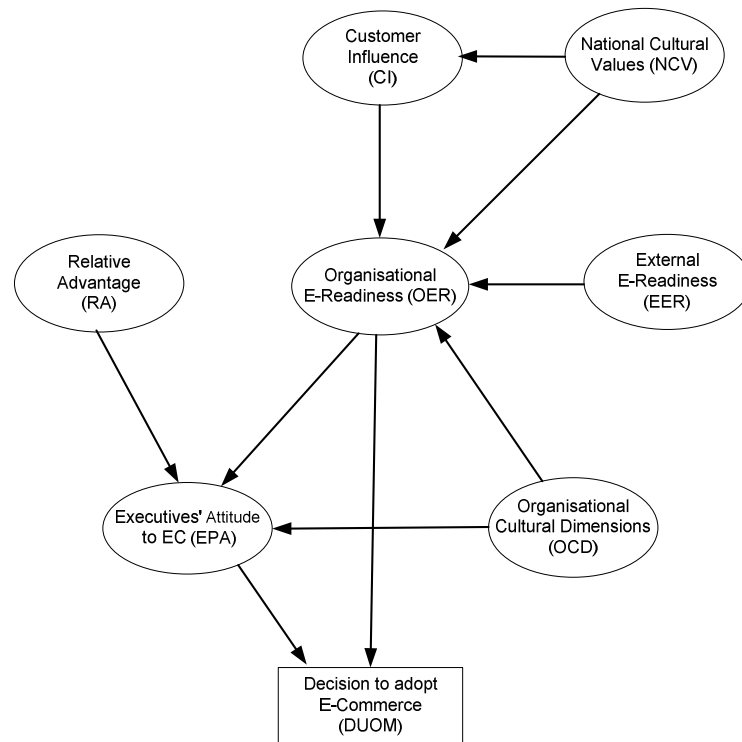
Figure 8.1: A conceptual model of e-commerce adoption in Saudi Arabian Tourism Companies

The set of the seven factors was then tested. The analysis of the responses found that the factors motivating e-commerce adoption depended on a range of internal and external factors. The following factors were the more influential and were used to modify the conceptual model above to a new model (see Figure 8.2):

- Business Readiness (BR);
- Internal Resources (IR);
- Relative Advantage (RA);
- Executives E-Commerce Knowledge (EEK);
- Executives Attitude (EA);
- Customer Culture Influence (CCI); and
- External E-Readiness (EER)
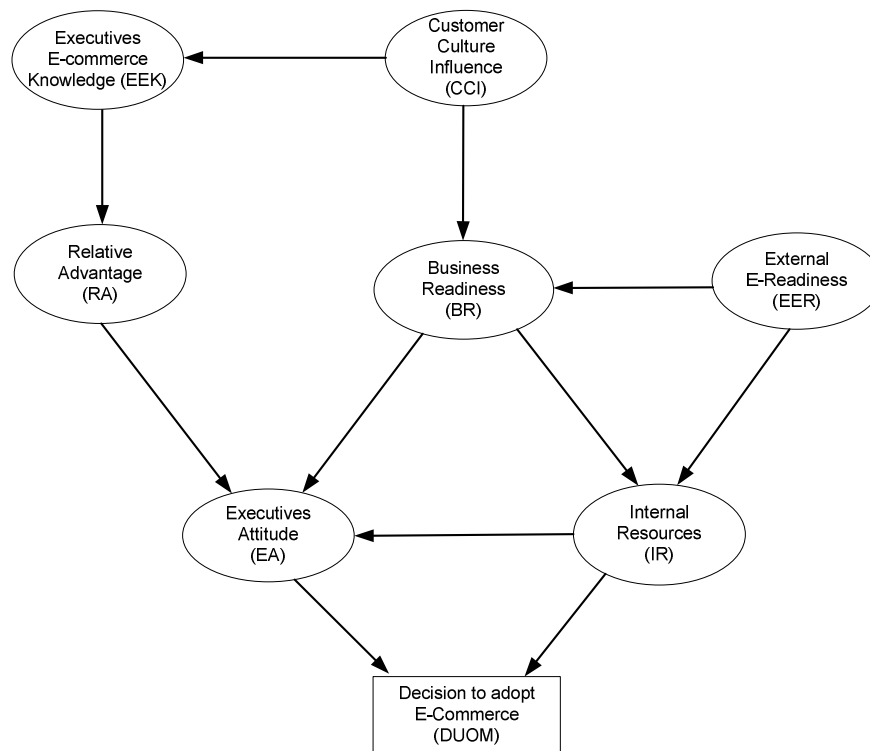
Figure 8.2: The modified model of e-commerce adoption in Saudi Arabian Tourism Companies

The following Table 8.1 summarises the major findings of the study through a comparison of the conclusions in the existing research with the outcomes of both the interviews and survey research conducted in this study.

Table 8.1: Comparisons between literature, Interview findings and Survey results

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
Perceived Relative Advantage (RA) of e-commerce utilisation.	Many theoretical as well as empirical studies have agreed that Perceived Relative Advantage is one of the major characteristics for any technology to attract new adopters in e-commerce, particularly in terms of competitiveness, cost reduction, productivity and efficacy in the market (Rogers 1962, Moore & Benbasat 1991, Beatty, Shim & Jones 2001, Marez & Verleye 2004; Zhu, Dong, Xu & Kraemer 2006, Troshani and Doolin 2007, Venkatesh et al. 2003)	This analysis had a critical input to the research model as it was shown that Perceived Relative Advantage has an effect on the Decision to Adopt E-commerce only when it is mediated through Executive Attitude. Executives need to be convinced of the benefits of e-commerce before they become more positive about the eventual adoption of e-commerce. As such, this factor could not be considered as a major enabler but as an indirect facilitator for e-commerce adoption in the Saudi tourism sector.	Perceived Relative Advantage was shown to have direct effect on Executives Attitude in the survey data. Also, Perceived Relative Advantage of e-commerce utilisation was shown to have small indirect effect on the Decision to Adopt E-commerce.	Overall, this research supports a view that Perceived Relative Advantage of e-commerce utilisation is an essential contributor to motivate the executives of tourism operators in Saudi Arabia to adopt e-commerce. But whilst interviewees mentioned the advantages of an online presence, the principle of commercial advantages like competitiveness, cost reduction, productivity and efficacy could not be the sole motivator for e-commerce adoption. Executive Attitudes must be changed in the process for Relative Advantage to actually affect the decision to adopt E-commerce.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
Customer Culture Influence (CCI)	Customer Culture Influence in e-commerce adoption was adapted from the UTAUT model (Venkatesh et al. 2003). Many other studies have identified that Customer Influence is a significant factor in technology adoption (Al-Ghatani et al. 2007; Baker et al. 2010, Shalhoub 2006, Kassim and Abdullah 2006, Alfuraih 2008, Alghamdi and Drew 2011b, 2012)	The analysis showed that low levels of customer trust, demand and awareness, particularly for a relatively novel service like e-commerce, can indirectly dissuade organisations to adopt e-commerce systems. The study shows that the awareness level of e-commerce is growing in Saudi Arabia, particularly with the youth population of the country.	The research model hypothesised two direct correlations for CCI. The first correlation suggested a direct impact of Customer Culture Influence on Executives E-commerce Knowledge. The second correlation suggested a direct effect of Customer Culture Influence on Business Readiness. Customer Culture Influence was shown to have small indirect effect on the Decision to Adopt E-commerce. The results indicate that Customer Culture Influence had a positive impact on both business readiness and executives' e-commerce knowledge.	The results of this study confirm the literature on social influence, particularly in the case of Arab–based studies. Arab social practices frame the way businesses run. Society is highly hierarchical in Saudi Arabia and this affects the influence of key executives and the ways customers respond. However, this research expanded this concept to Customer Culture Influence to test the influence of customers' cultural orientation on the decision makers and their organisations. The results show that the pressure exerted by customer demands and choices would motivate business organisations to respond to their needs.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
Organisational E-readiness (OER)	Organisational E-Readiness as a factor driving adoption of e-commerce has been studied extensively in organisational research within sub-themes like corporate strategy, financial status, human resources capability and anticipated benefits (Tornatzky and Fleischer 1990, Zhu and Kraemer 2005, Molla and Licker 2005, Selim 2008, Lee et al. 2009, Aleid et al. 2010b).	The results stressed that the perceived importance of Organisational E-readiness as influencing the position of decision makers to adopt e-commerce in tourism services. It also has a direct impact on the final Decision to Adopt E-commerce in Saudi tourism companies, albeit that the extent of that adoption was not extensive but was growing.	Business Readiness is a nascent concept that was developed as a factor after it was separated from the key factor of Organisational E-readiness during the exploratory factor analysis. Business Readiness had two direct effects on Executive Attitude and Internal Resources. Also the statistical analysis identified a medium level indirect effect on the Decision to Adopt E-commerce. Internal Resources was the second factor created from separating the major factor Organisational E-Readiness used in the initial research model. The Internal Resources construct indirectly and positively influenced the Decision to Adopt E-commerce.	Both sets of results support and confirm findings in previous research about the importance of Organisational E-Readiness as a factor impacting technology adoption. However, this research found this factor to have two sub-factors, which were renamed as Business Readiness and Internal resources, and incorporated as independent factors within the research model. The statistical analysis showed a medium effect of Business Readiness and Internal resources on the decision to E-commerce adoption. Business Readiness positively affects Executives' Attitude. This means once e-commerce is considered in an organisation's plans, the executives get motivated to make positive decisions to e-commerce adoption. Internal resources also found to have a positive impact on the final decision on e-commerce adoption.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
External E-Readiness (EER)	EER has emerged as one of the major factors in explaining e-commerce adoption. (Tornatzky and Fleischer 1990, Zhu and Kraemer 2005, Molla and Licker 2005, Selim 2008, Lee et al. 2009, Aleid et al. 2010b, Rambo and Liu 2010, Alwahaishi 2009)	This research studied and discussed the independent factor of External E-Readiness in the study, and found responses validating all of its aspects. It includes five contributors: competitiveness, governmental initiatives, supporting industries, market labour and infrastructure. The availability of local ICT providers, government initiatives, market forces or infrastructure cannot be considered as major enablers on their own, but it could impact the organisations internal strategy to put e-commerce adoption in their plans. Therefore, this research indicates that External E-Readiness has a positive impact on Organisation E-Readiness, but not on the direct Decision to Adopt E-commerce.	Empirically investigation of the relationship between External E-Readiness and Business Readiness found a positive correlation between these two factors. Also a positive correlation between External E-Readiness and Internal Resources was found to be statistically significant. However, there were insignificant indirect correlations between External E-Readiness and the Decision to Adopt E-commerce.	The results of this research confirm the extant literature on technology acceptance which stresses the importance of the country's infrastructure and government initiatives to provide supportive infrastructure for technology adotption as in Molla and Licker (2005). The research supports the research proposition that External E-Readiness can only impact Organisation E-Readiness including (Business Readiness and Internal Resources). But it does not support recent literature which states that it affects the final Decision to Adopt E-commerce. This is perhaps because the availability of external facilities is not enough for a positive decision to be taken for e-commerce adoption. It needs to be complemented with an internal strategy of an organisation and commitment by executives and business owners to e-commerce adoption.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
Executives' attitudes and their E-commerce Knowledge (EPA)	The study did not find specific research that clearly elaborates the impact of Executives' Attitudes nor were there any studies that conceptualised Executive Attitude as an independent factor. However, some research identifies user attitudes as a contributor to technology adoption (Fishbein & Ajzen 1975). Others considered Executives' Attitudes as part of the Internal E-Readiness factor (Teo et al. 2006, Liu 2008, Selim 2008) Other research however has focused on the role of the 'champion' in organisations in having a key positive impact on the decision to adopt e=commerce or technology. (Premkumar & Ramamurthy 1995, Howell & Boies 2004, Soo & Berta & Baker 2009, Murphy & Southey 2003, Mehrtens et al. 2001	On many occasions during the interviews, it was found that executives have a key role in organisations' change, in ways confirming the role of Champions in IT adoption. The executives' responses indicated that their attitude toward an innovation can change the organisation's desire to adopt e-commerce. The key issue was not about whether they 'championed' the adoption, but rather that their attitude towards the use of technology itself was positive.	It was found that Executive Attitude mediated the effect of many other factors, which could not directly affect Decision to Adopt E-commerce until they were mediated through Executives' Attitude. The construct of Executives' Attitude was hypothesised to directly and positively influence the Decision to Adopt E-commerce. The correlation of Executives' E-commerce Knowledge and Relative Advantage was positive and significant. The Executives' E-commerce Knowledge construct was also found to indirectly and positively influence the Decision to Adopt E-commerce.	Many researchers have considered Executives' Attitudes as part of the internal e-readiness factor (Teo et al. 2006, Liu 2008, Selim 2008). But in this research it appears that the Executives' Attitudes has a more significant role in the technology adoption process in Saudi Arabian tourism companies. Executives can delay or expedite change and technology adoption through their decisions and attitudes. It can be concluded that having more e-commerce knowledge by executives and owners of companies leads to positive attitude to e-commerce adoption. Their role is not necessarily one of the 'champion', but rather as the facilitator.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
Organisational Cultural Dimensions (OCD)	The Competing Values Framework, (Quinn and Rohrbaugh 1981) was used to classify the firm's culture and as therefore the basis of understanding how the organisations internal culture impacted on changes necessary in the adoption of e-commerce.	The research identified organisational values as important in explaining why certain organisations made the decision to use integrated systems and e-commerce in their marketing. The finding of the analysis shows that organisations with a rational culture have less intention to use online marketing; hierarchal and group (team) culture organisations have some intention to adopt online marketing; and firms with a developmental culture had the highest level of adoption or intention to adopt e-commerce.	Using latent class analysis, the researcher was unable to make organisation groupings based on their cultural dimension. But as the dimension values were not discrete, the factor (OCD) was no longer valid, and it was decided that OCD be dropped from the research model.	The inconclusive results in this study both confirm and question the impact of organisational culture on the decision to adopt e-commerce and therefore any conclusions about its impact are spurious in this context. What is evident from the interviews was that organisational culture was important to some degree, but that the real driver was the attitude of the owner. Saudi national culture is strictly hierarchical and as such the attitudes or owners can alone affect the way an organisation runs and the nature of its culture.
Perceived Ease of Use (PEU)	Perceived ease of use is defined as the degree to which a person believes that a technology is free of complications and easy to use. Based on this definition many scholars support a view that PEU is a key factor in technology adoption (Davis 1989, Davis et al. 1989, Suebsin and Gerdsri 2009, Lai and Li 2005, Goodhue and Thompson 2004, Al-Gahtani 2011, Al-maghrabi et al. 2011, Al-Mowalad and Putit 2012)	The participants considered Perceived Ease of Use as part of e-commerce planning and implementation but the website or user-computer interface was seen as a matter for competency training. Many studies have also shown that Perceived Usefulness and not Perceived Ease of Use, is positively related to behavioural intentions to use ICT (Hu et al. 1999, Chau 2002). PEU had been considered as a real contributor in 80s, but now with increased computer literacy this could not be considered as a factor anymore.	The factor Perceived Ease of Use was excluded from the research model and excluded from the quantitative study. There is considerable evidence that ease of use is no longer relevant as populations are now technologically much more knowledgeable that they had been. Saudi Arabia has significant IT use across all sectors, especially telecommunications, and as such IT is not longer seen as a challenge.	The Context Chapter (Chapter 2) shows some indications that the IT and Internet is common in Saudi Arabia. People are technology savvy and have a reasonable level of IT literacy, so the usability issue is not as relevant anymore as in the 1980s when this concept of PEU was first posited.

