



**A study of E-commerce Adoption Using the TOE Framework in Saudi Retailers: Firm Motivations, Implementation and Benefits**

**A thesis submitted in fulfilment of the requirements for the**

**Degree of Doctor of Philosophy**

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## **Declaration**

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously in whole or in part to qualify for any other academic award; the content of the thesis is the result of work that has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and ethics procedures and guidelines have been followed.

Majed Ahamd Aljowaidi

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## **Dedication**

I gratefully dedicate this thesis to my family and country.

## **Abstract**

There are many companies in the Middle East, particularly in Saudi Arabia, that are yet to adopt e-commerce and those that have, are mostly at the very basic levels of implementation. The objective of this study is to explore the factors that influence the process of adoption and effective utilisation of e-commerce at different stages of implementation, with a particular emphasis on large companies in the retail industry in Saudi Arabia.

This research is constructivism qualitative design. Four multiple comparative case studies were chosen based on different levels of e-commerce usage in Saudi retail industry. The data collection were involving mainly in-depth interviews with managers' and executives'. The data were analysis based on thematic analysis and inductive reasoning.

The study identifies a number of factors as important motivations for the adoption and implementation of e-commerce. Firstly, it identifies improved operational efficiency and the enhancement of marketing as motivators for e-commerce adoption and implementation. Ultimately, the objective was to expand market reach, reduce the cost of physical infrastructure while increasing sales. Secondly, Saudi retailers were interested in providing an easier and culturally compatible shopping environment for women. Considering the socio-cultural restrictions placed upon women in their public movement, e-commerce, particularly at the retail end was considered a way of breaking this restriction thus allowing more women to undertake shopping more frequently. Thirdly, e-commerce generally seems to be a business response to the growing tech-savvy young population in Saudi Arabia.

The study however shows that although retailers are willing to adopt e-commerce, and that most organisations have a good management approach to handling the internal constraints and challenges of the process of change associated with e-commerce implementation. However, the progress of implementation in the country is slow and only at a very early stage. This is mostly based on contextual impediments.

A number of inhibiting environmental factors, including the lack of government initiatives, legal frameworks, inadequate external ICT infrastructure, and low e-readiness among local trading partners, poor physical infrastructure, and lack of e-payment methods were identified. Furthermore, the socio-cultural belief systems were found to constitute a major influence on

the slow progress towards the implementation of the technology. Moreover, the study found that family affiliations and the tribal system in the country has a significant influence on organisational structure and culture.

This research contributes to our understanding of the nature of the Saudi business environment with regard to motivation; process of adaption and tangible benefit of e-commerce implementation. While most of previous research at organisational level focus on implementation phase, this research focus on pre-adoption, actual usage and post-implementation. Moreover, a theoretical TOE framework was development and applied to understand e-commerce adoption in order to assist with and the reasons for the observed successes and failures. In different from most others studies which focused on individual or end user adoption, this study is focusedes on managers and executive view at organisation level. The study provide the Saudi government and organisation information about barriers and needs to develop and implement more effective legations and strategies towards successful e-commerce usage in the country to align with the competition environment in the region.

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## **List of Abbreviations**

B2B:	Business-to-Business
B2G:	Business-to-Government
B2C:	Business-to-Consumer
CITC:	Communications and Information Technology Commission
C2C:	Customer-to-Customer
DOI:	Diffusion Of Innovation
E-business:	Electronic business
E-commerce:	Electronic Commerce
EDI:	Electronic Data Interchange
E-government:	Electronic government
ERP:	Enterprise Resource Planning
E-supply chain:	Electronic Supply Chain
E-market:	Electronic Market
G2B:	Government-to-Business
G2C:	Government- to-Citizen
ICT:	Information Communication Technology
IT:	Information Technology
IS:	Information System
IOR:	Inter-Organizational Relationships
OPEC:	Organisation of the Petroleum Exporting Countries
TAM:	Technology Acceptance Model
TOE:	Technology-Organisation- Environment
SAMA:	Saudi Arabian Monetary Agency
SMEs:	Small and Medium Enterprises
UTAUT:	Unified Theory of Acceptance and Use of Technology

## **Chapter 1 Introduction**

The retail industry in Saudi Arabia is characterised by rapid growth which is produced by constantly improving living conditions and increasing disposable income. The young population is becoming better educated and more travelled than previous generations, and are developing a taste for luxury-branded fashion, non-essential accessories, and mobile devices. They are therefore exploring alternative retail channels to the shops in the streets and malls.

The purpose of this study is to investigate Saudi firms' engagement with electronic commerce (e-commerce) as a business strategy tool. E-commerce is typified by marketing goods at least partly online, and this may be attractive to young Saudis as a new purchasing channel. Thus, this research considers the attitudes and actions of retail management in relation to e-commerce as a project, from the initial decision to the planning, implementation, and maintenance of systems. This chapter presents the background to the research, a review of the relevant theory, the research questions and objectives, the contribution to knowledge, the significance of the research, and the thesis outline.

### **1.1 Research Background**

E-commerce is an Internet-based business strategy used by firms to attain greater efficiency, productivity and profitability on the delivery of their goods and services. An external Internet connection therefore replaces personal contact through visits or by telephone, and provides an environment where firms can communicate with suppliers and customers without concerns about time or place. Further, it is a marketing channel where potential customers can browse a catalogue or be informed of special or discounted goods and services. Using an internal Internet system (an intranet), firm members can communicate and access internal data in their daily work to undertake tasks and assignments, and to create reports (Al-Ghamdi et al. 2012; Al-Hudhaif & Alkubeyyer 2011).

The research demonstrates that e-commerce promotes flexibility, responsiveness, in-house coordination, reduced transaction costs, access to a wider market, increased brand awareness, enhanced corporate image, and an increased ability to compete (Abid, Rahim & Sheepers 2011; Chaffey 2011; Xu & Quaddus 2010). Supply chain integration was also seen

as a focus for e-business applications in gaining efficiencies and flexibility (Johnson et al. 2007; Trkman & Grozink 2006). However, Auramo, Kauremaa and Tanskanen (2005) and Mora-Monge, Azadegan and Gonzalez (2010) argued that the benefits of technological innovation were dependent on planning, resource availability, and successful integration with organisational policy, practices, and existing resources.

There is an issue in the e-commerce literature in relation to researchers' varying definitions and the varying focus of their studies in developed and developing countries. For example, Fuchs et al. (2010) studied e-business readiness in the travel industry in Austria, while Sanders (2007) considered the integration of technology from a supplier perspective in the USA. There has also been significant research into business use of technology in developing countries under various identifiers: Aleke, Ojiako and Wainwright (2011) on technology innovation in small agribusinesses in Nigeria; Ali and Maloain (2010) on accounting practices in e-commerce in Saudi Arabia; Yasin and Yavas (2007) also in Saudi Arabia on cultural influences; and Molla and Heeks (2007) regarding the adoption of electronic commerce in South Africa. More recently, Mashanda, Cloete and Tanner (2012) found that e-commerce in Zimbabwe was unavailable due to inadequate telecommunications infrastructure. As well, Chong, Chan and Ooi (2012) modelled consumer decisions on purchases through mobile devices in China and Malaysia; Abou-Shouk, Megicks and Lim (2013) studied the adoption of online commerce by small Egyptian travel agents; Salwani et al. (2009) investigated e-commerce practices in Malaysian tourism; and del Duca, Rule and LoebI (2012) reported on the United Nations' work on facilitating dispute resolution in cross-border e-commerce trade. Other e-commerce studies have been site-specific or comparative: Li and Xie (2012) examined e-commerce in China, while Mohamad and Ismail (2009) looked at e-commerce in Malaysian banking. Karnali and Kurnia (2011) used the case study method to conduct research into business-to-business e-commerce in the Indonesian grocery industry, and Kurnia and Ali (2012) compared these outcomes to the industry in Bahrain, finding that the context in each case was unique. These studies outline the researchers' varying definitions and the focus of their studies as a literature-based context for a Saudi focus on e-commerce.

This study is focused on the Saudi retail sector and firms' attitudes towards the adoption of e-commerce. As traditional business practices are increasingly being replaced with technology, companies in the Arab Gulf region are using the Internet both for their

internal procedures and to engage with suppliers, customers, and authorities (Abdallah & Albadri 2011).

However, the literature shows that firms remain reticent about the regulatory environment for changing business models; AlGhamdi, Drew and Alkhalaf (2012) stated that of the many concerns that traders have about online retailing, government support predominates. Earlier, Alrawi and Sabry (2009) identified a number of other factors, such as lack of infrastructure, resources, and training, while Hamade (2009) noted that firms' distrust of online trading extends throughout many Arab countries.

There is a substantial literature on trust, online safety, and cultural characteristics in relation to e-commerce adoption. Ghobakhloo, Arias-Aranda and Benitez-Amado (2011) found support for e-commerce by small businesses in Iran. Tan, Tyler and Manica (2007) also studied B2B practices in China, and Vatanasakdakul, Tibben and Cooper (2004) gave an early report on e-business uncertainty among small firms. Gunasekaran and Ngai (2008) found issues with e-procurement in Hong Kong, such as insufficient financial support, a lack of compatibility with traditional communication systems, a dearth of top management support and commitment, a deficient of data security, and e-procurement not being a priority of the company.

Thus, there is considerable interest in e-commerce and although it remains an important area of research in IT literature the research is not yet comprehensive and requires more investigation, particularly with regard to different contexts. (LI, P, Xie, W 2012; Mohamad & Ismail 2009; Parker & Castleman 2009). This research aims to fulfil this need in relation to large companies in the Saudi retail industry and their adoption or rejection of online sales through e-commerce.

## **1.2 Statement of Research Problem**

Saudi businesses are predominantly family owned and traditionally managed by the head of the family who has the final word on the way the business is conducted (Al-Rasheed 2013; Ramady & Sohail 2010). However, globalisation has increases the competition between businesses locally and internationally Euromonitor (2014). Moreover, technologies have changed the way of doing business and can influence the overall business. However, many Saudis business are still behind in their use of technology such as e-commerce (Communications and Information Technology Commission 2010) .

The Saudi retail environment developed over recent decades with the entry of large global retailers such as the Landmark Group from the United Arab Emirates and the British Marks and Spencer Plc. (ATKearney 2014). In 2014, the ATKearney Global Retail Development Index (2014) for emerging countries ranked Saudi Arabia 16<sup>th</sup> out of 30 countries on measures of past success and potential. This was down from 7<sup>th</sup> place in 2011 (ATKearney 2011). Whilst the Kingdom dropped in the index, another global analyst, Alpen Capital (2011), explained that the vigour of other emerging states, such as South America and East Asia contributed to the volatility of the measure. The Saudi economy continued to attract retailers from the Gulf countries, the United States, and Britain in particular (ATKearney 2014).

The commercial analyst, ATKearney, reported that grocery was the largest retail sector, with large supermarkets being less available to women than corner shops, as women are unable to drive. Alpen Capital (2011) also noted that small convenience stores still carry a significant proportion of retail trade, whilst food remains about half of all retail purchases. For those who can access transport, the shopping malls offer women-only floors and leisure, as cinemas are also forbidden. Shopping is a popular leisure activity. Saudi's largest retailer is Jarir Marketing which is expanding vigorously, followed by the Fawaz Alhokair Group, planning 250 new stores nationally and abroad (Alpen Capital 2011). According to the ATKearney report, online retail is susceptible to minimal regulation, lack of trust in online payment, and minimal awareness, yet due to its size (30m population), the country's consumers are the largest users of online retail in the region, despite their mistrust of e-commerce (ATKearney 2014).

The Saudi population, including nationals and expatriates, are quite familiar with information and communications technology. The original public utility, Saudi Telecom, was privatised in 2002 (Saudi Telecom Company 2002), and since 2005, other firms have entered the market (Ahmad 2014). Sharma (2014) stated that whilst Saudi Telecom provides both fixed and mobile services, Mobily (from the United Arab Emirates), ZAIN (from Kuwait), and Go ATHEEB compete in the mobile market.

The Ministry of Commerce established the Committee for E-Commerce in 2001 (AlGhamdi et al. 2011). The Communications and Information Technology Commission – CITC (2014) regularly reports on the penetration of telephony in the population, including Internet penetration throughout the population (Figure 1.1 below).



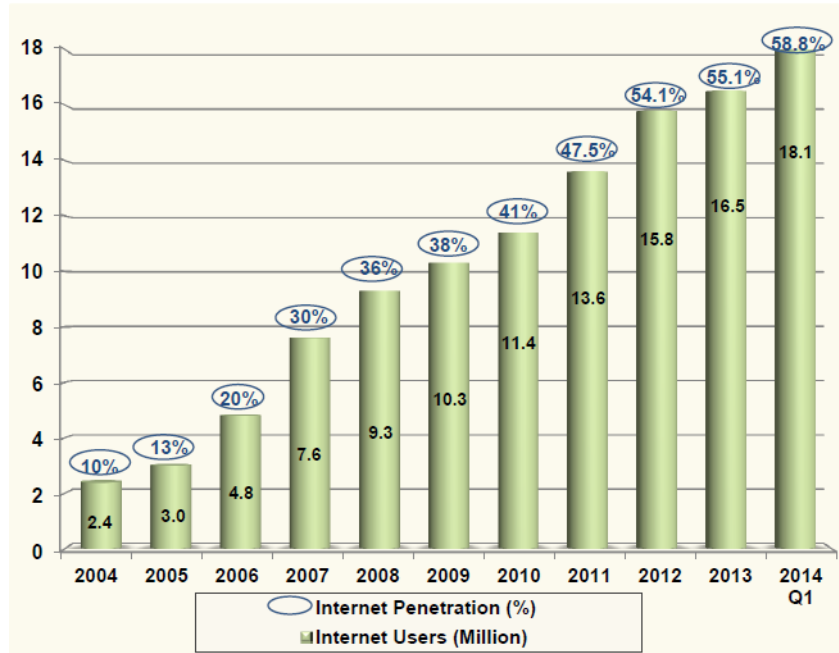


Figure 1.1 *Use of the internet in the Saudi population* (Communications and Information Technology Commission 2014)

Figure 1.1 shows massive growth in Internet use by the population over the decade, with over half the population being at least partially online. There are 30 million people in Saudi Arabia, with approximately 20 million being Saudis, and over half being under the age of 25 years (Arabian Gazette 2014, September; Central Department of Statistics and Information 2014). The Communications and Information Technology Commission (2014) further reported that mobile phone subscriptions, which are predominantly prepaid, declined over the last few years from 1.88 times the population in 2011 to 1.65 times in May, 2014. However, mobile Internet subscriptions rose to over 20 million in 2014, a 66 per cent penetration of the population. The Arabian Gazette (2014, September) further reported that some 40 per cent of Arab language social media users were Saudi. However, fixed-line connection remains low and even in decline, from 16.2 per cent penetration in ‘population teledensity’ in 2004 to 15.6 per cent in 2014 (65.6% of residences are connected), although connections grew in absolute terms (from 2.8m to 3.4m). Saudis are therefore rejecting landline connections and relying on wireless connections for their telecommunications. Business fixed-line growth was greater, from 800,000 fixed-lines in 2004 to 1.8m lines in 2014 (Communications and Information Technology Commission 2014). Thus, the majority of telephony growth is in societal consumption, not business consumption. Businesses are therefore lagging behind the public in their use of the Internet for business purposes. According to the Commission, this is set to change in the future (post-2013) as the mobile

networks are upgraded to wireless broadband technologies (4G), and fixed broadband subscriptions (DSL, fixed wireless, and fibre cable connections) growing from 44 per cent of residences in late 2013 (Communications and Information Technology Commission 2014).

In 2000 the Saudi Government established a permanent technical committee for e-commerce, including members from different government sectors. This committee identified the requirements for promoting e-commerce in the country and came up with a plan of action that covers arrange of facility such as infrastructure, human resource and legalisation (Communications and Information Technology Commission 2010). In 2005 the responsibility of the e-commerce committee has been transferred to Ministry of Information and Communication Technology

Despite the high diffusion and growth rate of ICT in the country and the government takes the of e-commerce development in the country, the use of e-commerce is still in its infancy. Moreover, e-commerce adoption in the retail industry in Saudi Arabia is weak in comparison to other countries, particularly in developed countries, although Saudi Arabia is the largest, and one of the fastest growing, retail markets in the Middle East and North Africa. The data shows that only 12% of businesses in 2009 used e-commerce infrastructure to conduct business (Communications and Information Technology Commission 2010). However, implementation has not always proceeded smoothly or without major problems (Alrawi & Sabry 2009, p. 1; Hamade 2009, p. 1). Salwani et al. (2009) argued that in spite of the many potential benefits of e-commerce, and determined efforts by many organisations in the Gulf region to implement it, many are yet to realise its benefits in any substantial way.

Furthermore, Rogers' (1995) claimed that merely an initial adoption of e-commerce does not guarantee continuation of use, and that intermission may happen at any phase of adoption. This claim appears to be correct for Saudi Arabia and the Middle East more generally. In fact, initial adoption is only the first step toward the diffusion of the innovation, according to Shih and Venkatesh (2004). The success of e-commerce implementation and utilisation in the retail industry mainly refers to the use of the Internet in the conclusion of sales and purchase transactions (Limayem, Hirt & Cheung 2007; Parthasarathy & Bhattacharjee 1998; Shih & Venkatesh 2004). Therefore, continuity in using e-commerce is more important than the initial adoption and is essential to the successful diffusion of the innovation (Cullen & Taylor 2009; Limayem, Hirt & Cheung 2007).

Although, many researchers have studied the initiation or pre-adoption stage of e-commerce (Cullen & Taylor 2009; Liu & Forsythe 2010), complex innovation adoption at the organisational level, such as e-commerce, cannot be measured without actual usage experiences in the process of e-commerce adoption and realised benefit. According to Cushman and Lacuna (2005), non-users may not be in a position to perceive the usefulness, or the ease of use, of the technology before they actually use it. Therefore, a study of the process of e-commerce adoption and implementation in the Saudi retail industry is expected to shed light on this relatively unattended area of research.

### **1.3 Research Objectives**

This research examines e-commerce adoption and implementation in large retail firms in Saudi Arabia. The study objectives are as follows:

- To identify the specific motivations for the adoption of e-commerce in the Saudi retail industry.
- To understand the critical technological, organisational, and environmental factors that may impede the integration of an e-commerce strategy into a retailer's business model.
- To identify the types of benefits that have so far accrued to businesses in the Saudi retail industry which have adopted e-commerce.
- To propose an e-commerce business model for a retail business strategy.

The aim of adjusting an e-commerce a framework is that it can be adapted for other Saudi industries, and that it is relevant for other emerging economies.

### **1.4 Research Questions**

The study is guided by the following key research questions:

- 1 What are the most important motivating factors for the adoption of e-commerce in the Saudi retail industry?

This question is considered as the pre-step stage for e-commerce adoption. Studying the motivation is important because the objective of the implementation of new innovation is tied to its motivation (Raymond, Uwizeyemungu & Bergeron 2006). Adoption motivations influence the project system's extensiveness, design, and implementation (Parr & Shanks

2000), and also determine the owner's strategies towards e-commerce adoption (Pittino & Visintin 2009). This study emphasizes that knowing the motivation for e-commerce adoption in Saudi Arabia will encourage decision-makers at organizations to embrace it.

- 2 What are the impediments to e-commerce implementation, and what are the critical factors for success?

In this study, the critical factors in e-commerce implementation will be identified at the different stages of implementation to better understand the internal and external factors. There are some important success factors in e-commerce adoption. From the perspective of the Technology-Organisation-Environment (TOE) framework, this study will examine the key factors that are critical to implementing e-commerce in a conservative business environment in the Saudi retail industry.

- 3 What, so far, has been the outcome of e-commerce adoption in the Saudi retail industry, in terms of levels of implementation and benefits?

Organisations are implementing e-commerce for various reasons related to achieving better performance, competitiveness, and/or productivity. In spite of this, not all companies have realised the expected benefits of e-commerce. It is envisaged that the knowledge created through this study will enhance our understanding of the factors affecting e-commerce adoption and implementation in the country. This kind of knowledge will enable decision makers at both government and industry to implement more effective strategy for further development e-commerce usage in the country.

## **1.5 Motivation for the Research**

The literature on technology innovation continues to grow, although there remain areas which have not yet been investigated. For example, in investigating customer databases, Bergendahl (2005) recommended further research as the technology improved. Chen and Holsapple (2013) contributed to the literature on emerging trends in e-business adoption, whilst Chu et al. (2007) recorded the evolution of e-commerce websites. Zhu and Kraemer (2005) noted the need for attention to technical and regulatory factors in technology innovation, such as finance, security for transactions, and access to dispute resolution. Al-Qirim (2010) developed an e-commerce adoption model for small businesses in Jordan to take account of such issues. Muhannad and Ahmed (2014) found that the United Arab

Emirates predominated in the Gulf countries' online retailing field; however, Emiratis were, somewhat surprisingly, the lowest of global online purchasers. Muhannad and Ahmed suggested that this was due to perceptions of unsafe trading online. E-commerce adoption and implementation remains an important area of research in the IT literature, requiring further investigation, particularly with regard to different contexts (Li 2012; Mohamad & Ismail 2009; Parker & Castleman 2009).

Research on e-commerce adoption and implementation has mainly concentrated on mature economies, Ho, Kauffman and Lang (2007) conducted a panel data study on e-commerce business models in 17 European countries, Oliveira and Martins 2010 studied the telecommunications and tourism industries across 27 European countries. Rodríguez-Ardura and Meseguer-Artola (2010) studied business-to-consumer drivers for e-commerce in Spain. In the United States, Hong and Zhu (2006) studied e-commerce migration, and Sila (2013) considered business-to-business e-commerce applications. As may be expected, different results emerged across time and place (Molla & Heeks 2007). In a comparative e-commerce study of Indonesia as a developing country, and Sweden as a developed nation, Kartiwi and MacGregor (2007) found that Indonesians placed a priority on organisational issues, whilst Swedes were more concerned with technological resources.

In addition, issues which might seem insignificant or not important for developed countries may play a critical role for e-commerce implementation in developing countries (Gunasekaran & Ngai 2005; Tan, J, Tyler & Manica 2007) due to the different national cultural characteristics between developed and developing countries (Hofstede 1997; Lawrence & Tar 2010; Vatanasakdakul, Tibben & Cooper 2004). Therefore, findings from studies in developed countries may not be immediately applicable to companies in developing countries (Abou-Shouk, Lim & Megicks 2013; Lawrence & Tar 2010). Thus, a greater variety of frameworks are needed to understand e-commerce in developing countries (Al-Qirim 2010; Mashanda, Cloete & Tanner 2012; Molla & Heeks 2007; Parker & Castleman 2006; Yasin & Yavas 2007).

Although the research on e-commerce in developing countries has started to grow, most of these studies have been conducted in the South-East Asian region and have focused on Small and Medium Enterprises (SMEs) (Kurnia & Ali 2012; Reyner & Kurnia 2011). In fact, there is little research into e-commerce in the Arab world and the Gulf region (Abdallah & Albadri 2011; AL-Fawaer 2014; Al-Rawi & Sabry 2009; Baabdullah, Dwivedi &

Williams 2013; Muhannad & Ahmed 2014). In addition, most of the previous studies in e-commerce technology in developing countries cannot necessarily be applied to Arab countries and the Gulf region because there are huge differences in social, cultural, and regulatory environments compared to many other developing countries (Medori & Steeple 2000), which greatly influences the nature of business organisations and their operations in countries such as Saudi Arabia.

Furthermore, most of the previous publications have lacked depth because they have used a survey method across an entire industry rather than focusing on a specific industry (Boateng et al. 2008; Kurnia & Ali 2012; Reyner & Kurnia 2011; Sila 2013). Business models, regulations, trading partners, and competitive environments therefore differ from industry to industry both within one country and by timeframe. It is therefore important to focus on e-commerce from a specific industry perspective in order to understand the organisational environment that might enhance technology implementation (Alzougool & Kurnia 2010; Brdese et al. 2012; Oliveira, T & Martins, M 2010; Sila 2013).

In addition, researchers in developing countries have often focused on who the potential online purchasers are at the individual level, rather than the organisation's policies and practices in relation to e-commerce, such as Al-Mowalad and Putit (2012), and AlGhamdi, Drew and Al Faraj (2011), in their studies of consumer preferences in Saudi Arabia.

E-commerce at the organisational level is a continuous process and, most importantly, requires actual usage in order to establish the positive outcome of e-commerce (Zhai 2010; Zhu & Kraemer 2005). Indeed, the literature criticises the studies on e-commerce adoption as being examined through an 'as adopted or not adopted, or intention to adopt' approach (Ahmad et al. 2014; Lip-Sam & Hock-Eam 2011); however, these approaches provide only limited perceptions and do not fully show the scope and importance of e-commerce usage. Besides, most of the previous studies in developing countries have focused on the obstacles to e-commerce adoption, without showing how these factors affect the adoption of e-commerce (Mashanda, Cloete & Tanner 2012).

The motivation for, and the aims of this research are to consider Saudi retail industry organisations' in relation to factors affecting the process of e-commerce adoption and implementation. The intent is to identify the underlying issues and circumstances that impede

firms' access to the Internet for commercial activity. Thus, this thesis will contribute towards filling the gap in the existing literature on e-commerce adoption in Saudi Arabia.

## **1.6 Significance of the Research**

There is ample evidence of the pace of change and economic development in Saudi Arabia, as well as rising education attainment and the remarkable adoption of social media for the youth of the country (see Section 1.2). Yet traditional family businesses have not kept pace with these fundamental changes in their business models. Frequently, organisational systems, operational practices and stakeholder communications remain unchanged, and thus, firms are being left behind as international competitors take up online opportunities to engage with consumers. The widespread effects of online trading, whilst not yet evident in the Gulf countries, have resulted in the severe dislocation of older business models in many developed economies. Rising wealth in emerging economies means that if consumers cannot find what they want locally, they will purchase online overseas.

The retail industry in Saudi Arabia is dominated by a few large firms who have, until recently, had little reason to extend their shop-front business models due to high population growth, rising individual wealth and a traditional approach to sales through customer relationships. Yet globalisation means that more Saudis are travelling and living abroad for study, so that they now understand that they are limited in their purchasing choices given the Saudi retail oligopoly. Whilst infrastructure such as the security of payment and the delivery of goods restrain online sales, this set of circumstances is being addressed by the government and the establishment of a secure online platform experienced by other countries could expose Saudi retailers to competitive forces. This thesis seeks to produce a framework for retailers, to allow a measured response to the adoption of e-commerce.

This study contributes to the body of knowledge on e-commerce adoption and implementation in developing countries, and in Arab world retail businesses, by shedding light on the technical, organisational, and environmental factors in e-commerce adoption and implementation in a developing country. It also brings the work of other researchers into greater focus, and updates and extends the existing literature by incorporating theory into an empirical research design. As a result, this study enables the development of a business model for firms contemplating an online retail strategy in the decision-making process for the

planning and implementation of effective e-commerce, in Saudi Arabia, and in other countries with a similar context, particularly in the Gulf region.

There is a further contribution to knowledge through the use of Tornatzky and Fleischer (1990) (TOE) model for the analysis of the data. However, it has been previously used in only one descriptive study in Saudi Arabia (Al-Somali, Gholami & Clegg 2010). This research is novel and demonstrates a contribution to knowledge in the following ways:

- It is one of very few studies that examine the motivation for the adoption of innovation in the retail industry. According to Pantano (2014), the research in the retail industry has been focusing on consumer demand and technology use or services among them and little attention has been paid to the driver of technology innovation among retailers.
- This is the first study to examine the realised benefits of using e-commerce in Saudi Arabia, and one of few studies conducted in developing countries. In fact, there has been no consistent effort to understand the implications and benefits of e-commerce in developing countries (Aleke 2009; Ali & Maloain 2010; Molla & Heeks 2007). Moreover, there is no agreement among researchers and conflict has result from IT usage (Mora-Monge et al. 2010)
- This is the first multiple and exclusively qualitative study in the retail industry in Saudi Arabia, and is one of the few that focuses on a specific industry to understand the adoption and implementation of e-commerce in a developing country (AlGhamdi et al. 2011).
- In contrast to the general research in the literature, this study investigates e-commerce adoption and implementation as a whole process by addressing the pre-adoption factors, actual usage and outcomes in organisations in order to identify the factors that can impede the usage of e-commerce.
- This study is significant in adopting a holistic approach by focusing on managers' attitudes, decision-making processes, and perspectives on implementation, rather than on the end-user perspective.

In terms of methodology, this research is one of the few qualitative studies that use an exploratory case study research strategy (Boateng et al. 2008; Reyner & Kurnia 2011) in a developing country. This strategy is important for providing a clear understanding of the process of e-commerce adoption and implementation in the Saudi retail industry.



In terms of theoretical contribution, this study shows how the TOE framework can be used to enhance success in the implantation of e-commerce in the Saudi retail industry.

## **1.7 Thesis Outline**

This thesis has seven chapters. The first chapter introduces the context and the relevant literature and explains the intent of the study. Chapter Two positions the research in the context of Saudi Arabia, its demography, economy, and society. It also explains the evolution and characteristics of information communication technology, and its current status in terms infrastructure, providers, and users. There is also a discussion on the Internet and its providers that service the retail sector, particularly in the form of e-commerce.

Chapter Three comprises a review of the literature on Internet use, focusing on e-commerce adoption. This includes the factors that may assist or impede firms who may be attracted to moving at least part of their business online. The discussion includes the various approaches and terms relating to e-commerce, and the manner by which online services should be integrated into firms' databases, communication channels, and day-to-day tasks and processes. This is followed by a description of the drivers (the reasons for adoption) of innovation, including e-commerce adoption in developing countries, and Saudi Arabia. Furthermore, the advantages of e-commerce are defined. Then, the theoretical foundation of this study is discussed involving a model that describes the TOE factors that affect e-commerce integration in firms in developing countries.

Chapter Four presents the methodology and explains the selection of the research design and sample, and details the data collection and forms of analysis that follow from the design. The qualitative design emerges from an interpretive research paradigm as a multiple-case study approach. The data were collected through in-depth interviews, organisation documents and government report. Chapter Five reports on the results from the interviews, commencing with the drivers to e-commerce adoption experienced by Saudi family retailers. This is followed by the discussion in Chapter Six which compares these results with the literature, and then presents the findings in response to the research questions.

The final chapter, Chapter Seven, sets out the results from the chapter summaries from which are derived a number of conclusions and recommendations for firms and for the authorities to consider. This is followed by the benefits and the limitations of the study, and suggested pathways for future research.

The next chapter is the context chapter, which explains the environment under which this case study research has been conducted.

## **Chapter 2 Positioning the Study's Context: Characteristics of Saudi Arabia**

In order to understand the context for the analysis of e-commerce adoption and implementation in Saudi Arabia, this chapter discusses the Kingdom of Saudi Arabia and its characteristics that are relevant to the online retail business. The unique characteristics of Saudi society have an impact upon a range of aspects of commerce, not least the curtailed liberties for women in their shopping habits, and the goods and services that are deemed to be acceptable for purchase by women. In this environment, the Internet opens new opportunities for retailers, which they are accessing slowly.

The discussion of this chapter begins with a geographical and historical outline of Saudi Arabia. It then discusses the social and cultural aspects which include demographics, lifestyle and education. This is followed by a discussion of the business and technology aspects focusing on the economy, the retail industry, telecommunications, and e-commerce.

### **2.1 Geographical and Historical Aspects**

The Kingdom of Saudi Arabia was established in 1932 when the majority of the Arabian Peninsula was established under King Abdulaziz bin Al-Saud (Royal Embassy of Saudi Arabia 2013). The Kingdom is located at the nexus of ancient trade routes through three continents and occupies an area of 2.2m km<sup>2</sup>. It is the largest of the oil-rich Gulf countries<sup>1</sup>. The country comprises 13 provinces, each with its own capital. Riyadh is the seat of the Al-Sauds, thus the country's capital, whilst Jeddah is the commercial capital, given its position on the Red Sea routes and its prominence in servicing the holy cities of Makkah and Al Madinah for the hajj (Islamic pilgrimage) (Royal Embassy of Saudi Arabia 2013). The physical characteristics of the country are presented below, and this is followed by a brief history, and an introduction to the government and the economy.

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<sup>1</sup> Gulf Cooperation Council states: Saudi Arabia, Kuwait, Bahrain, Qatar, United Arab Emirates and Oman.



Figure 2.1 *Map of Saudi Arabia* (Einstein 2006)

The Arabian Peninsula is largely desert with no permanent lakes or rivers. The Red Sea is a rift valley and the Peninsula is dominated by an escarpment, the Hijaz Mountains, to the east of Jeddah. Apart from the mountainous and somewhat arable south, the Peninsula slopes to the east and the oil-rich Arabian Gulf, part of which is the country's eastern border (Crassard et al. 2013). Crassard et al. (2013) noted that minimal geological or climatic change over the centuries has confirmed that, without technological change, intensive agriculture was unlikely on the Peninsula. Summer temperatures from June to August average 45°C away from the coast, while the coastal cities can endure 100 per cent humidity during the major and minor monsoon seasons. In the winter, it is possible to approach freezing in the high reaches of the centre, whilst rainfall in Rub al-Khali (the Empty Quarter, and the largest desert), rises to 500mm annually in southern Asir Province (Royal Embassy of Saudi Arabia 2013). Due to the severity of the climate, the Saudi day is structured with split shifts to avoid the worst of the heat, and school days finish around 2pm (AngloInfo 2014; Thomas 2014).

From the first human settlement, the Arabian Peninsula was a trade route from the Black Sea through to Egypt, and from the Mediterranean Sea to Asia. Smith (2012) cites evidence of the long-distance transport of goods from 100,000 years ago, and describes trade in various goods, including textiles along the Arabian Gulf from 3,000 BC. The trade was designed, according to Smith, to enhance the status of elite individuals with unique objects from distant lands, a situation that is replicated in contemporary retailers. Figure 2.2 shows

the early (2,000 years ago) patterns of trade on the Peninsula in relation to sea travel and the Silk Road.

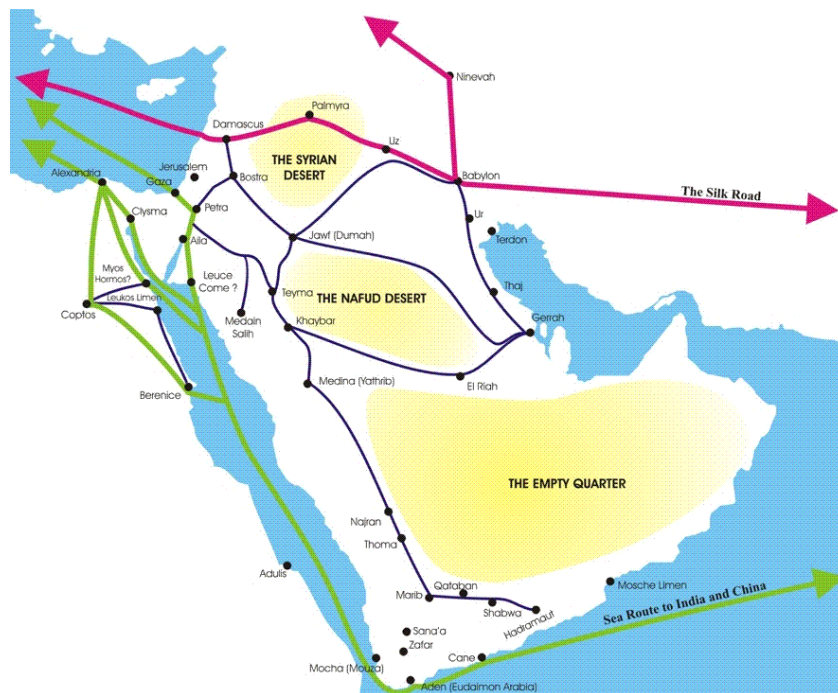


Figure 2.2 Silk Road routes for high-value goods (Silk Road Maps 2006)

Trade routes predated many towns, or were centred on settlements that no longer exist. Bernstein (2008) described early Arab traders using donkeys for transport until some 3,500 years past, when camels were adopted due to being able to provide double the carrying capacity at twice the speed. At maximum load and speed, a single trader with six camels could transport two tonnes of cargo 50 km or more in one day. Given a three-day water capacity for camels, oases and settlements were required every 150 kilometres. The growing season cycle for frankincense and myrrh to the south of the Peninsula enhanced trade around the Rub al-Khali region.

The advent of Islam in the 7th century CE, and its subsequent conquests east and west of the Arabian Peninsula, supported the spread of trade. Ali and Al-Owaihan (2008, p. 8) quoted the Prophet Mohammad as follows: “He who brings supplies to our market is like a warrior in the war for God”. Trade was central to Mohammad, as his family and that of his wife were merchants, and his conquests in Makkah were against the prevailing merchant class in that city. Ali and Al-Owaihan emphasised the importance of trade in establishing the new religion and state.

In explaining the effects of Islam along the pre-Islamic trade routes, Michalopoulos, Naghavi and Prarolo (2012) stated that the new Islamic tribes and settlements were located in highly differentiated agricultural circumstances. The authors argued that the climate and a lack of water and proximity to trade routes produced conflicts that would disrupt the caravans, and Islam provided the economic and moral rules to maintain order. Muslim societies have distinct financial and political structures stemming from subsistence agricultural businesses that focus on animal husbandry, inheritance rules, and centralised governance ‘with a strong belief in a moralizing God’ (Michalopoulos, Naghavi & Prarolo 2012, abstract).

Islam is not only a religious ideology but is also a comprehensive social system which embraces detailed prescriptions for the individual and society. Dean (2014) argued that there was a strong interlinking of trade, business structures, and religion. Over time, Islamic judicial decision-making has taken into account changes in business functions and systems, such as technological change and globalisation, much as it adapted to new ideas and cultures during the Golden Age (7th-12th centuries CE) (Dean 2014).

## **2.2 Social Cultural Aspects**

This section sets the social context for the study, which seeks to explore the influence of the family on business ventures, and the conservatism that shapes and guides commerce in the Kingdom. This section presents the population statistics for Saudi Arabia, the social norms, and the rise of education.

The Saudi population comprises nationals and many expatriates, the latter made up of foreign labour and professionals, and hajji, or pilgrims who may be studying. The population has grown rapidly over the past half-century, and the Central Department of Statistics and Information (2014) estimates that the population reached 29.9 million in 2013, up from approximately four million in 1960. Trenwith (2014) reported that, of the 30 million population, there were 20.3 million citizens, with one-third of the overall total being non-Saudis. However, through Saudisation and the replacement of foreign labour with Saudis, the expatriate proportion should fall to 26.6 per cent in 2015.

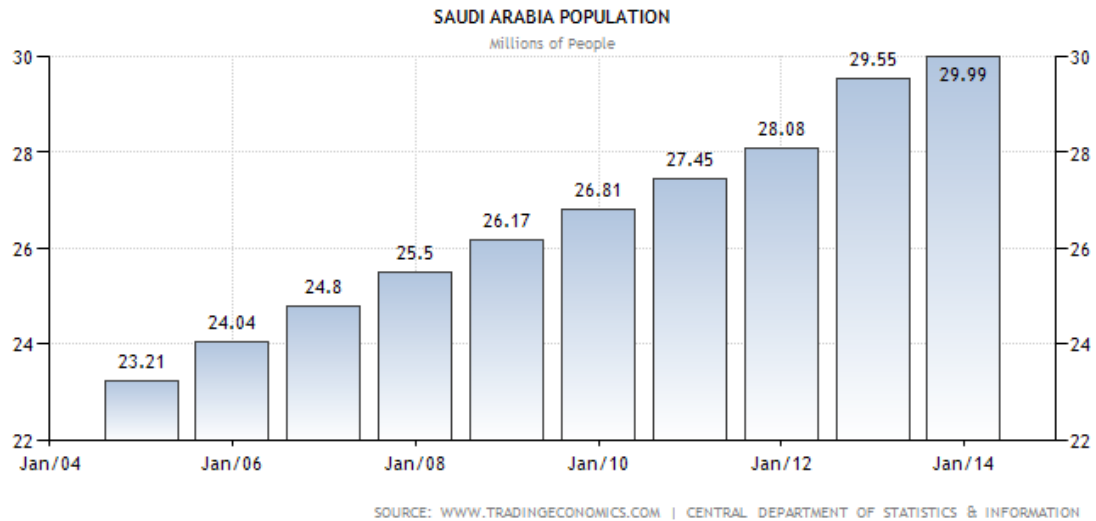


Figure 2.3 *Saudi Arabia population 2004-2014* (Central Department of Census and Statistics 2014; graph from Trading Economics.com 2014)

Figure 2.3 above shows that while the population continued to grow in 2012, the rate slowed in 2013 (Jan 2014). Foreign labour is necessarily made up of experienced adults, and an inability to gain citizenship now restricts tenure in the country, so that the predominantly male workers skew the population pyramid, as shown below (Trenwith 2014).

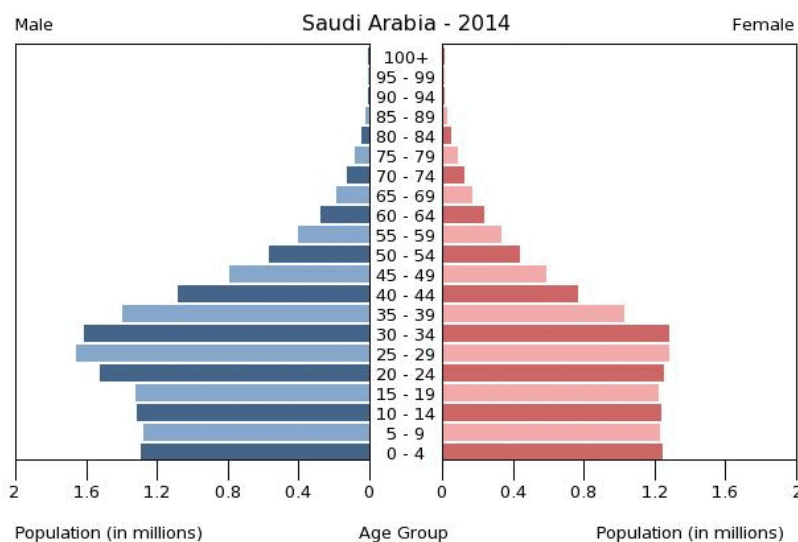


Figure 2.4 *Saudi Arabia population pyramid, 2014* (World Factbook 2014)

While Figure 2.4 above depicts a ‘bulge’ in men aged 20 to 40 years (including registered expatriates), it also shows a declining birth rate as the population surge of the 1980s produced less children than the previous generation, thus the rate of growth is

lessening, estimated by the Central Department of Statistics and Information (CDSI) at 2.15 per cent. Finally, the World Factbook (2014) indicates that 27.6 per cent of the population are less than 15 years of age.

The social and cultural characteristics of Arab society tend towards homogeneity due to the nature of Islam that forms the basis of everyday life. In addition, family ties and the tribal system are also influential as a clan or tribe still determines an individual's place in society (Bowen 2008; Maisel 2014). An example of the impact of tribal values on Saudi culture is the segregation of the sexes that influences every aspect of public and social life in the country; women are not permitted to mix with unrelated men, and their public movement is restricted.

Another cultural aspect is the patriarchal system and a hierarchy of interdependence within the family (Al-Rasheed 2013). Most businesses tend to be family-owned and managed by family members and friends (Ramady & Sohail 2010). This influences the structure of business relationships in the country, particularly in relation to traditional business models. Of the top ten family businesses in the Middle Eastern and North African countries, six are located in Saudi Arabia (Table 2.1) (EY [Ernst & Young] 2014).

Further, EY (Ernst & Young) (2014) reported that family firms dominate the Gulf economies. Ninety per cent of the companies in the Arab countries are family-owned, constituting 75 per cent of private sector activity. They employ 70 per cent of the Gulf countries' labour force (67 million) and control 98 per cent of companies in the oil and gas sector.

Researchers have explored the influence of culture on Saudi technology adoption and business activities (Alqahtani & Wamba 2012; Im, Hong & Kang 2011; Rashid, Sambasivan & Johari 2003). In Saudi Arabia, the Internet was only permitted in 1997 after much debate and consultation and was eventually resolved by a complex filter system to enable the Saudi authorities to control access to undesirable material (Al-Rasheed 2010). The social aspects of consumption in Saudi Arabia are explored in the following section (Section 2.3).

Islam and Arabic learning during the Golden Age (7th-12thCE) comprised many centres for learning in a range of fields from physics to philosophy, and European universities followed texts from Arabic translations until the 17th century (Goody 2013). Until 1918, during the Ottoman century of rule, some primary instruction for Arab boys and girls was



available around the Hijaz, although this was predominantly in Turkish (Master 2013). In 1925, Abdulaziz was in sufficient control of the Hijaz to form a replacement education structure, the Directorate of Education, which was not fully operational until after unification. The Royal Embassy of Saudi Arabia (2013) explained that formal primary education then began, but it was not until 1945 that boys' primary schools emerged.

Table 2.1 *Top ten family firms in Arab countries*

Company name	Revenue 2012 (\$USm)	No. of employees	Family	Country
Saudi Binladin Group	30,000	55,715	Binladin	Saudi Arabia
Savola Group Co.	27,391	7,000	Al-Muhaidib, Hariri	Saudi Arabia
Saudi Oger Ltd.	8,000	35,000	Al Subeaei	Saudi Arabia
Majid Al Futtaim Group	5,880	18,850	Al Futtaim	United Arab Emirates
Dallah Albaraka Group	5,328	60,000	Kamel	Saudi Arabia
Mohammed Abdulmohsin Al Kharafi & Sons Co.	5,000	120,000	Al Kharafi	Kuwait
Ethiad Airways PJSC	4,084	9,038	Al Nahyan	United Arab Emirates
Orascom Group	4,023	20,000	Sawiris	Egypt/Switzerland and
Al Rajhi Banking Investmen Corp	4,002	9,037	Al Rajhi	Saudi Arabia
Abdul Latif Jameel Co Ltd	3,795	7,100	Jameel	Saudi Arabia

Source: Ernst & Young 2014, p. 2.

In 1954, the Directorate was replaced with the Ministry of Education. In Riyadh, the first university, now the King Saud University, was founded in 1957, followed by the Ministry of Higher Education in 1975 (Royal Embassy of Saudi Arabia 2013). However, the first government girls' school was not available until 1964, after the General Presidency in Girls' Education had been established in 1960 (Smith & Abouammoh 2013). The General Presidency was brought into the Ministry of Education in 2005, which is responsible for

operating and monitoring the public school system and also providing oversight of the private school system. The Ministry of Higher Education is responsible for both the public and private universities, including policy and monitoring (Al-Dali et al. 2013). Together with the Human Resource Development Fund, the Technical Education and Vocational Training Corporation are responsible for competency training (Royal Embassy of Saudi Arabia 2013). The latest data for Saudi public education students is shown in Table 2.2 below.

Table 2.2  
*Saudi students in public education 2011-2013*

Years and Gender	2013			2012			2011		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Primary	3583488	1732048	1851440	3436259	1698598	1737661	3347680	1646258	1701422
Public Education									
Intermediate	1604531	779279	825252	1579399	786796	792603	1560750	767725	793025
Secondary	1494711	695989	798722	1476693	688855	787838	1480108	688590	791518
Total	6682730	3207316	3475414	6492351	3174249	3318102	6388538	3102573	3285965

Source: Central Department of Statistics and Information, 2013

In higher education, Aljubaili (2014) reported that Saudi universities are characterised by significant expansion and an emphasis on quality assurance and accreditation. The expansion occurred when many diploma-level institutions were upgraded a decade ago and with the establishment of new universities, such as the Princess Noura bint Abdul Rahman University in 2011 at a cost of approximately US\$5 billion. The most recent available student numbers indicate that there are 1.2 million students in 25 public universities and 30 private universities and colleges, and a further 163,000 people studying around the world through the King Abdullah scholarship program (Aljubaili 2014). Aljubaili (2014) pointed to a number of issues associated with this expansion: sourcing of qualified and experienced instructors in the science and technology fields, especially women; the quality of university applicants emerging from the school system that previously focused on literary and religious subjects; and the number of expatriate educators, meaning that, in many cases, courses are available only in English.

## 2.3 Business and Technological Aspects

After unification in 1932, King Abdulaziz was constrained by funding in establishing the new state. At that time, the united tribes were practising a subsistence lifestyle, with the Holy Mosque at Makkah as the centre of learning, being reliant on tithes and hajjis' expenditure (Al-Moudy 2014). An oil concession was granted to the Americans in 1933, but development was hampered by the advent of World War II; however, by 1945, the first refinery was operational. In 1951, the world's largest offshore oil field, Safaniya, was discovered (Saudi Aramco 2014).

With oil revenues and loans, the new Kingdom could finally be established. Under the King as ruler and Prime Minister, the Council of Ministers was established, forming the government's executive and legislative branches. During the 1950s and 1960s, twenty ministries were founded, adding to the existing Ministries of Finance and Foreign Affairs, which were established earlier to negotiate neighbouring Arab relations with the new Kingdom. The kingdom is controlled from Riyadh, and the national ministries are represented in the 13 provinces, each with an emir and a local governance structure. There is also a local government structure of municipalities and rural areas (World Factbook 2014).

As part of the legislative arm of government, the King is advised by the Majlis ash-Shura, or Consultative Council, established by the Basic Law of 1992, in part, due to unrest after the 1990/1991 Gulf War (Hertog 2010; Royal Embassy of Saudi Arabia 2013). The Basic Law acts with the Constitution to set the duties and responsibilities of the government and the citizens. The Saudi Constitution is based on the Sharī'a Islam'ia (Islamic teachings), so the legal system applied is based on Shari'a Law. Initially comprising 60 religious, social, and business representatives, the Council was extended progressively to 150 citizen representatives, 30 of whom are now women (Islam 2014; Royal Embassy of Saudi Arabia 2013). The Shura Council accepts bills of law from the Ministries or it can propose laws for debate (Wynbrandt 2010).

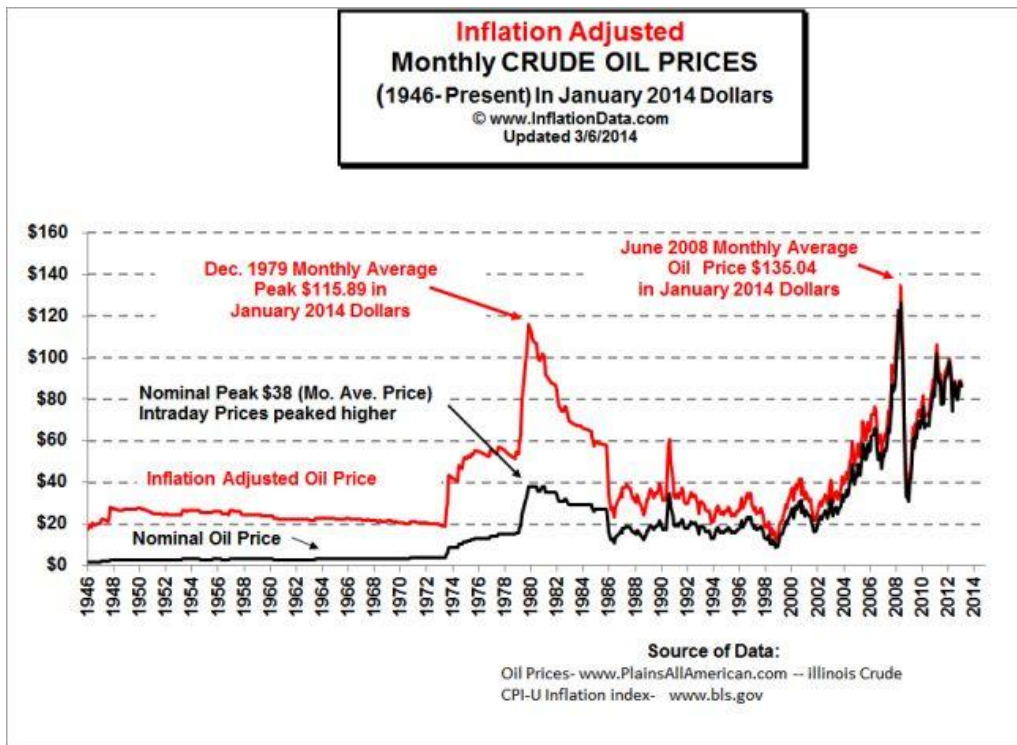
Once the oil infrastructure was established and revenues secured in the 1950s, it became evident that the funding demands from the new Ministries required a financial planning system to allocate the available funds (Hertog 2011). Hertog (2011) explained that the Saudi Arabian Monetary Authority was established in the early 1950s, primarily to establish a Saudi currency to counter the proliferation of international currencies that were in

use around the country. On the advice of the Finance Minister, King Abdulaziz appointed United States experts in finance (and currency), budget and accounting, and customs and tariffs to the Authority. By 1957, when King Saud was established, the Authority had stabilised the new Saudi Arabian riyal at 3.75 to the United States dollar, and set up a system of balance of payments accounting (Hertog 2011).

Fluctuating prices for oil were of major concern, as were the financial and infrastructure pressures on the public services. Once the financial infrastructure was in place, the Monetary Authority sought priorities in government spending to allocate budget funding. Wilson et al. (2005) explained that a five-year plan was advised by the World Bank in 1960. Although a Planning Board was implemented in 1961, its recommendations were ignored by the Ministries, who were eager to use all the available funding for their projects. In 1965, the new Central Planning Organisation produced the first development plan (1970-1974) in 1969 (Wilson et al. 2005).

Of interest to this study, in the private sector, government administrative structures were undeveloped in the mid-20th century, with little enabling legislation (Naser & Nuseibeh 2003). Although the Income Tax and Zakat (tithe) Law was first introduced in 1950, there were only seven accounting firms in the country at the end of the 1950s (Naser & Nuseibeh 2003). Company Law, derived from French and Egyptian legislation, was established in 1965. Whilst it determined the legal basis for companies, that is, the details of formation (registration procedures, minimum capital, number of partners or directors, and fundamental accounting statements), there remains a number of undeveloped compliance areas (Naser & Nuseibeh 2003; SaudiLegal 2014). Saudilegal stated that there have only been four changes to the Company Law and regulations since inception, although more were expected.

Oil prices have dictated the fortunes of Saudi Arabia. Whilst the first decades after discovery were stable, the sudden rise in oil prices in the 1970s were derived from the withdrawal of oil supplies in 1973 due to European and US support during the Yom Kippur war, which saw the price of oil rise from \$US3 per barrel in 1973 to \$US12 in 1974 (Macalister 2011) (Figure 2.5).



Note: US dollars, US price points  
 Source: InflationData.com 2014.

Figure 2.5 Adjusted oil price data 1946-2014

Adjusted to 2014 US dollars, Figure 2.5 shows the extent of the oil shocks of the 1970s and 1990s, which impacted negatively on the Saudi economy.

The focus of the first five-year development plan was to spend the available oil incomes on basic services such as utilities, health, and education (Al-Rasheed 2010). The second development plan (1975-1980) came in as the oil price was rising and allowed for faster expansion of basic services, particularly transport and housing infrastructure. Further, it allowed the infrastructure to be developed for the chemical and hydrocarbon industries at Jubail and Yanbu in the nation’s first attempt to diversify the economy from oil production to value-adding through manufacturing, which is a process that is still continuing (Yamada 2011).

The 1980-1985 development plans built on this diversification of the economy by placing a priority on industrialisation together with continuing infrastructural development and improvements to administrative organisation and government regulation (Sohail 2012). Sohail reported that airports were completed in Riyadh and Jeddah, while hospitals, roads, and ports were built, together with other social expenditure reaching \$US500 billion at the

end of the third plan. While construction and emerging manufacturing were still undertaken by expatriate labour, this was also diversifying into professionals and para-professionals as the new facilities, both private and public, came on-stream. Overall, Saudi competencies were not at a sufficient standard to provide all of the required knowledge and expertise for such development (Al-Rasheed 2011; Sohail 2012).

Privatisation of government resources was the focus of the fourth economic plan (1985-1990); however, the oil price shock of 1986, where prices fell 50 per cent due to oversupply, resulted in economic decline (Al-Rasheed 2011). The Saudi riyal was pegged to the US dollar at 3.75 riyals to the dollar from 1986, and falling revenues from the oil price led to the depletion of the nation's financial reserves (Hertog 2010; Sohail 2012). Hertog (2010) reported that official oil income fell from 329b Saudi riyals in 1981 to 42b in 1985, while total overall income fell from 368b riyals to 76b over the same period. While planners made adjustments to each budget to defer expenditure, state revenues did not fully recover until the 2000s (Hertog 2010).

The fifth development plan (1990-1994) returned to the transferring of public-owned corporations to the private sector, and improving the competencies of school leavers and youth to transfer responsibility for jobs to the private sector (Ramady 2010). Ramady (2010) found that although hampered by the 1990-1991 Gulf War, the Saudi economy expanded during the 1990s due to liberalisation and privatisation, especially as the economy was opened to international investment. Mihaljek (2006) however, reported that there was no privatisation of banks in Saudi Arabia in this period. The next plans (1995-1999 and 2000-2005) continued into jobs and the private sector by concentrating on higher education availability and opening more technical colleges to meet employers' needs, and the privatisation program. In 2000, the Saudi Arabian General Investment Authority was established to promote foreign investment, and since Saudi Arabia joined the World Trade Organisation in 2005, foreign investment has grown strongly (Bayliss Associates 2008). Later, Alanazi, Liu and Forster (2011) reported that those firms which had privatised around 2000, such as Saudi Telecom and (partially) Saudi Basic Industries Corporation, had prospered, whilst family firms that listed on the Tadawul Stock Exchange had not achieved the same success. However, the Oxford Business Group (2013) reported that Saudi economic planning successfully negotiated its economy through the global financial crisis, particularly in the retail sector.

The economic stability of the last decade may be attributed to the eighth development plan (2005-2009), which was designed to extend economic planning beyond a five-year horizon to a 20-year span. Succeeding plans, with the tenth due shortly, are becoming aspirational as well as strategic, improving the quality of life and standard of living for Saudi citizens by providing a higher quality of education and healthcare (Oxford Business Group 2013).

Saudi Arabia has a stable economy and an environment which is conducive to commerce and business (Bayliss Associates 2008; Gamble 2014). The country controls some 16 per cent of the world's petroleum reserves, and ranks as the largest exporter of liquid petroleum (United States' Energy Information Administration 2014). Because of this, it ranks as 19<sup>th</sup> in the size of economy as expressed by gross domestic product (World Bank 2014), and is predominant in the Organisation of the Petroleum Exporting Countries (2014). Its petroleum sector accounts for 80 per cent of budget revenues, 45 per cent of gross domestic product and 90 per cent of export earnings (United Kingdom Trade and Investment 2014).

To attract foreign investment and to provide jobs and housing for its citizens, the Saudi government is developing four 'economic cities' which will add significant retail capacity to the Kingdom, already the largest on the Arabian Peninsula (Cisco 2009; Saudi Arabian General Investment Authority 2014). Further, Saudi Arabia's relative economic position in 2014 is such that it is not responding negatively to the recent fall in oil prices towards \$US85, due to its lower recovery costs and willingness to regain market share as higher cost oil producers shut down capacity. There is therefore little reason to foresee a fall in investment in the country (Economic Times/Reuters 2014).