Factor/ assumption	Recent research /Theory	Interview Findings	Survey Findings	Discussion
National Cultural Influence (NCV)	The researcher adopted Hofstede's cultural dimensions as a theoretical framework for measuring this concept (Hofstede 1980, 2001).	The results of the interviews showed several arguments stressing the role of national culture as a normative factor influencing the attitude to technology adoption. This prompted the researcher to include the factor of National Cultural Influence within the research model incorporating items of norms, assurance, behaviour, gender, tradition, and religion. These items were seen as usable indicators to be used in the survey design and research model. They were found to play an influential role in e-commerce adoption.	The results of the analysis within SEM showed that National Cultural Influence and Customer Influence dimensions constituted one dimension, so it was combined with CCI in the research model. National culture in this case forms the behaviours, attitudes and norms of the customers in the tourism industry in Saudi Arabia. So, although National Culture was combined with CCI, it obliquely plays some roles in the decision for e-commerce adoption.	Due to their unidimensionality, the researcher combined the two dimensions of CI and NCV to form a new factor called Customer Culture Influence (CCI) which was discussed earlier in this table. In the interviews it was shown that some cultural elements inhibited the decision to provide e-commerce selling channels to customers due to factors like lack of customer commitment and lack of trust. Also, executives' capabilities are also impacted by some cultural issues like nepotism in employing managers or even the quality of leadership in the case of family business. These examples also impact the quality of decision into e-commerce adoption. The research also highlighted the effect of the role of women being excluded from the face to face booking process even though they do the bulk of the planning and would be a major source of e-commerce activity on line given the opportunity. Culture is a key factor influencing customer behaviour wanting personal services and wary of using credit cards and paying online; and the willingness of many executives to move to increased e-commerce adoption in Saudi tourism companies

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8.3. Discussion

8.3.1. Commercial Relative Advantage

The importance of perceived commercial relative advantage of e-commerce utilisation was re-confirmed in this study in both the quantitative and qualitative parts of the research as most participants showed an appreciation for the advantages offered by e-commerce. Participants generally acknowledged that their firms should adopt new marketing strategies offered by ICT, particularly when there are emerging markets for the tourism industry that can be tapped by technologies like e-commerce.

Commercial relative advantage of e-commerce is predicated on the advantages it provides in terms of cost benefit, productivity, time-saving, profit generation and customer service. It must, however, be noted that as the majority of the Saudi tourism firms did not have an online strategy, cost effectiveness and profit generation were only mentioned by the minority whose business models included or depended on online sales. Whilst interviewees mentioned the advantages of an online presence, the expectation of possible commercial advantage was not enough to motivate them to move online. The analysis had a critical input to the research model as it was suggested that commercial relative advantage to have an effect on Executive Attitude, an assumption that is also supported by the Technology Acceptance model (Davis 1989, Davis et al. 1989).

In the research structural model, commercial relative advantage was hypothesised to be as an indirect motivator towards a positive decision to adopt e-commerce. The analysis confirmed the direct impact of the factor commercial Relative Advantage on Executives Attitude. Relative Advantage was shown to have a direct effect on Executives Attitude (RA → EA= .35, p.value ≤ .05) and but had a small indirect effect on the Decision to E-commerce Adoption (RA → EA → DUOM = .13, p.value ≤ .05). The survey used the three major items of Competitive Advantage, Efficacy and Cost reduction to measure respondents' perceptions about Relative Advantage. The analysis showed that all three items loaded high on the statistical measure to validate the positive effect of the main factor of Relative Advantage.

These results confirm the conclusions in the existing literature. In the Diffusion of Innovation Theory (DIT), Rogers (1962) considered Relative Advantage to be one of the major characteristics for any technology to attract new adopters. The outcomes in this research of Saudi tourism companies complement many other empirical studies that have adopted DIT and shown the importance of commercial relative advantage as a driver in technology adoption (Moore & Benbasat 1991, Beatty, Shim & Jones 2001, Marez & Verleye 2004, Zhu, Dong, Xu & Kraemer 2006, Troshani & Doolin 2007). Perceived Relative Advantage is also similar to the concept of Performance Expectancy proposed by Venkatesh et al. (2003) in the Unified Theory of Acceptance and Use of Technology (UTAUT) to indicate the extent to which a higher performance is expected by the user from using a new innovation. Although phrased in a different manner, this concept is similar to commercial Relative Advantage as both refer to the extent to which a user gains better performance from a new system giving him an advantage over existing systems. Thus, the results of this study can be seen as confirming one of the key constructs in UTUAT proposed by Venkatesh et al. (2003) as well as the empirical research in the field of technology adoption that have used this theory (Anderson & Schwager 2004, Wang & Yang 2005, Marchewka, Liu & Kostiwa 2007, Wills, El-Gayar & Bennett 2008, Shaobo & Gang 2008). The findings of both sets of data analysis in this research shows that without an obvious perception of the commercial relative advantages of a technology, the attitude towards e-commerce adoption will be reduced. Overall, this research supports commercial Relative Advantage as an essential contributor to promote e-commerce in Saudi Arabia. However, it must be noted here that commercial Relative Advantage cannot be treated as a major factor on its own as it works with other factors that encourage e-commerce adoption. The following discussion shows a series of factors that were found to have had a higher impact, statistically, than Relative Advantage, on the decision to adopt e-commerce in Saudi tourism companies.

8.3.2. Customer Culture Influence

The factor of Customer Culture Influence was measured in this research by the three indicators of customer trust, demand and awareness. Initially Customer Culture Influence was adapted from the construct of Social Influence posited by Venkatesh et al. (2003) who defined social influence as the impact of others' beliefs on the users of an innovation. However, this research expanded this concept to test the impact of social

influence, namely Customer Culture Influence on decision makers and their organisations.

In the interviews, travel executives felt that Saudi customers would not be comfortable with e-commerce systems as the systems lacked human interaction and required prompt purchase. Social influence could arguably exert a lot of influence in religious tourism with a pilgrim's expectation of an intensely personal experience. Low levels of customer trust, demand and awareness particularly for a relatively new service like e-commerce can indirectly dissuade organisations to adopt e-commerce systems. The participants explained that none of the tourism organisations used global payment methods such as credit card which are essential to conducting business online. Methods like credit card are not used as these methods of payment charge interest, which is prohibited in Islam. This could also be a factor impeding the resistance of the tourism industry to e-commerce. Firms normally use a traditional shopfront business approach, which is preferred by local customers and only firms with a larger client base of foreign customers take the trouble of investing in e-commerce apparatus. In addition, their perceptions about customer service also negatively impacted e-commerce use as most participants generally felt sceptical about e-commerce, preferring a brochure approach rather than the onerous work of instituting e-commerce .However, this does not necessarily mean that e-commerce has no avenue for future growth in the country. As some of the participants in this research indicated, the level of awareness about e-commerce is growing, particularly among the youth population of the country. In fact, a respondent in this study, who had been running a business without a physical shop for some time, argued that the perception of customer apathy to e-commerce was not only greatly exaggerated but it was possible to recruit customers through good networking. As customers' demand, trust and awareness increases more pressure is put on the organisations commitment and awareness to respond with more initiatives towards e-commerce adoption.

The analysis of the interviews suggested that there was a direct correlation between customer cultural influence and the level of Executives E-commerce Knowledge as well as the organisations' Business Readiness. The analysis of the survey data showed that all were statistically significant showing that CCI can be accepted as a factor affecting the final decision to e-commerce adoption. The results also revealed the

relationship between this factor and its dependant factors, and indicated a small effect size on the final decision made by decision makers to adopt e-commerce in tourism.

The research model hypothesised two direct correlations. The first correlation suggested a direct impact of Customer Culture Influence on Executives E-commerce Knowledge, (CCI → EEK= .38, p.value ≤ .05). The second correlation showed a direct effect of Customer Culture Influence on Business Readiness, (CCI → BR= .56, p.value ≤ .05). Customer Culture Influence was shown to have small indirect effect on the Decision to E-commerce Altitude (CCI → DUOM= .23, p.value ≤ .05). This figure indicates that Customer Culture Influence had an impact on e-commerce adoption process in the tourism market in Saudi Arabia.

Customer Culture Influence was adapted from UTAUT. The results of this study confirm the literature on social influence, particularly in the case of Arab–based studies (cf. Al-Ghatani et al. 2007, Baker et al. 2010). For instance it finds that purchasing from online shops raises issues of trust concerning fraud, privacy, security, payment, identity and contract and these points are particularly relevant to the research question (Shalhoub 2006, Kassim & Abdullah 2006, Alfuraih 2008). It also confirms the conclusion made by Alghamdi and Drew (2011b, 2012) with regard to research conducted on e-commerce adoption in Saudi Arabia emphasising that promoting customer trust and providing educational programs will enhance the diffusion of online retailing in Saudi Arabia. Likewise, it supports Ahmad and Agrawal's (2012) conclusions who identified customer awareness and trust as one of problems in implementing e-commerce in Saudi Arabia. Apart from the predominantly Arab-based studies mentioned above, Qingfei et al. (2008) also studied trust and privacy as an independent factor within UTAUT and posited that the trust factor should be enhanced for users to develop confidence in accepting commercial providers.

8.3.3. Business Readiness

Business Readiness is a nascent concept embedded in the overall readiness of organisation to adopt e-commerce, but it was developed as an independent factor in this research and separated from Organisational E-readiness. The researcher made this separation after the exploratory factor analysis conducted in this research. Business Readiness is defined in this study as the degree to which an organisation is capable and

ready to accept change with the willingness of its top management. Two major concepts underpin the factor of Business Readiness: Organisational Commitment and Organisational Awareness. The relationship between these two sub-factors can be observed to change proportionately, in other words, the greater the Organisational Awareness, the more the Organisational Commitment.

In the interviews it was found that Organisational Awareness can play a major role in the decision to adopt e-commerce. Some organisations give e-commerce usage and implementation high priority and these organisations are more likely to overcome any further obstacles in e-commerce adoption. The majority of tourism executives in this research responded with some degree of enthusiasm towards the change from shopfront or personal services type sales to mass online provision of travel tickets and tour packages. A minority did not intend to move very far from shopfront sales as they felt that the value of personal services was integral to their business model. However, the majority of providers interviewed in this research did not have a grasp of the essentials of e-commerce to the extent that they could not describe a clear objective of an online environment, nor could they articulate the resources necessary, the projected systems and implementation steps. For example, many did not know the basics of online marketing and a few could not even differentiate between email and websites.

Thus, the research model tested both concepts (Organisational Commitment and Organisational Awareness) as indicators of the major factor of Business Readiness. The research model found Business Readiness to be at the forefront of factors impacting the decision to adopt e-commerce in tourism market in Saudi. These results of the analysis indicate that Business Readiness had a significant impact on e-commerce adoption process in the tourism market in Saudi Arabia. Business Readiness also had two direct effects on Executive Attitude and Internal Resources in the model, (BR → EA= .62, p.value ≤ .05) and (BR → IR= .45, p.value ≤ .05). The statistical analysis showed a medium indirect effect of Business Readiness on the Decision to Adopt E-Commerce (BR → DUOM= .37, p.value ≤ .05). The results imply that executives were impacted by their organisational models once these models show some commitment towards e-commerce implementation in their strategy.

Both sets of results in this study support and confirm the importance of Business Readiness as a factor affecting the decision to adopt e-commerce supporting the findings of previous research (Molla & Licker 2005, Selim 2008). Awareness, commitment and business planning underpin investment in technology while skills and knowledge are required for better management of ICT investments (Ndlela & du Toit 2001). As Molla and Licker (2005, p.101) argue, 'organizations in developing countries that are most likely to move to e-commerce are the ones that take stock of the changes occurring in their environment as a result of e-commerce, comprehend the meaning of these changes for their business (opportunities, threats, and potentials), and project how these changes are going to affect their business in the short to long term'.

The association between the two constituent concepts of Business Readiness is also evident in other studies (Zhu & Kraemer 2005, Molla & Licker 2005, Selim 2008, Lee et al. 2009, Aleid et al. 2010b). A lack of Organisational Commitment and Organisational Awareness contribute considerably to the relative absence of e-commerce in marketing tourism in Saudi Arabian businesses. This research indicates that organisations that can resolve these issues and have a commitment to grow their business should be able to take the lead in the Saudi travel industry. The second correlation represents the positive impact of Business Readiness on organisational resources such as human capital and ICT infrastructure. This means that commitment to implement e-commerce in an organisation pushes improvement through practices such as hiring skilled IT personnel and improving ICT infrastructure in the firm.

Findings here agree with Selim (2008) who concluded that strategic planning to adopt e-commerce was considered as one of the major elements of organisational e-readiness. A good business plan facilitates online strategies and allows the firm to assess and measure its progress and adjust to new technology and a changing business environment (Osterwalder & Pigneur 2002). But most Saudi travel and tourism firms were not committed to re-designing these plans to include some technological change. This could be due to the size and culture of the organisations as most of them, even the medium sized organizations, could not deploy research and development on innovations like e-commerce (Tornatzky & Fleischer 1990).

The study also confirmed that Organisational Commitment in this instance refers to the degree of enthusiasm with which managers and staff embrace e-commerce (Eastlick, Lotz & Warrington 2006, Jung et al. 2009). Research shows that commitment has a great impact on the successful performance of an organisation (Chesbrough 2007, Nusair et al. 2011, Singh, Chopra & Desai 2009). But most organisations in this research were more concerned with the day-to-day handling of their customers and did not have time to conceive of a cohesive business strategy and business plan.

8.3.4. Internal Resources

Internal Resources was the second factor created from the separation in this research of the major factor Organisational E-Readiness used in the research model (Figure 8.2). The skills and technical background of IT staff can make a difference in the overall IT deployment of an organisation, encouraging greater acceptance and improving performance. Also, skilled staff with the necessary qualifications and abilities are required to take their organisations a step further toward IS utilisation. When a firm faces issues in compatibility of existing ICT systems with future applications or the capabilities of its IT staff do not extend past technical issues and systems maintenance, this may pose a challenge to its technology readiness.

This research has revealed that Saudi tourism and travel firms acknowledge that staff attitude and ICT competency were vital to a successful e-commerce adoption. Despite some interest in e-commerce shown by the majority of participants in this study, they explained that marketing and product innovation were dependent on the degree of IT-skilled human talent they had access to. They stressed the importance of quality website designers and availability of in-house or accessible IT support personnel, who could train staff, perform help desk services, address user issues, and perform upgrades.