Saudi Arabia is the largest retail market on the Peninsula. In a report on its retail industry, Euromonitor International (2014) stated that increasing disposable incomes and the young 'upwardly mobile' population were supporting its continuing growth. "Consumers in Saudi Arabia are spending more on their wants than their needs" (Euromonitor International 2014, p. 1). Continuing government and private sector investment in the economic cities and resources for hajj travellers were also extending retail floor space, and adding to capacity; the Oxford Business Group (2013) mentioned that the retail sales expansion of around 11 per cent in 2013 was dominated by large-scale private sector developments, shopping centres, and hypermarkets beyond the major cities.

A trend towards discretionary spending was noted by both Euromonitor International (2014) and the Oxford Business Group (2013). This trend was instrumental in improving the population's overall living standards, and Saudis, in particular, have an interest in the latest technology, luxury goods, and other non-essentials previously considered to be unaffordable. Discretionary spending is therefore growing at a faster rate than food items. Euromonitor International reported that Fawaz Abdulaziz Al Hokair and M H Alshaya were Saudi's largest retailers who compete vigorously for high-profile brand names and premium outlet space. The report mentioned the advantage of ownership of shopping malls by Fawaz Abdulaziz Al Hokair; however, "M H Alshaya's strength lies in its premium brands in more diverse categories, such as Starbucks" (Euromonitor International 2013, p. 1).

Both reports predicted strong retail growth in the future, linked to population increases, rising incomes, discretionary purchases, tourism, and expansion into less populated provinces by retailers. A further United Kingdom commentator, Conlumnio (2014), stated that:

- In 2013, the majority of the industry was controlled by specialist retailers, followed by general retailers.
- Online channels would dominate growth in the forecast period to 2018, followed by department stores.
- Apparel, accessories, luggage and leather goods, and furniture and floor coverings, are expected to grow the fastest over the next five years (Conlumnio 2014, p. 1).

Saudi retailers focus on the discretionary spending of youth. Euromonitor (2014) pointed out that those under 25 years of age comprise about one-third of the population, and retailers focus their marketing on physical and online advertising to upgrade devices and attract youth to luxury goods. As previously mentioned, "despite the fact that young Saudis often have limited to no income, and their spending habits are not organised, they spend more on their wants than on their needs" (Euromonitor, 2014, p. 1).

As a society, Saudis also appreciate physical shopping in the approximately 2,000 malls that dominate retailing in the country (Abdullah 2014). Malls offer security for women and their families with dedicated floors, entertainment, and according to Abdullah, government services such as the Passport Department and the Ministry of Civil Service beginning to appear. Malls enforce restricted shopping hours for single men so that women are not harassed during the peak shopping hours in the evenings and weekends, and men



cannot meet in malls for coffee or a meal (Naffee 2014). Despite these restrictions, and early closing times of 9pm to attract employees under the Saudisation policy, retailers find increasing numbers of shoppers and greater turnover than in other locations (Abdul Ghafour 2014). Mall operators provide venues for festivals, sport, and children's entertainment, and are generally supported by local government (Abdullah 2014).

An information and communication technology strategy was adopted by the Saudi Government in 2004 to transform the country into an information society to increase effectiveness and efficiency, provide e-services in all sectors of society and to support industry. A five-year plan in 2006 focused on the key aspects of social technology, such as e-Government, e-commerce, telework, telemedicine, e-learning, and digital Arabic and Islamic cultural content. Furthermore, it covered a number of regulatory aspects such as issuing licences for new voice and data operators and regulating the general telecommunications market (Ministry of Communications and Information Technology 2005). In 2001, 2.21 per cent of Saudis accessed the Internet. Once mobile phone providers were licensed by 2005, this rose to 12.71 per cent of the population. By 2010, 40.1 per cent of the country was on-line and this rose to 60.1 per cent in 2013 (International Telecommunications Union 2014).

In 2010, the Saudi Telecommunications Company introduced its fibre-to-the-home network which supports download speeds of up to 200Mbps<sup>2</sup>. Initially Riyadh, Dammam, and Jeddah were connected, and by October 2013, 600 locations in sixteen urban areas allowed access to 830,000 households. By June 2014, this was extended to 900,000 households (International Telecommunications Union 2014). Thus, the fibre rollout reached over 70,000 residences per year. The Fibre to the Home Council Middle East and North Africa (2014) reported that Saudi Telecom had some 73 per cent of the fibre-to-the-home market with rival Mobily making up the remainder. However, the Council predicted that the Kingdom would have 2.5m potential subscribers in total by 2018, with one-third of the potential market signing up for fibre services (Fibre to the Home Council Middle East and North Africa 2014).

While Internet access is growing quickly, e-commerce has been adopted at a slower pace, an issue which is discussed in the next chapter. An early report from the

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<sup>2</sup> Mbps - megabytes per second

Communications and Information Technology Commission (2010) figure 2.6 shows the formation of providers and users in the Kingdom.

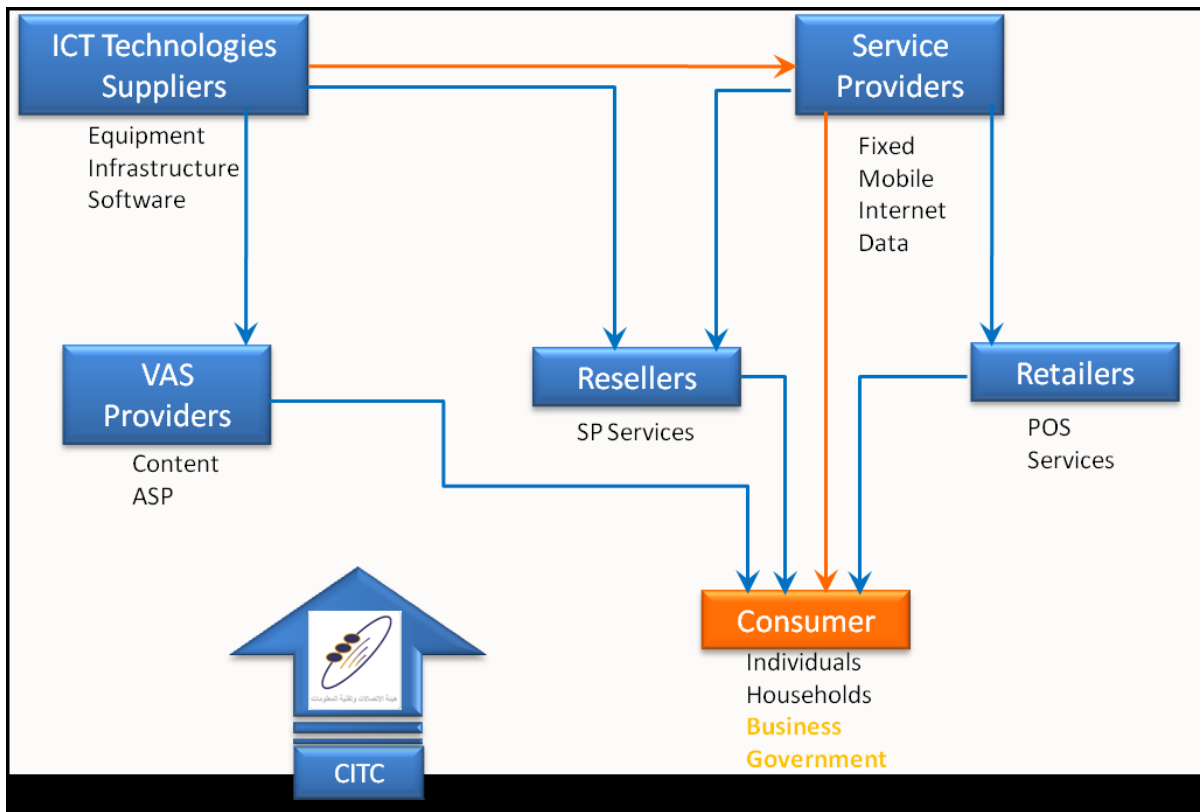


Figure 2.6 Saudi telecommunications industry structures, 2010 (Communications and Information Technology Commission 2010, p.66)

Research by the Communications and Information Technology Commission (2010) into the use of e-commerce among Saudi-registered companies found that even after a decade of advanced telecommunications capabilities, most business organisations in Saudi Arabia do not use e-commerce. According to Alfuraih (2008), the elements of e-commerce are Internet connection, payment and delivery, and the slow uptake of e-commerce can be attributed to these factors. Saudi Arabia’s population has had only limited access to credit facilities such as credit cards. To avoid interest payments, Saudi banks issue pre-paid cards (debit cards); however, these new cards may not fall under the existing legislation. The country did use the international PayPal system; again, this method was used by Saudis for receipts rather than for payments (Communications and Information Technology Commission 2014). The European Travel Commission (2014) noted that Paypal, although a partner of most e-commerce sites in the Gulf countries, did not offer payment in local currencies.

There were also a number of structural issues associated with e-commerce that were dealt with over time. The first was that the banks and retailers acted as individuals and did not have a common payment platform, so that they were unwilling to deal with a multitude of possible clients. The country lacked the financing infrastructure to facilitate payments between banks. This was resolved in 2004 when the Saudi Arabian Monetary Agency (SAMA) introduced Sadad, a platform used by the banks as a clearing house, which facilitates electronic payments between banks and billers (Sadad Payment System 2014).

Further, the country lacked a street address system, which meant that packages could, at times, fail to be delivered to residences, only to post office boxes. In 2005, Saudi Post established a home-address postal service, Wasel, including an e-shopping service for international markets (Saudi Post 2014). Moreover, Scott (2014) reported that the twin issues of online payment and home delivery stemmed from the Saudi habit of demanding to pay cash-on-delivery, upon which up to 40 per cent of customers refused to accept delivery and the goods were returned. The online firm souq.com had 75 per cent of its sales as cash-on-delivery, a factor in restraining online sales in the Gulf countries to one-tenth of similar income-based economies (Scott 2014).

Legislation was enacted in 2008 to regulate online payments, preventing users from committing fraud or taking part in terrorist activities. Ahmad and Agrawal (2012) stated that a lack of supporting business law significantly affected e-commerce, although this may have preceded the 2012 pre-paid instrument law (Saudi Arabia Monetary Authority 2012). Recently Al-Qatan (2014) reported that several agencies: the Ministry for Commerce and Industry, the Communications and Information Technology Commission, and the Saudi Arabia Monetary Authority, had set up a group to write legislation governing e-commerce after growth in online fraud and money-laundering. The agencies had already communicated with the private sector, such as the Commerce Committee at the Asharqia Chamber of Commerce and Industry at Dharahan, where a spokesperson had mentioned the need for organisational frameworks to regulate e-commerce, rather than controlling the market. However, the process could take up to three years (2017) in creating such a regulatory environment for all online commercial activity, with the draft legislation requiring a series of committee endorsements including by the Shura Council, before becoming law (Al-Qatan 2014).

## 2.4 Chapter Summary

This chapter explains the antecedents of the Kingdom of Saudi Arabia and its people. It explains briefly that the Arabic culture in antiquity moulded them into a conservative citizenry, with a collectivist society founded in its religion and its social relationships. The government was initially formed to develop national administrative structures, but this accelerated rapidly in the last half of the twentieth century. With free education, some relaxation of gender restraints, and an increasingly mobile and connected population, Saudis are adopting international practices in retail, communications and, to some degree, lifestyles.

While the young population finds change easier to manage, conservative firms are increasingly becoming sidelined by the rapid expansion of retailers in the air-conditioned malls, which offer entertainment and meals, and which are often part of residential complexes. Retailers, both large and small, need to find innovative channels to communicate with potential customers and to offer unique goods and services that attract purchases. Whilst there were structural issues in online sales in the early part of the century, these were largely overcome so that retail is increasingly becoming more of a marketing exercise through online channels. The next chapter reviews the literature relating to online commerce.

## Chapter 3 Literature Review

The purpose of this chapter is to conduct a comprehensive review of the literature in order to understand the complexity of e-commerce adoption and to identify the organisational factors that may be affecting to such adoption. This chapter starts by discussing the concepts related to, and the characteristics of, e-commerce. This is followed by a discussion of the adoption of organisational innovation, models of e-commerce adoption, the motivations to adopt for online traders, e-commerce adoption in developing countries including Saudi Arabia, and the realised benefits from e-commerce usage. The theoretical foundation of this study builds on the diffusion of innovation theory and the technology-organisation-environment framework is used to build parameters for the study.

### 3.1 Definition of E-commerce

E-commerce is an encompassing term that lacks research definition, as previously discussed, although it relates to systems that support online business transactions and associated communications. The term dates back to the 1980s when the concept of trading by computer changed according to the available technology, and also according to the context and objectives of the researcher and user (Fang et al. 2014; Shih, Dedrick & Kraemer 2005; Turban et al. 2012). In the wider context, e-commerce relates to business relationships, or can be specific to transactions such as supply chain input or post-sale customer relations (Alonso-Mendo et al. 2009; Govindan et al. 2012; Turban et al. 2012). Thus, online commerce is not restricted to the actual buying and selling of products; it represents a wide range of systems and inputs, including websites, data capture, storage, image processing, electronic publishing, electronic funds transfer, and mobile communications (Del Bosque & Crespo 2011). Molla and Licker (2004) posited that such business transactions included the core business functions of engaging with government, consumers, intermediaries, and external suppliers through Internet-based systems and networks, a concept that could be termed as e-business.

While several definitions have been developed and used in different contexts, and for a variety of purposes, this study utilizes a classical and broad definition of e-commerce. This study adopts the definition by Turban (2008, P.9) on e-commerce, which is “the process of buying, selling, transferring, or exchanging products, services, and/or information through

email, Internet, and the world wide web”. Specifically, this research is limited to e-commerce platforms based on Internet technologies, thus excluding any other technology, such as Electronic Data Interchange (EDI) includes integrating ERP (enterprise resource planning).

The rationale for choosing this definition of e-commerce is directly related to the developing countries' context of this study. In developing nations business owners do not use advanced business systems extensively, and e-commerce is still at the emerging stage, unlike its counterparts in developed western nations. Therefore, very little is understood about how e-commerce can be used for business operations, for commercial or non-commercial uses, so e-commerce can also be regarded as comprising all e-business activities (Rainer, Prince & Cegielski 2013). Austrade (2014) explained that e-business incorporates online transactions together with Internet-based activities, such as selling direct to other businesses and consumers; exchanging and monitoring of information; divesting resources such as surplus inventory; research; and development, such as designing websites.

### **3.1.1 Categories of e-commerce**

E-commerce can be classified according to the agents that interact, involving governments, consumers and business which are often categorised as acronyms: business-to-business (B2B), business-to-government (B2G), or business-to-consumer (B2C) (Thatcher, Foster & Zhu 2006). Business-to-business refers to when two businesses passing information electronically to each other in activities such as the marketing of goods and services, and B2B e-commerce achieves this through the Internet. B2B e-commerce was a fundamental shift for firms to add value to products and provide services. E-commerce restructured business models that were based on location, and opened competition for both the largest international corporations and small entrepreneurial start-ups (Parker & Weber 2013). B2C interactions using e-commerce has extra advantages, such as enabling sellers to target customers more efficiently by obtaining personal information to develop direct consumer marketing. Further, e-commerce enables businesses to better manage after-sales service (Beynon-Davies 2010). The customer-to-customer aspect envisaged in the acronym model would now be handled through social media and managed by online marketing entities, such as auction sites and news and information sites such as Facebook (Baird & Parasnis 2011). In commercial interactions concerning governments, e-commerce technology is also being used for the transfer of information through government-to-business (G2B) or government-to-citizen (G2C) means to improve convenience and lower costs for payment systems and tax

compliance (Ahmad & Hasibuan 2012). This flow extends to procurement systems for government agencies.

### **3.2 Organisational Adoption of Innovation**

While there is little agreement between researchers about organisational innovation as a construct or indeed its characteristics, the term evolved to include the development or application of policy changes, organisational restructuring, and can also include new or redefined products or services, changes to technological systems and devices, and new processes or practices in operations (Crossan & Apaydin 2010; Damanpour & Wischnevsky 2006; Wisdom et al. 2013). One such approach was taken by Crossan and Apaydin (2010). In reviewing the literature on innovation, they found that innovation research, whilst undoubtedly important, was fragmented, lacked a sound theoretical basis, and was poorly tested in some areas. They found that there was no innovation model which fully captured all business sectors. Wisdom et al. (2013) also reviewed the literature on organisational innovation through implementation, diffusion, and sustainability, finding that operational size and structure, executive leadership, and organisational norms and values (including competition) influenced adoption, and thus, the ultimate benefits of innovation for firms. In support of Crossan and Apaydin (2010), Wisdom et al. (2013) found little to no consistency in researchers' definitions or measures of innovation type, application, or outcomes.

In addressing such research discrepancies, Damanpour and Wischnevsky (2006) posited that innovative approaches by firms vary according to economic conditions, industry sector, and organisational conditions. Differentiating between innovation-generating and innovation-adopting organisations could contribute to the research by investigating innovation and firm size, the extent of the innovation, and the selection of appropriate measures. Bock et al. (2012) added to this analysis by stating that flexibility during business innovation may be compromised by stakeholder agreements. Further, attention may be focused on one or more of management structures, core activities, or the reconfiguring of work practices; this can result in the innovation effort moderating strategic flexibility positively (Bock et al. 2012). Damanpour and Aravind (2012), on the other hand, stated that technology was too often used as a proxy for innovation in firms, postulating that organisations use research and development for innovation. Damanpour and Aravind (2012) called for research on new approaches to strategy, organisational structures, policies, and

practices to facilitate change in organisations. To study innovation in public organisations, Walker (2008) surveyed local government in Britain; however, the researcher was unable to identify the common aspects of innovation. Walker (2008) proposed configuration theory as an alternative framework to individual variables in seeking the contributory factors of innovation.

Organisational innovation, such as e-commerce, is a complex process that starts with the recognition that a need exists for change, defining the issues, selecting solutions, and deciding to proceed (Damanpour & Schneider 2006; Kim & Mauborgue 2005; Mendel et al. 2008; Wisdom et al. 2013). In Saudi Arabia, this refers to moving from a paper-based office with telephone and facsimile communications towards online data, thus removing various levels of duplication, summarising, and re-presentation.

For the purposes of this study, behavioural approaches to innovation may be classified into two categories. The first category is the decision to adopt or reject innovation. The firm's purpose for innovation is to improve productivity, enhance collaboration with suppliers and customers, reduce costs, and improve profits. Therefore, complex innovation at the organisational level cannot proceed unless decision-makers actively support change (Garland, Bickman & Chorpita 2010; Khan, Amin & Lambrou 2009).

The second category of innovation concerns directing the behaviour of line-managers and employees to positively engage with e-commerce and to bring a project to fruition (the individual level) (Fichman 1992). The fruition of e-commerce, that is, successful adoption, occurs when innovation is accepted and implemented, from which the results flow (Damanpour & Schneider 2006; Gopalakrishnan & Damanpour 1997; Kim & Mauborgue 2005; Mendel et al. 2008; Parthasarathy & Bhattacharjee 1998; Rogers, 2003; Wisdom et al. 2013). This research, however, concerns the organisational level, that is the decision-making processes of family owners, boards, and executive management.

Research studies on innovation adoption, especially e-commerce, are naturally diverse in aims, methodology, population samples, and context, as well as in the models and frameworks that explain the processes and stages of innovation adoption. Thus, it is difficult to understand the factors that can affect the adoption of innovation and to draw solid conclusions because the field is plagued by inconsistent and contradictory results (Bask, Lipponen & Tinnilä 2012; Hameed et al. 2012).



Further, in the literature on innovation adoption at the organisational level, there is a lesser emphasis on the pre- and post-implementation phases of innovation projects, and these aspects are crucial to successful project completion (Chu et al. 2013; Hernández-Ortega 2011). Thus, the better a process of adoption can be understood, the more likely that the challenges of adoption can be addressed, thus leading to successful implementation (Wisdom et al. 2013).

Therefore, the aim of this research is to understand the processes of adoption and implementation of complex innovations, such as e-commerce, at the organisational level in the Saudi retail industry. For this research, the first stage of these processes starts when a firm weighs up the reasons (the motivations) for the adoption, then the implementation process starts when a firm decides to engage in e-commerce, and this is then integrated into the business operations of the firm. During the implementation phase, the firm also explores the obstacles and the success factors, and to what level the benefits can be realised.

### **3.2.1 Models of e-commerce adoption**

Over time, several models for the adoption of information and communications systems have emerged. These are summarised in this section. Diffusion of Innovation (DOI) is a theory developed in the mid-20th century by Rogers (2003). It explains that, over time, an idea becomes accepted and is diffused throughout society, thus changing the attitude of the population towards the new idea and eventually adopting it as part of their lifestyle (Rogers & Shoemaker 1971). Brand and Huizingh (2008) posited that complex innovation, such as technological change, may be phased in at incremental levels of complexity. They found that outcomes for one stage therefore have an impact upon the organisation by having less effect on the next stage of implementation. Thus, an organisation in the early stages of technology adoption derives greater benefit than at the latter stages of the process.

An early adoption sequential framework was produced by the United Kingdom's Department of Trade and Industry (DTI) in the 1990s (Martin & Matlay 2001; Taylor & Murphy 2004). Figure 3.1 shows the adoption ladder associated with this framework.

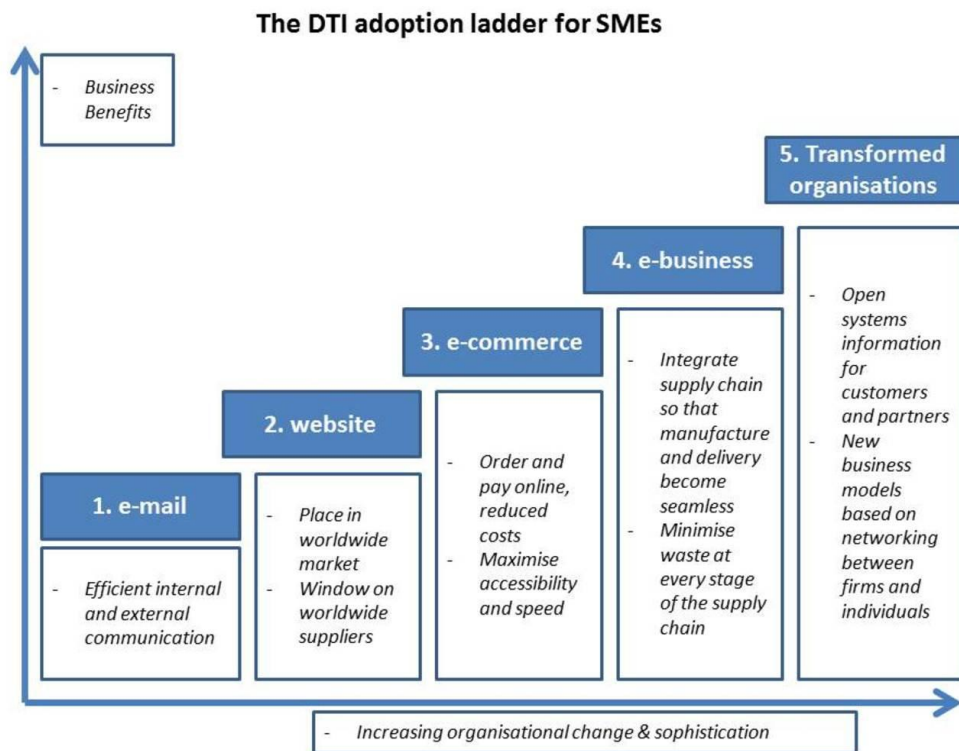


Figure 3.1 *United Kingdom government's adoption ladder*

The United Kingdom model shows five stages of adoption, broadly reflecting the level of technology at the end of the 20th century. Email communications were at the beginning of the sequence in which a website enabled a move to buying and selling online. E-business took this a step further; integrating online sales into the business model, and this finally transformed the organisation into an aspirational network of collaboration. However, this model has been criticised by Parker and Castleman (2009) as being overly-simplistic and that its linear progression cannot capture the complex nature of some organisations.

A less aspirational and more pragmatic model followed, developed in Australia by McKay, Prananto and Marshall (2002). This was the SOGe model (stages of growth for e-business), which had six stages of e-commerce maturation within organisations:

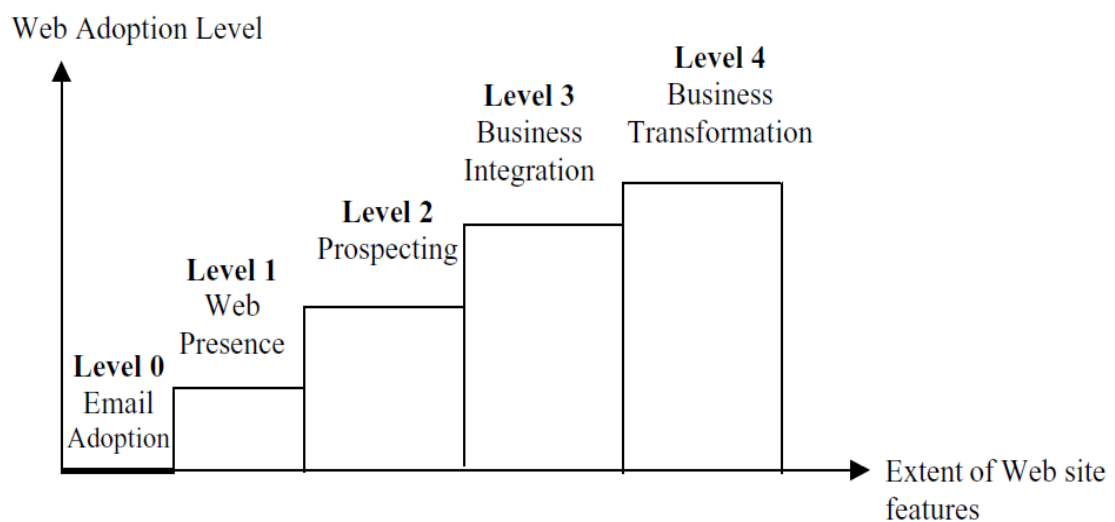
- Stage 1 There is no clear direction for the organisation's e-business initiatives
- Stage 2 E-business initiatives are increasingly considered to be an important component of the organisation's business. However, there is no proper planning and a lack of direction for IS/IT development and implementation
- Stage 3 E-business initiatives are considered to be an important component of the organisation's

business. There is a clear direction for the development of e-business initiatives within the organisation. However e-business development is still focused heavily on a technology-centric perspective and not on business needs

- Stage 4 E-business adoption and development is becoming more business-focused. There is a move towards integration and greater coordination between the components of e-business (eg. IS/IT and Internet) and the organisation’s business processes
- Stage 5 Integration between traditional business processes and activities and e-business processes and activities creates seamless communication and flow of processes within the organisation. E-business initiatives aim to provide strategic benefits by building strategic systems
- Stage 6 E-business is deeply embedded throughout every aspect of the organisation. There is a strong integration between the components of e-business and business processes within the organisation as well as with those of its suppliers and business partners. E-business initiatives are aimed at creating and maintaining the organisation’s strategic advantage (Prananto, McKay and Marshall 2003; Appendix A).

The phases of the framework have assisted organisations to plot their current position and to develop future strategies for e-business. The descriptors have also assisted with risk assessment and the identification of drivers towards the next stage.

Using the British ladder concept, Teo and Pian (2004) developed a web adoption model for Singaporean small firms which showed the maturation process as follows (Figure 3.2):



Source: Teo & Pian, 2004, p. 458

Figure 3.2 An early web adoption model

This staged process demonstrates the relationship between advancing technology (y axis) and the firm's increasing opportunities to adopt e-commerce (x axis) (Teo & Pian 2004). Teo and Pian (2004) posited that firms have four levels of integration for technology, given a starting point of email, that is, basic communications. The first level sees the firm's web presence developed through a non-active website, after which the firm starts to 'prospect' for customers through advertising. The third level is a form of logistics, where a firm begins to integrate its internal communications with its suppliers, and engaging with its customers. The final level, level four, is again aspirational, seeking a transformation of the online business model by building relationships and seeking new business opportunities.

Another staged model was introduced by Rao, Metts and Monge (2003), which shows the details of each stage, and the facilitators and barriers at each stage of development.

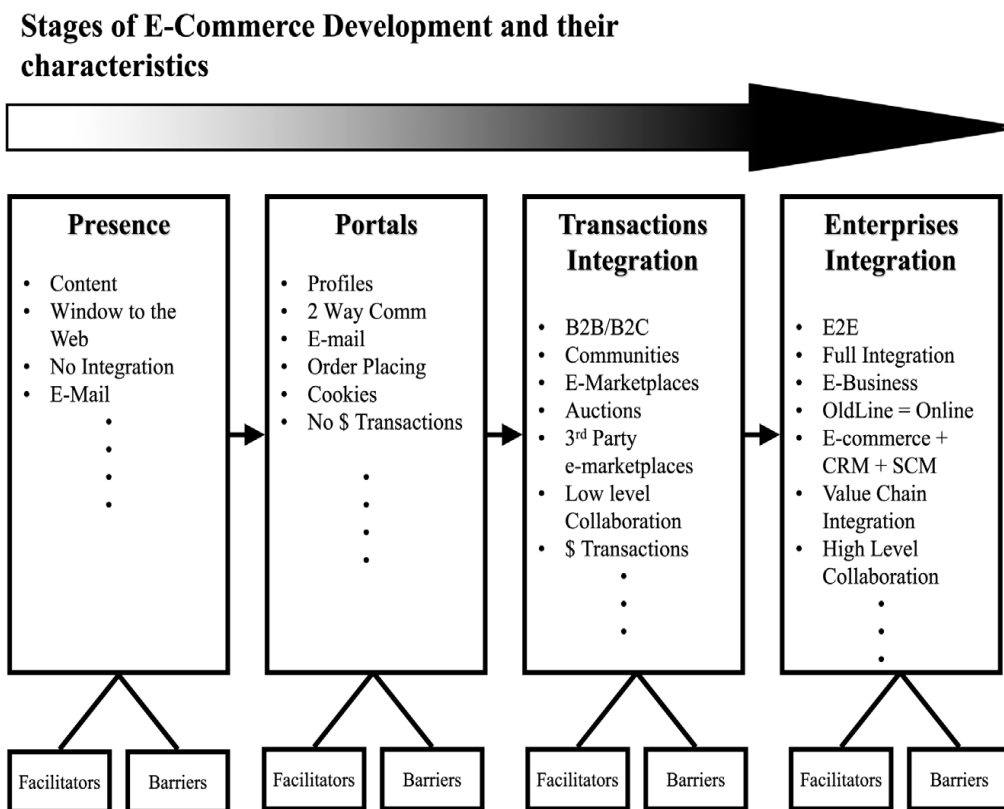


Figure 3.3 *Characteristics of e-commerce development* (Rao, Metts & Monge, 2003, p. 15)

Rao et al.'s (2003) model describes the characteristics of each stage, that is, its facilitators and barriers at the early stage of technology, moving again from a basic presence through to transactions and placing the last step as integration and collaboration with

stakeholders. However, as the authors acknowledged, that model was based on a level of technology that was available only sporadically at the time, and it was unlikely that collaboration could occur with firms in a commercial environment who were positioned at different stages of adoption. This was especially relevant in developing countries.

Following this observation, Molla and Licker (2005) contributed the following e-commerce framework for developing countries:

No e-commerce	not connected to the Internet, no e-mail
Connected to e-commerce	connected to the Internet with email, but no website
Static e-commerce	publishing basic company information on website
Interactive e-commerce	accepting queries, emails and form entries from users
Transaction e-commerce	online selling and purchasing of products including customer service
Integrated commerce	integration with suppliers and other business systems

Molla and Licker's (2005) framework had six phases; basically, no e-commerce for the first three levels as telecommunications became available in the country and firms followed industry practices in using it. The fourth level built on the static website, whilst the following levels reflected increased capabilities in telecommunications and industry practices.

However, these incremental models adopted a generic approach focused on technology and business models (Alonso-Mendo et al. 2009). Morais, Pires and Gonçalves (2012) classified the constraints that emerged during the evolution of e-commerce as being environmental, organisational, and technological, and that these categories may differ between countries, industries, and individual firms, depending on the stage of maturity. Morais, Pires and Gonçalves (2012) found that these differences also differed according to the size of the firm. Dedrik, Xu & Zhu (2008) also found differences, at the time of publication, based on the number of suppliers in a procurement chain in the United States.

Changes to business systems, such as industry-specific programming, cloud-based systems, and mobile technologies, add other layers of complexity for firms. The models from the decade past used technology-based issues which may now be redundant, such as software

expenses, user training, or the level of technology in the industry (Al-Zharani 2012). Bogers and West (2012) argued that innovation is now sourced from members in a value network. They compared the incremental models of the past to an open innovation model, where user innovation appears as social production and co-creation, such as through open source software and crowdsourcing applications. The authors' classify innovation flows as follows in Table 3.1

Table 3.1 *Characteristics of innovation use and restrictions*

Innovation sources	Users
Closed	in-house
	vertical integrated systems between firms
Leaked, spillover	cumulative innovation
	free culture
Freely revealed	user innovation
	social production
	co-creation
	open innovation (knowledge benefactor)
	open source software
Purchased	open science
	open innovation (purchased knowledge)
	crowdsourcing

Source: adapted from Bogers and West 2012

Bogers and West (2012) explained that traditional, vertical forms of innovation are described as being in-house and as the value chains of the industry. Other users produce cumulative innovation, communities, social production, and co-creation, which are based on different locations and drivers of innovation. 'Leaked innovation' is software possibly acquired from a source with copyright, which has been pirated, whilst 'spillover' is released through an originator, such as a university. 'Open innovation' describes the manner by which

firms take innovation from its original context and adapt the form to suit their needs, whilst ‘crowd-sourcing’ provides the same result from a different perspective.

From another perspective, Ryan and Tucker (2012) investigated technology adoption in the form of video-calling. They studied the adoption costs and network benefits of the advertising channel used by a large United States firm. They found that strategically targeting an optimum population subtype for initial adoption led to a faster-growing and larger network for advertising.

The above models and observations represent researchers’ theories for explaining the technological environment, industry and value (supply) chain interest, and consumer demand for e-commerce (Morais et al. 2012). Further, the firm’s business model and its adaptability to change also influences the timing of e-commerce adoption (Al-Somali, Gholami & Clegg 2010).

However, Martin and Matlay (2001) considered these approaches to be misdirected and likely to fail because they are too generic, and fail to reflect the diverse nature and needs of organizations by focusing directly on technological issues, and are based on subjective description rather than empirical evidence (Alonso-Mendo, Fitzgerald & Frias-Martinez 2009). Moreover, according to Morais, Pires and Gonçalves (2012), these models have a linear approach to development, and none of them consider the constraints on development or strategic development within the framework. Indeed, despite much research being conducted on e-commerce over recent years, it has not yet reached a high stage of maturity (Dedrik, Xu & Zhu 2008). Therefore, calls for further research to obtain more comprehensive understandings about the factors which hamper greater maturity are called for, as a prelude to resolution (Morais, Pires & Gonçalves 2012).

Firms in countries such as Saudi Arabia, where e-commerce is a relatively new phenomenon, are expected to be at different levels of e-commerce implementation. The contribution of this study, therefore, is to focus on the multi-level nature of the adoption of e-commerce, in order to establish the ‘what and why’ factors that have held back progress to more advanced stages of e-commerce in the Saudi retail industry.

### 3.3 Motivations for E-commerce Adoption

Changing the firm's business plan towards e-commerce can arguably be to either meet industry practices or consumer expectations. There have been recent calls to increase our understanding of what motivates the adoption of ICT (Zhang 2008). Recently, research activities are increasing in the retail industry, of which the majority focus on addressing consumer acceptance or demand for products and services, while little has been conducted on the drivers of innovation in the retail industry (Pantano 2014). De Massis, Frattini & Lichtenthaler (2012) argued that investigating the drivers of innovation would help retailers with the effective use and implementation of e-commerce. In fact, studying the motivation is important because the objective of the implementation of new innovation is tied to its motivation (Raymond, Uwizeyemungu & Bergeron 2006). Adoption motivations influence the project system's extent, design, and implementation (Parr & Shanks 2000), and also determine the owners' strategies towards e-commerce adoption (Pittino & Visintin 2009). In fact, there is limited, but not solid, research in developing countries about the drivers of e-commerce adoption in large organizations. This study emphasizes that knowing the motivation for e-commerce adoption in Saudi Arabian organizations will encourage decision-makers to embrace it, and help to identify the barriers to, and enablers of, adoption. Moreover, this study will contribute to the literature on the retail industry by establishing the drivers of innovation in the Saudi retail industry. The following discussion present motivation factors for e-commerce adoption and implementation experience from developing and developed countries.

In developing countries according to Iddris (2012), the main reason behind the adoption of e-commerce applications in Ghana, as a developing country, is the use of email for communication, while the main reason for having a website is to show basic information about products and services as well as to provide contact information. On the other hand, marketing and competition in the tourism industry, as a demonstration of overall business performance, was the most important driver for advanced levels of e-commerce implementation in Egypt (Abou-Shouk & Lim 2012). In a cross-country study in South America, Yap et al. (2006) found the following reasons for companies deciding whether to



move to e-commerce: increased sales, reduced costs, provision of customer service, more efficient gathering of information, and improved business productivity

In a study of the drivers of e-commerce adoption in Malaysian companies (Syed et al. 2005), the findings revealed that improved customer service, better inventory control, lower marketing and distribution costs, reduced cycle time, increased market reach, and reduced operational costs were the motivators for the adoption of e-commerce in Malaysian companies. However, they also found that the realised benefits are unclear among firms. Vatanasakdakul, Tibben and Cooper (2004) identified three major motivators for organisations to adopt B2B-commerce in Thailand: the requirements of trading partners; free services such as email; and company image.

On the other hand in developed nations Swilley, Hofacker and Lamont (2012) explained that initially, retailers avoided e-commerce as they expected cannibalisation of their physical store sales in. Nevertheless, competitive forces through globalisation forced the decision to retain market share. Large department stores in USA began to set up information-only websites to avoid being marginalised, as manufacturers began to sell directly online to consumers, avoiding commissions. Thus, firms were forced into e-commerce by competitive pressures from their suppliers, and through consumer demand (Swilley et al. 2012). Howard, Vidgen and Powell (2012) found that cost reduction, supply base reduction, common sourcing, transaction efficiencies, product quality, delivery lead time, and skills and knowledge motivated a number of automotive companies in UK to adopt e-business strategies.

Levenburg & Magal (2005) analysed 19 reasons for e-business adoption in small family-owned businesses in USA. Their study found that customer-focused motivations are most important in the adoption of e-business, while improving profitability was the least important. Piris, Fitzgerald and Serrano (2004) studied strategic motivators and the expected benefits from the adoption of e-commerce among traditional organisations in Europe . They chose six representative organizations from different sectors and explored the rationale for their e-commerce strategies. The main motivations reported were to increase the focus on the customer and to improve internal communication. Obtaining a competitive advantage was also found to be a powerful motivator. They also found that organisations which obtain income and profit through the Internet are more likely to perceive e-commerce as a useful strategy, whereas organizations which have no direct revenue through the Internet usually

have a lower strategic perception of e-commerce. Theoretically, companies adopted e-commerce for two reasons: (i) for cost reductions, such as material savings, decreased transport usage, storage costs, and reduction of personal expenses; and (ii) for increasing the customer base to influence increases in company sales (Chaffey 2009). Table 3-2 summaries the motivation factors in developed and developing countries.

Table 3.2 *motivation factors in developing and developed countries*

Author	developing countries	Author	developed countries
Iddries (2012)	examine the main reasons for adopting e-Commerce among Ghan's SMEs, he found e-commutation, advertising and disseminate information were significantly motived owners for such technology	Swilly (2012)	The study focused on investigating the internal and external influences retailers to use e-commerce. The study identified competitive pressure from supplier and consumer demand was the important driver for e-commerce usage among American companies.
abou-shok &Lim (2012)	They found that marketing, competition, and improving business performance the main drivers for Egyptian tourism industry.	Howard, Vidgen and Powell (2012)	The remarkable motivation for UK automotive industry towards e-commerce implementation was cost reduction, improving supply chain activity.
Yap et al. (2006)	In cross countries study among south Americans industry, they examine Technology, cultural and socio-economic factors were the reasons for e-commerce adoption. They found that increase sells, improving customer's services, improving business efficiency were important driver for e-commerce usage.	Levenburg & Magal (2005)	Analysed the literature on motivation factors among small family business in USA, they found customer services were the high important factors.
Syed et al. ( 2005)	The study interrogates perceived benefit verse realised befit in Malaysians electronic manufacturing companies. The researchers found that improving customer, services, marketing, reducing the operation cost , improving business performance are important driver for c-commerce adoption at their companies.	Piris, Fitzgerald and Serrano (2004)	The study investigates the reasons behind e-commerce adoption among large organisation in different countries in Europe. They revealed that customer services, competitive advantage, improving internal communication had the priority for participated in their study.
Cooper (2004)	The research investigates social and culture aspect require for B2B e-commerce adoption. They found trading partner requirement,e-mail and company image were motivated Thailand's organisations to adopt B2B e-commerce.		

It can be seen that in (table 3.2) , in spite of many factors that reported in the literature as a motivating to e-commerce usage, there is no agreement on a framework that can be used in all countries, because each country has its own state of affairs that reflects its environment and culture. There are many different reasons mentioned in the literature regarding the adoption of e-commerce. In general, the literature on the motivators for adoption attempts to reveal the drivers of certain behaviours and why these behaviours vary in intensity (Reeves 2005).

E-commerce technology in Saudi Arabia is still a relatively new phenomenon. This means that the short supply of success stories in e-commerce serve as a basis for very little encouragement for Saudi firms to adopt e-commerce. In other countries, the lack of understanding about the benefits of e-commerce before its implementation was the primary reason for not adopting e-commerce (Scupola 2003). This study proposes that the study of Saudi retailers and how they engage in e-commerce is an important step in understanding how they use it and the obstacles that could, and do, hinder them from achieving the expected benefits. This information can enable firms to more effectively select, use, and monitor e-commerce investments over time (Auger & Gallagher 1997; Raymond 2001). Therefore, the first research question for this study is: **What are the most important motivating factors for the adoption of e-commerce in the Saudi retail industry?**

### **3.4 E-commerce Adoption in Developing Countries**

Industry environment, location, and the state of the infrastructure are influences for the intention of firms to adopt new technologies. E-commerce is a technology that was launched in industrialised countries Zhu and Kraemer (2005), therefore, many theories and frameworks have been developed for e-commerce adoption in these countries in order to increase the rate and success of adoption( Gunasekaran & Ngai 2005; Tan, J, Tyler & Manica 2007). However, these studies cannot be applied in developing countries because these countries are different in their cultures, business conduct and regulatory environments (Abou-Shouk, Lim & Megicks 2013; Lawrence & Tar 2010)

According to Iddris (2012), e-commerce adoption in Ghana has been virtually non-existent due to a lack of legislation, telecommunications infrastructure and competencies,

high costs, and a lack of consumer demand. In Egypt, Abou-Shouk & Lim et al. (2013) pointed to pressure from global operators, suppliers, and consumers for small tourism operators to improve their Internet presence, as 59 per cent did not even have a website. The barriers included poor infrastructure and a lack of computer literacy.

In Malaysia, Alam, Ali and Jani (2011) determined that the adoption factors for smaller firms (N=200) taking up e-commerce were compatibility, relative advantage, organisational capabilities, executive support, and the country's infrastructure, which all had significant impacts on adoption. Of these, management decisions to change the business model were the main determinant for embarking on a new strategy. Researchers exploring the expansion of e-commerce in Vietnamese small firms (N=926), since the country joined the World Trade Organisation in 2007, found little support for the concept. Van Huy et al. (2012) reported that some Vietnamese enterprises benefitted from the adoption of e-commerce, after classifying these firms on an extended technology-organisation-environment measure (Tornatzky & Fleischer 1990). They found that firms that did not adopt e-commerce differed in their sensitivity to the contributory factors. Further, due to the early adoption stage for innovation, the majority of the firms had a static web presence and had not yet embarked on creating a more dynamic use of the technology (such as creating and operating a website). This was due to the technological and legislative infrastructure available in Vietnam at the time. However, complexity of the innovation and perceived risk were significant impediment technology adoption

Similarly, Li and Xie (2012) investigated successful adoption factors in China, finding that corporate strategy, executive attitude, industry pressures, and the firm's technological capabilities were the determining factors for the adoption of e-commerce. Again, Modimogale and Kroeze (2011) found little interest, in a province of South Africa, for e-commerce and this was due to structural issues in telecommunications and legislation, and high levels of perceived fraud.

Thatcher, Foster, Zhu (2006) had interviewed 20 managers and executives at electronics and textile companies in Taiwan regarding the impact of Chinese culture and institutional factors on B2B e-commerce adaption decision . Thatcher et al. (2006) found that organizational, industrial, governmental, and cultural factors had influences B2B e-commerce adoption decisions. Also, they found Chinese culture hampered the degree of adoption in the textile industry. While electronic industry overrode cultural tendencies due to competitive

pressure. Ghobakhloo et al. (2011) studied e-commerce adoption in small Iranian firms. They found that the grounds for adoption were the strength of the executive decision to innovate, the firm's competencies, and industry factors including the firm's competitive advantage, and industry practices in telecommunications. Other influences included information intensity and support from technology providers.

Moreover, Al-Fawaeer (2014) investigated e-commerce strategies for Jordanian telecommunications companies, as they would be expected to be among the first to adopt online marketing; however, the researcher concluded that the infrastructure was not yet in place in the country. Table 3.3 below shows the different factors that affecting e-commerce adoption in developing countries.

Table 3.3 *factors affecting e-commerce adoption in developing counties*

Author	Country	Industry	Research objective and finding
Iddris (2012)	Ghana	Different industries	the study identified barriers to e-commerce adoption: the study found that a lack of legislation, telecommunications infrastructure and competencies, high costs, and a lack of consumer demand the significant barriers to r-commerce adoption
Abou-Shouk & Lim et al. (2013)	Egypt	Tourism	Factor affecting e-commerce adoption among adopter and none-adopter. The Findings of the study revealed that resources limitation, a funding problem, The lack of governmental support, a lack regulatory system and consumer culture and the lack of public infrastructure readiness were the common barriers for e-commerce implication.
Alam, Ali and Jani (2011)	Malaysia	Different industries	Conducted a study which aimed at examine the major determinants of e-commerce adoption by SMEs in Malaysia The research findings show that relative advantage, compatibility, organizational readiness, managers characteristics, and security have significant impacted on e-commerce adoption.
Van Huy et al. (2012)	Vietnam	Different industries	Examine the major internal and external the factors that affecting the decision to adopt e-commerce among adopted and one-adopted. The findings exposed that most of SMEs had low level of website due to the technological and legislative infrastructure. However, complexity of the innovation and perceived risk were significant impediment technology adoption
Modimogale and Kroeze (2011)	South Africa	Different industries	The purpose of study was to look at how organisations use ICT. The research shows that weakness of telecommunications and legislation, and high levels of perceived fraud hindrance the diffusion of e-commerce adoption in the country.
Thatcher et al. (2006)	Taiwan	electronics and textile	Investigating the impact of cultural and institutional factors influences B2B e-commerce adoption decision. It finds that organizational, industrial, governmental, and cultural factors significantly influence the process of adoption.
Ghobakhloo et al. (2011)	Iran	Manufacturing	The purpose of this paper is to determinants the factors affecting the decision to adopt and extent of e-commerce adoption. Perceived relative advantage, perceived compatibility, CEO's innovativeness, information intensity, buyer/supplier pressure, support from technology vendors, and competition were critical factors for adoption.
Al-Fawaer (2014)	Jordan	Communication	The study identifies the relationship between e-commerce adoption and the business strategy. The result indicates that the lake of telecommunication infrastructure was the main happened e-commerce adoption at organisation level in communication industry.
(Kurnia &Ali 2012),	Bahrain and Indonesia	Grocery	This study compares the experience of the grocery industry in adopting B2B e-Commerce in Indonesia and Bahrain. The research uncover that both countries are lack of government support. Moreover, Indonesian's companies are more willing to adopt B2B e-commerce than Bahrain's firms due to the mangers awareness and industry structure in Indonesia.

According to table 3.3 different factors reported in the literature as the obstacles to e-commerce adoption in developing countries. Therefore, developing countries are considered to be very 'heterogeneous' in terms of political systems, economies, ideologies, demography, cultures, race, and so on; thus, such factors which might contribute or impede the adoption of e-commerce in one country may not be applicable in another ( Abou-Shouk & Lim et al 2013; Lawrence & Tar 2010).

For example, most countries lacked technology, infrastructure readiness and legalisation; however, the vitamin industry had the technology and legislative infrastructure to support firms' adoption of e-commerce (Van Huy et al. 2012). Moreover, the literature review shows that industries had different influential factors, even from one country to the next. For example, one chain's culture had a negative impact on B2B e-commerce adoption in the textile industry while no influential factors were found within the electronics industry.

Furthermore, in comparing studies between two developing countries, Indonesia in South-East Asia and Bahrain in the Arabian Gulf region (Kurnia & Ali 2012), it was found that although they share similarities in terms of a lack of government support for using B2B e-commerce, they found a different view in terms of the expected benefits of adoption, with Indonesian firms believing that e-commerce is beneficial, while Bahrainian firms did not view B2B e-commerce as being beneficial at all, and so struggled to justify investing in such technologies. This is due to the awareness and experiences of Indonesian managers in developed countries, such as the United Kingdom and the USA who are familiar with e-commerce technology. Moreover, Indonesian companies have adequate trust levels, but there is a lack of trust in Bahrainian organisations. Furthermore, the grocery structure is different between the two countries. Large firms in Bahrain are not interested in implementing B2B solutions within their local supply chains, while large companies in Indonesia are influential and support small trading partners in adopting B2B e-commerce solutions.

Thus, an outcome from one country might not be expected in another without re-examination and reconsideration, because each country has a unique situation that needs culturally-appropriate and specific strategies for e-commerce adoption (Abou-Shouk, Lim & Megicks 2013; Lawrence & Tar 2010). For instance, the Arab countries in the Gulf region differ from other developing nations in terms of their economy, political systems, religion, and culture (Al-Musalli & Ismail 2012; Al-Rawi & Sabry 2009).

Although in recent years, the research on e-commerce in developing countries has started to increase, most previous studies have been conducted in South Asia, while less attention has been paid to other developing nations, particularly in the Arab world (Abdallah & Albadri 2011; AL-Fawaer 2014; Al-Rawi & Sabry 2009; Baabdullah, Dwivedi & Williams 2013; Muhannad and Ahmed 2014). Therefore, this study contributes to the knowledge by uncovering the factors that affect the adoption of e-commerce in the Saudi retail industry, as a developing country in the Arabian Gulf.

### **3.5 E-commerce in Saudi Arabia**

Various authors who have studied the situation in Saudi Arabia have examined a number of aspects of e-commerce, such as online shopping, online retailers, and consumer practices and preferences. AlGhamdi, Drew and Alfarraj (2011), AlGhamdi, Drew and Alhussain (2012), AlGhamdi, Drew and Alkhalaf (2012), and AlGhamdi et al. (2011, 2012) have investigated Saudi customers' decision-making processes for online purchases, and have developed an electronic model for online retailing in the country (see also Al-Hudhaif & Alkubeyyer 2011 and Al-Maghrabi & Dennis 2011). Al-Mowalad and Putit (2012) and Bahaddad, Houghton and Drew (2013) recommended improvements to financial regulations and a dispute resolution process to improve e-commerce, and considered retailers' strategies in relation to online sales. Attracting customers by focusing on website development, design and information quality, and usefulness for customers, were studied (Al-Maghrabi & Dennis 2011; Al-Sedrani & Al-Khalifa 2012; Aleid, Rogerson & Fairweather 2010). Other Saudi research has focused on the activities of a specific sector of the online economy, such as online accounting systems (Ali & Maloain 2010).

Furthermore, a number of researchers have explored the influence of culture on the adoption of technology and business activities in Saudi Arabia (Alqahtani & Wamba 2012; Im, Hong & Kang 2011; Rashid, Sambasivan & Johari 2003). The influence of culture on Saudi women was mentioned by Ahmed (2011), Al-Munajjed (2010), and Islam (2014). Ahmed (2011) investigated women's abilities to start firms; however, this was refuted to an extent by AlGhamdi and Reilly (2013) who stated that Saudi women's e-commerce activities were related mainly to social media, such as Twitter, Instagram, and Facebook, where they sold home-produced goods and some professional services. Al-Munajjed (2010) and Islam



(2014) discussed women's abilities to access and retain jobs, given the issues of gender separation and women's minority status in the country. Brdsee, Corbitt and Pittayachawan (2012) advocated e-commerce for tourism operators, as women were likely to make decisions about family holidays. In fact, Al-Maghrbi and Dennis (2011) found that there were no differences between men and women in their likelihood to purchase online, as enjoyment, perceived usefulness, and social pressures were influential in the online shopping habits of both genders, notwithstanding the restrictions on women.

In a quantitative study conducted in Saudi Arabia, by AlGhamdi et al. (2012), it was found that a legislative infrastructure was not in place and that firms did not report pressure from industry or from customers to move online. Abdallah and Albadri (2011) noted a number of deficiencies in the Saudi telecommunications and legislative frameworks; however, they offered the following guidelines for firms considering the adoption of e-commerce and, by extension, newer technologies:

- government agencies to act in partnership with industry associations to plan, direct, and implement digital technology innovation
- develop research and development centres to promote innovation in firms
- survey Saudi firms' digital awareness, attitudes, and strategic intentions (Abdallah & Albadri 2011).

AlGhamdi, Nguyen and Jones (2013) concurred with this approach, stating that a government-supported strategy is required to promote online retailing in Saudi Arabia, both for retailers and the public at large. AlGhamdi, Nguyen and Jones (2013) did not envisage a drive to full e-commerce functionality in the near future without substantial government support in legislation, and assurances of security similar to e-government initiatives in the country.

The main barriers to the adoption of new technologies in Saudi Arabia, according to Ahmad and Agrawal (2012), were legislative issues, with a lack of privacy for personal data, a fear of fraud, and a lack of compatibility between existing systems and the new technologies. Ahmad and Agrawal (2012) recommended that firms employ security software and use new-generation digital technologies, which are available from cloud-computing providers. As well, Ahmad and Hasibuan (2012) recommended that governments explore cloud technologies as a means of avoiding isolated systems (silos) and duplication in their

bureaucracies. They nominated six layers of competencies: access, user, management, virtualisation, service, and infrastructure layers, which account for the various applications that larger organisations need.

Although several studies have been conducted on e-commerce adoption in Saudi Arabia, they have not yet provided an in-depth analysis of the existing situation, as most have focused on the individual or the consumer's behavioural intentions to adopt e-commerce, rather than having a focus on the organisational level. Indeed, e-commerce is a complex innovation at the organisational level that cannot be adopted if the decision-makers within the organisation do not perceive change to be necessary (Garland, Bickman & Chorpita 2010); therefore, studying e-commerce at the individual level is not capable of providing insights about the 'organisation as adopter' (Pennings 1987). Furthermore, previous research in Saudi Arabia has examined e-commerce on the basis of 'being adopted or not being adopted, or the intent to adopt'. Indeed, this approach to the research has only limited application and does not fully demonstrate the scope and importance of e-commerce at the organizational level (Zhai 2010). Therefore, this study looks at e-commerce as a complete process by identifying the motivating factors for adoption, and the factors that affect e-commerce during the implementation or usage stages, and the benefits that have been achieved.

E-commerce research in Saudi Arabia has focused on broad business industries rather than focusing on a specific industry or case. As a matter of fact, different industries vary in terms of strategies, competitive environments and number of supply chain members and model which lead to inconsistent findings from industry to industry. For example, the retail industry has complex supply chains that require accurate information that minimises the errors and enhances the cooperation among supply chain members in terms of product quality, inventory levels, planning, distribution and logistics, which is different from the tourism industry. Therefore, it is important to study e-commerce from a particular industry perspective in order to understand the organisational factors and the environment that can enhance technology implementation (Brdesee et al. 2012; Sila 2013).

Furthermore, these studies have primarily used the theoretical constructs of the Technology Acceptance Model (TAM), the Diffusion Of Innovation (DOI) model, and the Unified Theory of Acceptance and Use of Technology (UTAUT) to test the perceptions of the customer's, or the supplier's perspective in relation to the introduction of B2C e-commerce usage. In fact, TAM and UTAUT is classified as an individual level theory that

studies end-user acceptance or rejection technology and cannot be applied at the organizational level, which is impacted by internal and external environments. Furthermore, AlGhamdi and Drew (2011) applied DOI to identify and explore key issues to enhance the diffusion of online retailing as B2C e-commerce in Saudi Arabia from the supplier's perspective.

However, DOI has limitations in terms of external factors and inter-organisational relationship (see section 3.7.1). Also, they did not identify the factors that were related to organisation culture and structure which can influence the overall use of such technology. The Technology-Organisation-Environment (TOE) framework is similar to DOI, however, a possible advantage of the TOE framework is that it introduces a broader scope of the environmental context, potentially including broader aspects associated with cultural difference in different nations and developing countries (including the considered context of the Saudi Arabian retail industry) (see section 3.7.2). Only one descriptive study used the TOE framework (Al-Somali, Gholami & Clegg 2010) as a lens through which to investigate initial e-commerce adoption in the Saudi business environment. Hence, there has been a lack of strong empirical work to enable the establishment of models that establish the factors that can explain the adoption process of e-commerce in the Arabian Gulf. The present study aims to fill this gap in relation to large companies in the retail industry and their adoption of e-commerce at the organizational level. Based on the insights from the literature and key issues that have been identified, the second question for this research is: **What are the impediments to e-commerce implementation, and what are the critical factors for success?**

### **3.6 Advantages of E-commerce**

Firms benefit from e-commerce in terms of cost reductions in ordering, and the management of inventories, as noted by Huang and Benyoucef (2013). This was also confirmed by Baršauskas, Šarapovas and Cvilikas (2008) who added the advantage of reduced labour costs from automation. However, there can be major concerns in the first stage of e-commerce integration as firms find that their industries or business models do not fit the available technologies or systems. This has occurred frequently in developing countries due to legal and technology infrastructure inadequacies. Moreover, the literature shows that there were mixed results on performance, generally derived from the state of the

technology at the time (Devaraj et al. 2007; Li et al. 2009; Mora-Monge et al. 2010; Sanders 2007). Molla and Heeks (2007) found that technological infrastructure issues and lack of customer demand delayed e-commerce benefits for firms in South Africa. The review of Mora-Monge et al. (2010) found that the evaluation of the benefits of e-commerce in organisations is still not clear and there is no agreement on the benefits that can positively impact organisations. In response, a number of more recent studies have examined the realised benefits of e-commerce usage.

On the other hand, in a study of small businesses in India, Jahanshahi et al. (2012) demonstrated that even in its early stages, e-commerce had a positive and significant impact on market and operational performance. Similarly, there was a strong relationship between e-commerce usage and organisational performance in the Malaysian tourism industry (Salwani et al. 2009). Moreover, Rahayu & Day (2013), in their investigation of e-commerce in smaller firms in Indonesia, found benefits based on the firms' use of telecommunications and the Internet. Austrade (2014) pointed towards the advantages of e-commerce in terms of time, cost and improved standards; the ability to grow business through emerging technologies and across time zones; supply chain integration; and intra-organisational functions, such as marketing, finance, and human resources.