The Internal Resources construct was hypothesised in this research to positively influence Executive Attitude. However, the correlation of Internal Resources and Executive Attitude is negative (IR $\rightarrow$ EA= -0.31, p.value $\leq$ .05). The lack of ICT-skilled staff with the lack of ICT resources in Saudi causes this negative relationship between Internal Resources and Executives Attitude. These findings support the analysis of the interviews that highlighted some examples of executives who are not satisfied with quality of the business ICT solutions produced by IT staff in their organisations. The

Internal Resources construct was also assumed to indirectly and positively influence the Decision to E-commerce adoption (IR → DUOM= .41, p.value ≤ .05). The factor Internal Resources included two indicators, which are Human Resources and ICT Resources and both are statistically significant.

These results highlight the importance of Internal Resources including human resources and ICT resources in facilitating a positive decision for e-commerce adoption. This finding is in line with studies by Rambo and Liu (2010) and Al-Somali et al. (2010) which identified internal recourses like e-readiness, and resources interdependency, as key factors involved in the process of design and adoption of B2C e-commerce applications in Saudi Arabia. In relation to usage of the perceived e-readiness model (PERM) adapted from Molla and Licker (2005), this research is similar to the research by Al-Hudhaif and Alkubeyyer (2011). Al-Hudhaif and Alkubeyyer (2011) concluded their study suggesting that the main factors and determinants for advanced and institutional e-commerce-level decisions and adoption are internal factors (technology resources related factors, managerial factors, organizational factors). The research retested the factors that affect the adoption of e-commerce using the Perceived E-Readiness Model (PERM) with the two constructs Perceived E-Readiness (EER) and Perceived Organisational E-Readiness (POER). Also, Ahmad and Agrawal (2012) also recognised that the lack of technology availability and human resources in organisations can pose problems in implementing e-commerce in Saudi Arabia.

This study supports previous research findings that organisations need staff that can develop, handle and maintain e-commerce systems. ICT innovation is a decisive factor in improving employee competency and the reverse is also true as trained staff are often more open to implementing technological innovation (Zhang & Ma 2009). Thus, an investment in employee ICT-based skills and knowledge accelerates the introduction of e-commerce as the level of technological awareness and understanding increases in the firm (Carayannis et al. 2006). Greater IT usage intensity within an organisation implies greater technological readiness in relation to both technology infrastructure and IT human resources (Zhu & Kraemer 2005). This research has also shown that there is some support from the government and the private sector in terms of promoting educational programs to train Saudi workers to promote e-commerce diffusion. For example, the initiative of Bab Rizq Jameel, which targets young unemployed Saudi

women, funded 429 jobs a year, the majority of which were based on e-commerce systems (Okaz 2009, Bab Rizq Jameel 2009). Also, surveying the courses provided by the Saudi Universities and educational institutes, Gamalel-Din (2012) found that graduates found the knowledge and skills gained by e-commerce courses to be supportive and useful in their work, even leading to better IT and ecommerce utilisation in organisations in many cases. This is a very promising approach that would eliminate the negative relationship between Internal Resources and Executive Attitude mentioned above. Therefore, these courses increase the educated IT staff which would enhance positive decisions to e-commerce adoption, when they join the market.

8.3.5. External E-Readiness

This research found evidence to support the significance of the effect of External E-Readiness. External E-Readiness was found to have two direct effects on Business Readiness and Internal Resources. Through empirically investigating the relationship between External E-Readiness and Business Readiness, this study found a positive correlation between them and was statistical significant (EER $\rightarrow$ BR= 0.29, p.value $\leq$ .05). There was also a positive correlation found between External E-Readiness and Internal Resources (EER $\rightarrow$ IR= 0.16, p.value $\leq$ .05). However, there was an insignificant indirect correlation between External E-Readiness and the Decision to E-commerce adoption (EER $\rightarrow$ DUOM = 0.1, p.value = .339). These results support the proposition discussed in Chapter 6, that External E-Readiness can not significantly impact the decision into e-commerce adoption as p.value was found to be not significant too. The EER factor is made up of five components: competitiveness, governmental initiatives, supporting industries, market labour and infrastructure. All these sub-themes will be discussed in detail in that order.

Competition was accepted as a relevant factor, but not significant enough to be a motivating source for e-commerce adoption. Competitiveness had only 40 per cent loading on the External E-Readiness factor while all other factors load more than 52 per cent up to 86. Although previous research (Al-Hudhaif & Alkubeyyer, 2011, Molla & Licker 2005) has stressed that external factors of market forces can make an impact on a firm's intention to use e-commerce, this study was only able to determine just a minor effect of this in the Saudi tourism industry. In most cases, the absence of actual

competition between tourism operators in Saudi made the adoption of e-commerce dependent on the nature of clientele rather than on competition.

The findings of this research suggest that government initiatives were a positive factor promoting e-commerce use. Government intervention through creation of mandatory e-business portals, *Makha'a* and *Yosr* e-business portals (EP-MoH 2012, Yosr 2012), has been a key factor behind the shift to ICT use by *Hajj / Umrah* operators. This study is also consistent with recent research (AlGhamdi & Drew 2011, Al-Somali et al. 2010, Aleid et al. 2010b), which shows the issues of online payment and trust should be supported by legal initiatives created by organisational policies as well as government intervention. These efforts were accompanied with some support for infrastructure, financial solutions and scholarships for Saudis to study e-commerce. However, many executives saw these government initiatives as insufficient to motivate them to adopt e-commerce. In explaining the context of this research, this thesis (Chapter 3) has shown that many of these initiatives like:

- establishing the Ministry of Communication and Information Technology (MCIT) in 2003, which launched an e-business rules site (MCIT 2007);

- the drawing up of legislation to govern e-commerce trading as an autonomous form of commerce and trade in the Kingdom of Saudi Arabia (Aldogily 2009, Algefely 2006, Almoteri 2009, Azayed 2007) and;

- establishing a full electronic payment system in 2007 by the Saudi Monetary Agency (SADAD 2009).

The quality of ICT supporting industries was an issue of utmost concern to executives and operators in Saudi tourism companies. Respondents from the tourism industry stated that they were willing to recruit local or global ICT providers without bias, but there was a prevailing perception that the quality of service in local providers was lower to international ICT support firms. In fact, they felt that the IT support sector in the country was unable to deal with minor technical issues or less sophisticated technologies. Furthermore, even though local ICT providers, particularly website developers, were considered substandard, their costs were significantly higher than those

prevailing in the global market (Ahmad & Agrawal 2012). The challenge of the shortage of local IT providers had been overcome to some extent by off-shoring (international outsourcing) (Rohde 2004). The study supports existing studies that show how the Saudi industry needs efficient support from ICT providers to practice e-commerce (Aleid et al. 2010, Rambo & Liu 2010).

It has been shown in this research that it is important to engage an e-commerce provider who understands the workings of the tourism industry well enough to develop appropriate marketing schemes for the industry (Khalifa 2012). The executives in this study disliked dealing with IT developers who were ignorant about the tourism industry as they would often ask for information from the workers in the firm and distract their attention from work. The participants said that a systems provider should understand the firm's processes and not have to rely on staff for information. These findings agree with recent research that market resources like labour should understand and talk the same language of an industry (Rambo & Liu 2010, Alwahaishi 2009).

The results of this research confirm the extant literature on technology acceptance which stresses the importance of the country's infrastructure in the process of technology adoption (AlGhamdi & Drew 2011, Al-Hudhaif & Alkubeyyer 2011). The study showed the deficiency of infrastructure in the country, including some challenges in the communications and Internet infrastructure. The participants noted that the lack of information produced by the industry was a significant barrier to a common online Saudi booking provider as any booking portal cannot operate without reliable information and performance guarantees. Although there are some initiatives by the Saudi government with the launching of SADAD system, this study also agrees with studies that have stressed that the payment systems provided by local banks and Saudi financial industry were not of a global standard (Al Ghamdi et al. 2011b, Hudhaif & Alkubeyyer 2011).

8.3.6. Executives' Attitude and E-commerce Knowledge

There is little work in the literature emphasising the importance of the executives' attitudes, although there is significant research written about the role of 'champions', individuals, in organisations, sometimes executives, in convincing their colleagues about IT use and having a positive impact on the decision to adopt such

technology (Premkumar & Ramamurthy 1995, Howell & Boies 2004, Soo, Berta & Baker 2009, Murphy & Southey 2003, Mehrtens et al. 2001).

The Theory of Reasoned Action (TRA) proposed by Fishbein & Ajzen (1975) postulated the importance of users' attitude as an individual's positive or negative feelings about performing the target behaviour. However, this research reconceptualised this generic concept of user attitudes into Executives' Attitude. This factor measures the attitude of executives towards e-commerce, not just as individuals and direct users, but as decision makers whose subjective attitude to e-commerce affects the path taken by their whole organisation.

The research found that the tourism industry executives exert a powerful influence in their organisations. A significant finding made by this study was that the Saudi firms' decisions are very dependent on the executives' attitudes. Executives can cause a real delay in change and in technology adoption through their decisions and attitudes. In fact, it was found that the role of the Board of Directors, if it existed, has little impact on decision making, particularly toward innovation, whereas, decisions made by executives seems to control this area of organisational policy. This actually indirectly evident in the literature of Hofstede's cultural dimensions in that Arab countries accept power distance, meaning that employees in a lower organisational strata easily submit to authority and hardly make any important decisions (Hofstede 1980, 2001). This research assumed then that increased executives' knowledge in technology and e-commerce would accelerate the decision for e-commerce adoption.

In addition, the research found that Executives' Attitude was a major factor influencing decision making in e-commerce adoption in the tourism industry in Saudi Arabia. It was found that Executive Attitude mediated the effect of many other factors such as Business Readiness and Perceived Relative Advantage, which could not directly affect decision to adopt ecommerce until they were mediated through Executives' Attitude. The construct of Executives' Attitude was hypothesised to directly and positively influence the Decision to E-commerce adoption. The results show that it did (EA → DUOM= .37, p.value ≤ .05).The Executives' E-commerce Knowledge construct was also hypothesised to positively influence Relative Advantage. The correlation of Executives' E-commerce Knowledge and Relative Advantage was positive and

significant (EEK → RA= .50, p.value ≤ .05). The Executives' E-commerce Knowledge construct was also found to indirectly and positively influence the Decision to E-commerce adoption (EEK → DUOM= .06, p.value ≤ .05). While Relative Advantage construct was statistically confirmed to be a significant factor. Executives' attitude is indirectly controlled by their E-commerce Knowledge. There are two cases where the interviewees showed a very positive attitude about e-commerce utilisation. But while one of them was successful the other was not because the executive of the successful case has an IT degree and the other did not. So the first executive had enough knowledge to select the proper solution and employ developers and designers who could build a custom-made partial e-commerce solution. It can be suggested here that that more e-commerce knowledge leads to positive attitude to e-commerce, although future research will need to examine this effect in greater detail.

Many researchers have examined executives' attitudes as part of dealing with the internal e-readiness of organisations to adopt technology (Teo et al. 2006, Liu 2008, Selim 2008). However, both parts of this study diverge from these studies with regard to the priority of place accorded to Executives' Attitude as a factor. This study found Executives Attitude to be a critical factor as it acts as a mediator in decisions about e-commerce adoption. Some studies have argued in a similar fashion by showing that top management support is critical for creating a supportive climate and providing adequate resources that can promote adoption of new technologies (Premkumar & Roberts 1999, Zhu & Kraemer 2002, Liu 2010, Zhang & Dhaliwal 2009).

8.3.7. Organisational Cultural Dimension (OCD)

The findings from the interviews identified that organisational values explain why certain organisations made the decision to use integrated systems and e-commerce in their marketing. The Competing Values Framework (Quinn & Rohrbaugh 1981) was used to classify the firm's culture. The research suggested that apart from external factors, an organisation's culture also affects the intention to adopt online marketing (e-commerce). The finding of the analysis shows that: organisations with a rational culture have less intention to use online marketing, hierarchal and group (team) culture organisations have some intention to adopt online marketing, and firms with a

developmental culture had the highest level of adoption or intention to adopt e-commerce.

However, the survey data could not confirm these results and a latent class analysis was conducted on Organisational Culture Dimensions to differentiate between the participants based upon the organisational culture dimensions of team, development, hierarchical and rational criteria (Hagenaars & McCutcheon 2002, Muthén & Muthén 1998-2010). The researcher was unable to make organisation grouping based on their cultural dimension as the dimension values were not discrete. As a result Organisational Cultural Dimension (OCD) was dropped from the research model. However, the results are contradictory and inconclusive. The role of organisational culture has a rich literature but its effects were not clear here. This is an area where future research is needed in the Saudi context.

8.3.8. National Cultural Influence (NCV)

The literature showed several arguments stressing the role of national culture as a normative factor influencing the attitude to technology adoption (Corbitt 2003, Nasirin, Thanasankit & Corbitt 2001, Thanasankit 1999). Likewise, the interview analysis highlighted several issues of social and cultural influences that impact the decision of e-commerce adoption. It was found that there is a pervasive trust issue with online business with fears about privacy and security compounded by a low level of awareness of e-commerce services as such. It also found that Saudis overall have not developed a comfort level with the procedures involved in online transactions. Also, most Saudi travel agencies are family businesses which in most cases have a risk-averse leadership that likes to stick to the status. The analysis also mentioned the issue of tourism firms' isolation, as each organisation develop its own plans without collaboration with other tourism firms. The lack of collaboration is considered as another cultural attitude caused by Saudi mangers. This weak cooperation between industry stakeholders would lead to a lower level of technology adoption and implementation.

The national culture impacts the corporate structure in the country, and it impedes the drive to technological innovation like e-commerce as the management was often fear of losing time and resources of new innovations often preferred to stick to the

status quo. The rich and nuanced explanation of these cultural factors in this study explained how e-commerce usage in Saudi Arabia is lagging behind despite the availability of technological and financial capability. This prompted the researcher to include the factor of National Cultural Influence within the research model incorporating items of norms, assurance, behaviour, gender, tradition, and religion. The discriminant analysis with SEM showed that National Cultural Influence and Customer Influence dimensions actually constituted one dimension (O'Leary-Kelly & Vokurta 1998). Due to their unidimensionality, the researcher combined the two dimensions CI and NCV to form a new factor called Customer Culture Influence (CCI) (Ajzen & Fishbein 1980, Venkatesh et al. 2003) and NCV was dropped from the research model. However, throughout the thesis the role of national culture in decision-making, in consumer behaviour, in business practices (e.g credit cards) has been evident. The direct impact of national culture appears here to have been affected by the construction of the research model. However, this does not necessarily mean that e-commerce has no avenue for future growth in the country. As some of the participants in the survey indicated, the awareness level of e-commerce is growing, particularly with the youth population of the country. The issue of technology diffusion via the new generation is considered as part of the cultural differences between the countries. Saudi Arabia records increased ratio of Internet and technology usage each year. The increased technology literacy is another cultural enabler to e-commerce diffusion. Thus, there is a clear need to extract National Culture into another study and look at its direct impact.