Communication through the Internet is arguably of the greatest advantage to firms, and this is shown by their use of email in preference to direct contact through telephone or facsimile. This is the first step of e-commerce, and the organisation can obtain these benefits, even without a website. Devaraj, Krajewski and Wei (2007) noted communication improvements along the supply chain as firms moved online. Internet communications from the firm extend through to suppliers, government agencies, business associations, and customers, providing product and other information, negotiating prices and contracts, placing and receiving orders, and paying and receiving payments (Huang & Benyoucef 2013). Huang and Benyoucef (2013) noted that, as e-commerce evolves, a firm's online presence communicates to a greater audience beyond simply engaging with buyers and sellers; these include social media and 'social commerce' groups. They apply the model and guidelines for large United States-based firms who use social media to sell their products (Huang & Benyoucef 2013).

Given that customer satisfaction is paramount for any organisation, online customers are no exception. Eid (2011) explained that in Saudi Arabia, managing customer satisfaction

and engendering loyalty for online customers is crucial for long-term growth. Firms selling in the online environment find that maintaining customer loyalty is difficult, even with greater customer awareness of the benefits of online shopping. Eid reported on a study (N=218) conducted in Saudi Arabia, that online customer loyalty is strongly influenced by customer satisfaction. Comparing online stores to physical stores, Kacen, Hess and Chiang (2013) surveyed United States consumers (N=224) on 18 variables of perceptions and preferences. Kacen, Hess and Chiang (2013) found that all product categories from online stores are less acceptable than purchases from physical shops. The disadvantages of e-commerce were perceived to be additional delivery costs, issues with returning goods or post-purchase assistance, a lack of shared experiences in shopping, querying of salespeople, and uncertainty in product selection. The advantages of brand selection and comparison, and the ease of browsing, did not make up for the disadvantages, according to the respondents from Kacen, Hess and Chiang's (2013) survey. Benedicktus et al. (2010) also reported that consumer doubt about purchasing online could be reduced through buying known and unknown brands from a traditional retailer that also sells online, or through purchasing online direct from a well-known brand.

Researchers have found that technological innovation has a positive impact on business performance. For example, Jinfu and Aixiang (2009) presented an integrated online framework for a supply chain situated in the textile, clothing, and retail industries. Melnyk et al. (2010) nominated cost-related benefits for online supply chains, adding that responsiveness, resilience, and innovation were factors in maintaining the flow of goods. Chang and Graham (2010) used a balanced scorecard analysis to study an e-commerce supply chain, offering the benefits of efficiency and greater functionality among the chain members. As part of the functioning of the chain, Wang and Zhang (2009) stressed that e-commerce involves the execution of business transactions over the Internet. Companies conducting e-commerce perform some, or all, of the following activities across the supply chain over the Internet: providing product and other information; negotiating prices and contracts; placing and receiving orders; tracking orders; filing the order and delivering; and paying and receiving payments. All firms operating in different industries ought to have a succinct and clear understanding of the various activities that their business partners are engaged in if they desire to coordinate the operations of their respective supply chains. Studies conducted in the past on firms operating in the manufacturing sector have shown that their performance improves when they share information (Porterfield 2008).

This study argues that it is important for managers or decision-makers in Saudi businesses to realise the benefits of different levels of e-commerce usage, in order to encourage themselves to move from level to level of e-commerce implementation. Based on our knowledge, there are no studies that examine the realised benefits of using e-commerce in Saudi Arabian organisations; therefore, this study will attempt to fill this gap in the literature by investigating the benefits that can be realised in Saudi businesses, particularly in the retail industry. Therefore, the third question for this research is: **what, so far, has been the outcome of e-commerce adoption in the Saudi retail industry, in terms of levels of implementation and benefits?**

This study emphasizes that, in order for Saudi organizations to use e-commerce technologies appropriately, they must not only consider the motivations for, and the benefits from, the implementation of e-commerce, but should also understand the barriers that can hinder these benefits, or prevent them from applying e-commerce in the correct way. The next sections are discussed the theories associated to technology adoption at organisational level and the conceptual framework for this study.

### **3.7 Theories Associated with E-commerce**

Theories relating to the adoption and diffusion of e-commerce in its many forms are situated in the domains of the social sciences, management science, economics, and computer science. A theory specifies causal relationships, with the purpose of explaining and predicting the relationships among variables. A theory comprises a set of interrelated constructs (concepts), propositions, and definitions that provide a systematic view of phenomena (Gray 2013). According to Sila (2013) review 25 different theories have been developed and used for identified factors affecting the adoption e-commerce at organisation level. Moreover, he found that diffusion of innovation theory (DOI) (Rogers, 1995) and the technology, organisation, and environment (TOE) framework (Tornatzky & Fleischer, 1990), were the most frequently used by these researchers. This section considers these two theories.

#### **3.7.1 Diffusion of innovation theory**

Innovation diffusion is defined as “the process in which an innovation is communicated through certain channels over time among the members of a social system”

(Rogers 2003, p. 5). Rogers (2003) defined innovation as a perception of something new by a person or a group, which may be an object, a service, an application, or merely a notion. Innovations have attributes, perceived by potential adopters, which determine their ultimate take-up and use.

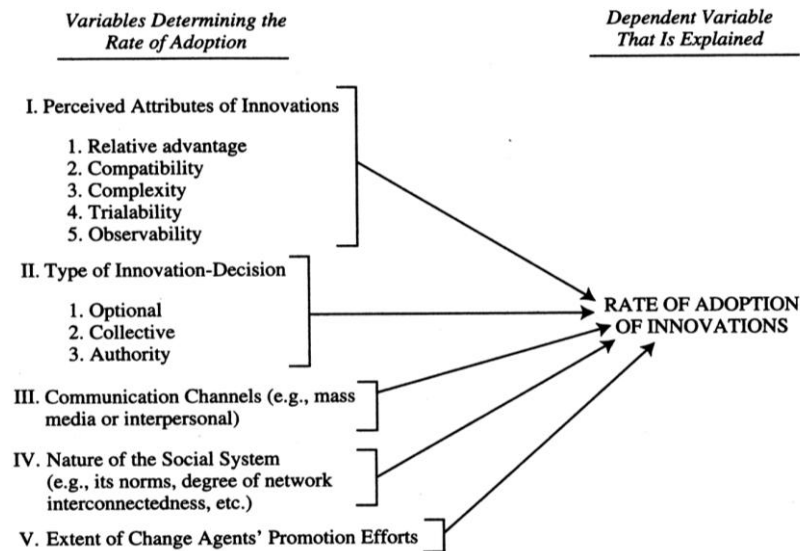


Figure 3.4 *Rogers' diffusion of innovation* (Rogers 2003, p. 222)

Figure 3.4 above shows Rogers' (2003) innovation attributes; although, the researcher points to the need for further research on other types of variables. In regard to the perceived benefits of innovation adoption, each attribute, relative advantage, compatibility, complexity, trialability and observability, can assist in reducing a potential adopter's uncertainty. These are described as follows:

- relative advantage: where an innovation is perceived to be better than that which it superseded
- compatibility: where an innovation is perceived as being consistent with the existing values, experiences, and needs of potential adopters
- complexity: the degree to which an innovation is perceived as being difficult to understand and use
- trialability: where an innovation may be experimented with on a limited basis
- observability: where results from an innovation are visible to others

Complexity is negatively related to adoption, while compatibility and relative advantage are positively related to adoption. These three attributes are consistently identified

as critical adoption factors in information systems research (Jeyaraj, Rottman & Lacity 2006; Fichman, & Kemerer 2012).

Other variables shown in Figure 3.4 are the types of innovation decisions, which can be characterised as being optional for an individual, a group, or an authority, where there is an organisational decision to be made. Communication channels may range from being highly-focused to very diverse. The nature of the social system is of importance to Saudi Arabia, where there is a dense relationship bounded by family and tribe, religion, and government. The final factor is the amount of pressure the organisation (in this case) experiences in its decision to innovate (e-commerce). While Rogers' (2003) theory extends to the early 20<sup>th</sup> century, its relevance is very much in evidence for contemporary technological innovation.

The diffusion of new technologies requires transparency and communication to enable users to adapt and gain competency in the new business model. There are five stages of the innovation diffusion process: knowledge, persuasion, decision, implementation, and confirmation. These are the elements that are related to the need for information by the users of the innovation in order to move from one stage to the next, with the creation of awareness and the provision of information being considered as very important elements for the adoption of innovation (Machfud & Kartiwi 2013; Rogers 2003). The theory identifies the factors which facilitate or hinder the adoption of technology to assess the rate of diffusion of a technology. The literature shows that diffusion theory has consistent empirical support (Al-Jabri & Sohail 2012; Moore & Benbasat 1991; Seyal, Rahman & Mohammad 2007).

Although Rogers' (2003) model has been used widely to explain the adoption of innovation, it fails to deal with other organisational and environmental factors (Cheung & Lee 2012). Whilst Rogers' (2003) model contains communication channels, these can be extended to the relationships between trading partners, but it falls short in capturing the dynamics of inter-organizational relationships (IOR) between trading partners (Arash & Jeffrey 2010). For example, the influence of power between the two engaging parties is not captured, although some consider this to be a major factor in the adoption of e-commerce (Arash & Jeffrey 2010; Hart & Saunders 1997). In a critique of Rogers' (2003) model, Lundbla (2003) provided details on the importance of inter-organisational and system-related factors and how their exclusion may limit the applicability of the model.



It has also been argued that DOI theory neglects the importance of the nature of different industries and the market as factors in technology adoption (Arash & Jeffrey 2010; Chau & Tam 1997; Kwon & Zmud 1987c; Robertson & Gatignon 1986). These researchers believe that in order to form an integrated theoretical framework for future research on the adoption of organisational e-commerce, additional theory needs to be included. Recent research (Parker & Castleman 2009) noted that DOI has limitations because it does not provide a lens for examining the nature of relationships between organisational and individual decision-making, and the complex social contexts (including change agents) in which firms make decisions. Considering that e-commerce is a complex organisational technology, the classical assimilation variables by themselves are unlikely to be strong predictors of adoption; thus, additional factors should be added for better outcomes (Perez et al 2004).

Technological change in business systems lead to innovation in a firm's business model. This is supported by the TOE framework developed by Tornatzky and Fleischer (1990), which is explained below.

### **3.7.2 Technology-organisation-environment framework**

An analytical technique known as the TOE framework was developed by Tornatzky and Fleischer (1990). It measures three groups of organisational factors in the adoption of a firm's technological innovation. The technological context describes both the internal and external technologies which are relevant to the organisation, and incorporates extant as well as emerging systems and takes account of the various influences on the firm (Chau & Tam 1997). The organisational context describes the characteristics of an organisation that encourage or discourage the adoption of technological innovation. Examples of these characteristics include firm size, organisational structure, executive support, human resource competencies, and available resources. The external environment includes the firm's industry, competitors, regulations, and access to external resources. This is consistent with Porter's (1985/1998) arguments that a firm's strategic decisions depend, in part, on industry structures and members, although the framework differs from DOI theory in its inclusion of environmental factors. Baker (2012) postulated that the TOE framework would remain relevant and continue to direct research on the adoption of innovation. Figure 3.5 below presents the TOE framework developed by Tornatzky and Fleischer (1990).

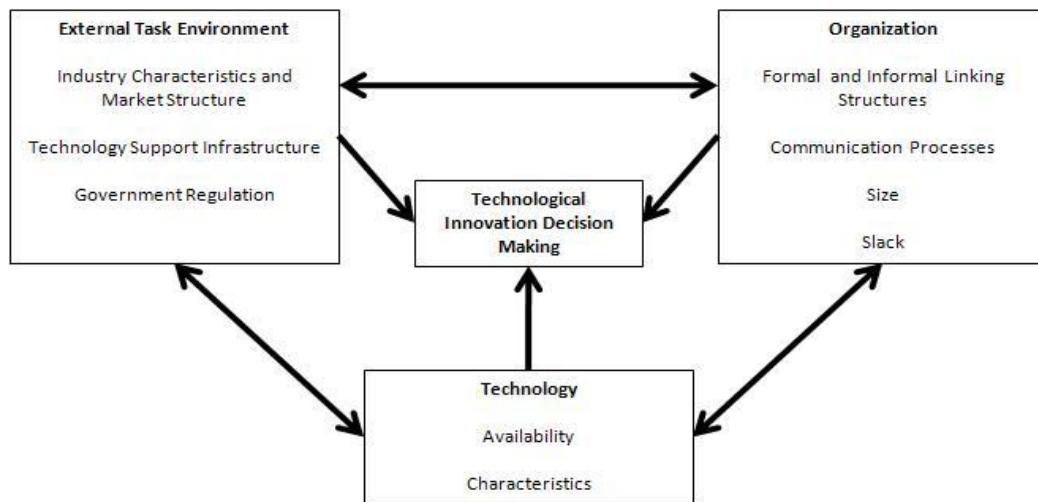


Figure 3.5 *Technology-Organisation-Environment framework*  
(Tornatzky and Fleischer 1990, P. 154)

The TOE framework, shown in Figure 3.5, comprises three aspects of decision-making in relation to technological innovation. The first is the external task environment where the market characteristics, technology support, and legislation reside. The next aspect is comprised of the characteristics and availability of the technology. These characteristics lead to the future direction of innovation, such as cloud and mobile technologies, which may be viewed as future business model configurations. The organisation comprises communications, internal structures and characteristics, the size of the organisation, and possible efficiencies (Tornatzky & Fleischer 1990). Researchers have used the TOE framework (Tornatzky & Fleischer 1990), to study e-commerce adoption in many environments and over time. e-commerce (Wongpinunwatana & Lertwongsatien 2003; Sparling, Cater-Steel & Toleman 2007), e-business (Xu, Zhu & Gibbs 2004; Zhu & Kraemer 2005; Al-Somali, Gholami & Clegg 2010; Oliveira & Martins 2010; Lin and Lin 2008), ERP (Ramdani, Kawalek and Lorenzo 2009; Pan and Jang 2008), e-procurement (Teo, Lin and Lai 2009), e-supply chain (Wu and Chuang 2009), B2B e-market (Zhai 2010). A selection of these studies is shown in Table 3.2 below.

Table 3.4 *Literature survey on using TOE framework*

Authors	Focus	Scope	Variables	Findings
Wongpinunwatan & Lertwongsatien (2003)	e-comm adaption	SMEs	relative advantage compatibility, IT group management support firm size, competitive pressures	Firms with IT support, IT knowledge, IT capabilities are more likely to adopt e-commerce earlier than firms with less IT support and firms' start building technology knowledge and infrastructure required for e-commerce adoption
Xu, Zhu & Gibbs (2004)	e-bus diffusion	Firm	Technology competence, global scope, competitive intensity, and regulatory environment, enterprise integration, firm size	Global scope inhibits firms to adopt e-business. Enterprise integration was significant in USA and not in China. Also, they found that firm size did not affect e-business adoption in either the USA or China. Government regulation plays a more important role in China than in the US
Zhu & Kraemer (2005)	e-bus adoption	Retail firms	Technology competence, firm size, financial commitment, competitive pressure, and regulatory support	Technology competence, financial commitment, competitive pressure, and regulatory support are found to have significant influence on the extent of e-business among these; technology competence appears to be the strongest factor, negative effect of firm size on e-business use
Sparling, Cater-Steel & Toleman (2007)	e-comm adoption	SMEs	Size, business category, technological opportunism, technological readiness, owner characteristics, top management support, institutional pressure, relative advantage, compatibility	Organisations have technological opportunism and readiness, owner experience with computers, support within the organisation, relative advantage and compatibility lead to e-commerce adoption, while firm size, industry and competitive pressure not important for e-commerce adoption
Pan & Jang (2008)	ERP adoption	Firm	IT infrastructure, technology readiness, firm size, perceived barriers, production and operations improvement, enhancement of products and services, competitive pressure, regulatory policy	Technology readiness, firm size, perceived barriers, production and operations improvements are significant in decision-making, whereas infrastructure, competitive pressure, regulatory policy enhancement of products and services did not have any relationship to ERP adoption
Lin & Lin (2008)	ebusiness diffusion	Firm	IS infrastructure, IS experts, expected benefits, organisational compatibility, competitive pressure, and trading partner readiness	E-business diffusion integration internal or external success is based on IS infrastructure, IS experts, expected benefits and competitive pressure. However, organisational compatibility and trading partner readiness did not have any influence on e-business diffusion.

Authors	Focus	Scope	Variables	Findings
Ramdani, Kawalek & Lorenzo (2009)	ERP	SMEs	Relative advantage, compatibility, complexity, trialability, observability, top management support, organisational readiness, IS experience, firm size, industry market scope, competitive pressure, external IS support	Firms with a greater perceived relative advantage, a greater ability to experiment with these systems before adoption, greater top management support, greater organisational readiness and a larger size are predicted to become adopters of enterprise systems
Wu & Chuang (2009)	e-supply chain diffusion		Relative advantage, complexity, ability to provide security, peer pressure, transaction climate, environmental uncertainty, and supplier interdependence	Technological structure is a more important indicator for the adoption stage, while collaborative structure is more important in the assimilation stage Industry type and firm size are correlated to different degrees with the attributes of technological and collaborative structures, and with the different diffusion stages
Al-Somali, Gholami & Clegg (2010)	e-bus adoption	Firms	Technological competence, firm size, top management support, customer orientation, technology orientation, customer readiness, trading partner readiness, competitive pressure, regulatory support	Firm size, top management support, technology orientation, customer readiness, trading partner readiness, regulatory support and technological competence are important factors for e-business adoption. In contrast, the study found that customer orientation, competitive pressure, competitor orientation did not have an influence on adoption
Oliveira & Martins (2010)	e-bus adoption	Firms	Technological readiness, technology integration, firm size, perceived benefits and obstacles, competitive pressure, trading partner collaboration	Technological readiness, competitive pressure, and trading partner collaboration are the important for telecommunications and tourism industries. However, there are differences in the significance of the various factors between them
Zhai (2010)	B2B e-market		Complexity, relative advantage, compatibility, network externality, trust in technology, IT capability, top management support, government e-readiness, market force e-readiness, support industry e-readiness	B2B e-market places relative advantage, compatibility, network externalities, top manager support, government e-readiness, market force e-readiness, and support industry e-readiness as very important for adoption.

Table 3.2 above shows a selection of factors associated with e-commerce, e-business, and related concepts based on TOE model. In these shown studies the three elements of technology, Organisation environment including different factor were used to study IT

adoption and implementation. Most factors that pertain to technological context are IT innovation characteristics. These include relative advantage, compatibility, complexity, technological readiness. In fact, relative advantage, compatibility, complexity, is among the five innovation characteristics of the innovation diffusion theory which influence the adoption of an innovation (Rogers 1995). Relative advantage and compatibility are positively associated with IT innovation adoption while complexity has a negative impact on IT adoption. Moreover, technology readiness refers to technology infrastructure and IT human resources (Oliveira & Martins 2010). Technology infrastructure comprises hardware and software that can build internet technology, and IT human resources refer to the knowledge and skills to develop web applications (Oliveira & Martins 2010). In addition, technological readiness positively affects organisations to adopt e-commerce (Oliveira & Martins 2010). However, in developing countries the lack of computer literacy and IT infrastructure significantly hampers e-commerce adoption and implementation. (Al-Somali et al., 2010; Lin and Lin, 2008) .

In terms of Organisational context these studies highlighted that top management support, firm size, financial commitments and organisation strategy were had great influences on innovation adoption (Wongpinunwatana and Lertwongsatien 2003; Zhu and Kraemer 2005; Ramdani, Kawalek & Lorenzo 2009; Wu & Chuang 2009; Al-Somali, Gholami & Clegg 2010). However, Xu, Zhu and Gibbs (2004) compared e-business between organisations in China and the United States, finding that firm size are not important in both countries.

Environmental context are various kinds of external pressure to adopt e-commerce innovation, including competitive pressure, trading partners, regulatory support, and environmental uncertainty. External pressure to adopt IT innovation refers to “influence from organisational environment” (Iacovou et al, (1995, p. 10). According to a review of IT adoption literature Jeyaraj et al (2006), the external pressure is one of the three best predictors of IT innovation adoption by organisations. The studies examined in Table 3-2 suggest that competitions, pressure from business partners are exerting pressure on organisations to adopt E-commerce innovation. However, the lack of government support, lack of legalisation and external infrastructure negatively impact e-commerce adoption particularly in developing countries (Xu, Zhu & Gibbs 2004). Although specific factors that pertain to the three contexts vary across the different studies included in Table 3.2 the TOE framework has consistent

empirical support. Moreover, a review of the IT adoption literature by Fichman (1992, 2000) suggests that these three characteristics influence the organisational adoption of IT innovation. Similarly, Jeyaraj et al (2006) Suggests that the organisational adoption of IT innovation is influenced by factors that pertain to the innovation technology characteristics, organisational characteristics, and environmental characteristics.

Furthermore, Parker and Castleman (2009) stated that models and frameworks are commonly used to collect data, and then to test the results. The literature review shows that there is no “one-size-fits-all” innovation adoption framework and context. Frameworks need to be designed based on innovation type and context (Molla & Licker 2005). The TOE framework is well established and comprehensive as a useful theoretical lens for understanding technology adoption at the organisational level (Pudjianto & Hangjung 2009; Sila 2013). It corresponds to the aims of this study, which is e-commerce at the organisational level.

According to Pudjianto and Hangjung (2009), the TOE framework is flexible and can be extended to accept more factors and categories that help explore drivers and barriers to technology adoption (Zhu et al. 2006), meaning that the research can add more themes and sub-themes according to the study’s findings. Furthermore, the success of an organisation is based on the integration of both internal and external factors (Donaldson 2001). Therefore, decision makers need to focus on technological, organisational and environmental factors that can enhance or fulfil innovation adoption. In addition, a possible advantage of the TOE framework is that it introduces a broader scope and provides links between the three contextual elements, thereby presenting the potential to include broader aspects associated with cultural differences and industry type (Oliveira & Martins 2011).

Based on the arguments above this research has adopted the TOE framework, applying it to the Saudi context, for understanding the process of e-commerce adoption in the Saudi retail industry. The next sections explain each dimension of the TOE model and present the conceptual framework for this research.

### *3.7.2.1 Technological context*

Technological factors are widely studied by researchers using Rogers' (2003) diffusion theory. Al-Qirim (2006) showed that complexity and compatibility were factors in the adoption of online psychiatric video-conferencing. Working in production systems, Matopoulos, Vlachopoulou and Manthou (2009) found that operational compatibility and collaboration were more influential than cost. Reviewing the literature which compares smaller firms in Australia and Denmark, Scupola (2009) reported few points of reference among the results due to the variability of industries and research design, as well as jurisdictions. In Malaysia, Chong et al. (2009) found that relative advantage, compatibility and complexity did not significantly affect e-commerce adoption; while in China, Assimakopoulos and Wu (2010) found that the factors affecting the adoption of voice over internet protocol (VoIP) in large companies were reliability, compatibility, and ease of use. Thus, the most influential factors for this research are: an organisation's computer systems (internal infrastructure), compatibility of existing systems with function upgrades, and computer literacy and information system support (Human Resources).

#### *3.7.2.1.1 Internal IT infrastructure*

The literature reveals that a firm's level of technology adoption is influential on its intention to innovate (Xu et al. 2004). Al-Tameem, Zairi and Kamala (2008), Elahi and Hassanzadeh (2009), and Lin and Lin (2008) suggested that firms with integrated business systems need to continue to invest to upgrade these systems in order to meet the needs of their industry and suppliers. These firms are therefore those that are further advanced with the adoption of business systems, such as e-commerce. Furneaux and Wade (2011) noted that increasing incompatibility with other users, and diminishing support for older systems, were influences for upgrading to conventional industry systems. This view was supported by an international comparative study conducted by Zhu, Kraemer and Xu (2006) which showed that, for developing countries, regulatory environments and the ability to use technology were more influential factors than those reported for advanced economies, which tended more toward integration. Bordonaba-Juste, Lucia-Palacios and Polo-Redondo (2012) pointed to the size of the firm as an influence on e-business adoption. Thus, the stage of industry development is another factor for technological innovation for firms, and this is depicted in the findings from the interviews in this study.

#### 3.7.2.1.2 Compatibility

The DOI theory defines compatibility as an innovation's fit with existing systems and organisational environment; that is, consistent with existing values, past experiences, and potential needs (Rogers 2003). A study on the adoption of technology, by Ghobakhloo et al. (2011), found that compatibility affects an organisation's ability to develop its business systems. Ahmad and Agrawal (2012) reported a lack of compatibility between existing systems and emerging technologies, such as new generation digital technologies; however, these were becoming available through cloud computing providers. This factor of systems compatibility was frequently mentioned in studies on countries where Internet services were not well-supported, for example: Alam et al. (2011) in Malaysia; Saffu et al. (2008) in Ghana; and Assimakopoulos and Wu (2010) and Zhai (2010) in China. In production systems, Matopoulos et al. (2009) found that operational compatibility was of higher significance than cost. However, other authors did not find compatibility to be influential in adopting technological change (Chong et al. 2009a; Wongpinunwatan and Lertwongsatien 2003; Ramdani et al. 2009; and Lin and Lin 2008). Compatibility may therefore be less influential when the technology project is disruptive, when it is a change from a traditional business model to e-commerce, when production systems change, or when the value or supply chain evolves. Arguably, compatibility relates to a firm's retention of equipment or work practices; that is, incremental change. Furneaux and Wade (2011) noted that increasing incompatibility with other users and the degradation of older systems that were no longer supported led to upgrading to industry system standards.

#### 3.7.2.1.3 Human resources

Skills and technical know-how, systems planning and functioning if not through optimum infrastructure (hardware and software), and technological support are necessary elements for innovation by firms (Oliveira & Martins 2010; Van Huy et al. 2012). For e-commerce, disciplines such as web design may be sourced externally or, firms further along the e-commerce continuum may have employees to create their websites (Deng & Poole 2012). Thus, either internal or external support can be sourced for systems associated with e-commerce.

For systems users, an organisation that is committed to developing employee skills and knowledge sharing is more likely to use technology to enhance employee performance and innovation capability (Colombo & Grilli 2010; Lin & Lin 2007; Mpofu & Watkins-



Mathys 2011; Rahayu & Day 2013; Wang, Vogel & Ran 2011). While systems competencies are necessary for all employees, Roberts and Toleman (2007) noted that knowledgeable end users prefer upgraded technology, which may also be easier to use and thereby enhance their performance. IT-based human resources provide the knowledge and skills needed to develop web applications (Zhu & Kraemer 2005). Access to IT expertise has been found to be an important determinant of IS adoption through either in-house or external expertise. Indeed, e-commerce as a complex technology requires experience to implement and maintain quality. Thus, according to Lin and Lin (2008), IT expertise can increase the firm's likelihood of adopting e-commerce. By contrast, firms that do not have access to IT expertise may be unaware of new technologies or may not want to risk adopting them.

#### *3.7.2.2 Organisational factors*

Organisational factors in innovation include firm structure, managerial decision-making style, and change management skills. Tornatzky and Fleischer (1990) framework, and Rogers' model (2003), include aspects of size, stage of technology adoption, and resources such as finance and skills that influence adoption. In a study of supply chain management, Patterson, Grimm and Corsi (2003) found that organisational size and structure have an impact on the adoption of supply chain technology. Jeyaraj et al. (2006) reviewed the predictors of innovation and found that organisational structure and executive support were major influencers. In reviewing the adoption of technology in supply chains, Stank, Dittmann and Autry (2011) called for more research into organisational innovation through change management, applicable technologies and internal integration, skills management, and external collaboration and integration. Organisational factors previously cited were innovation stage and global scope (Xu et al. 2004), competitive pressures and finance (Zhu & Kraemer 2005); computer literacy and staff support (Sparling et al. 2007); perceived barriers to implementation (Pan & Jang 2008); and the expected benefits of innovation (Lin & Lin 2008), while Wu and Chuang (2009) found differences at each stage, particularly technological competency at the first stage, and the willingness to collaborate by members in the second stage of supply chain systems integration. In Saudi Arabia, Al-Somali et al. (2010) confirmed first stage innovation issues associated with regulation, technology availability, and executive support. Organisational factors included in this section include research findings for e-commerce strategy, financial resources, organisational structure, and management style.

### 3.7.2.2.1 E-commerce strategy

The prevailing view of information technology strategy until the early 21<sup>st</sup> century was of a function-level strategy aligned with objectives set through a business model (Bharadwaj et al. 2013). As Internet-related technologies have matured over the last half-decade, business models have also changed, and are now based on networking around internal procedures and for external relationships. Bharadwaj et al. (2013) called for a hybrid business model encompassing both Internet technologies and business objectives for value creation and capture. Amit and Zott (2012) also found that US companies were exploring business model innovation in favour of function-level change, and that they were exploring continuous development across all aspects of their business. This was due primarily to competitive pressures (Amit & Zott 2012).

Innovation, according to Laforet (2009), is dependent on a plan, staff willingness to adopt change, and the acceptance of risk. Management should also consider organisational goals, staff expectations, and the potential benefits (Margherita & Petti 2010). Schäfer and Schneider (2012) emphasised the importance of a marketing strategy to focus on the needs of the customer. Organisational change emerges through market competition or in the attempt to achieve social or economic compatibility (Boons & Lüdeke-Freund 2013). Boons and Lüdeke-Freund (2013) argued that firms must build business plans that can encompass technological change and sustain competitive advantage. Swilley et al. (2012) concurred with this premise, adding that mobile technologies were advancing rapidly and used commonly throughout society, and that stakeholders create passive pressure on firms to engage with the new technologies.

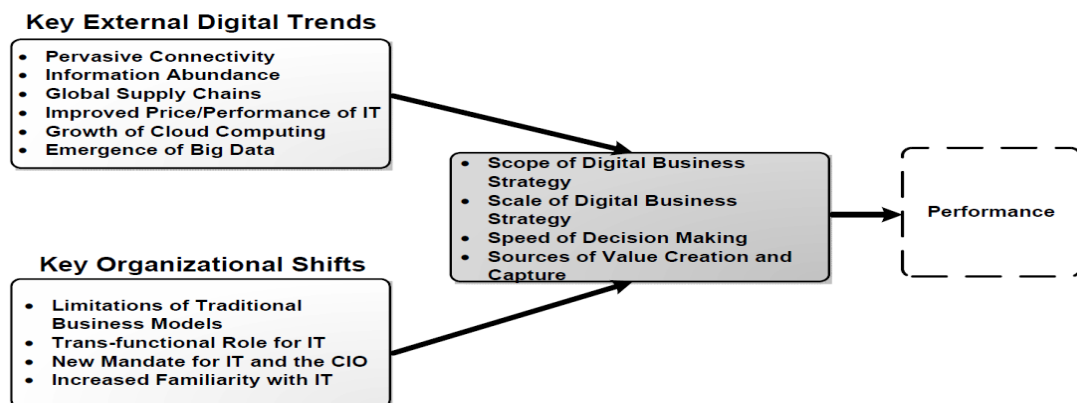
There may be issues with family-based firms rejecting innovation in order to avoid losing control. However, there is significant research which indicates a longer-term view for surviving firms, whereby innovation becomes part of the business case, or is adopted as required (Kotlar et al. 2013; Llach & Nordqvist 2010; Zellweger et al. 2012).

Any e-commerce plan should incorporate the traditional aspects of product and service quality and customer satisfaction. Eid (2011) found that customer satisfaction in online purchases was a significant determinant of customer loyalty. Further, Eid (2011) found that the firm-customer interface (website design) indirectly influenced customer loyalty. This was confirmed by Alotaibi (2013) who studied Saudis' (N=60) responses to two of each type of international, regional, and national e-commerce websites, finding that the international

websites were considered to be superior in every aspect to the regional and domestic sites. With the exception of the variable of interaction, the regional e-commerce websites were of higher quality than the local. However, Al-Shoura (2014) found that Saudis enjoyed buying mobile devices online, and purchased according to perceptions of ease of use, security, and enjoyment. These purchases also influenced further online shopping activity. Similarly, Ahmad and Shawli (2014) studied acceptance by potential shoppers of an online supermarket, based on compatibility and relative advantage for the consumers. The security features of the website and home delivery were found to be of value, moreso than price and discounts. Ahmad and Shawli (2014) noted that the website design for such a facility should be informative, easy to use, and with product details, including use-by dates.

There is substantial evidence from Saudi researchers that supports online marketing, although regulatory and fraud risks remain. Alanezi and Brooks (2014) point to frustration for online consumers with remembering passwords and security questions, and the cost to firms of upgrading their systems. However, these matters are common to all online users and providers and are part of the online experience other than an issue specifically related to e-commerce.

While e-commerce is focused on the third stage of online selling of products or services, the evolution of technological systems that support such online strategies requires considerable attention by firms. Further, with a hybrid business model, Bharadwaj et al. (2013) posited that there were four factors implicit in planning an online strategy, the scope and scale of the digital business strategy, the speed of decision-making, the source of value creation, and capture (see Figure 3.6 below).



Source: Figure 3.6 *A digital business strategy* (Bharadwaj et al. 2013, p. 473)

In the above model, Bharadwaj et al. (2013) demonstrated that pressures (drivers) for a digital business strategy encompass a number of digital trends, including connectivity, that is, rapid growth in digital networks, the growth of information stores for data analysis, the cost-effectiveness of technological infrastructure through maturity, and use of the Internet for services (cloud technology). Issues that impact upon traditional business models include obsolescence, in-house networking of functions, and increasing user familiarity, all of which lead to the growing influence of the information and communications function within the firm. The ultimate aim is increased performance (Bharadwaj et al. 2013; Margherita & Petti 2010). Thus, firms require care in adopting innovation and may need to use different models, depending on their industry and business model.

#### 3.7.2.2.2 Financial resources

The cost of new technological innovation has changed recently, moving from the outlay of capital costs for large-scale infrastructure, to the hiring such services online through cloud providers (Brook, Feltkamp & van der Meer 2014). Brook, Feltkamp and van der Meer (2014) found that cloud service delivery business models reduce capital expenditure on information and communication technology assets; however, the emerging technology is fragmented into different functional units within a firm, thus limiting cost advantages while the new technology matures. At present (2014), cloud technologies consist of infrastructure services, systems platform services, and software services; these may be located online in internal systems, or through external providers, or both. However, e-commerce relates ultimately to online sales, and this requires a different business model, disrupting existing marketing, sales, and delivery services. Sun (2012) noted that e-commerce changes the structure of traditional markets in which wholesalers are replaced by supply networks, and marketing moves online. Thus, while there are substantial savings in cloud technologies, there is also substantial disruption to the industry environment, customer relationships, and the firm's policies and processes.

These changes replicate the change from physical sales to online sales of a decade past, such as those of large international booksellers and auction sites. The costs of innovation were often a constraint of e-commerce adoption (Choi et al. 2006; Sarkar 2009). Maryeni et al. (2012) found that among small businesses in Indonesia, only one-third had sufficient funding to take them to the next stage of e-commerce. Insufficient funding by the majority of smaller firms was also found by Apulu (2012) in Nigeria, Ghobakhloo et al.

(2010) in Spain, Taylor and Owusu (2012) in Ghana, Maryeni et al. (2012) in Indonesia, and Avgerou (2008), thus generalising the view of inadequate resources for e-commerce in the early years of the technologies in developing countries. The research has also shown that smaller firms lack adequate finance for innovation (Abid 2011; Arendt 2008), while Assimakopoulos and Wu (2010) found that the cost of technology was not a major concern for large public companies in China.

The return on investment also affects the decision to innovate. Gunday et al. (2011) studied innovation throughout Turkish firms' technology systems (N=184) finding that decisions to innovate were based on cost reductions and improved performance. In the United States, Otim and Grover (2012) considered managers' choice of investment to manage financial risk in e-commerce, advising that creating value on the one hand, and managing uncertainty on the other, should be considered. This view was supported by Teo et al. (2006) in their quantitative analysis based on a comparison of non-B2B e-commerce and B2B e-commerce companies. They found that the lack of cost and benefit assessments were important reasons for those companies which had made the decision not to implement B2B e-commerce. This means that management will discontinue the funding of the e-commerce initiative if they cannot justify, or even identify, any benefits from the first or second level of e-commerce adoption. However, it must be understood that it is to be expected, especially with new technologies, that there will always be difficulties in calculating costs and returns on investment. Generally speaking, organisations with solid financial resources can explore new ideas in advance and then establish the need for adoption later.

#### 3.7.2.2.3 Organisational structure and Management style

Early researchers found a relationship between organisational structure and management style (Covin & Slevin 1988). In Saudi Arabia, management style may be associated with multi-level bureaucracy and decision-making being confined to one, or a handful of owners or executives of a firm (Ramady & Sohail 2010). In family-owned businesses, this is particularly evident (Al-Dubai et al. 2014). As noted, Zellweger et al. (2012), Lorenzo and Núñez-Cacho (2013), and McAdam et al. (2010) variously studied a range of aspects of family firms' ownership structures and management styles. However, Sacristan-Navarro et al. (2011) found family control to be more profitable than family ownership, as other large shareholders mediated family influence. Also, family firms have a

long-term orientation, and this allows movement through the stages of e-commerce adoption to be facilitated (De Massis et al. 2013).

Management style also affects e-commerce adoption through executive support for innovation. Several authors have pointed to management direction in implementing innovation. Wisdom et al. (2013) found that leadership, operational size and structure, and organisational values played a major part, while Pan et al. (2013) concurred, stating that executive support and strong trading relationships were significant in e-commerce adoption. In Malaysia, Alam et al. (2011) found that management decisions to adopt an e-commerce business model determined technology adoption, while Van Huy et al. (2012) concurred for firms in Vietnam, and Li and Xie (2012) for firms in China. Hence, strong executive support for an e-commerce business model is a prerequisite for implementation. Executive support, that is leadership in a project, is cited by many researchers as being fundamental to achieving a sound e-commerce strategy. Of these researchers, Lee et al. (2014) argued that executive support was critical for developing management systems in organisations; however, the nature of that support was also influential in bringing a project or program to fruition. In studying Australian firms (N=347), the researchers conceptualised executive influence as knowledge of the strategic value of technological systems and the ability to adapt systems to meet the organisation's needs. The model formed by Lee et al. (2014) included the business knowledge and technical competence of the chief information officer, and the extent of the communication process between the technology professionals and the decision-makers. This depth of interaction between the executive team and the functional level of management was not evident in Saudi Arabia, as Al-Hudhaif and Alkubeyyer (2011) reported to the Ministry of Communication and Information Technology and the Communication and Information Technology Commission, that awareness of online transactions was low among Saudi firms, and supply chain or industry pressure to upgrade basic telephone-based systems was weak. They recommended that industry associations should be more involved in bringing their members, executives, and owners, to a more competitive status, given the rapid adoption of new technologies.

### *3.7.2.3 Environmental factors*

The business environment is a major force that can encourage or inhibit an organisation to adopt innovation (Rogers 2003). Environmental factors relate to the social and business context of the firm: jurisdiction, infrastructure, industry practices and

competition, and consumer sentiment (Ghobakhloo et al. 2011; Scupola 2009). These issues will be addressed in this section. Environmental factors included in this study are mostly associated with trading partner readiness, the role of government, national infrastructure, and social and cultural beliefs.

#### 3.7.2.3.1 Industry adoption

Saudi retailers who seek online sales face issues which are not found in other societies, such as little indigenous production, therefore there is an over-similarity of imported goods; customers who may not accept credit cards, although debit cards are now widely available; and delivery of goods (Brdese, Corbitt & Pittayachawan 2011). On supply chain issues in the country, Ahmad and Agrawal (2012) explained that Saudi firms order goods on a global basis, and then work through numerous supply chain entities such as manufacturers and suppliers, third-party dealers, various importing firms, and then logistic suppliers in the country who manage storage, break-down, and transport and distribution to retailers. They stated that a well-designed e-commerce infrastructure, based on an integrated supply chain, can dramatically improve access to goods, remove delays, and improve customer satisfaction. Ali and Ali (2013) pointed to the lack of integrated supply chains among Saudi firms, while Al-Hudhaif and Alkubeyyer (2011) confirmed that industry-level sharing of transactional information was not yet at a stage where firms could collaborate. However, Mashanda et al. (2012) pointed out that supply chains can be made more efficient by dropping unnecessary wholesalers or agents, thereby reducing costs through handling and fees. Pan et al. (2013) concurred, stating that the level of technology in the supply chain affected innovation by smaller firms in South Korea. The strong trading relationships, that is, institutional pressures, and executive support, were significant in firms' adoption of newer technologies such as mobile communications. Executive support was the main factor in the adoption of online business by smaller Australian firms (Duan, Deng & Corbitt 2012). Moreover, trust in technology was also found to be an issue in the United States, where Huang, Janz and Frolick (2008) used the technology-organisation-environment framework to find that trust in technology, amongst other factors, affected the adoption of innovation. Moreover, trust had a significant influence on technology innovation adoption in the supply chain (Chong, Ooi & Sohal 2009).

The advent of hand-held devices led to mobile business opportunities, again disrupting business strategies. San Martín, López-Catalán and Ramón-Jerónimo (2012) found

that Spanish firms' adoption of mobile commerce depended on the industry sector of the firm, and whether its products or services translated into mobile business, the technological competence of the firm, and consumer expectations. Thus, many firms remain uncommitted, similar to the situation with e-commerce a decade past (Swilley et al. 2012). Mobile devices differ substantially in their ultra-portability and location sensitivity (Shankar et al. 2011). Researchers such as Shankar et al. and Pantano (2014) pointed to the emerging field of consumer engagement, in which marketing strategies, both online and offline, are designed to influence a shopper to purchase, consume, purchase again, and then to recommend a product through social media.

Several authors have reported that competitive pressure from suppliers and customers can have a significant influence on e-commerce adoption (Alghamdi et al. 2012; Ayyagari et al. 2012; Sohail 2012; Swilley et al. 2012). Nasseef (2013) studied competitive factors among e-commerce firms in Saudi Arabia (N=178), finding a number of indicators of competitiveness, such as retailers' e-commerce initiatives, supply chain integration, and the identification of new online retailers. Al Otaibi and Yasmeen (2014) reviewed the literature on competition for Saudi grocery consumers, and noted that perceptions of inadequate quality and freshness of goods persist, and that Saudis prefer shopping in traditional markets and convenience stores. Eid (2011) pointed out the need for Saudi online retailers to attract and retain online shoppers who browse through a range of websites seeking goods, and that incentives are necessary for online shoppers to visit a website and persist with it to purchase goods. Ahmed et al. (2014) explained that several factors associated with a website can contribute to providing a firm with a competitive advantage, including design, usability, the information contained within, interaction, speed, and convenience. Thus, it appears that retailers may venture online for sales, but the lack of engagement with customers and the cost of maintaining stock and delivery schedules may lead to e-commerce remaining little more than a niche market in the country.

#### 3.7.2.3.2 Jurisdictional issues

All jurisdictions require regulatory adjustments to account for cross-national trade flows. Sutter (2012) cites the United Kingdom's Electronic Commerce Directive (2000/31/EC) as an example of an e-commerce regulatory document. Zhai (2010) also commented on the stage of online adoption of governments, claiming it to be a factor in online acceptance. Regulatory support prompts the development of technological



infrastructure and information which, in turn, encourages technology diffusion (Ghobakhloo et al. 2012).

On the other hand, the lack of regulatory support significantly affects the adoption of technology. Using the technology-organisation-environment model, Pudjianto and Hangjung (2009) found that e-government adoption was the primary factor in low e-commerce activity in Sri Lanka. On the other hand, Singapore was an early adopter of the technology, promoting its benefits to business (Zhu & Thatcher 2010). Other countries which were facilitating e-commerce through improvements to infrastructure and facilitating legislation were Vietnam (Van Huy et al. 2012), Iran (Fathian, Akhavan & Hoorali 2008), Malaysia (Alam et al. 2008; Ghobakhloo et al. 2012; Tan et al. 2009), South Africa (Mpofu & Watkins-Mathys 2011), and Bangladesh (Al Noor 2011; Azam 2007).

Researchers have also noted that an adequate institutional framework for e-commerce was not universal. Apulu, Latham and Moreton (2011) explored the challenges faced by Nigerian firms in accessing the Internet, while in Egypt, Abou-Shouk and Lim et al. (2013) found that the lack of appropriate regulations in relation to privacy and taxation negatively influenced e-commerce adoption by small travel agents. Indonesian companies were similarly placed, having little protection for online sales (Karnali & Kurnia 2011), as was also found by Peng and Kurnia (2010) in their study on the take-up of e-commerce supermarkets in China. Furthermore, Kurnia and Ali (2012) in Bahrain, and Abbad, Abbad and Saleh (2011) in Jordan found inadequate legal frameworks for e-commerce. To promote e-commerce, government support, in the form of education and training, assisted awareness of comprehensive regulations. Taylor and Owusu (2012) noted that the Ghanaian government established regulations for e-commerce and Internet use without awareness training for the population. Working in the insurance industry, Lin, Wen and Lin (2012) found that developing nations received fewer benefits from technology than did developed economies.

#### 3.7.2.3.3 External infrastructure

The staging of adoption depends on the infrastructure available within the country, given satellite and neighbouring states' capacities. It is believed that, if e-commerce is to be taken up by enterprises in developing countries, then continued infrastructure development is critical. The infrastructure in developing countries is not as developed as it is in developed countries, and these infrastructural limitations are significant impediments to e-commerce adoption and diffusion in developing countries. The World Bank (2014a) issues annual

assessments of the infrastructure capacity of most nations, ranking the progress of 148 economies. The report shows the capacity of these countries in providing Internet coverage to increase productivity, for economic growth, the quality of jobs in the industry, and thus, social impact. For the Gulf countries in 2014, the rankings (out of 148 countries) were as follows:

- Qatar 23<sup>rd</sup>
- United Arab Emirates 24<sup>th</sup>
- Bahrain 29<sup>th</sup>
- Saudi Arabia 32<sup>nd</sup>
- Oman 40<sup>th</sup>
- Kuwait 72<sup>nd</sup>

Countries in the last third were predominantly very small African or Caribbean nations, or those emerging from conflict. The literature has also confirmed that the poorest countries are characterised by unreliable Internet connections due to a lack of infrastructure and erratic power supplies (Apulu et al. 2011; Githinji 2014; Porter 2012). This was more conspicuous some years ago. For example, Kapurubandara (2008) states that Sri Lanka was plagued by inadequate telecommunications infrastructure, and thus, inadequate commercial support for service providers. In Zimbabwe, the Internet was unavailable to the majority of potential consumers due to cost (Mashanda et al. 2012), and this was confirmed by Taylor and Owusu (2012) in the case of Ghana. Another external barrier was that payment for goods purchased over the Internet was delayed by a Saudi banking system that was set up for credit purchases, rather than for the cash and cheque payments that underpinned Saudi commerce. AlGhamdi, Nguyen et al. (2012) found that 20 per cent of their study participants (N=80) mentioned an inability to pay online, while over half (58%) said they did not wish to put their personal details online. Peng and Kurnia (2008) asserted that the existence of financial institutions that support e-payments and transportation infrastructure are the main facilitators of e-commerce transactions, which consequently act as a major influence on the development of e-commerce technologies and the growth of e-commerce activities.

The final barrier identified was in relation to physical product deliveries. E-commerce relies on efficient delivery systems within a country. Thus, it requires that the delivery

infrastructure needs to be reliable, efficient, and supportive of the same changes that e-commerce imposes on transportation. Since e-commerce can open up the global marketplace to customers and bring even the most remote customer to this marketplace, it is crucial that the capability of the delivery infrastructure is designed to support significant fluctuations in geographical delivery patterns (Mangiaracina, Perego & Campari 2012). However, Saudis have long relied on international firms for local deliveries (Al-Hudhaif & Alkubeyyer 2011), while Aleid (2013) established the main issues for e-commerce as being related to the cost of physical delivery, time delays in delivery, and the retailer's ability to deliver goods anywhere in the country.

#### 3.7.2.3.4 Social and cultural beliefs

Ibrahim et al. (2013) noted that particular traditional social relationships associated with Saudi culture are relevant to the design and presentation of e-commerce websites. The authors noted the homogeneity of global website design and called for a localisation strategy as a unique factor for Saudis browsing e-commerce sites. Chatfield and AlAnazi (2013), who surveyed Saudis studying in Australia in relation to their responses (N = 402) to the Saudi Ministry of Higher Education's website which was used for interactions with the government, found that the Saudis student who stayed longer in Australia became more unhappy in terms of used e-services provided by Saudis government websites. Chatfield and AlAnazi (2013) explained that online user delivery options for government services can be improved for citizen satisfaction. Ahmad et al. (2014) profiled online Saudi shoppers (N=990, 81% men), finding them predominantly affluent (60%), young and well-educated men (70%) who are experienced in online shopping (80%). The researchers found that 85 per cent of social media respondents had purchased online in the past year, while more than a third (36%) had purchased nine or more items online. However, this sample does not reflect the Saudi population, and Aleid (2012) pointed out that, of the study sample (N=101), the ranked items that were purchased online were computers and related equipment (70%), travel (70%), clothes and accessories (luxury) (62%), books and magazines (48%), music and videos (45%), and groceries, chocolate, and flowers (10%). As few of those items are manufactured in Saudi Arabia, it would appear that the majority of these products were purchased from international websites and the items delivered to the Saudi purchaser from external sources. Trust in technology is of particular significance in Saudi Arabia, where landline telephones to homes are rare, and until a decade hence, technology was not associated with information and

communications technology so much as with household appliances (AlGhamdi et al. 2011). Lack of trust by consumers in e-commerce is aligned with an inability to inspect the goods, suspicion of payment systems (credit cards), and consequently, the divulging of personal information in order to identify oneself (Eid 2011). These social norms also apply to conservative small business owners, or indeed, to the banking system itself (Islamic finance) (Flechais, Jirotko & Alghamdi 2013).

In conclusion, the conceptual framework is illustrated in Figure 3.7. The proposed model explains technological, organisational and environmental factors that affecting e-commerce adoption at organisational level. This framework will be used to collect data for this study through interviews with managers and executives in the Saudi retail industry in order to identify critical factors that influence the success of e-commerce adoption in Saudi Arabia.

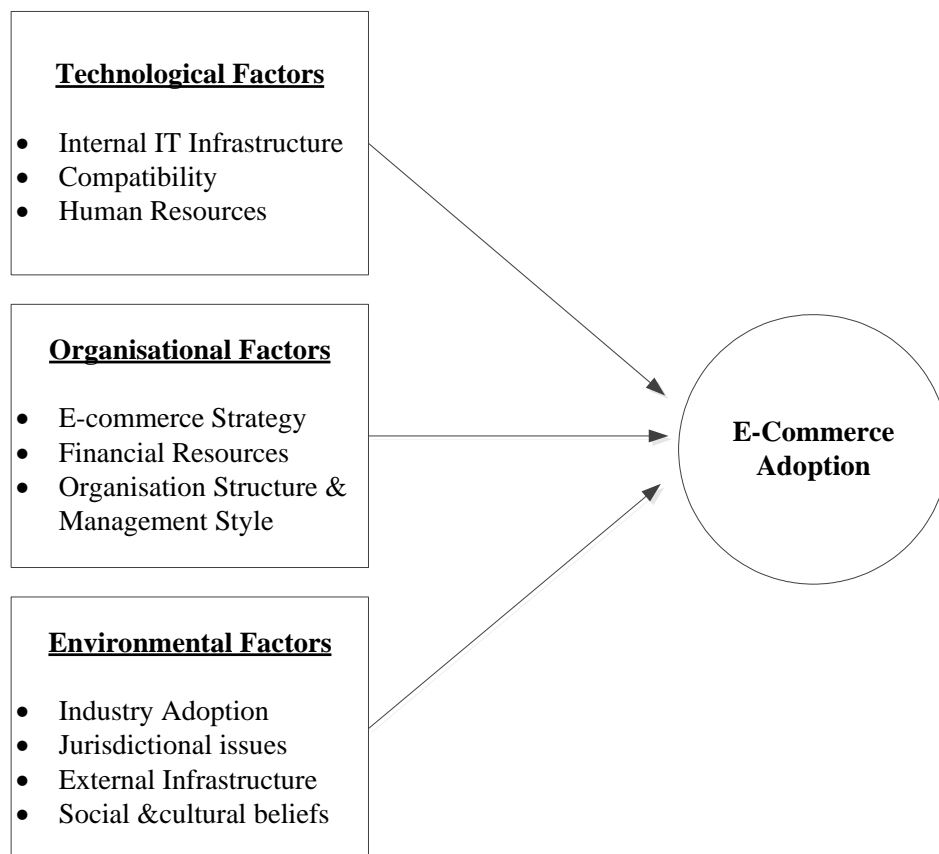


Figure 3.7 *The proposed conceptual research framework*

### 3.8 Chapter Summary

The chapter starts by identifying and categorising e-commerce technology. It presents e-commerce as a complex innovation that has an impact upon the process of adoption at the organisational level. The review of innovation adoption at the organisational level showed that there is little research on the pre-and post-implementation phases. The stages of e-commerce development have been presented and it was observed that, despite much research being conducted on e-commerce over recent years, it has not yet reached a stage of high maturity. The motivating factors for adoption were reviewed, showing little to no agreement on the drivers of the pre-stage of innovation between business environments. The adoption of e-commerce in developing countries was reviewed, showing that each country has different barriers based on cultural factors. This part of the review also demonstrated that positive adoption in one country might not be applicable to another because each country has a unique culture and business environment.

The chapter also presented the research on e-commerce in Saudi Arabia, finding a focus on end-users and in various industries, rather than on a single industry and descriptive study. This chapter also identified a number of benefits of e-commerce adoption. However, it shows there is no agreement between researchers in such benefits on organisations particularly in developing countries.

Further, the recent literature was classified according to the TOE framework developed by Tornatzky and Fleischer (1990). This classification remains constant and is widely used in studies as a convenient division of the literature, data collection and analysis.

Moreover, the literature review showed that there was only one study in Saudi Arabia that applied the TOE framework as a lens to uncover the factors that affect e-commerce adoption at the organisation level in different industry. Therefore, this study has three research questions to investigate the process of e-commerce adoption in the Saudi retail industry. This process starts by identifying the motivational factors as a pre-stage of adoption, then in the actual usage or implementation stage to explore factors that can lead to the success or failure of e-commerce usage at the organisational level. The last step identifies the realised benefits of e-commerce at different levels of adoption that encourage decision makers to move from low stage to a higher stage of e-commerce usage as a strategy tool that helps organisations to achieve their goals.

The TOE conceptual framework developed for this study does not show the significant factors that can enhance or reduce the adoption of e-commerce in Saudi Arabia. Chapter Five will identify these factors and how they can impact the level of implementation, while Chapter Six will discuss these findings and Chapter Seven will present the modified TOE framework with important factors and sub-factors that affect the process of e-commerce adoption and implementation in the country. The next chapter details the primary research, starting with the methodology.

## **Chapter 4: Research Methodology**

This study employs a qualitative case study methodology in order to investigate factors facilitating the process of e-commerce adoption and implementation in Saudi retail industry. This chapter details the methodological approach taken in this study and the research philosophy selected to provide a theoretical foundation for the research, followed by the primary research design, including the methods for collecting and analysing the data, which has again been adapted from Tornatzky and Fleischer (1990) model. The design, sampling, and procedural approaches are followed by a discussion of research validity and reliability.

### **4.1 Research Design**

The research design, or methodology, is a logical sequence that links the data to the research questions, and guides the analysis towards key study conclusion. Research design can be exploratory or explanatory (descriptive) (Foranzo & Gravetter 2011). The aim of exploratory research is to search for themes and possible linkages in the data that can be used to describe and model constructs that answer the research objectives. Descriptive research investigates and describes the characteristics of the variables, the ('how' and 'why') and advances exploratory research (Sekaran & Bougie 2013).

An exploratory study is undertaken when little is known about the situation at hand, or where little information is available on how similar problems or research issues have been resolved in the past (Oates, 2006) . Moreover, the importance of such a study is to provide a better understanding of the nature of the phenomena under scrutiny (Lake, 2009). It is also important when the facts about a situation are known, but more information is needed in order to develop a suitable framework (Lake, 2009).

The examination of new ideas and phenomena is very difficult to accomplish due to the need for the researcher to obtain a sufficient understanding of the different philosophical suppositions directing their perspective (Creswell, 2007). The findings of an exploratory research process are important for creating inductively-derived generalisations about the situation, process, or activity under study. Beliefs, social processes, structural arrangements, cultural artefacts, folk concepts, and descriptive fact systems usually observed in the

situation, process, or activity under study (Given, 2008) are included in the emergent generalisations. Emergent generalisations are basically many and varied. To examine a phenomenon efficiently, the researcher should tackle it with two unique orientations, which are open about where to seek data and the inherent susceptibility of collecting data (Given 2008).

This research seeks to identify the critical technological, organisational, and environmental factors that influence the adoption of e-commerce in the Saudi retail industry. It also seeks to propose a strategy that will assist in increasing successful e-commerce implementation in developing countries. Thus, an exploratory qualitative case study approach (Yin 2009) has been adopted which permits the researcher to understand and discuss the situation and the problem on the ground through the support of the qualitative data generated from the perspectives and experiences of the participants (Ticehurst & Veal 2000; Zikmund 2003). The exploratory case study approach was chosen for its appropriateness in investigations into areas and topics that are little understood and which have been less investigated previously (Churchill 1999; Deshpande 1983; McGivern 2006). Although e-commerce has been studied extensively, little is known about its adoption and application in the Saudi context, and in the Arab Middle Eastern region more generally. Furthermore, it is also appropriate in studies which require a comparative analysis of a phenomenon. Thus, an examination of the different processes and experiences of different companies will enhance our appreciation of the context within which e-commerce is being introduced and applied. In order to collect and collate the views and experiences necessary, qualitative in-depth interviews were conducted with 20 business executives from four retail companies in Saudi Arabia, which form the focal point of four case studies (see Table. 4.1).

The participants were asked to answer questions associated with their respective jobs and roles in order to identify, first and foremost, the key driving factors in the decision made by their companies to adopt e-commerce, and secondly, the technological, organisational, and environmental factors which influenced the success or failure of the implementation of e-commerce at the organisational level, and finally, the observed impact on the companies' business processes.



## 4.2 Research Paradigms and Perspectives

A paradigm is constructed through the ontological question, the epistemological question, and the methodological question (Lincoln, Lynham & Guba 2011). Lincoln, Lynham and Guba 2011 explained that ontology refers to reality, and thus, research questions should only relate to matters of existence or action; questions of aesthetic or moral significance fall outside of legitimate scientific enquiry. Epistemology refers to the nature of knowledge, and Myers (2013) explains epistemological approaches as either positivist or interpretivist. It should be noted that various theorists assign different interpretations to the concepts of epistemology and ontology, which Crotty (1998/2005) found to be mutually dependent. Similarly, Lincoln, Lynham & Guba (2011) found the difference between epistemology and methodology as being one of degree: the former being an ethical means of gaining the knowledge that methodology is designed to seek.