8.3.9. Remarks on Perceived Ease of Use (PEU)

TAM associates the acceptance of a technology with only two factors, Relative Advantage and Perceived Ease of Use. The analysis of the survey data in this research shows that Perceived Ease of Use does not seem to have a major effect on the issue of adoption of e-commerce in the context of this research. This is now not an unusual fining. Other researchers have come to similar conclusions (Hu et al. 1999, Chau 2002). The participants in this study considered Perceived Ease of Use as part of e-commerce planning and implementation, but website or user-computer interface were seen as a matter for competency training. Many studies have also shown that Perceived Usefulness, and not Perceived Ease of Use, is positively related to behavioural intentions to use ICT (Hu et al. 1999, Chau 2002). For this reason, the factor Perceived Ease of Use

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was excluded from the research model. The reason for the irrelevance of PEU is quite clear. This concept was generated within TAM by Davis and Davis et al. in the early 80s when computer and Internet technology was just being introduced and ease of use may have been a critical issue for the public. But now this is no longer an issue as computer literacy is much higher and people are technology-savvy. IT and Internet pervades everyday life and business in Saudi Arabia too, so this issue about the ease of use of e-commerce technology may be an irrelevant concern.

8.4. Research Contribution

This study has enumerated a host of contextual factors in the Saudi market that have impeded the uptake of e-commerce. The discussion in the sections above provides a detailed explanation of the factors that have impeded the growth of e-commerce in Saudi tourism. This section discusses the contribution made by this study to academic knowledge on e-commerce adoption in Saudi tourism in particular as well as policy and practice issues on e-commerce adoption in Saudi Arabia that can be used by the Saudi government, private firms and tourism executives. The factors elaborated here add to the existing research on e-commerce adoption in Saudi Arabia and explain how theories relating to technology adoption relate to this specific study. These research findings can help government policymakers and industry leaders in the field identify appropriate strategies to promote the use of e-commerce in tourism firms.

8.4.1. Contributions to Research and Theory

Studies on technology adoption in marketing literature have highlighted issues concerning the perspectives of individual users to a certain technology (Davis 1989, Davis et al. 1989, Ajzen & Fishbein 1980, Ajzen 1985, Aleid et al. 2010a, Al-Gahtani 2011, Eid 2011, Al-maghrabi et al. 2011, Al-Ghaith et al. 2010, Al Ghamdi et al. 2011a, Al-Mowalad & Putit 2012, Sadi & Al-Khalifah 2012, Al Rasheed & Mirza 2011). However, unlike those studies, this research concerned understanding the factors impacting e-commerce adoption in the Saudi tourism industry from the perspective of organisations for commercial use. The factors elaborated here add to the existing research on e-commerce adoption in Saudi Arabia and explain how generic theories relating to technology adoption need to be contextualised for the specific conditions

prevailing in the Arab tourism market. The research model advanced here in this study can be used for further empirical research in the Arab context and support some recent studies that have used the same design (Rambo & Liu 2010, Al-Somali et al. 2010, Al-Hudhaif & Alkubeyyer 2011, Ahmad & Agrawal 2012, Alwahaishi 2009).

This study not only adds to research on ICT adoption in Saudi Arabia, it is also the first study to concentrate on e-commerce diffusion in the tourism sector in Saudi Arabia. This research contributes to a better understanding of *Hajj* and *Umrah* tourism which is differentiated from generic tourism services across the world by its unique logistical challenges. In Saudi Arabia the government requires designated *Umrah* pilgrimage providers to work online with their international dealers, given the great numbers of visitors involved and the complexity of the logistics. While the official *Umrah* providers are using an online business to business model, local travel agents are not permitted to offer *Umrah* services directly to pilgrims around the world and international dealers have to be used as intermediaries. Also the local *Hajj* companies for local pilgrims did not see enough commercial advantage gained from selling their offers online, as each company has a limited quota in each season that can be sold offline. Thus the governmental restrictions, not governmental initiatives, can be another inhibitor that adds to the research related to *Hajj* and *Umrah* tourism.

A major contribution to theory in this research was the validation of the research model with empirical data collected from Saudi travel executives. The model covered a parsimonious set of innovation, managerial, organisational, and environmental factors organized under several constructs major constructs (CCI, EA, RA, IR, BR, EEK and EER) see Figure 8.3. However, the role of national culture and Saudi business practices has already been raised as an issue not fully addressed by this model. Further research on the role of national culture will also need to be done to complement future testing of this model.
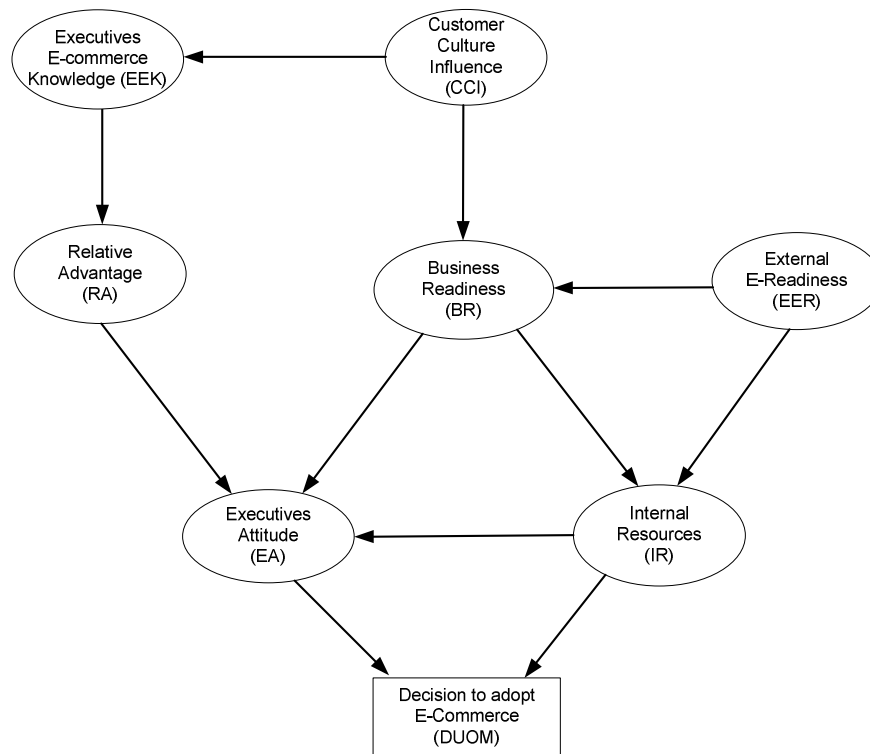
Figure 8.3: Model of e-commerce adoption in Saudi Arabian Tourism Companies

Several issues contribute to this research model uniqueness. Unlike the UTAUT (Venkatesh et al. 2003), this research tested the technology adoption in an organisational level with special acknowledgment to the UTAUT's elements that initiated the research model. The model also retested the Perceived E-Readiness Model (PERM), (Molla & Licker 2005), and found some differences. First the as described by this research's data, the Organisational E-Readiness contain to factors (Business Readiness and Internal resources). Both factors are tested and validated in this research. Second, External E-Readiness was not found to directly impacting the decision to e-commerce adoption, but it impacts the Business Readiness and Internal resources. Testing the executives' attitude and their e-commerce knowledge was one of the significant inputs to the research model. These changes between the original proposed research model as in Figure 8.1, and the resultant research model in Figure 8.3 is considered as another contribution to theory. The theoretical framework developed here in this study can be used as a model for grounding further research in the field of e-commerce adoption in the Saudi tourism sector. It can also serve as a reference for researchers interested in technology adoption to improve the efficiencies of religious tourism in other national contexts.

Another positive advantage distinguishing this research from other studies in this area is that it focuses on a specific industry in contrast to other studies which usually do not delineate their focus on a specific industry (Al-Somali et al. 2010, Al-Hudhaif & Alkubeyyer 2011, Ahmad & Agrawal 2012, Alwahaishi 2009). As industry characteristics vary in many ways, in terms of their marketing plan, business model, business strategy and resources, it can be assumed that the ICT needs of different industries as well the actual impact of factors will differ across them. For example, the use of e-commerce in the retail industry maybe accompanied with some challenges relating to shipping and supply chain management which may not be applicable to tourism (AlGhamdi & Drew 2011b, Al Rasheed & Mirza 2011).

8.4.2. Contributions to Practice

There are several practical contributions of this study with regard to better promotion of e-commerce in Saudi Arabia. One positive advantage distinguishing this research from other studies in this area is that it focuses on a specific industry in contrast to other studies which usually do not delineate their focus on a specific industry (Al-Somali et al. 2010, Al-Hudhaif & Alkubeyyer, 2011, Ahmad & Agrawal, 2012, Alwahaishi 2009).

This research offers solutions for the challenges that may face travel and tourism industry in e-commerce adoption in Saudi Arabia as it expands in the future. These research findings can help government policymakers and industry leaders in the field identify appropriate strategies to promote the use of e-commerce in tourism firms. The following recommendations can make a difference in the promotion of an e-commerce adoption culture in the Saudi tourism industry:

- The Saudi Chambers of Commerce in Saudi Arabia in cooperation with the Ministry of Information and Communication Technology should enhance awareness among business organisations about the consequences of lagging behind their competitors. Programs teaching them deal with ICT providers and build e-commerce solutions can be part of the awareness campaign. Awareness and training sessions should target tourism executives and IT staff as this would positively impact the executives' attitude to adopt e-commerce;

- As noted in the interview analysis, the low quality of IT supporting industries was enumerated as one of the main reasons behind the lack of e-commerce adoption. The low quality and high cost of ICT providers are some external inhibitors of e-commerce adoption. Thus, this research encourages ICT providers in Saudi Arabia to exploit this promising business opportunity by providing affordable e-commerce solutions;

- The absence of sophisticated online transaction infrastructure was also found to inhibit the use of e-commerce. If financial companies want to develop their business opportunities in the world of online marketing, they must dedicate their resources to develop online payment systems that are compatible with the Islamic rules prohibiting the charge of interest and can be used by customers without any risk;

- The study supports the recommendation by the participants for the government to provide central web e-commerce portals that include all local tourism and travel deals as it can save set up and running cost of e-commerce solutions for individual firms;

- The lack of trust among Saudi customers for online marketing could be reduced with government help. Customer awareness campaigns by governmental bodies like the ministry of commerce would foster customer trust. Also developing and maintaining reliable Internet security infrastructure is another trust building initiatives the government should take;

- The interviews highlighted that the legal structure is a concern that might deter businesses from e-commerce adoption and acceptance. The Saudi government should participate with the financial firms and legal government authorities to develop appropriate customer and business protection bylaws;

- Some national cultural elements should be addressed to help foster innovations diffusion. The study showed how executives' capabilities are also impacted by some cultural issues like nepotism in employing managers or even the quality of leadership in the case of family business;

- Local universities and educational institutions are urged to dedicate more attention to e-commerce development and e-commerce management courses and degrees. Once these graduates (future ICT staff) move to the industry they can guide their organisations to incorporate the best practices of e-commerce.

8.5. Research Limitations and Implications for Future Studies

Limitations of this research resemble those that are inherent in any research based in a single geographic location with a restricted composition of study participants. The process of recruiting participants for the interviews proved to be challenging as many executives were unwilling to participate. Further, the researcher did not belong to the marketing tourism industry, so the researcher had to spend some extent of time investigating the tourism market to overcome this limitation. Open-ended questions were only asked during the interviews and all information obtained from the interviewees was reported accurately without bias. In semi-structured interviews, the researcher had to be perceptive to the spontaneous responses generated from the participants. The researcher prepared himself to follow unexpected leads that appeared during the interview if they allowed the researcher to acquire any new perspective related to the study.

The researcher also encountered some challenges in the quantitative study. It was decided that Structural Equation Modelling analysis technique was the most suitable for model validation and the researcher had to spend a prolonged amount of time learning and developing his capability to reach the requisite standards of SEM analysis. In all, about 10 months was spent in this process, which included three basic to advanced statistical courses, and many consultation sessions. The number of participants in the quantitative survey was an issue, as the researcher got only 111 responses and dropped 4 of them. However, the small sample size (n=107) in this research was overcome with Bayesian SEM analysis when testing the full measurement model in SEM. The small sample also probably affected the extent of the relationships measured and the focus on one industry might explain what some factors, expected to have impact, such as National Culture, and appeared to have had little impact. After reviewing these limitations, it is apparent that this study leaves many areas for future research.

- Future research should be conducted in other organisational settings in Saudi Arabia to determine if the factors identified here influence IS adoption in the same manner as the tourism sector. In other words, there is a need to test the generalisability of the findings of this study, at least, within other sectors in the Saudi market.

- It is also recommended that the suggested research model in Figure 8.3 should be considered for future work in different research contexts in the Arab world. The model needs to be tested with appropriate factor analysis tools to understand the interrelation between the constructs and evaluate the validity of the construct of its factors. Such findings can guide future research about the motivations and barriers to ICT use in Arab or Islamic contexts.

- The study focussed on the perceptions of tourism industry executives, so further studies may be undertaken to highlight any divergences between the management and employees in the tourism industry in engaging IS. This study only interrogated tourism company executives who often argued that issues impacting the adoption of ecommerce usually originated from inadequacies in the ICT providers, government and financial bodies. A future study may need to explore the perceptions of these other stakeholders for a more holistic and judicious assessment of the situation.

- This study could be considered as exploratory research into the factors that were perceived by executives to be of importance for e-commerce adoption. A future study could adopt a confirmatory approach by exploring executive attitudes directly in relation to the existent level of ecommerce adoption, ideally through a comparative research of organisations that have adopted and not yet adopted a particular technology. Further, a longitudinal research may be conducted to examine the change in perceptions of e-commerce use among managers/owners in the tourism industry over time.

- As the quantitative analysis showed, only 29 per cent of the participating firms in this study had full Business to Customers e-commerce solutions and most of these firms were part of a global hotel chain or multinational companies. The other 71 per cent are still behind on the e-adoption ladder. They are either contemplating setting up a website, have just found a domain on the internet, or only have partial e-commerce utilisation. This could mean that e-commerce

adoption is more prevalent in large international organisations than smaller domestic-owned firms, which raises the issue of the influence of organisation size on e-commerce capability. It would be worthwhile for further studies to include organisation size. (Tornatzky & Fleischer 1990, King & Gribbins 2002, Lee & Xia 2006, Ko et al. 2008, Claycomb et al. 2005, Ke & Wei 2008), in the Saudi context as a factor in e-commerce adoption, or conduct comparative research to identify difference in level of e-commerce adoption between firms of different sizes. It could also be useful to examine the different resource constraints and organisational needs that control e-commerce adoption depending on size of the organisation, large, medium or small.

- The research examined several kinds of tourism firms in the Saudi tourism and travel sector, including religious tourism (*Hajj* and *Umrah*), inbound and outbound tourism including travel agencies, hotels, airlines, entertainment, events and excursions. However, it was found that each sub-sector in the tourism industry is quite different. For instance, *Hajj* and *Umrah* tourism is limited by some factors like travel visa restrictions and some other logistical issues like the huge number of pilgrims coming to Saudi at the same time. There are also differences in the religious tourism sector as *Umrah* is available for about 9 months a year and *Hajj* just happens once a year with 3 million visitors converging in the country at the same time. Also, *Umrah* is operated by local external agents, and *Hajj* is operated by other group of service operators. Thus, further research may be needed on each sub-sector with case studies to identify if factors impacting technology adoption differ between the two.