In order to choose the correct epistemology for a particular study, it is necessary to point out the research paradigm that supports the researcher in seeking the possible responses to specific questions (Bryman & Bell 2007; Myers 2009). The research philosophy (or epistemology) is important for many reasons. It helps the researcher to analyse their work and that of other researchers, and it also helps them to ensure the credibility of their work (Heeks & Bailur 2007).

A paradigm is defined as “a set of values and techniques which is shared by members of a scientific community, which acts as a guide or map, dictating the kinds of problems scientists should address and the types of explanations that are acceptable to them” (Kuhn 1970, p. 75). Rubin and Babbie (2008, p. 42) explained that “paradigms, like ideologies, organise our observations and make sense of them . . . different points of view are likely to yield different explanations”.

Research paradigms may be classified as positivist, post-positivist, social constructivist, or critical realist and each represent a paradigm shift (Alvesson & Sköldberg 2009; Kuhn 1970). Positivism, the dominant paradigm until the mid-20<sup>th</sup> century, was related to the natural sciences, and research designs associated with positivism used numerical applications via structured data collection, deduction, and verifications of analysis, and thus, generalisations of research findings. During a period of conflicting views regarding the strict

interpretation of results from positivist research, Kuhn (1970) called for paradigm change to allow social context to influence research results, and thus post-positivism emerged.

A positivist paradigm calls for a research design that is objective and numerically-based, and where the results can be tested and generalised. In this manner, theories are formed from research results using a deductive process to form generalisations. The results from objective research are independent of methodology, the focus of the study, and the researcher. The evidence from this research design can be exact and formal. The methodological design is constrained by the selection of the ontology and epistemology (Lincoln, Lynham & Guba 2011). The methodology for investigating objective phenomena under a positivist paradigm requires the control of the factors involved, so that data collection may be quantitative and analysed through statistical methods. The issue in using positivist approaches in researching human social behaviour is that social behaviour is dynamic and uncertain. While positivist approaches use accurate techniques to measure natural physical phenomenon, these are not applicable in the context of social behaviour (Galliers 1992). In this situation, such precise and structured techniques, which do not address the richness of the context in which the research is positioned, may not be able to provide the flexibility of approach and practice needed. This is a problem, especially when it comes to situations in which individuals and conclusions may not be reduced to quantifiable data. This raises questions of interest, and qualitative researchers can continue to explore the reasons for such results through an in-depth study of the individuals or cases.

In this study, the research questions have been designed to explore the process of e-commerce adoption in organisations (through the pre-adoption, adoption, and post-adoption phases). Therefore, a positivist approach was not applicable for the purposes of this study, because such an approach is based on hypotheses which are based on previously observed and explicated inter-relationships between realities. Moreover, positivism cannot confirm cause and effect in the same way as a scientific experiment, but it does provide the opportunity to see if an association exists between variables (Oates 2006).

In this research, it was established that no previous similar research had been conducted in the context of Saudi Arabia in order to develop hypotheses for quantitative testing. Furthermore, the social interactions that exist in B2B and B2C engagements may not be captured by generic and standardised data collection instruments. The subjective

experiences of each actor in the organisation are key issues that can explain how the contextual factors in Saudi organisations are represented (Oates 2006; Walsham 1995).

An interpretivist paradigm allows for naturalistic enquiry, where data can be collected in its social context, and the research participants queried about their responses, with the data adding to initial survey questions to allow insight into a problem (Creswell 2013). In the social sciences, theory underlies an understanding of perceptions and intentions. In the interpretivist/constructivist paradigm, results from the data analysis are interpreted through theory, so that the design is dependent on theory. The interpretivist design includes a wider inclusion of data than does positivism, and the data sources may include the media, social norms, and various observations (Myers 2013).

Social constructivism was the paradigm that produced post-modernism, feminism, and critical theory. Critical realism attempts to bridge the divide between positivism and interpretivism, declaring that “both positivism and social constructivism are too superficial, unrealistic and anthropocentric”, and thus can be misinterpreted (Alvesson & Sköldbberg 2009, p. 16). Critical realism is aligned to critical theory and seeks an alternative to social constructivism (Alvesson & Sköldbberg 2009). Moreover, according to Myers (2009), critical research is similar to interpretive research. However, the nature of the critical paradigm that seeks to critique or resolve a social position in relation to an understanding of e-commerce adoption issues in the Saudi retail industry is less appropriate for this study. The discussions with managers and key personnel in the organisations aims to uncover the natural position of the organisation in their day-to-day experiences as to why and how e-commerce is interpreted in their organisations, and what the advantages are that have accrued through adoption of these technologies.

As this research investigates social phenomena related to the selection of business models in a dynamic environment, an interpretivist paradigm, social constructivism, was selected. Peters et al. (2013) noted the importance of constructivism in extracting meaningful findings from data that include social structures, social practices and processes, and individuals. Laine et al. (2013) pointed to the use of constructivism to assist firms in developing new services across a wide range of internal and external stakeholders. Constructivism therefore supports the investigation of the social and economic environment of e-commerce in Saudi Arabia.

The interpretive approach involves a detailed examination of the perspective of the participants involved in the study (Smith, Flowers & Larkin 2009). This is undertaken by using interpretive techniques, such as interviews, to explore, explain, translate, decode, and otherwise come to terms with the meaning of what is being examined, rather than looking at statistical trends and numbers of occurrences (Myers 1997; Straub et al. 2005) . With specific reference to the area of Information Systems, an interpretive case study approach, if applied with precision, can create an important addition to both practical and IS theories, as previously observed by a number of researchers in the IS area (Walsham 1995).

The main point of this study is to concentrate on the association between the environmental, technological, and organisational elements that determine perceptions about e-commerce undertakings and their influence on an organisation. Interviews were conducted in which the researcher spent time with the interview participants, collecting their views and accounts of their experiences with the adoption and implementation of e-commerce in their organisations. This data was then used to create a detailed interpretation of the body of business processes, attitudes, and strategies leading to e-commerce adoption, as well as the socio-economic and political influences on the success of e-commerce implementation and application. The main focus of the study is on the questions of why businesses innovate, what influences the success of such innovations, and how such organisations benefit from these innovations.

### **4.3 Qualitative Research Design**

A methodology is selected with regard to the underlying paradigm of the study. Creswell (2013) allocated quantitative research to a positivist paradigm, and qualitative research to an interpretive/constructivist paradigm in social science research.

Primary research to answer the research questions is dependent on the paradigm, which in this study, is interpretivist/constructivist (Welch et al. 2011; Tsang 2013). Selecting the methodology involves making an assessment of the environment of the research, the research questions, and the issues that are known at the outset to be central to the study's progress (Creswell 2013). A qualitative approach which involves the gathering of primary and secondary data is useful for responding to research questions that require in-depth explanations (Smith et al. 2009). Qualitative research methods can be utilized to understand more about phenomena about which there remain doubts, to gain different perspectives on

problems in terms of how much is already known, and to obtain further in-depth data, which might be difficult to communicate quantitatively (Strauss & Corbin 1990; Creswell 2003). Moreover, the qualitative approach is the most appropriate way to examine, or respond to, questions requiring ‘thick descriptions’, or rich data (Smith 2008).

As mentioned previously, there are few studies of e-commerce in Saudi Arabia generally, particularly at the organisational level, and most of these are quantitative in nature (AlGhamdi et al. 2011). Thus, there is a lack of a rich, in-depth, qualitative understanding of the phenomenon in the country.

This research concerns of the process of the adoption and implementation of e-commerce by Saudi firms and identify factors that lead to succeed or failure such adoption. Venkatesh, Brown and Bala (2013) noted that technology change is a complex topic for firms, given the pace of that change and emerging technologies, such as mobile devices and cloud computing. Internal management concerns include security, privacy, website capabilities and technical support, and the external responses of the market and industry (supply chains) to the changes. These factors correspond to the themes in Tornatzky and Fleischer (1990) TOE framework which was used in the analysis (Section 3.5.2). An exploratory qualitative study was thus required to identify a set of factors that managers could consider when making a decision to take up an e-commerce business model.

Qualitative case study researchers, according to Yin (2012), collect data from many sources in preparation for examining a particular case. Sources of information on firms may be found in government publications, such as economic data, freight flow statistics, and consumer reports; international industry assessment publications; national industry associations; and in the retail industry, supply chain products and services. These could be global producers, national and international transport logistics, wholesalers or distributors, or retail chains. Given a focus on the Internet and national capabilities, similar background information is required in relation to technology in Saudi Arabia. Data from these types of are presented in Chapter 2. The next step was to select representative firms that could supply data to answer the research questions.

#### **4.3.1 Case studies**

As the methodology for this research was based on a constructivist paradigm, in order to understand firms’ perceptions and actions in relation to e-commerce change, a qualitative

data collection and analysis approach was selected, as discussed in the above section. Further, Yin (2012) advised that social research that explores the meaning and cause of the phenomena under study is best served by case study research. Investigating the multifaceted factors that Saudi firms encounter in their decisions to use e-commerce, whether that be a simple website or a full e-commerce operation, involves exploring individuals' perceptions and the organisational environment, the business model, and the short-term objectives (Sorescu et al. 2011). Benbasat et al. (1987) proposed three reasons why case study is an appropriate strategy for conducting research into IS. It enables the researcher to understand the nature and complexity of the process taking place, allows for the study of IS in its natural settings, and assists the researcher in gaining valuable insights into new topics emerging in the rapidly-changing IS area.

In addition, business case studies, according to Welch et al. (2011), tend to focus on data collection and analysis, rather than theoretical insights that may be gained through the research design. Welch et al. (2011) confirmed that a case study methodology is situated within an interpretivist/constructivist paradigm. In a literature review, Welch et al. (2011) used filters of cause and context to distinguish four methods used by case study researchers: inductive analysis, interpretive analysis, experimentation, and results drawn from the context. They cited overuse of inductive analysis to the detriment of a wider methodology. However, Tsang (2013) found flaws in this argument, proposing instead a research matrix for case studies that includes interpretive analysis and results drawn from the context. Tsang proposed empirical regularity, and theory building and testing, as sound options conducting such research. Thus, this research employs a case study approach using interpretive analysis to draw themes from the data, in a contextual study, that of Saudi Arabia. This conforms to both the positions taken by Welch et al. (2011) and Tsang (2013).

While the further development of businesses that utilise e-commerce as a core infrastructure is a new phenomenon in developing countries such as Saudi Arabia, it is not surprising that much of the literature to date has been of an explanatory nature. The case research design is the correct choice for e-commerce research because, given that information system is crucial to e-commerce like a natural topic for research. Theory building has taken place at the intersection of: the case study, extrapolation of the known characteristics of the technology to business settings (e.g. reach, interactivity), and extrapolation of existing theories of strategy, marketing, psychology, economics, and complex systems (e.g. network

effects, increasing returns). For these reasons, the case study research method is well-suited to the study of e-commerce. Cultural differences between nations in e-commerce are very important because this diversity has a great impact on e-commerce applications (Clarke 2000). These differences create a challenge for applying theories and frameworks for e-commerce that are applicable to developed countries and then applying them to developing countries such as Saudi Arabia. This, in turn, leads to a high level of doubt surrounding the phenomenon of the subject matter, and thus needs to be explored.

However, there are many different types of case study. Case studies may be descriptive, explanatory, or cross-case syntheses (Yin 2012). As Sekaran and Bougie (2013) explained, descriptive cases identify the factors involved in the case, or cases, in question, while explanatory cases investigate the causes of the phenomenon. A cross-case synthesis seeks a comparison from the results of several cases that exhibit themed descriptive or explanatory findings. Yin (2012) also mentions explanatory case studies and complex case studies which are intended both to identify and explain phenomena.

Case studies may be singular or comparative; however there are limitations in generalising from a single case study to models and theory (Yin 2012). A comparative case study permits the investigation of a range of variables associated with the research questions and supports the validation of the findings extracted from the data for Internet marketing and e-commerce in the Saudi retail industry.

The comparative case study design has become quite commonplace in business and management research (Bryman & Bell 2007). The multiple-case approach supports the researcher in avoiding bias (Lee 1989). It allows the recognition and understanding of commonalities between cases, and can assist in identifying chance associations (Lovallo, Clarke & Camerer 2012). Yin (2012) advises the use of multiple cases to provide a distinct framework for the subject under consideration with more compelling evidence, therefore leading to the overall study being regarded as more robust. Merriam (1998) confirmed that having multiple cases in a study is a common strategy that enhances the external validity or generalisability of the findings. Bryman (2008) notes that one of the advantages of employing a multiple-case study design is to improve theory building.

According to Stuart et al. (2002), three cases are enough for a robust study, and there is no need for more cases to be added when the theoretical saturation point has been reached (Eisenhardt 1989). Nevertheless, Dyer and Wilkins (1991) bring attention to the fact that

cases are based on how much we are aware of in relation to the phenomena and in what manner, and that more information can be unveiled by involving more cases, although there are disputes about the ideal amount of case studies. Researchers usually plan out the amount of cases that they will attempt to complete before initialising the study, and they know that, in reality, this might be crucial because of time restrictions and the accessibility of resources. Eisenhardt (1989) suggested that an ideal number of cases were between four and ten, while in their literature review of case studies, Welch et al. (2011) noted that studies involving fewer than four cases tended to be qualitative, while those with over four were generally quantitative studies.

In this study, a comparative case study design has been adopted involving four cases based on four retail companies in Saudi Arabia. The data collection concerned the use of e-commerce discussed in the context and literature review chapters. The method that supports the case studies in this study is a qualitative form of data collection and analysis. Moreover, the case studies will be useful for learning more about the phenomenon in specific settings, to gain perspectives on various problems, and to obtain in-depth data which may be difficult to communicate quantitatively (Creswell 2013).

#### **4.3.2 Participant selection**

In identifying firms for this study, the Saudi Chamber of Commerce and Industry (SCCI) was approached for an interview to inform the research. Initial discussions with a Chamber representative revealed that Saudi firms were ambivalent about e-commerce and their online presence varied greatly; few retail firms were seeking online sales, and the majority that had an Internet presence had informational websites only. This resulted in a decision to approach firms who had at least an interactive website, with a focus on those moving towards transactional e-commerce, that is, sales and payments online. Firms with a greater online presence, or even an e-commerce strategy, could produce rich data for the TOE themes suggested by Tornatzky and Fleischer (1990), which could be used as a guide for other companies to replicate the success of the adoption.

Retail firms selected from the Chamber's database comprised a purposive sample of Saudi retail firms. Moreover, the researcher was keen to find companies that had recently adopted e-commerce, or were transitioning to e-commerce, because the participants would be able to answer the interview questions with recent memories and enthusiasm, enabling the



research question to be better addressed. In this study, four retailers were investigated. These companies were chosen to reflect medium and advanced levels of e-commerce capability and usage. A number of retailers that met the conditions of the study (retailer, on-line presence, pursuing a form of e-commerce) were approached.

The researcher obtained background information on the various companies and the state of e-commerce in the retail industry from industry experts and advice from the SCCI. The four companies were chosen from two areas in Saudi Arabia. Company A and D are situated in the eastern province of Saudi Arabia, which is the richest area in the country because of its oil and gas production. Many foreign workers from developed countries are also in this area, which contributed to Company A being one of the first retail companies in the Kingdom to adopt integrated e-commerce. Companies B and C are located in the political capital city of Riyadh.

#### **4.4 Data Collection Method**

This study is constructivist, using comparative case studies in a qualitative design. The research questions concern the state of e-commerce use by Saudi retailers, their acceptance and intentions regarding e-commerce, and the environmental constraints on the firms. According to Yin (2012), having multiple sources of data will enrich the quality of a case study. He suggested there are six data collection techniques for qualitative studies: interviews, archival records and direct observation are the three most common tools for data collection method in qualitative study. According to Foddy (1993) interviews are the only way to obtain accurate information about people and their beliefs, experiences, attitudes, values and motives. For this study, in-depth interviews were, therefore, a major data collection method used to identify and compare the factors relating to Internet use by retail firms. Moreover, archival records, such as company and government reports and website visits were also used to enrich the quality of the data collection.

In-depth interview questions also allow the flexibility to gain further insight into organisational and other contextual issues (Creswell 2013). The interviewer can prepare a set of questions in advance, and then conduct the interview in a conversational and open manner to obtain in-depth information on the topics discussed (Kvale & Brinkmann 2009).

Prior to the data collection process, the literature on e-commerce, motivation factors, technological factors, organisational factors, environmental factors, innovation in family

business, and the benefits of e-commerce to the organisation were reviewed. An interview schedule was then created using the literature, the conceptual framework, and the research questions. The focus of the interviews was to study managers' and executives' experiences in order to explore and gain a deeper understanding of the benefits that arise from a range of different organisational, technological, and environmental factors. The interviewer followed a general interview protocol consisting of key questions (Appendix A). The following section discusses the research procedure, which explains how this research was conducted.

#### **4.4.1 Research instrument**

Verbal data collection requires a structure for the interview questions in order to gather valid data to respond to the research problem (Lewis & Nicholls 2014). Lewis and Nicholls (2014) pointed to the need for a structure that incorporates succeeding points of comparison, both in an absolute sense of evidence, and to build trends in the responses of the study participants. For this study, a total of 23 open-ended interview questions were created from the review of the literature and the contextual chapters (Appendix A). The firms' websites provided further information which was continually monitored during the course of the study.

The questions were designed so that they did not need to be asked in sequence in order to ensure that new concepts and areas of potentially valuable data could emerge from the responses. This also ensured that the flow of the interview would not be interrupted (Kvale & Brinkmann 2009).

According to Bryman (2008), pretesting the interview protocol will enhance the quality of the questions, and increase the confidence of the researcher. Thus, the interview questions were tested in pilot interviews with two managers in separate Saudi organisations to ensure that the questions were relevant, comprehensive, and easily understandable for the participants. Moreover, the research questions were validated by both peers and academics to test the clarity of the questions and for the translations between English and Arabic when this was necessary.

Ethics approval for the study was obtained from the university prior to commencement. As noted above, an introductory letter and a plain language statement were sent to the respondents to introduce the purpose and objectives of the research. They were also informed that the researcher obtained ethics approval from the university, that their

identities were confidential and the interviews were voluntary, and that they could withdraw from the study at any time during the discussions (Appendix B). All the data, including the anonymous transcriptions, are securely retained by the university.

#### **4.4.2 Interviewing**

The researcher contacted 28 companies in the Saudi retail industry to participate in the study. During the discussions, the researcher provided his name and role in the study, his affiliation, and the sponsoring body for the research. He also explained the purpose and benefits of the research, as well as why the particular company was selected to participate in the research. Finally, the participants were assured of the confidentiality and anonymity of their details. Some of the firms requested to review the interview questions before agreeing to participate in the study, while 22 other companies refused to participate in the study. After each firm agreed to take part, an appointment was made to conduct the interview with the managers.

According to Marshall and Rossman (1995, p. 83), “elite individuals are considered to be influential, the prominent, and the well-informed people in an organization or a community and are selected for interviews on the basis of their experience in areas relevant to the research”. Based on Marshall and Rossman's (1995) recommendation, the participants were selected according to their level of management and role in e-commerce projects, whether that were a decision maker or helped in the decision-making and their level of involvement in and responsibility for the success of a project. In addition, the snowball strategy was used by obtaining a list of contacts and recommendations from one manager at the company about other managers who met the researcher's criteria. The researcher then contacted the participants and asked them to take part in this study.

The interviews took place in the participants' premises, and each interviewee was again advised of the purpose of the interviews, how the interview would be conducted, and then assured of their anonymity. The plain language statement, which included information about the estimated interview time, and permission for the interviewer to record the interview and take notes, was signed by each participant (Appendix C). General opening questions on neutral social topics were also used to put the participant at ease (Kvale & Brinkmann 2009).

Following the ideas of Robson (2002), the interviews were guided by a list of questions that were designed based on the conceptual framework, literature review, research

questions and objectives. The interview questions were grouped under several categories based on the TOE framework and the organisations' benefits from e-commerce usage (see Appendix A). Later, this classification was used to analyse the findings.

The interviewees were allowed the space to explore the themes aided by probes and prompts as necessary by the researcher. Notes were taken of particular interesting points and responses. At the end of the interview, each participant was invited to make further comments on the content or conduct of the interview, with each interview session lasting for approximately two hours.

Five executives in different roles were selected for interview. In total, 21 face-to-face interviews were conducted across the four cases and one member of SCCI. SCCI representative was to explain e-commerce situation in the country generally and retail industry particularly. Also, to identify companies that could meet the study conditions in terms of e-commerce adoption level. The interviews were conducted between October 2011 and February 2012 with further follow-up correspondence, mostly by email and telephone, to clarify any issues that may have arisen from, or unclear sections of, the interviews. This continued almost to the end of the data analysis and write-up stages of the research. Table 4.1 shows each company's e-commerce levels and interview characteristics. The large company in this study is an organisation with more than 1,000 employees. However, the small company in this study is a member of large supply chain.

Due to the language barrier, all but three of the interviews were conducted in Arabic. The three remaining were conducted in English because the participants were non-Saudis. The recorded interviews were transcribed in the original language and then translated, apart from the three already in English. After this, the transcribed data were then systematically coded into themes for detailed analysis.

In the days between the interviews, the researcher listened to the interviews that had previously been recorded, and transcribed them verbatim. As part of this process, the researcher referred to his notes about non-verbal gestures from his reflexive journal. The researcher listened to the interviews again while reading the transcripts of each to ensure the accuracy and thoroughness of the transcripts. Listening to the recorded interviews helped the researcher to relive the interviews and generate insightful and analytical comments. Also, transcribing the interviews at an early stage, rather than waiting until the end of the data

collection period, helped the researcher to avoid being overwhelmed by the sheer amount of lengthy interviews to be transcribed.

#### **4.4.3 Challenges with data collection**

One of the obvious challenges in research is gaining access to respondents. The researcher contacted 28 companies to take part in this research; however, most of them refused to take part because they were not familiar with the importance of the research generally, and some companies believed that it was not important or useful for them.

Furthermore, some companies believed that the researcher was a member of a government agency that was overseeing business and observing any legal problems associated with the Saudization employees' rates.

Therefore, the researcher spent much time finding companies to agree to participate. The researcher used his relationships and friends to gain access to some of these companies. Companies A and D directly agreed to participate after many telephone calls had been made to convince them to take part, while Companies B and C took several weeks before they agreed to participate in the study.

Another challenge faced was that a number of the participating managers refused to answer some of the interview questions, particularly those regarding the role of government in enhancing e-commerce in the country despite the researcher asking the questions in different ways and explaining the confidentiality of the data collection to them.

Table 4.1 *Characteristics of participant organisations*

Measures	Company A	Company B	Company C	Company D
Business type	Electronic and appliances store	Food and home-ware retail store	Book store	Communication facilities and equipment store
Size	Large	Large	Large	Small
Location	Eastern province	Provincial capital	Provincial capital	Eastern province
Level of e-commerce	Transactional website: online selling and purchasing of products/services; online payment	Interactive website provides: search of product catalogue; allows queries; enters orders. No buying online. Available in one city	Informational website about the organisation and its products/services. Product search; interlinked with suppliers; accepts queries	Basic informational website about the organisation and its products/services, accepts queries
Mission	To be the leading retailer of consumer electronics, appliances, and communication solutions in the Middle East and Gulf region by 2020	To create growth and prosperity by extending its business to the regional level and accessing consumers nationally and internationally	To maintain leadership in quality of service to customers; profit and growth lead to all other values and objectives	To become market leader by providing quality products and superior service to customers
Interviewees respondents	CEO IT manager Marketing manager Service manager Regional manager	CEO IT manager Finance manager Marketing manager Customer service manager	General manager IT manager Finance manager Operations manager Marketing manager	General manager Distribution consultant IT manager Marketing manager Finance manager

#### 4.5 Data Analysis

There is no standard approach to analysing qualitative data, although there are a number of different approaches. However, “the analysis of case study evidence is one of the least developed and most difficult aspects of doing a case study” (Yin 2003, P.109). As stated previously, this research adopted an interpretivism case study research design. According to

Walsham (2006), the case study approach requires the processes of data collection and data analysis to usually occur simultaneously, even though they are explained sequentially.

Neuman (2006, P87) defines interpretivism “as an approach to the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds”.

This research adopted a constructivist case study research design. The thematic analysis was based on inductive reasoning, and thus, each case was separately analysed and then the results compared (Lovallo et al. 2012; Yin 2012). The analysis also followed Tornatzky and Fleischer (1990) TOE framework to sort the content for the themes. As shown in Figure 4.1 below, Miles and Huberman (1984) earlier defined an interactive approach to data analysis, which included the steps of data reduction, data display, and conclusion drawing/verification. In this study, these procedures were followed for each interview.

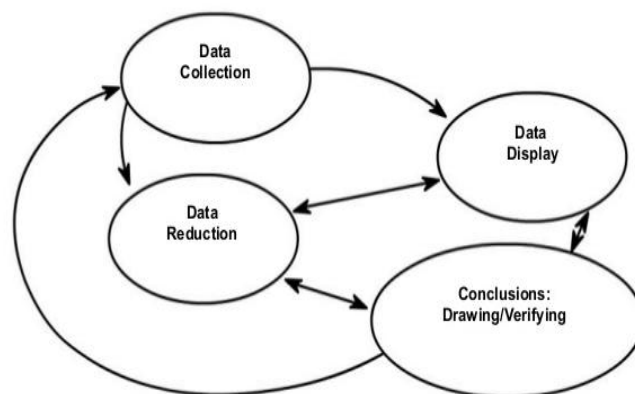


Figure 4.1 *Interactive model of data collection and analysis* (Miles & Huberman, 1994, p. 12)

#### **4.5.1 Data reduction**

Data reduction refers to the analysis of the transcripts in order to reduce the data by extracting words or phrases that describe the topic (the codes and themes). The process of reducing the data begins with reading the transcribed texts to gain an initial impression of the content in order to create broad-term labels for various chunks of data. As the current study is informed by the TOE framework, the transcription and reading of the data occurs several

times for each individual case. This analytical style of reading sets the stage for the next step in data reduction, which is the coding process (Bazeley and Jackson 2013).

As noted, each transcript was validated against the audio recording, and entered into the NVivo software package to generate codes which were based on Tornatzky and Fleischer (1990) framework. Bazeley and Jackson (2013) advised that in preparing the data for coding, the selection of the codes (nodes) in the data and the configuring and reconfiguring of these provides the best means to answer the research questions. This study uses a thematic analysis approach to identify themes, which is an important step before analysis (Ryan & Bernard 2003). Moreover, themes can be found in “literature reviews, researchers’ values, theoretical orientations, and personal experiences” (Bulmer 1979; Strauss 1987; Maxwell 1996) (cited in Ryan & Bernard 2003 pp.88). Also, from what the researcher sees during data collection and determines through the research process (Holliday 2002). Therefore, after reading the interview transcripts many times, the researcher identified themes and sub-themes related to technological, organisational and environmental factors. Afterward, these themes were coded based on the lists that were created prior to the data collection from the conceptual framework and literature review. Moreover, these coding lists were modified to fit new emergent themes.

#### **4.5.2 Data display**

This is the second step of Miles and Huberman's (1994) model analysis. Data display is an organised, compressed assembly of information that permits conclusions to be drawn (Miles & Huberman 1994). In this approach after the data reduction is coded, packaged and displayed, the researcher determines if more analysis is needed or conclusions can begin to be drawn. The researcher can use different types of data displays such as of matrices, graphs, charts, and networks. All these types are designed in a way that allows the researcher to use, and access the data in a compact form so that the researcher can see what is happening and either draw justifiable conclusions, or move on to the next step of the analysis. For this study, the codes were displayed in tables and charts as factors, and the themes as headings in a table (see Chapter Five).

#### **4.5.3 Conclusion drawing and verification**

This is the third stage of the data analysis, and is the final analytical activity for the qualitative researcher (Miles & Huberman 1994). For this study, this stage was conducted by



using the research framework as a lens to describe the results obtained from analysing the collected data. To produce solid interpretive conclusions about the textual data and its condensed version found in the matrices, the researcher used a thematic analysis approach.

In this study, ‘within-case’ analysis proceeded initially, with the process starting with the transcription and reading of the data several times at the individual case level. Initial codes were generated during the reading of the transcripts (See Table 4. 2). Once the relevant case data had been reorganised into codes, they were then re-grouped and sorted under themes. After this, the themes were reviewed and reduced to five umbrella themes, including adoption motivations; technological, organisational, and environmental factors; and organisational benefits. The purpose of the ‘within-case’ analysis was to identify generalizable constructs and patterns for each case independently in relation to the research questions. From the ‘within-case’ analysis, the unique factors that hindered or facilitated e-commerce adoption and implementation were identified in relation to each company.

The second stage was the ‘cross-case’ analysis conducted through identification and categorisation of the similarities and differences between the cases. Each case study was constructed in such a way that the data were classified into meaningful categories across all the cases. Data from the case studies were then organised into appropriate categories in order to recognise the core themes, patterns, and relationships occurring between the companies involved in the study. Finally, these patterns were discussed in reference to the literature. Figures and tables were also used to facilitate comparisons between the cases.

What emerged from this process was a framework for understanding the motivators for adoption, and the technological, organisational, and environmental factors that positively or negatively affected e-commerce adoption and its benefits for the organisation.

Conclusions were then drawn from the discussion of each individual case study, and the comparisons of the results ordered in response to the research questions. The results from the comparisons of the themes (technological, organisational, and environmental) relevant to each firm are themed and presented in Chapter 6 as answers to the research questions.