- Finally, Hofstede (1980, 2000) studied the effect of Long Term Orientation (LTO) as a cultural dimension in several countries but not in Saudi Arabia or any other countries in the Arab world. This study included this dimension in its conceptual model and found evidence to indicate that Saudi organisations can be characterised as possessing a short-term orientation. After prolonged time spent with industry executives, the researcher found that only a few participants were aware of long -erm planning and most of them just work to achieve day-to-day objectives and most of the participating organisations lack effective future planning to harness new technologies in business. Thus, future research maybe

needed to explore the relation of planning in relation to e-commerce adoption on the basis of the assumption that Saudi firms are generally short-term oriented.

8.6. Conclusion

E-commerce has revolutionised the face of the travel business worldwide, but despite the technological and financial backing it has received, e-commerce has not been able to fully penetrate the Saudi tourism market. This study examined the factors influencing the adoption of e-commerce in the Saudi tourism industry through a mixed methods approach using qualitative and quantitative surveys of perceptions of senior executives and owners of tourism/travel firms. The research was based on a conceptual model derived from concepts advanced by UTAUT with Perceived Organisational and External E-readiness, and Organisational Cultural Dimensions. In addition, it was found that the generic theories of technology adoption are not sufficiently flexible to accommodate localised factors in a country like Saudi Arabia, so an additional construct of Market and Cultural Factors was added to the analysis. Most of the current research gives evidence for factors impacting technology adoption in general and e-commerce in particular including many behavioural, social, economic, and sometimes political factors.

The study found that while there is a broad understanding about the advantages of e-commerce, the travel operators in the country view e-commerce strategy as more of a future contingency and not something that is completely relevant for the tourism industry in Saudi Arabia at this point in time. The research found that the economic factor was pre-eminent for Saudi tourism executives. They were not concerned about the monetary cost of contracting e-commerce services from IT providers, but with the availability and quality of those providers and the feasibility of return on investment. Internal organisation issues, together with national cultural practices were shown to have some influence on the adoption of e-coemmerce in Saudi tourism companies, but their greatest impact was on the attitude of executives and their subsequent impact on what happened in the companies. In Saudi Arabia nepotism and family business was shown to be detrimental to the quality of managerial workforce, but their impact on actual adoption of e-commerce was not seen as significant in the research.

The findings confirmed that there is a significant indirect relationship between the commercial advantages of e-commerce and the level of e-commerce integration in the Saudi tourism industry. Apart from the misperceptions regarding e-commerce, the poor utilisation of e-commerce in these companies was also related to deficient information systems infrastructure and medium usage of information systems in the Saudi context. Participants, however, generally expressed interest and a certain degree of commitment to the concept of e-commerce and in many ways they confirmed their willingness to incorporate e-commerce as a part of their business model in the future.

The findings suggest that government initiatives and industry competitiveness were two key positive factors promoting e-commerce use. However, many Saudi executives saw these government initiatives and industry competitiveness as insufficient to motivate them to adopt e-commerce. On the other hand, there are some major barriers that prevent private firms to fully utilise the advantages of e-commerce. These include external factors such as lack of support from IT industry and access to IT resources as well as internal factors in the local tourism industry where the market conditions and customer service are not oriented to e-commerce.

A significant finding of this study is that Saudi firm's decisions are dependent on the executives' attitudes where executives can cause a real delay in technology change and adoption through their decisions and attitudes. The research discovered the importance of the concept of the attitudes of executives in making critical decisions especially those relating to change and innovation adoption. This shows that special attention must be given to executives' role if e-commerce is to be more widely implemented in the Saudi market.

The travel industry is now a global enterprise and expanding at a rapid rate. This means that executives in the Saudi tourism industry must consider competition, as well as the logistics involved in moving large masses of people for the *Hajj* and *Umrah* with the aim to secure their market share and gain more revenue. Overall, there are a few lessons to be learnt for better implementation of e-commerce in the tourism industry in the country to alleviate the problems noted here. First, any trust issues regarding privacy and security should be addressed, possibly with government backing to e-commerce to reassure the public. Secondly, there must be proper marketing through social networking

and word-of-mouth to increase the level of awareness of e-commerce. Thirdly, e-commerce websites must be armed with virtual interaction channels so that customers do not feel the lack of human interaction or information while conducting online transactions. Finally, some issues of nepotism or risk-aversion in the organisational culture in the Saudi tourism industry should be addressed to foster better leadership that would be open to innovations like e-commerce.

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Appendix 1: Ethics Approval

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Ref: Ethics Appl. 1000164

Wednesday, May 26 2010

Hani Sami Brdesee
1/890 Pascoe Vale Rd
Glenroy
Vic 3046

Dear Hani

I am pleased to advise that your application for ethics approval for a Research Project has been approved by the Chair of the Business College Human Ethics Advisory Network. Approval has been granted for the period from 25 May 2010 to 2 March 2013.

The RMIT Human Research Ethics Committee (HREC) requires the submission of Annual and Final reports. These reports should be forwarded to the Business College Human Ethics Advisory Network Secretary. Annual Reports are due in December for applications submitted prior to September the year concerned. I have enclosed a copy of the Annual/ Final report form for your convenience. Please note that this form also incorporates a request for extension of approval, if required.

Best wishes for your research.

Yours sincerely

Kristina Tsoulis-Reay
Secretary
Business College Human Ethics Advisory Network

Encl.

RMIT BUSINESS
COLLEGE HUMAN ETHICS ADVISORY NETWORK
(BCHEAN)

Application for Approval of Research Project

SUMMARY & APPROVAL

Project Title: *E-commerce adoption in Marketing: Tourism in Saudi Arabia*

Principal Investigator: Hani Sami Brdesee

Supervisor: Brian Corbitt

Project Category: Category 2

Degree for which research is undertaken (if applicable): PhD

Contact Phone Number: 0424 206 044

School Name: Business Information Technology & Logistics

Email Address: S3175695@student.rmit.edu.au

BUSINESS COLLEGE HUMAN ETHICS ADVISORY NETWORK USE ONLY:

Date Application Received: 11 May 2010

Business College Human Ethics Advisory Network Register No: 1000164

Period of Approval: 25 May 2010 to 2 March 2013

Comments / Provisos: N/A

The Business College Human Ethics Advisory Network assessed the Project as Category 2

Signature: _____ **Date: 25 May 2010**
Associate Professor Roslyn Russell, BCHEAN Chair

Appendix 2: Interviews Schedule, Information and Questions

Questions of Semi-structured Interview

Data Collection	
Place	Jeddah, Saudi Arabia
Duration	two to three months
Date	Mid of 2010
Targeted sample	Tourism industry leaders are the main focus of this study. For the purpose of this research, interviews' participants may be sourced from the Saudi Commission for Tourism and Antiquities, Ministry of Commerce and Industry, and Ministry of Communications and Information Technology.

Semi-structured interview questions/themes (English)

Technology (e-commerce) perception and adoption	
For the purposes of this study, the principles underlying the models are accepted, if not their structural elements. Thus, This study uses and tests the Unified Theory of Acceptance and Use of Technology (UTAUT), (Venkatesh et al. 2003). The following questions reflect the proposed research model to confirm or reject some of its elements under the Saudi environment.	
Possible Questions	*Q1. Could you please explain your relationship with new technology?* *Q2. How does your organization depend on Information Technology?* *Q3. What kinds of information systems does your organization use?* *Q4. How do you source these systems?* *Q5. How beneficial or useless are these systems?* *Q5. How do you evaluate these benefits?* *Q6. How easy to use are these systems?* *Q7. If they are easy to use, does that encourage you to use them?* *Q8. Do have a plan to invest more in Information Technology?* *Q9. What do you know about e-commerce?* *Q10. How do you know about e-commerce?* *Q11. Does your organization practice e-commerce? Or any part of it?* *Q12. What does motivate you and/or your organization to practice e-commerce?* *Q13. Do you expect advantages and/or disadvantages out of e-commerce utilization by your organization?*
Duration	40 Minutes

Perceived organizational and external e-readiness	
An extended e-commerce adoption model focusing on developing economies was proposed by Molla and Licker (2005). The model considers the relevant contextual and organisational factors that can affect e-commerce adoption in developing countries. The perceived e-readiness model (PERM) comprises two constructs, first, perceived organisational e-readiness (POER), and second, perceived external e-readiness (PEER). Each construct includes factors that impact the organisation's initial e-commerce adoption. The study finds that the majority of these factors provide meaningful predictors of e-commerce adoption. So the following questions also will allow the researcher to investigate the role of external and internal factor that enhance the e-commerce adoption decision.	
Possible Questions	*Q1. What are the external and internal factors affect the adoption and utilization of e-commerce in marketing your tourism services?* *Q2. Do you have a pre-written strategy or decision to employ new technologies for marketing your services?* *Q3. Do have any organization governance plan?* *Q4. Do have an IT department which plays role in IT utilization and Awareness?* *Q5. How often do you offer IT training to your staff to be capable to use new technologies?* *Q6. Do the kind and size of your business require employment of new technologies like e-commerce?* *Q7. Would the current organization's Information systems be combatable with e-commerce systems?* *Q8. Can the current organization's technology infrastructure enhance the adoption of e-commerce?* *Q9. How do you evaluate the role of government in organization's e-commerce adoption?* *Q10. Can the competition between organizations encourage them to adopt e-commerce?* *Q11. Are there supporting industries that help tourism organization to adopt e-commerce?*
Duration	30 Minutes

Organization culture traits	
Using organisations as the sample population, there is a need for inclusion of in-depth factors that enhance or embed the technology adoption. Thus, the Competing Values Framework (CVF) that was initially developed by Quinn and Rohrbaugh (1981), is of use during the research model design and analysis. The framework includes four organisational culture dimensions: developmental (entrepreneurial), rational, hierarchical and group (team). Each dimension has several characteristics which can be used as benchmarks in this study, together with the selected research method. The CVF of organisational culture effectiveness is long acknowledged in organisational culture research, and used as a predictor of quality improvement implementation to enhance satisfaction and adoption, among other outcomes.	
Possible Questions	*Q1. How do see explain the relationship between you and your subordinates?* *Q2. Does your team creating ideas which benefits the organization?* *Q3. How does you organization measure its business achievements?* *Q4. Does your organization's achievements bounded by roles and regulations? Or it depends on the situation?* *Q5. What does your organization like to achieve the most, or order them numerically: stability, developing human resources, growth, competitive advantage, commitment and moral, predictability, new resources or market superiority?* *Q6. How does the sense of family work with your staff?* *Q7. Does your organization focus more on competitiveness or creativity? How?* *Q8. How do you perceive the concept of team work?* *Q9. Do you clearly expect your business achievements? How?*
Duration	20 Minutes

Semi-structured interview questions/themes (Arabic)

Technology (e-commerce) perception and adoption	
For the purposes of this study, the principles underlying the models are accepted, if not their structural elements. Thus, This study uses and tests the Unified Theory of Acceptance and Use of Technology (UTAUT), (Venkatesh et al. 2003). The following questions reflect the proposed research model to confirm or reject some of its elements under the Saudi environment.	
Possible Questions	1. هل من الممكن البدء بالتعريف عن نفسك؟ التعليم، سنوات الخبرة، الفئة العمرية.. 2. حدثني عن أنشطتكم في خدمة السياحة؟ 3. ممكن أن تصف لي كيف هي العلاقة بين نشاطكم وتقنية أو نظم المعلومات؟ 4. ما مقدار الاعتمادية على تلك الانظمة؟ 5. ما أنواع تلك الانظمة تحديدا؟ محاسبية، حجوزات الخ.. 6. كيف تم أنشاء هذة الانظمة؟ 7. ماهو تقيمك لتلك الانظمة؟ 8. كيف تقيم فائدة تلك الانظمة؟ 9. كيف قيم سهولة أستخدامها؟ 10. هل سهولة الاستخدام تعتبر حافز لاستخدامها؟ 11. هل لديكم أي خطط حالية أو مستقبلية للاستثمار في تقنية ونظم المعلومات؟ 12. هل يوجد لديكم موقع الكتروني على الانترنت؟ 13. إن وجد، ما فائدته؟ 14. ماذا تعرفون عن التجارة الالكترونية؟ 15. ماهي مصادر معرفتكم عن التجارة الالكترونية؟ 16. هل منظمتكم تمارس أعمال التجارة الاكترونية أو أي جزء منها؟ 17. ما الذي سيحفزكم لتطبيق التجارة الالكترونية لتسويق خدماتكم؟ ***18. ماذا ترى من فوائد وعيوب التجارة الاكترونية لو طبقت على أعمالكم؟***
Duration	40 Minutes

Perceived organizational and external e-readiness	
An extended e-commerce adoption model focusing on developing economies was proposed by Molla and Licker (2005), who surveyed 150 businesses in South Africa. The model considers the relevant contextual and organisational factors that can affect e-commerce adoption in developing countries. The perceived e-readiness model (PERM) comprises two constructs, first, perceived organisational e-readiness (POER), and second, perceived external e-readiness (PEER). Each construct includes factors that impact the organisation's initial e-commerce adoption. The study finds that the majority of these factors provide meaningful predictors of e-commerce adoption. So the following questions also will allow the researcher to investigate the role of external and internal factor that enhance the e-commerce adoption decision.	
Possible Questions	ما هي المؤثرات الخارجية التي ستحفذكم للبدء في أعمال التجارة الالكترونية؟ هل يوجد لديكم خطط مكتوبة أو قرارات للاستفادة من التقنيات الحديثة في تسويق خدماتكم؟ هل لديكم نظام داخلي ولوائح يسير بها العمل (حوكمة) في شركتكم؟ هل يوجد لديكم قسم خاص بتقنية المعلومات؟ هل يوجد لديكم آلية لتوعية وتدريب الموظفين باهمية استخدام نظم المعلومات؟ كيف تحفزون موظفيكم للعمل؟ هل تعتقد أن حجم ونوع أعمالكم يتطلب تطبيق التجارة الالكترونية؟ هل تعتقد أن أنظمتكم الحالية والبنية التحتية متوافقة فعلا مع التجارة الالكترونية؟ كيف تقيم دور الحكومة في تمهيد الطريق للقطاع الخاص لتبني التجارة الالكترونية؟ ودور المنافسة؟ هل يوجد جهات مساندة تساعدكم لتبني تقنية كهذة؟
Duration	30 Minutes

Organization culture traits	
Using organisations as the sample population, there is a need for inclusion of in-depth factors that enhance or embed the technology adoption. Thus, the Competing Values Framework (CVF) that was initially developed by Quinn and Rohrbaugh (1981), is of use during the research model design and analysis. The framework includes four organisational culture dimensions: developmental (entrepreneurial), rational, hierarchical and group (team). Each dimension has several characteristics which can be used as benchmarks in this study, together with the selected research method. The CVF of organisational culture effectiveness is long acknowledged in organisational culture research, and used as a predictor of quality improvement implementation to enhance satisfaction and adoption, among other outcomes.	
Possible Questions	1. كيف تصف العلاقة بينك وبين مرؤوسيك؟ 2. ماهية درجة الابداعية في مرؤوسيك مما يخدم مصلحة العمل؟ 3. كيف تقيسون أنجازكم المهني؟ 4. هل تلك الانجازات مقيدة بلوائح وقوانين مسبقة؟ أم لكل أنجاز ظروفه الخاصة؟ 5. ماذا تفضلون في منظمتكم أن تجزوا أكثر: الثبات، تطوير الموارد البشرية، النمو، الميزة التنافسية، الالتزام وأخلاقيات العمل، الانتاجية، التميز في توفير الخدمة، البحث عن مصادر جديدة. 6. كيف تصف الجو العائلي بي الموظفين لديكم؟ 7. كيف تصفون مفهوم العمل الجماعي؟ 8. هل تركزون أكثر على التنافسية أم الابداع؟ كيف؟ مثال إن وجد؟
Duration	20 Minutes

Appendix 3: Interviews Plain Language Statement (PLS) (English)

RMIT UNIVERSITY

School of Business IT & Logistics

Level 17 239 Bourke Street
Melbourne VIC 3000 GPO Box
2476V
Melbourne VIC 3001 Australia

http://rmit.edu.au/businessitlogistics

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

Project Title: E-commerce adoption in marketing: Tourism in Saudi Arabia

Investigators:

o   Mr Hani Sami Brdesee (Business Information System, PhD degree student, S3175695@student.rmit.edu.au, +61-424206044)

o   Professor Brian Corbitt (Senior Supervisor, PhD FACS Head of School of Business IT & Logistics, Brian.corbitt@rmit.edu.au, +61-3-99255808)

Dear Participant,

You are invited to participate in a research project being conducted by RMIT University. This information sheet describes the project in straightforward language, or 'plain English'. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

I am undertaking a PhD with the School of Business IT & Logistics, at RMIT University, Melbourne, Victoria, Australia. The title of my PhD is *E-commerce adoption in marketing: Tourism promotion in Saudi Arabia* This research is being supervised by Professor Brian Corbitt in the School of Business IT & Logistics at RMIT University, Melbourne, Victoria, Australia. The RMIT Business College Human Ethics Advisory Network has approved this research.

E-commerce is identified as sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks. Generally, ecommerce relates to a firm using the Internet to advertise and sell products and services. It is argued that firms using ecommerce will be in a good position to obtain advantage from a significant change to world markets.

Due to the number of visitors and the Saudi Arabia's growing tourism potential, e-commerce appears to offer advantages of efficiency and profitability in the Saudi tourism industry. To complete this study, I need to investigate e-commerce adoption factors, obstacles and drivers, particularly in marketing tourism services. The main research question is: *What are the key factors affecting e-commerce adoption in tourism industry in Saudi Arabia?* I will be gathering data through interviews with senior tourism industry leaders. The interviews will be conducted with twelve participants. As Jeddah is the tourism gateway for Saudi Arabia, the city has been selected for interviews with stakeholders in the industry, in both public and private sectors.

I have obtained your organizations' contact information from the list of registered tourism organizations in the Saudi Chamber of Commerce and Industry's database available online. You have been approached for this interview because you are considered as one of the tourism industry executives in Saudi Arabia. As such, I would like to invite you to be part of this important study. Through interviews I aim to explore ideas, beliefs, and the experiences of senior tourism industry leaders regarding the topic of the study. During the interviews I will seek to discover information from tourism industry leaders about the Saudi tourism companies' use of e-commerce and to identify the factors that promote its adoption. Examples of questions include:

1. *How does your organization depend on Information Technology?*
2. *What kinds of information systems does your organization use?*
3. *What are the external and internal factors affect the adoption and utilization of e-commerce in marketing your tourism services?*

You are invited to participate in a one-on-one interview that will take approximately 90-120 minutes to complete. Your contribution in this interview is valuable because the findings from this project will assist in understanding ways to improve the marketing services in general and tourism in Saudi Arabia in particular. Questions will not cause you any discomfort or potential risk. The interview will be audio-taped with your permission.

Due to the nature of the data collection process, we are obtaining written consent from you. Please read the consent form carefully and be confident that you understand its contents before signing the consent from. If you have any questions about the project please feel free to contact one of the investigators.

All information obtained from the interview will be used for research purposes, and will be stored in the locked cabinet in my supervisor office for five years as prescribed by RMIT University regulations. Only my supervisors and I will have access to this data. The findings of this study might be published. No personal identifying information will be collected. Thus, the privacy of you and your organization will be kept absolutely confidential. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide the researchers with written permission". There is no direct benefit to you as a participant from the participation in this research.

Your participation in this research is voluntary. As a participant, you have the rights to:
- to withdraw your participation at any time, without prejudice.
- to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for you.
- to have any questions answered at any time.
- to request that audio recording be terminated at any stage during the interview

If you have any questions or would like to be informed of the aggregate research findings, please call me on the following phone number +61424206044 or E-mail S3175695@student.rmit.edu.au; or contact my Senior Supervisor Professor Brian Corbitt, on +61-3-99255808 or E-mail Brian.corbitt@rmit.edu.au .

Investigator	Senior Supervisor
Hani Brdesee	Professor Brian Corbitt
Business Information System, PhD student	PhD FACS Head of School of Business ITL
Signature:	Signature:

Appendix 4: Interviews Plain Language Statement (PLS) (Arabic)

School of Business IT & Logistics

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رسالة دعوة للمشاركة في بحث مع شرح لمشروع البحث

عنوان مشروع البحث
تطبيق التجارة الالكترونية في تسويق خدمات السياحة في المملكة العربية السعودية

الباحثون
الباحث: هاني سامي عبدالرحمن برديسي، درجة الدكتوراه
S3175695@student.rmit.edu.au، +61-424206044
المشرف على البحث: البروفيسور براين كوربت، المشرف ورئيس قسم School of Business IT &
Logistics
Brian.corbitt@rmit.edu.au، +61-3-99255808

عزيزي المشارك

السلام عليكم ورحمة الله وبركاته

أفيد سعادتكم أنا الطالب هاني سامي عبدالرحمن برديسي، المبتعث حاليا من جامعة الملك عبدالعزيز بجدة لتحضير درجة الدكتوراه في علوم الحاسب الآلي ونظم المعلومات من جامعة ار ام أي تي (RMIT) بمدينة ملبورن بولاية فكتوريا بأستراليا. وعنوان بحثي هو (تطبيق التجارة الالكترونية في تسويق خدمات السياحة في المملكة العربية السعودية). يشرف على البحث البروفيسور براين كوربيت. تهدف هذه الدراسة إلى دراسة العوامل التي تؤثر على عملية تبني وتطبيق التجارة الالكترونية في المملكة العربية السعودية بشكل عام وفي قطاع خدمات السياحة بشكل خاص. وسوف أقوم بجمع المعلومات بمشيئة الله من خلال إجراء بعض المقابلات الشخصية مع المسئولين العاملين في الشركات المؤسسات العامة والخاصة العاملة في قطاع السياحة في مدينة جدة. مع العلم أنه تم فسح هذا البحث من شبكة أخلاقيات البحث بكلية الأعمال بجامعة ار ام أي تي (RMIT Business College Human Ethics Advisory Network).

يسرني دعوتك للمشاركة في هذه الدراسة من خلال مشاركتك في إجراء المقابلة الشخصية الخاصة بالبحث, والتي تهدف إلى استكشاف الأفكار والتوجهات والخبرات للمسئولين ومن لهم علاقة بموضوع البحث ومتعلقاته. حيث سيتم القيام بهذه المقابلات مع حوالي 12 مسئول في جهات أخرى ذات علاقة للإجابة على السؤال الرئيسي للبحث وهو: ما هي العوامل التي تؤدي إلى تقبل التجارة الالكترونية في تسويق خدمات السياحة في السعودية؟

لقد تم الحصول على معلوماتكم من موقع الغرفة التجارية بجدة على الانترنت. وتم اختياركم بصفتكم أحد المسئولين أو ذو العلاقة بقطاع السياحة في السعودية. لذا فإن مساهمتكم في البحث من خلال الإجابة على أسئلة المقابلة والتي تتراوح مدتها من (90-120 دقيقة) مهم جدا لموضوع البحث حيث أن إجابتك سوف تساعد في فهم الطرق التي تؤدي إلى إثراء المحتوى العلمي والعملي عامة والمتعلق بالمملكة خاصة وبالتالي بالعملية التعليمية. كما أود أن أوضح لسعادتكم نوعية الأسئلة لن تسبب أي إزعاج أو مخاطر محتملة لكم والمعلومات المستخلصة من المقابلات سوف تستخدم لأغراض البحث العلمي فقط ولن يطلع عليها سوى الباحث والمشرفين على البحث و يتم تخزينها لمدة لا تقل عن خمس سنوات و من ثم إتلافها طبقا لنظام جامعة (RMIT)، وفي حالة نشر نتائج هذه الدراسة سوف يتم المحافظة على سرية المعلومات الشخصية بحيث تضمن عدم ذكر(الاسم ،العنوان، اسم الجهة) في نتائج الدراسة.

ولكم الأحقية فيما يلي:

- الانسحاب من المقابلة في أي وقت دون قيد أو شرط
- سحب أي مواد تم توفريها لغرض البحث
- الإجابة على استفساراتكم في وقت
- إيقاف التسجيل الصوتي وسحبه أو مسحه في أي مرحلة من مراحل اللقاء

إن مساهمتكم في هذه الدراسة مفيدة ومهمة لإكمال دراستي وتعاونكم محل احترامي وتقديري وسيتم التنويه عن ذلك في رسالتي، وسوف يتم تفهم الوضع في حالة الرفض. وفي حالة الموافقة أرجو إبلاغي عبر بيانات الاتصال المذكورة أعلاه وتحديد موعد و مكان المقابلة المناسب وتعبئة الاستمارة المرفقة.

وتقبلوا سعادتكم خالص التحيات وجل التقدير والاحترام،،

Senior Supervisor المشرف على البحث	Investigator الباحث
بروفيسور براين كوربيت Professor Brian Corbitt رئيس قسم PhD FACS Head of School of Business IT & Logistics	هاني سامي عبدالرحمن برديسي Hani Brdesee باحث للحصول على درجة الدكتوراة Business Information System, PhD degree student
التوقيع:	التوقيع:

للاستفسار عن نتائج الدراسة أو لمزيد من المعلومات يمكن الاتصال خلال هذه الفترة على رقم التلفون داخل المملكة (0500818899) أو مراسلتي على البريد الإلكتروني S3175695@student.rmit.eddu.au وفي حالة الرغبة للتقدم بشكوى حول كيفية إدارة المقابلة الشخصية آمل الاتصال على اللجنة الدائمة لأخلاقيات البحوث على العنوان التالي:

Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 5598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse:ID=2jqrnb7hnpyo

Appendix 5: Interviews Consent Form (English)

RMIT UNIVERSITY

School of Business IT & Logistics

Level 17 239 Bourke Street
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Melbourne VIC 3001 Australia

http://rmit.edu.au/businessitlogistics

Prescribed Consent Form for Persons Participating In Research Projects Involving Interviews

COLLEGE OF	Business
SCHOOL/CENTRE OF	Business IT & Logistics

Name of Participant:

Project Title: **E-commerce adoption in marketing: Tourism in Saudi Arabia**

Name(s) of Investigators: (1) **Hani Brdesee** Phone: **+961-4242060544**

1. I have received a statement explaining the interview/questionnaire involved in this project.
2. I consent to participate in the above project, the particulars of which – including details of the interviews or questionnaires have been explained to me.
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.
4. I give my permission to be audio taped: ☐ Yes ☐ No
5. I give my permission for my name or identity to be used: ☐ Yes ☐ No
6. I acknowledge that:

   (a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.

   (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.

   (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.

   (d) The privacy of the information I provide will be safeguarded. However should information of a private nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.

   (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to RMIT University. Any information which may be used to identify me will not be used unless I have given my permission (see point 5).

Participants Consent

Name : *(Participant)* Date :

Name: *(Witness to signature)* Date:

Where participant is under 18 years of age:

I consent to the participation of _____ in the above project.

Signature: *(Signatures of parents or guardians)* Date: _____

Name: *(Witness to signature)* Date: _____

Participants should be given a photocopy of this consent form after it has been signed

Appendix 6: Interviews Consent Form (Arabic)

RMIT UNIVERSITY

<u>**استمارة موافقة على المشاركة في المقابلة الشخصية لمشروع بحث**</u>

عنوان الدراسة: تطبيق التجارة الالكترونية في تسويق خدمات السياحة في المملكة العربية السعودية

أوافق إنا الموقع اسمي أدناه على المشاركة في مشروع البحث المقدم من الباحث / هاني سامي عبدالرحمن برديسي من جامعة آر إم آي تي بولاية فيكتوريا بأستراليا. حيث أن مشروع البحث قد تم شرحه لي من الباحث وقرأت الرسالة التوضيحية للبحث والتي احتفظ بنسخة منها في سجلاتي، كما وإنني اعرف بأن هذا البحث يهدف إلى تطوير تسويق الخدمات بالاستفادة من التقنيات الحديثة كالتجارة الالكترونية.

كما إنني على دراية كاملة بأن موافقتي على المشاركة في هذا البحث تعني:

1. أني تلقيت رسالة دعوة للمشاركة في مقابلة خاصة بدراسة الباحث، وأوافق على ما ذكر فيها
2. استعدادي للقيام بمقابلة شخصية لمدة تتراوح بين تسعون إلى مائة وعشرون دقيقة
3. موافقتي على تسجيل المقابلة صوتيا: ☐ نعم أوافق، ☐ لا أوافق.
4. المعلومات سوف تستخدم لمشروع هذا البحث فقط
5. أني أعطي الصلاحية لاستخدام اسمي أو أسم منشئتي: ☐ نعم أوافق، ☐ لا أوافق.
6. أوافق على التالي:
   a) أني قرأت تعليمات التعريف بالبحث، وأوافق على ما جاء فيها بشكل عام
   b) إن مشاركتي تطوعية وبإمكاني الانسحاب من المقابلة بدون أي التزامات تترتب على ذلك.
   c) أنه ليس لي مصلحة مباشرة من مشروع البحث
   d) البيانات المستخلصة سوف تعامل بسرية تامة مع عدم ذكر أي بيانات تشير إلى هوية المشارك أو الإدارة التي يتبعها في حالة نشر نتائج الدراسة
   o) أي من معلوماتي الشخصية لن تستخدم أو يفصح عنها إلا لو أعطيت ترخيص مسبق بذلك (كما في الفقرة 5)

موافقة المشارك: الاسم: .... التوقيع: .... **التاريخ:** ....

الشاهد: الاسم: .... التوقيع: .... **التاريخ:** ....

وفي حالة الرغبة للتقدم بشكوى حول كيفية إدارة المقابلة الشخصية آمل الاتصال على اللجنة الدائمة لأخلاقيات البحوث على العنوان التالي:

Appendix 7: Survey (English)

Tourism Promotion Survey

Please select ☑ or write the appropriate option or number for the following questions

1- Participant Profile	
1. Gender	☐ Male ☐ Female
2. Age	☐ under 35 years ☐ between 35 - 50 years ☐ over 50 years age
3. Education	☐ School years ☐ Diploma ☐ Bachelor or higher degree
4. Work experience	I have been working in tourism for ( ) years (approximate number)
5. Current position	☐ Owner ☐ Manager ☐ Public Administrator ☐ ( )
6. IT knowledge	☐ Non ☐ Little ☐ Moderate ☐ Good ☐ Excellent
7. How long have you been using the Internet?	☐ About ( ) years ☐ less than one year ☐ Don't Use
8. How often do you use Internet?	☐ Never ☐ The total number of hours I spend per week on the Internet, for any purpose is ( ) hours, (approximate number)
9. How often do you make personal online purchase?	☐ Never ☐ Occasionally ☐ Usually ☐ I tried with no success
10. How do you rate your knowledge about marketing on Internet (e-commerce)?	☐ None ☐ Little ☐ Moderate ☐ Good ☐ Excellent

2- Organisation Profile	
1. Main industry (select one or more)	☐ Hajj or Umrah ☐ Travel agency ☐ Accommodation ☐ Airlines ☐ Transport ☐ Entertainment ☐ Events ☐ Excursions ☐ Other: ( )
2. Operation in years	( ) years serving in tourism industry, (approximate number)
3. Firm Location	The firm's headquarter is located in ( ) (city name).
4. Number of branches	☐ ( ) branches, (approximate number) ☐ Online only
5. Number of employees	( ) employees, (approximate number)
6. Number of IT staff	( ) employees, (approximate number)
7. Does your firm have a website on the Internet?	☐ No ☐ Under construction ☐ Yes, less than one ☐ Yes, for ( ) years year
8. Does your firm sell products or services on the Internet? (select only one)	☐ No, and no intention to do so ☐ No, but plan to in future ☐ Yes, but it is not successful ☐ Yes, with off line sales and payment system ☐ Yes, with full online transactions

Using a rating scale of 1 to 6:(*1. Strongly disagree   2. Disagree   3.Slightly Disagree 4. Slightly Agree   5. Agree   6. Strongly agree****), Please circle the number that indicates your level of disagreement/agreement with the following statements:***

3- Relative Advantages of Online Trading	Strongly Disagree					Strongly Agree
1. My firm believes that e-commerce generates competitive advantage	1☐	2☐	3☐	4☐	5☐	6☐
2. My firm believes that e-commerce increases productivity	1☐	2☐	3☐	4☐	5☐	6☐
3. My firm believes that e-commerce reduces time	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm believes that e-commerce reduces cost of operations	1☐	2☐	3☐	4☐	5☐	6☐

4- Participant Attitude to E-commerce	Strongly Disagree					Strongly Agree
1. E-commerce is important to my organisation	1☐	2☐	3☐	4☐	5☐	6☐
2. I am committed to fully supporting e-commerce in my firm	1☐	2☐	3☐	4☐	5☐	6☐

5- Customer influence	Strongly Disagree					Strongly Agree
1. My firm believes that more customers want e-commerce than in person shopfront services	1☐	2☐	3☐	4☐	5☐	6☐
2. My firm believes that Saudis are increasingly interested in buying online	1☐	2☐	3☐	4☐	5☐	6☐
3. My firm believes that our customers are aware and ready to do business on the Internet	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm believes that only the educated group of Saudis buy online	1☐	2☐	3☐	4☐	5☐	6☐
5. My firm believes that Saudis trust local online sellers	1☐	2☐	3☐	4☐	5☐	6☐
6. My firm believes that Saudis trust international online sellers	1☐	2☐	3☐	4☐	5☐	6☐

6- National Culture	Strongly Disagree					Strongly Agree
1. My firm believes that Saudi culture motivates business decisions to go online	1☐	2☐	3☐	4☐	5☐	6☐
2. My firm believes that Saudi's limited Internet usage influences businesses' e-commerce decisions	1☐	2☐	3☐	4☐	5☐	6☐
3. My firm believes that e-commerce will gain greater acceptance if the government fully supports online trading through regulation and enforced guarantees	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm believes that e-commerce will gain greater acceptance if the firm provides reasonable guarantees on online orders	1☐	2☐	3☐	4☐	5☐	6☐
5. My firm believes that *Alwasta* impedes the quality of decision making in Saudi	1☐	2☐	3☐	4☐	5☐	6☐
6. My firm believes that family businesses in Saudi impacts decision makers on making their decision toward technology	1☐	2☐	3☐	4☐	5☐	6☐
7. My firm believes that e-commerce allows Saudi women to conveniently manage their firms	1☐	2☐	3☐	4☐	5☐	6☐
8. My firm believes that E-commerce allows Saudi women to conveniently book their travel destination anytime and anywhere	1☐	2☐	3☐	4☐	5☐	6☐
9. My firm believes that Islamic ethics enhances the level of trust	1☐	2☐	3☐	4☐	5☐	6☐
10. My firm believes that Islamic rules supports e-commerce use	1☐	2☐	3☐	4☐	5☐	6☐

7- Organisational Culture dimensions	Strongly Disagree					Strongly Agree
1. My firm is very personal place like an extended family	1☐	2☐	3☐	4☐	5☐	6☐
2. My firm emphasizes developing human resources	1☐	2☐	3☐	4☐	5☐	6☐
3. In my firm, there is an emphasis on being first with services and innovations in our market	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm emphasizes growth through developing new ideas	1☐	2☐	3☐	4☐	5☐	6☐
5. My firm is a very formal and structured place	1☐	2☐	3☐	4☐	5☐	6☐
6. Staffs in my firm pay high attention to procedures and rules to get things done.	1☐	2☐	3☐	4☐	5☐	6☐
7. My firm is very productive and goal achievement oriented	1☐	2☐	3☐	4☐	5☐	6☐
8. My firm seeks market superiority	1☐	2☐	3☐	4☐	5☐	6☐

8- Organisational E-readiness	Strongly Disagree				Strongly Agree	
1. My firm's board/owner thinks e-commerce is important	1☐	2☐	3☐	4☐	5☐	6☐
2. Stories about e-commerce motivate my firm using full online sales	1☐	2☐	3☐	4☐	5☐	6☐
3. My firm's business is compatible with e-commerce business models	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm's size requires e-commerce business model	1☐	2☐	3☐	4☐	5☐	6☐
5. E-commerce is a priority for my firm	1☐	2☐	3☐	4☐	5☐	6☐
6. Management of my firm is committed to technologies like e-commerce	1☐	2☐	3☐	4☐	5☐	6☐
7. Most of our employees are computer literate	1☐	2☐	3☐	4☐	5☐	6☐
8. Most of our employees can understand e-commerce business model	1☐	2☐	3☐	4☐	5☐	6☐
9. We have sufficient staff to develop, handle & follow-up online orders system	1☐	2☐	3☐	4☐	5☐	6☐
10. E-commerce implementation interrupts sales staff who have to work with website developers and editors	1☐	2☐	3☐	4☐	5☐	6☐
11. We have sufficient experience with network-based applications	1☐	2☐	3☐	4☐	5☐	6☐
12. Our existing information systems are flexible to accept integrate with e-commerce improvements	1☐	2☐	3☐	4☐	5☐	6☐
13. We have a policy that encourages e-commerce initiatives	1☐	2☐	3☐	4☐	5☐	6☐
14. Our organization is capable of dealing with rapid changes	1☐	2☐	3☐	4☐	5☐	6☐

9- External E-readiness	Strongly Disagree				Strongly Agree	
1. My firm believes that without e-commerce, we risk losing customers	1☐	2☐	3☐	4☐	5☐	6☐
2. If my firm's competitor was successful with e-commerce initiative, we definitely follow	1☐	2☐	3☐	4☐	5☐	6☐
3. My firm's customer base is large enough for e-commerce implementation	1☐	2☐	3☐	4☐	5☐	6☐
4. My firm believes that our business partners are ready to conduct business on the Internet	1☐	2☐	3☐	4☐	5☐	6☐
5. My firm believes that the legal environment encourages to conduct business on the Internet	1☐	2☐	3☐	4☐	5☐	6☐
6. My firm believes that the government demonstrates strong commitment to promote e-Commerce	1☐	2☐	3☐	4☐	5☐	6☐
7. My firm believes there are sufficient online resources to support e-commerce in Saudi	1☐	2☐	3☐	4☐	5☐	6☐
8. We feel that there is efficient and affordable support from the local IT industry to support our move on the Internet	1☐	2☐	3☐	4☐	5☐	6☐
9. My firm believes that local skilled IT staff are available to either employed or outsourced	1☐	2☐	3☐	4☐	5☐	6☐
10. My firm believes that employ of non-Arab expatriate IT staff impedes dedicated Arabic e-commerce growth	1☐	2☐	3☐	4☐	5☐	6☐
11. My firm believes that the telecommunication infrastructure is reliable and efficient to support e-commerce commerce plans	1☐	2☐	3☐	4☐	5☐	6☐
12. My firm believes that the online payment solutions by local providers is sufficient and trustworthy to use for e-commerce	1☐	2☐	3☐	4☐	5☐	6☐

10 - Would you like to add any comments or suggestions for this research?
(   )

We really appreciate your cooperation and time.

Please save your answers and return this survey to: S3175695@student.rmit.edu

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استبيان أراء المسئولين في شركات السياحة عن التجارة الالكترونية

أولاً: يرجى اختيار ☒ الإجابة المناسبة وفي بعض الإجابات أدخل المعلومة المناسبة.

1- معلومات عن المشارك		
1.	الجنس	☐ذكر ☐ أنثى
2.	العمر	☐أقل من 35 سنة ☐ بين 35 و 50 ☐ أكثر من 50
3.	التعليم	☐ مرحلة مدرسية ☐ دبلوم ☐تعليم جامعي و أعلى
4.	الخبرة العملية	أعمل في مجال خدمات السياحة لحوالي( ) عاماً، (رقم تقريبي)
5.	المنصب الحالي	☐ مالك للشركة ☐مدير ☐رئيس تنفيذي ☐أخرى، فضلا أكتبها:
6.	المعرفة بالكمبيوتر أو تقنية المعلومات	☐ لا أعرف ☐ بسيطة ☐ متوسطة ☐جيدة ☐ممتازة
7.	كم عام وأنت تستخدم الانترنت؟	☐لم أستخدمه ☐أقل من عام واحد ☐ أستخدمه لحوالي ( ) عاماً، (رقم تقريبي)
8.	كيف تقيم استخدامك للانترنت؟	☐لا أستخدمه ☐ أقضي ما يقارب ( ) ساعات أسبوعياً على الانترنت
9.	كيف تقيم شرائك من الانترنت؟	☐ لم أشتر من الانترنت ☐قليلاً ☐ عادةً ☐جربت ذات مرة ولكن فشلت التجربة
10.	كيف تقيم معلوماتك عن تسويق الخدمات والمنتجات على الانترنت؟	☐لا أعرف عنها شيئاً ☐أعرف قليلاً ☐ متوسطة ☐ جيدة ☐ ممتاز

2- معلومات عن شركتكم		
1.	مجال الخدمة (يمكن اختيار أكثر من واحدة)	☐الحج أو الـعمرة ☐ السياحة والسفر ☐ السكن ☐ الطيران ☐ المواصلات ☐ الترفيه ☐الفعاليات ☐الرحلات ☐أخرى فضلا أذكرها: ( )
2.	سنوات عمل الشركة	تخدم شركتي في مجال السياحة لحوالي ( ) عاماً، (رقم تقريبي)
3.	عدد الفروع	لدى شركتي حوالي ( ) فروع داخليا وخارجيا (رقم تقريبي) ☐ نعمل على الانترنت فقط
4.	الفرع الرئيسي	الفرع الرئيسي للشركة موجود في مدينة ( ) (أسم المدينة)
5.	عدد الموظفين في جميع الفروع	( ) موظف، (رقم تقريبي)
6.	عدد موظفي تقنية المعلومات بالشركة	( ) موظف، (رقم تقريبي)
7.	هل يوجد لدى شركتكم موقع على الانترنت؟	☐لا يوجد ☐ تحت الإنشاء ☐نعم منذ أقل من عام ☐ نعم منذ ( ) عاماً
8.	هل تقوم شركتكم ببيع خدماتها على الانترنت حالياً؟	☐ نعم ولكنه غير مجدي ☐ لا ولا يوجد نية لعمل ذلك ☐ نعم ولكن يجب الدفع وإكمال الخدمة في الفرع ☐ لا ولكننا نخطط لذلك ☐ نعم مع كامل العمليات والمبيعات

ثانياً: يرجى اختيار "رقم" الإجابة الأكثر مناسبة مع درجة موافقتك أو اعتراضك على العبارات التالية بحيث أن:
(1. أعترض بشدة   2. أعترض   3. أعترض قليلا   4. أؤيد قليلا   5. أؤيد   6. أؤيد بشدة)

</div>

أوافق بشدة		أعترض بشدة	**3- وجهة نظر شركتكم في فوائد التجارة الالكترونية**
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	1. نعتقد بأن التجارة الالكترونية توفر ميزة تنافسية للتميز على المنافسين
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	2. نعتقد بأن التجارة الالكترونية تزيد الإنتاجية في العمل
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	3. نعتقد بأن التجارة الالكترونية توفر الوقت
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	4. نعتقد بأن التجارة الالكترونية تخفض تكاليف العمل

أوافق بشدة		أعترض بشدة	**4- وجهة نظركم الشخصية تجاه التجارة الالكترونية**
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	1. أعتقد أن التجارة الالكترونية مهمة لشركتي ويجب تبنيها واستخدامها
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	2. أدعم بشكل كامل أي توجه لتطبيق التجارة الالكترونية في شركتي

أوافق بشدة		أعترض بشدة	**5- وجهة نظر شركتكم في تأثير العميل**
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	1. نعتقد بأن هناك إقبال من العملاء حيث يرغبون بالشراء من الانترنت أكثر من الفروع
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	2. نعتقد بأن هناك تزايد في رغبة السعوديين للشراء من الانترنت
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	3. نعتقد بأن عملاء الشركة يدركون و جاهزون بدرجة عالية للشراء على الانترنت
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	4. نعتقد بأن المتعلمين والمثقفين من العملاء هم الذين يستطيعون الشراء من الانترنت
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	5. نعتقد بأن السعوديين يثقون بموفري الخدمات المحليين على الانترنت
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	6. نعتقد بأن السعوديين يثقون بموفري الخدمات العالميين على الانترنت

أوافق بشدة		أعترض بشدة	**6- وجهة نظر شركتكم في تأثير ثقافة المجتمع**
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	1. نعتقد بأن ثقافة المجتمع السعودي تحفزنا لتبني التجارة الالكترونية
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	2. نعتقد بأن محدودية الثقافة الالكترونية لدى السعوديين تؤثر على تبني التجارة الالكترونية
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	3. نعتقد بأن التجارة الالكترونية ستحظى بقبول أكبر لو قامت الحكومة بدعمها بقوانين وضوابط لتسيير التعامل من خلالها لضمان حقوق البائع والمشتري
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	4. نعتقد بأن العملاء يثقون في الشراء من الانترنت حين يوفر البائع ضمانات مقنعة
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	5. نعتقد بأن نوعية صناع القرار في الشركات تتأثر بالواسطة عند تعينهم
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	6. نعتقد بأن تعيين أفراد العائلة كصناع قرار في الشركات العائلية يؤثر في قرارات هؤلاء تجاه التقنيات الحديثة
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	7. نعتقد بأن التجارة الالكترونية تمنح المرأة السعودية المرونة في إدارة أعمالها
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	8. نعتقد بأن التجارة الالكترونية تسهل على المرأة السعودية اختيار رحلاتها السياحية لها ولأسرتها
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	9. نعتقد بأن التعامل بالأخلاقيات الإسلامية بين البائع والمشتري على الانترنت تعزز مستوى الثقة للشراء
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	10. نعتقد بأن تعاليم الدين الإسلامي تتوافق مع أسلوب عمل التجارة الالكترونية

أوافق بشدة		أعترض بشدة	**7- وجهة نظر شركتكم لمعرفة نوع ثقافة المنظمة**
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	1. شركتي عبارة مكان ودود للعمل و يعتبر كالبيت الثاني
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	2. شركتي تركز على تطوير العنصر البشري بشكل أساسي
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	3. شركتي لديها شغف لتكون سباقة في تطبيق الخدمات والتقنيات الحديثة في السوق
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	4. شركتي لديها شغف النمو بإبداع أفكار جديدة لم يوفرها الآخرين
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	5. شركتي تميل كثيرا للتعامل بطريقة رسمية
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	6. العاملون في شركتي يهتمون كثيرا للتقيد بالأنظمة والتعليمات المسيرة للعمل
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	7. شركتي تهتم كثيرا بالإنتاجية وتحقيق الأهداف
□ 6 □ 5 □ 4	□ 3	□ 2 □ 1	8. شركتي تهتم بأن تكون أحد أهم الشركات الرائدة في السوق

أوافق بشدة		أعترض بشدة	8- وجهة نظر شركتكم في تأثير الجاهزية الداخلية
☐6 ☐5	☐4 ☐3	☐2 ☐1	1. مجلس الإدارة أو صناع القرار في شركتي يعتقدون بأهمية التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	2. القصص حول التجارة الالكترونية تحفز شركتنا لتسويق خدماتنا على الانترنت
☐6 ☐5	☐4 ☐3	☐2 ☐1	3. نعتقد بأن التجارة الالكترونية تتوافق مع نموذج عملنا وإستراتيجيتنا
☐6 ☐5	☐4 ☐3	☐2 ☐1	4. حجم أعمال شركتي يتطلب الاستفادة من التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	5. تطبيق التجارة الالكترونية هو أولوية هامة لشركتي
☐6 ☐5	☐4 ☐3	☐2 ☐1	6. مجلس الإدارة أو صناع القرار في شركتي ملتزمون بالاستفادة من التقنيات ومنها التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	7. معظم العاملين في شركتي لديهم معرفة باستخدام الكمبيوتر
☐6 ☐5	☐4 ☐3	☐2 ☐1	8. معظم العاملين في شركتي يفهمون آلية العمل على التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	9. لدينا عدد من الموظفين يكفي للتعامل ومتابعة طلبات العملاء على الانترنت
☐6 ☐5	☐4 ☐3	☐2 ☐1	10. عملية تجهيز موقع التجارة الالكترونية تشتت تركيز موظفي المبيعات حيث يتطلب ذلك العمل مع مصممي ومطوري الموقع
☐6 ☐5	☐4 ☐3	☐2 ☐1	11. لدينا خبرة جيدة مع تطبيقات الكمبيوتر المعتمدة على الشبكات
☐6 ☐5	☐4 ☐3	☐2 ☐1	12. نظم الكمبيوتر المتوفرة لدينا مرنة وقابلة للتطور والتوافق مع أنظمة التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	13. لدينا سياسات داخل الشركة تدفعنا لتفعيل الاستفادة من التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	14. شركتنا قادرة على مواكبة التغيير

أوافق بشدة		أعترض بشدة	9- وجهة نظر شركتكم في تأثير الجاهزية الخارجية
☐6 ☐5	☐4 ☐3	☐2 ☐1	1. نعتقد بأنه يتهددنا خطر خسارة العملاء ما لم نتوجه للتجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	2. في حال نجاح منافسينا في استخدام التجارة الالكترونية سنتبعهم فورا
☐6 ☐5	☐4 ☐3	☐2 ☐1	3. حجم شريحة العملاء المستهدفين لشركتنا كبيرة بشكل يحفزنا لاستخدام التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	4. شركاؤنا من الشركات جاهزون ليديروا العمل على الانترنت
☐6 ☐5	☐4 ☐3	☐2 ☐1	5. نعتقد بأن الأنظمة القانونية المتوفرة في السعودية تدفعنا لتبني التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	6. نعتقد بأن الحكومة لديها توجه جيد لدعم التجارة الالكترونية في السعودية
☐6 ☐5	☐4 ☐3	☐2 ☐1	7. يوجد مصادر معلومات سياحية على الانترنت لدعم عمل التجارة الالكترونية في السعودية
☐6 ☐5	☐4 ☐3	☐2 ☐1	8. نعتقد بأنه هناك حلول وتطبيقات كافية للتجارة الالكترونية وبأسعار مناسبة من شركات تقنية المعلومات المحلية
☐6 ☐5	☐4 ☐3	☐2 ☐1	9. نعتقد بأن قدرات مبرمجي المواقع المحليين كافية لانجاز موقع للتجارة الالكترونية سواء بالتعاقد معهم أو توظيفهم
☐6 ☐5	☐4 ☐3	☐2 ☐1	10. نعتقد بأن الاستعانة بالأجانب العاملين الغير عرب في تقنية المعلومات يحد من نمو مواقع التجارة الالكترونية العربية
☐6 ☐5	☐4 ☐3	☐2 ☐1	11. نعتقد بأن البنية التحتية للاتصالات بالسعودية يعتمد عليها وكافية لدعم التجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	12. خدمات الموفرين المحليين لخدمات الدفع على الانترنت متوفرة ويعتمد عليها
☐6 ☐5	☐4 ☐3	☐2 ☐1	13. نعتقد بأنه يتهددنا خطر خسارة العملاء ما لم نتوجه للتجارة الالكترونية
☐6 ☐5	☐4 ☐3	☐2 ☐1	14. في حال نجاح منافسينا في استخدام التجارة الالكترونية سنتبعهم فورا

1- هل تود إضافة أي أراء أخرى؟ أكتبها في الخانة التالية:

( )

أقدم لكم وافر الشكر والتقدير لتعاونكم ووقتكم

الرجاء حفظ الملف وإعادة إرساله إلى البريد الالكتروني إلى : S3175695@student.rmit.edu.au

Appendix 9: Survey Plain Language Statement (English)

Invitation to Participate in a Research Project

Investigators and research Information	
Project Title	E-commerce adoption in marketing: Tourism in Saudi Arabia
Research Degree	PhD, Business Information Systems
School name	School of Business IT & Logistics, RMIT University, Melbourne, Australia
Main Investigator	Mr. Hani Sami Brdesee, (S3175695@student.rmit.edu.au, +61-424206044)
Senior Supervisor	Professor. Brian Corbitt, (Brian.corbitt@rmit.edu.au, +61-3-99255808)

Dear Participant,

You are invited to participate in a research project being conducted by a PhD student in RMIT University.

What? Generally, ecommerce relates to a firm using the Internet to advertise and sell products and services. Due to the number of visitors and the Saudi Arabia's growing tourism potential, e-commerce appears to offer advantages of efficiency and profitability in the Saudi tourism industry. To complete this research study, I need to investigate e-commerce adoption factors, obstacles and drivers, particularly in marketing tourism services. The main research question is: *What are the key factors affecting e-commerce adoption in tourism industry in Saudi Arabia?* I will be gathering data through a survey with senior tourism industry leaders.

Why you? I have obtained your organizations' contact information from the list of registered tourism organizations in the Saudi Chambers of Commerce and Industry's databases available online. You have been approached for this survey because you are considered as one of the tourism industry executives in Saudi Arabia. Your contribution in this survey is valuable because the findings from this project will assist in understanding ways to improve the marketing services in general and tourism in Saudi Arabia in particular. As such, I would like to invite you to be part of this important study.

How to replay? There are three different options to reply this survey:

1) you can fill it online on (URL) ,please note that your answers will be stored in a third party website, or
2) you can answer the attached computerized survey, save your answers and send it back to e-mail: S3175695@student.rmit.edu, or
3) You can fill the paper-based copy of the survey and fax it back to (a fax number in Saudi).

How long? The time to fill this survey will take approximately 15 minutes.

Inquiries, your participation in this research is voluntary. There is no direct benefit to you as a participant from the participation in this research. If you have any questions or would like to be informed of the aggregate research findings, please call me on the phone number or E-mail s mentioned above in the investigator information table.

More information, This research is approved ethically approval by the chair of the business college human ethics advisory network in 26-5-2010, Ref No: 1000164. Questions will not cause you any discomfort or potential risk. All information obtained from the interview will be used for research purposes, and will be stored in the locked cabinet in my supervisor office for five years as prescribed by RMIT University regulations. Only my supervisors and I will have access to this data. The findings of this study might be published. No personal identifying information will be collected. Thus, the privacy of you and your organization will be kept absolutely confidential. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide the researchers with written permission".

Main investigator
Hani Brdesee

Any complaints about your participation in this project may be directed to the Chair, Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 5598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from
http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo

Appendix 10: Survey Plain Language Statement (Arabic)

RMIT UNIVERSITY

School of Business IT & Logistics

Level 17 239 Bourke Street
Melbourne VIC 3000 GPO Box
2476V
Melbourne VIC 3001 Australia

http://rmit.edu.au/businessitlogistics

دعوة للمشاركة في بحث علمي بتعبئة استبيان

معلومات عامة عن البحث والباحث	
موضوع البحث	تطبيق التجارة الالكترونية في تسويق خدمات السياحة في المملكة العربية السعودية
الدرجة العلمية	الدكتوراه
الكلية	تقنية المعلومات للأعمال، جامعة RMIT بملبورن، أستراليا
الباحث الرئيسي	هاني سامي برديسي، S3175695@student.rmit.edu.au، 966-594355160+
المشرف على البحث	البروفيسور براين كوربت، Brian.corbitt@rmit.edu.au، 61-3-99255808+

عزيزي المشارك، يسرني دعوتكم للمشاركة في إنجاح بحثي العلمي بتعبئة الاستبيان التالي والذي يستغرق 12 دقيقة تقريبا.

ما هو الموضوع؟ التجارة الالكترونية هي وسيلة تقنية للإعلان والتسويق والبيع والتواصل مع العملاء عن طريق الانترنت. ولا يخفى عليكم حجم الطلب على الخدمات السياحية سواء للخارج ومنها السياحة الترفيهية أو الداخل بشتى أنواعها ومن أهمها السياحة الدينية (الشعائر الدينية). لذلك يتضح أنه قد يكون للتجارة الكترونية دور ايجابي في توصيل تلك الخدمات للعملاء في السعودية بشكل فعال ومريح. وهذا محور بحثي الذي يهتم بدراسة العوامل التي تؤثر على عملية تبني وتطبيق التجارة الالكترونية في المملكة العربية السعودية بشكل عام وفي قطاع خدمات السياحة بشكل خاص.

الهدف العام من هذا الاستبيان هو معرفة الأسباب التي تجعل الشركات تتبنى أو تتأخر في تبني واستخدام الإنترنت كوسيلة لتسويق وبيع خدماتها للعميل مباشرة وهذا المقصود بالتجارة الالكترونية. ففي حال كونكم تستخدمون التجارة الالكترونية لتسويق وبيع خدماتكم فالإجابة على هذا الاستبيان توضح للباحث الأسباب التي حفزتكم لذلك. أما إذا لم تستخدموا التجارة الالكترونية بعد فهذا الاستبيان يوضح للباحث الأسباب التي تمنعكم.

لماذا تم اختياركم لتعبئة هذا الاستبيان؟ لقد تم الحصول على معلوماتكم من موقع الغرفة التجارية على الانترنت أو من خلال التأكد بأنكم أحد القيادات أو العاملين في أي من مجالات السياحة السعودية. لذا فإن مساهمتكم في البحث من خلال الإجابة على أسئلة الاستبيان مهم جدا لموضوع البحث حيث أن إجابتك سوف تؤدي إلى إثراء المحتوى العلمي والعملي عامة والمتعلق بالمملكة العربية السعودية خاصة.

كيف تجيب على الاستبيان؟ إن مساهمتكم في هذه الدراسة تطوعية ولكنها مفيدة ومهمة لإكمال دراستي وتعاونكم محل احترامي وتقديري وسيتم التنويه عن ذلك في رسالتي، وسوف يتم تفهم الوضع في حالة الرفض. وفي حالة الموافقة أرجو إكمال تعبئة هذا الاستبيان بأحد طريقتين:
تعبئة الاستبيان يدويا باستخدام القلم بالإشارة على الإجابات المناسبة لكم عند كل سؤال ومن ثم إعادة الاستبيان للباحث مباشرة أو نسخها بالماسح الضوئي وأعادتها بالبريد الالكتروني: S3175695@student.rmit.edu.au
أو، تتوفر نسخة الكترونية لتعبئة هذا الاستبيان يرجى:

(1) تحميل الاستبيان من الرابط التالي: www.atstyles.net/survey.doc ، (2) فتح الملف باستخدام برنامج مايكروسوفت وورد، (3)النقر على الإجابات المناسبة لكم عند كل سؤال، (4) ثم حفظ الملف وإعادة إرساله بالبريد الالكتروني إلى: S3175695@student.rmit.edu.au

الخصوصية والسرية؟ أود أن أوضح لسعادتكم أن نوعية الأسئلة لا تستهدف معلومات شخصية حيث لن تقوموا بتعريف الاسم أو أي معلومات شخصية. كما أن الإجابات لن تسبب أي إزعاج أو مخاطر محتملة لكم والمعلومات المستخلصة من الاستبيان سوف تستخدم لأغراض البحث العلمي فقط ولن يطلع عليها سوى الباحث والمشرفين على البحث و يتم تخزينها بالجامعة لمدة لا تقل عن خمس سنوات و من ثم إتلافها طبقا لنظام جامعة (RMIT). مع العلم أنه تم فسح هذا البحث من شبكة أخلاقيات البحث بكلية الأعمال بجامعة (RMIT) بأستراليا برقم 1000164.

مع وافر شكري وامتناني لمشاركتكم الكريمة
الباحث / هاني سامي برديسي

للاستفسار عن نتائج الدراسة أو لمزيد من المعلومات يمكن الاتصال على الأرقام المذكورة في الأعلى. وفي حالة الرغبة للتقدم بشكوى آمل الاتصال على لجنة أخلاقيات البحث بالجامعة على العنوان التالي:

Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is +6139925 5598 or email address: rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo

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