Table 4.2 A list of codes for data analysis

<b>Themes</b>	<b>Description</b>	<b>Cods</b>
Motivation	Identifies motivation, reasons, driver for e-commerce adoption.	MOT: Reducing operation cost Enhance efficiency customers services B2B Collaboration company image Servicing women New generation Increasing sells Information sharing Collaboration
Technology	Identifies What technological factors enhance or impede the e-commerce adoption and implementation.	TEC: hardware Software Database Skills Process security training knowledge compat, to supplier
Organisation	Identifies what organisational factors can enhance or reduce the adoption diffusion	Finance Managt. Support Owner support E-strategy Investment Budget Adoption Plan B2B relation ships Flexibility Trust awareness initiative
Environment	Identifies what environmental factors can enhance or reduce the adoption diffusion of e-commerce.	Government Support Law People People trust Culture Banking Infrastructure Communication Logistics Government Strategy B2B partners Partners awareness Partner trust
Realised Benefit	Identifies the realised benefit of e-commerce adoption and implementation.	BEN: improving operation improving Marketing improving Customer services Increase sells improving Advertising Efficient work practices Reduced workloads Improving Inventory Improving communications Enhancing Information sharing

## **4.6 Research Validity and Reliability**

According to Yin (2012), in qualitative research, research rigour can be defined as internal and external validity and reliability. Reliability refers to the consistency of the measures used to analyse the data, and the ability to repeat the results using those measures, whereas validity is concerned with the integrity of the conclusions that are generated from the research (Bryman & Bell 2011). According to Saunders et al. (2009), reliability and validity reduce the possibility of obtaining a wrong answer. For this study, the interviews were conducted with decision-makers and managers who were in charge of the implementation of e-commerce strategies from different departments in four companies, to allow for triangulation and to increase the validity and reliability of the obtained data. The next section discusses the validity and reliability of this research.

### **4.6.1 Research validity**

Research validity is concerned with whether the measures used in gathering and analysing data are actually measuring the concepts encapsulated in the research questions. There are two forms of validity in case study research: internal and external validity (Yin 2012). Internal validity was supported in this study through the rigorous process of substantiating the research questions, including the piloting of the interview schedule; in using procedures designed to remove extraneous data from the analysis; and in maintaining an ethical procedure for the study (Yin 2012). Svensson (2013) maintained that external validity is served through original studies that contribute to business theory by replicating and validating findings across contexts and over time.

For this study, the use of multiple case studies to develop stronger evidence, rather than using a single case, and using four companies at different levels of e-commerce, selling different products, in two different cities, and using the literature to back up the research findings, also increased the validity of the research. Moreover, the data collection process in this research entailed in-depth interviews conducted with managers who made the decisions, as this allowed the interviewees to be free to introduce issues that they considered to be relevant for discussion.

In addition, to make the interviews flexible, the research gave the interviewees the right to choose the interview location which was their office. This was likely to help the

interview go smoothly and the interviewees to feel comfortable to discuss their views and experiences regarding the research objective.

Moreover, the researcher made himself known to the managers and established a relationship with them to break the ice before conducting the interview, which was likely to help make the managers more confident and flexible to answer the questions. Also the researcher started the interviews with a general topic, for example, the education system in Australia, then moved to technology and IT systems in their company, and then discussed e-commerce implementation in their company.

Therefore, the results of this research are valid for generalisation to other Saudi organisations because Saudi companies are homogeneous, and share many common characteristics; therefore, what is applicable to four companies could be applied elsewhere. However, Yin (2003) argued that generalisations involving other companies in other countries can be made, but suggested that they should be made with caution.

#### **4.6.2 Research reliability**

Reliability is the degree to which a tool can generate consistent results free of measurement errors. Yin (2012) stated that reliability in case studies could be attained through maintaining consistency in the analysis, reducing opportunities for error, and ensuring that researcher bias is avoided, such as the asking of leading questions during the interviews. These conditions were all met in the conduct of this study.

Lubbe (2003) indicated that using a protocol is a primary strategy in increasing the reliability of a case study. Furthermore, in order to minimise inferences, the researcher recorded and transcribed all the interviews. These records are available for access and the data can be easily retrieved for checking or re-analysis.

Also, the researcher continued contact with the managers during the data collection and analysis to facilitate any queries that may have arisen during the research process. In addition, the researcher discussed his research process with a number of peers and colleagues to solve a number of issues and problems in the research that arose during the study in terms of the research design, methods, interpretation, themes, and findings of the research.

## **4.7 Summary**

This chapter has discussed the selection of the research paradigm, and briefly discussed the constructivist paradigm and how it underpins the research design. This was followed by an overview of qualitative research, and the selected method of data collection, the case study method. The methods of analysis were then discussed based on interpretive coding according to Miles and Huberman's (1994) Interactive Model. The thematic analysis was then discussed in relation to the interpretation of the transcribed interview narratives, assisting with the categorisation of the emerging themes, and helping to draw conclusions based on the TOE formwork. The selection of the firms was discussed, and the ethical procedures and the data collection instrument explained. This was followed by an overview of the process of interviewing and validating both the research method and the results from the data. The next chapter discusses the findings from the data in relation to each case study.

## **Chapter 5 Case Study Findings**

This chapter presents the findings of this study in relation to e-commerce in Saudi Arabia. The study targeted the retail industry and comprised case studies of four organisations. This chapter is constructed as follows: firstly, the research design is explained, followed by the organisational profiles, the firms' various e-commerce models, and the factors which led to the firms adopting a particular business model. This is followed by an exploration of the infrastructure issues that were perceived by the majority of participants as hindering the adoption of e-commerce in Saudi Arabia.

The second part of the chapter examines these factors in light of Tornatzky and Fleischer (1990) technology-organisation-environment (TOE) model. This is followed by a discussion of the potential benefits for the companies involved, and the benefits that they had previously derived from online trading and reporting. A discussion is included at the end of each of the main sections, and the findings are summarised at the end of the chapter.

### **5.1 Case Study Design**

The research design comprises data collection and analysis through a qualitative process. The process concerned the gathering of data by using in-depth interviews for five representatives from each of the selected organisations (20 participants) and one from SCCI. The interviews were formally transcribed, coded in NVivo, and thematically analysed to examine the key motivations, opportunities, and challenges for the adoption of e-commerce in these firms' business processes. Secondary information was accessed from the firms' websites, and the firms' representatives were interviewed in October 2011 (Company A), January 2012 (Company B), November-December 2011 (Company C), and November 2011 (Company D).

Although the results are organised according to the extended TOE framework developed by Tornatzky and Fleischer (1990), this section is presented in two parts. The first part examines the factors which, according to the data, motivated the adoption of e-commerce in the different organisations. The focus in this part is on operational motivations, market positioning motivations, and the socio-cultural context motivations. The second part

examines how technological, organisational, and environmental factors influenced effective implementation.

Four retail sectors were selected, two electronic and communication retailers, one large and one small; a food and home-ware retailer; and the last was a bookshop. Three large firms, and one small one, were selected in order to compare approaches to e-commerce. Capital cities and provincial locations were selected, as well as three types of e-commerce engagement. The e-commerce models were two informational websites, while a third had interactive capacity, and the last, a functioning e-commerce website. The organisational characteristics of the selected firms are presented in Table 4.1.

### **5.1.2 Data analysis**

The data were analysed based on inductive reasoning through a two-fold process. The initial codes were generated from the participant interviews for each firm during several readings of the transcripts (Huberman & Miles 1994). This process was repeated for each case study, and the coded data were then re-grouped and re-sorted under the different themes identified from the case study interviews. To answer the research questions, the analyses of the firms were constructed to identify the influencing factors for e-commerce at each company. These were then further reviewed and regrouped following the Tornatzky and Fleischer (1990) framework; that is, according to technological, organisational, and environmental factors. A further overarching factor, organisational benefits (B) was added to the framework in order to have an additional focus on e-commerce as an independent variable.

The second stage of the analysis was a comparison of factors between the firms in their various approaches to planning and implementing e-commerce structures to meet their requirements. This stage identified adoption and implementation factors, as well as the 'organisational benefits B' associated with the design framework.

## **5.2 Characteristics of Participant Firms**

To inform the study, this section presents the profile of each company. The characteristics include size (based on the number of employees), number of branches or stores, location, level of e-commerce implementation, and regional/international operations.

### **5.2.1 Company A**

Company A was established in 2003 to provide customers with a complete shopping experience for consumer electronics and home appliances. It offers leading international brands and stocks an extensive product range: televisions and home cinemas, mobile phones, cameras, gaming consoles, refrigerators, small electrical appliances, and washing machines. The head office is located in Al-Kobuar city in the eastern part of Saudi Arabia, the major site of Saudi Arabia's oil fields. According to information from the company's website, it has 34 large branches across the Kingdom and ranks first among retail companies in the list of 100 fastest growing Saudi companies. The company has approximately 2,000 employees across all branches in the country, making it one of the largest employers, and is listed on the Saudi stock exchange. The company CEO advised that all the firm's suppliers are located overseas, predominantly in the USA, the European Union, and Asia.

The decision to adopt e-commerce was made by the CEO and other senior management in 2003, prior to listing on the Tadawul (the Saudi stock market). According to the IT Director, the company was exploring the potential to use e-commerce much earlier. Once satisfied about the benefits of going online and the technological systems involved, a plan was developed based on a staged implementation towards a fully integrated e-commerce system. Actual implementation started in 2005 with a basic company website. In 2007, the website was upgraded and relaunched providing basic information about the company and the daily promotions and sales offers available to customers. In 2009 and 2010, further upgrades resulted in integrated e-commerce, allowing communications with suppliers and customers, and access to product sales, supplier purchases, and payments also being made available. Communications also enabled a 24-hour live chat facility for customers. Thus, the system has been gradually developed it into a fully-fledged e-commerce system. Apparently, this company was the first retailer in Saudi Arabia to use a complete and fully-fledged e-commerce system which allows its customers to buy company products over the Internet.

### **5.2.2 Company B**

Company B was established in 1981 as a family owned and operated business, with its headquarters in Riyadh City. Within a short period of time, it became a leader in wholesale goods and consumer groceries. The firm's mission, according to the information on its website, is to provide local and international products of high quality at affordable prices. The



organisation's suppliers come from a variety of local and international locations, including the US, Europe, India, Asia, and the Middle East. The company specialises in processed food, fresh food, baby products, home-wares, groceries, and basic electrical appliances. According to the general manager (January, 2012), the company employs about 6,000 workers and operates over 80 stores across the kingdom, including several distribution sites. As with Company A, it is one of the largest retail businesses in the country, and it has changed ownership to become listed on the Tadawul.

The firm also began exploring e-commerce opportunities in 2003 as a family-run business. The CEO, a family member, made the strategic decision to move the firm's online capability towards e-commerce, and an informational website was launched in the same year. In 2006, the site was upgraded, adding more information about the firm and updating its products, thus ensuring current information for potential customers. In 2011, customers in Riyadh could place orders online; however, payment was strictly cash-on-delivery. Since this time, products have been despatched within 24 hours.

### **5.2.3 Company C**

Company C, established in 1985, specialises in the supply of office and school equipment. The company is also listed on the Saudi stock exchange. Its mission is to provide a high level of customer satisfaction and its bookstores, in particular, are highly regarded. The firm has a high market share in office supplies, school supplies, IT products, stationery, and books, according to information on the company website. The company's head office is in Riyadh and it has over 30 stores across the country, with 3,000 employees. The interviewees from the firm stated that its objectives are to provide quality products at the best prices with a high level of service. Its objectives also include the achievement of profit and growth.

While the company strategy is to have an online presence, it differs from the previous firms by not engaging in online sales. The company began to use the Internet in 2003 in the head office, and then later, through its stores. It launched an information website in 2004, and in 2010, added product detail that is continually updated, including a product search facility. As noted, the firm has no online sales facility, although it can make purchases online from its suppliers as B2B, but no payment at that date (2012). According to the IT manager, the firm is investigating greater online access to its national and international supply chains.

#### **5.2.4 Company D**

Company D was established in 2005 in the telecommunications industry. It offers a range of services, such as credit card payments by telephone, e-Pins for mobile devices, and electronic vouchers through mobile terminals. It operates as a retailer for a bulk telecommunications provider. The company's head office is located in Al Khobur in the Eastern province. The firm's distribution and wholesale network has some 45 retail outlets operating under the brand name of the wholesaler, and approximately 500 employees across the Kingdom. The firm's website states that it is an innovator in telecommunications in collaboration with international partners. However, its own informational website differs from the other three cases, with basic email communications for suppliers and customers, and no ordering or payment transaction facilities.

#### **5.3 E-commerce Adoption Motivations**

This section specifically examines the motivations for e-commerce adoption through an integrated case study analysis. At the 'within-case' analysis stage described earlier, a number of factors were identified as key motivators for the adoption of this technology.

As explained in Chapter Four, the data analysis for this study is based on a thematic analysis approach and two stages of coding for initial and pattern codes. To identify motivational factors, the researcher prepared a list of codes prior to data collection of reasons or drivers for e-commerce adoption from the literature review. Then, during the interviews and after reading the transcripts, the researcher added new emergent codes related to socio-cultural motivation factors not found in the literature review. The first stage was the initial coding to maintain the meaning of the data through intensive coding (Eisenhardt 1991); during this stage, new codes emerged related to socio-cultural motivation that were not found in the literature review. The second stage was the pattern coding to group the themes and categories (Miles & Huberman 1994). Themes or phrases that were repeated were then selected and grouped again under three main categories: operational, marketing and socio-cultural motivations.

Having a clear picture of why firms need to implement e-commerce systems is an important step in understanding how to match the plethora of e-commerce applications with an appropriate strategy. This can enable firms to more effectively select, use, and monitor e-

commerce investments over time (Auger & Gallagher 1997; Raymond 2001). The adoption of e-commerce into any business is a major innovation. In this study, the motivations for adopting e-commerce are defined from the perspective of the anticipated benefits which form the rationale for the company to adopt e-commerce applications. The managers who were interviewed provided detailed accounts of the conception, processes, and motivating factors for the e-commerce projects in their firms.

The data show that across the different cases, the motivating factors broadly included the need to reduce operational costs, reduce the cost of maintaining physical premises, and enhancing the operational efficiency of the organisation's competitive position among other retailers in the country in order to remain successful and profitable into the future. Embracing new, efficiency-boosting technologies was therefore seen as an important key to this end. Technology was also seen as a way to respond and adapt to the cultural context within which the business operates. Thus, as shown in the table 5.1 below, the factors may be grouped into three broad categories: operational, market position and the social-cultural context and, as explained earlier, these are examined and discussed according to the literature review and TOE framework.

Table 5.1 Present lists some of the factors repeatedly mentioned by all interviewees.

Factor	Company A	Company B	Company C	Company D
<b>Operational</b>	x	x	x	x
Reduce cost of communications	x	x	x	x
Reduce cost of marketing	x	x	x	x
Reduce cost of premises	x	x	x	x
Reduce cost of labour	x	x		
Increase customer reach and overall sales	x	x	x	x
Enhance efficiency	x	x	x	x
Enhance customer service	x	x	x	x
Improve information management efficiency	x	x	x	x
Increase work transparency				x
Manage inventory	x	x	x	x
Reduce management costs			x	
<b>Marketing</b>				
Enhance competitive position	x	x	x	x
Enhance marketing	x			
Enhance business collaboration	x	x	x	x
Improve company image	x	x	x	x
Enhance brand awareness	x	x	x	x
Enhance business marketing			x	x
Synchronise with international trading partners	x	x	x	x
<b>Social-cultural</b>				
Assist women with shopping	x	x	x	
Young people willing to use e-commerce	x		x	
Assist with shopping on religious Practices				x

The table above shows that the four cases from the Saudi retail industry share significant similarities with regard to the factors motivating them to adopt e-commerce. There are a few differences between the cases due to the differing nature of the business and products. Due to the many similarities observed during data coding and analysis, as

highlighted in Table 5.1, the data is presented in the form of an integrated case analysis, as opposed to presenting the different cases separately. In this way, a high level of analytical coherence is achieved without the monotonous repetition of common findings.

### 5.3.1 Operational motivations

An important factor which influenced the companies to respond through the use of e-commerce appears to emanate from the operational context. Participants across the different case study organisations highlighted the importance of e-commerce in cost reduction, increasing sales, enhancing the efficiency of operations, enhancing customer service quality, and improving information management efficiency.

The respondents emphasised the importance of cost reduction in business operations. The participants agreed that e-commerce assisted with cost reduction, increasing sales, enhancing the efficiency of operations, enhancing customer service quality, and improving information management efficiency. A number of aspects of cost were consistently discussed, including the costs of communication and labour, and the costs associated with maintaining physical business premises in many locations around the country.

**Cost of communications:** The participants noted that email was more cost-effective than traditional communication methods, such as telephones and faxes, in both internal and external communications. The provinces manager from Company A stated that:

In my experience . . . if you don't have sufficient communication tools, you would be out of the market, the Internet (and) email are useful.

The general manager from Company B agreed: "I think without the Internet or e-commerce, communication would be costly and inefficient", while the operations manager from Company C stated:

Improving communications through cheap and fast (systems) would help to solve problems . . . so I do not need to call two or more people . . . just by sending email in seconds for the staff, suppliers from the office or at home. . . . Connect all the branches together, that's when we have many branches, we connect all the branches and reduce the paper usage which helps us to reduce operations work.

The same participant further observed that e-commerce was highly cost-effective, could reduce workloads and the use of paper, and efficiently connected stores with the head office.

For example, if a store received an order from a customer at the counter, the staff could check the availability of the item in neighbouring stores and thus serve the customer.

The marketing manager from Company D stated that the Internet has led to improvements in supervision, compared to traditional telephone or fax machines in communicating instructions to their employees across the country:

It is good to communicate with employees in my department and throughout the company. We can send notes to employees, to external companies, and suppliers anywhere. Our potential in the market is no longer confined by geography, especially as we now operate internationally. E-commerce saves a lot of time, a lot of effort, and reduces many costs.

Accordingly, the reduction in cost, and improving the speed of communication, emerged as the key drivers for these companies to adopt e-commerce.

**Cost of marketing:** Reducing the cost of advertising through e-commerce was important, despite the differing stages of online marketing for the firms. Benefits arose from a permanent presence online and the ability to market to customers through emailed brochures (pdfs). The marketing manager from Company A explained further:

Any company . . . seeking to minimise the cost of expensive advertising would use a website. Changing the marketing strategy helps . . . to reduce the cost of marketing; an example of this is by sending e-advertising to customers by email, either individuals or companies.

Company B invested heavily in advertising. By maintaining a website which displayed advertising, the company cut the cost of buying advertising space through the media. The marketing manager (Company B) explained:

Instead of relying on the media, such as TV, newspapers, and magazines for advertising, for example, the use of e-commerce will reduce repetition (in advertisements).

In the matter of reducing marketing costs, a respondent from Company C emphasised the benefits of e-advertising in decreasing expenses, and thus minimising product prices. As the marketing manager (Company C) claimed:

Cutting the cost of advertising is a strategy of the marketing department because, with the Internet penetration in Saudi Arabia, online marketing becomes the best method to reduce the price of products for the customer.

E-commerce also facilitated Company D's ability to engage in global and local marketing campaigns without incurring paper advertising costs. Moreover, a well-designed website also

serves to raise brand awareness and build brand reputation. As the marketing manager from Company D explained:

Through the Internet, I can reach many managers in different companies for marketing purposes in a few minutes. I am able to send my promotional offers anywhere across the country from my office.

**Cost of physical facilities:** The firms' business strategies are to expand operations and sell products and services, and e-commerce facilitates this without necessarily having a physical presence in a fixed location. By selling their products and services online, these companies saved on rental, or ownership, of their premises. For example, the CEO from Company A said:

As Saudi Arabia is vast and there are remote areas where we can't set up shops, we need our services to (accommodate all potential customers) and the only way to do this is through electronics. . . . We found that the best thing is to have an electronic approach to remote areas.

This view was corroborated by the marketing manager from Company B:

In the future, we can send the order direct to the wholesaler's customers from suppliers without the need to store the product, so there would be no need to rent or build new warehousing.

In a similar manner, the general manager from Company C explained that, as the company strategy is to expand and sell its products in the wider Gulf region, e-commerce gives the company this opportunity without the need for physical premises in the different locations.

The primary goal for e-commerce is to reach people across the country in a convenient way and selling the product to them over the Internet; this enables us to reach people in different cities, even if we do not have a branch there, which saves expenses on setting up new stores and other relevant expenses.

Company D sells a large range of electronic services, such as prepaid calls to businesses as B2B. Moreover, the firm has a plan to sell its products directly to end users as B2C particularly for calling credit as e-vouchers. Therefore the company asserts that e-commerce will aid its performance in the promotion of e-vouchers and selling online in the coming years:

Since we started with e-solutions, our company has expanded so much that we can now create a separate company for the e-voucher system (IT manager, Company D).

The aim was to increase sales and reduce costs associated with the renting or buying of premises. E-commerce permitted wider coverage than a physical location, and less associated costs.

**Cost of labour:** Reducing the cost of employment, and increasing productivity were high among the cost efficiencies mentioned by the firms' representatives. Companies A and B mentioned these factors as being pertinent to their decisions to adopt e-commerce, as these savings can be used to reduce the number of employees in sales and in the back office. According to the CEO of Company A, when the firm started to use online facilities, the number of employees was reduced and productivity improved. This view was supported by the IT director (Company A):

E-commerce helps our company in terms of cost reductions, providing high performance, saving on lead-time; one employee using the Internet can do the work of five.

Similarly, Company B participants mentioned that since labour can be a large proportion of costs for retailers, the opportunity to increase productivity with fewer employees was welcomed. This was highlighted by the operations manager (Company B)

It helps to reduce the workload as well as the time needed to do the work; for example, the data entry automatically goes to the data room without intervention from humans.

Thus, computerisation saved the company the need for a number of employees, and increased productivity through reduced times and increased reliability. E-commerce assists with reducing sales staff through the customer making their own choices and purchasing through automated systems. Furthermore, according to the operations manager (Company B), automation of the e-commerce system increased service quality and also served to monitor performance data.

**Increase customer reach and overall sales:** Participants from Companies A, B, and C agreed that e-commerce enhanced customer relations through improved communications, which would ultimately lead to improved sales and profitability. E-commerce systems that enhanced customer engagement with the company included email, a 'live chat' facility, and social media sites, such as Twitter and Facebook, where customers could discuss these companies' products and services. These companies therefore receive constant feedback which enables ongoing improvements to their products and services to meet customer expectations. As noted by the Company A marketing director, "... the advantage is also in terms of the instant feedback from our customers". This view was supported by the marketing manager from Company B:

If they want to succeed in the market, any retailer, small or large, has to take customer convenience into account. I believe that e-commerce can reduce the time taken to serve the



customer . . . rather than wait on the telephone to ask for help or to answer a query, they can send an email in a few seconds, and then we respond to them.

Similarly, the operations manager (Company C) suggested that:

If the customer is not happy with our products or services, they will not come back and buy again from our store. Therefore, we are giving them the facility via the website to send us their comments, proposals, and enquiries.

Indeed, emails from customers for inquiries about the company's products assisted with reducing direct telephone calls. As the IT manager (Company C) commented:

To make communication easy . . . which helps us to serve them [the customer] better . . . everything's recorded on the system.

However, Company D did not use social media or live chat, as it was focused on business customers, and more formal means of communication were required. Nevertheless, Internet-assisted communications such as live chat and social media positively enhanced the customer experience and significantly assisted these firms through receiving feedback and enhancing brand awareness.

**Improve information management efficiency:** The Internet was used by the participant firms as a source of product information, as well as a means of managing and disseminating it. Sharing product information on the Internet was seen as a driver for e-commerce implementation. The data analysis revealed a relationship between the firms' business models and use of the Internet. This conforms to Weill and Vitale's (2013) theories about firms migrating through e-commerce models. For example, Company A is a retailer in electronics and home appliances, which developed a service support system for their products, resulting in a significant competitive advantage. According to the CEO (Company A):

So, initially, when you look at the development of e-commerce models around the world, the key role of the Internet is actually about the collection of information. Customers are spending relatively large sums of money on purchases, and want information and the Internet provides an excellent way to present information in a consistent and strong manner . . . Electronic products are initially having a high need of information.

When Company A needed more feedback from its customers, it placed social network icons on its website and used Facebook and Twitter as a means to engage their attention and respond to matters which Company A might otherwise have not been aware of. Moreover, the company used YouTube for information on its electronic products, as the IT Director mentioned:

We have to use the website and social networking sites like YouTube and Facebook, and soon Twitter, to distribute information and manage our social networks and our customers.

Company B's products include food and home-wares and it manages large amounts of product information. The analysis showed that the firm needs separate databases to take product data (product specifications), data relating to customers, and records for trading partners and competitors, into account.

The product data for food and home-wares included the product details, prices, and stock. As most of their products change daily, this information requires constant management and updating, which is virtually impossible without computerisation. The marketing manager (Company B) gave the following account:

(We have) daily changes to product information for fresh food; sometimes the prices of fresh food differ from city to city. The customers can enter (a location on) our website and compare our daily prices with competitors.

The operations manager (Company B) emphasised the need to simplify data collection:

Previously, we had some difficulty finding information about the trends of the market, or the views of the customers regarding our products. The main source of information for us was the media, but now with the revolution in information technology, particularly with the Internet, the information comes to you from the customers over our website for example.

Similarly, the regional manager from Company B suggested that customers could provide feedback on the product displays on the company's website: "Our products need clear information with attractive images to attract the customers to navigate and find what they want and also to find new customers". Information on competitors and market trends was also critical for the firm. The general manager (Company B) stated that:

Every day, I spend more than two hours finding information about our competitors. I access their websites to see their products . . . and also neighbouring countries' websites to see the new products and their style; they have all this information on the Internet.

Company C sells stationery, telecommunications products, and books, and has a considerable product list. The respondents stated that information was a vital component of their knowledge management on competitors, suppliers, and customers. The operations manager (Company C) noted:

We are a book store but we also (sell) IT products. We believe the Internet is a good source of information . . . about competitors, (sourcing) new books from publishers, particularly in the USA and Europe . . . it removes the stress (of using agents) when searching for new information.

Information obtained over the Internet can also be verified through other sources. This was indicated by a number of respondents, including the general manager from Company C, as follows:

In our work, the Internet is important . . . as a source of information and to verify information . . . instead of wasting time on (contacting other people).

Although at the time aspirational, features such as live chat on the website and social media could be a source of customer feedback, selection of new products, or personalisation of advertising based on the prior purchases of customers. The marketing manager (Company C) explained:

. . . we have a plan to build live chat over the website to support me to communicate and find new information from the customer and to solve their concerns regarding our products.

A well-designed website allows customers to search the company's products and locations. Without appropriate e-commerce systems, an organisation would find it difficult to compete, as illustrated by the financial manager (Company D):

You need a website to help the customers to get in and search for information about our products, as well as to find the nearest branch to his/her city.

Company D sells telecommunications products which rapidly become obsolete and are frequently replaced by new products. Maintaining knowledge about the firm's products is essential, as well as those of competing firms, comparing the features and capabilities of each. This study revealed that e-commerce was used for information about such products as well as for maintaining suppliers and business customer contacts. As the general manager (Company D) explained:

We can get the information we need for customers, on suppliers and operations much easier and faster . . . we can keep upgrading our systems as the work demands, from 2GB to 5GB to 10GB and so on . . . We believe in the need for a fast operational system, to keep in line with the changes in the external domain, and because most of our work is managed over the Internet now.

In light of the above, the company required knowledge management for successful operations based on the nature of its business. Aside from online operational matters, Company D found that online discussions among staff assisted trust and confidence in the organisation to be built through transparency. Thus, by keeping an 'open book' approach to operations, data can also be easily retrieved as, and when, the company desires. The distribution consultant (Company D) explained:

That everything is recorded through email, thus it is transparent, as anyone can come and see what we have been doing, such as what were the sales in the last year in the region, without the hassle of paper files.

Further, the consultant referred to the ease of finding and storing data online, particularly inventory and logistics data, which improves work processes: “It is easy to get data regarding inventory and logistics by storing the data electronically” (Distribution consultant, Company D).

E-commerce also reduced work expenses for Company C. Managers do not need to make business trips or visit other branches or meet other partners locally or internationally when contacts and transactions can be conducted online.

(E-commerce) can achieve a competitive advantage in the industry ... reduce the time to do the work and (avoid) wasting time or expenses on business trips to conduct business (General Manager, Company C).

### **5.3.2 Marketing motivations**

In addition to the above operations-related motivations, e-commerce was also seen as a means of improving and enhancing a companies’ market image and position in a context of growing competition. The firm’s image and its reputation are of great importance. The firm must be perceived as capable, forward-thinking, and competent organisations. Their public image is enhanced by a well-designed website that communicates authority and knowledge to its stakeholders, thereby establishing and maintaining a competitive edge.

**Enhance competitive position:** Competitors place market pressure on businesses to innovate. Abou-Shouk et al. (2013) found that strong competitive pressure hastens the adoption of innovation by firms. Competitive responses include establishing and maintaining a large customer base, reducing costs, and increasing product innovation and service quality, as illustrated by the general manager from Company B:

There is strong competition in the food and home-wares sector . . . (especially) in the large cities where you find most of the famous stores; however, a few of them you could find in other cities . . . so we innovated in the sector by introducing e-commerce in the capital city and, in the future, we will provide this facility to all customers in the Kingdom before other companies set up branches.

The data analysis shows that competition is influential in the decisions of management to use online resources. According to the respondents, market competition, and the efficiencies and

cost savings gained through e-commerce, have meant reduced product costs for customers. For instance, the regional manager from Company A said:

There is a price war in the market regardless of product quality . . . the competition is strong, and therefore, all the companies want to reduce the prices, but this is not feasible with (similar) imported products.

Being hesitant about online trading, Company D's marketing manager explained that the Saudi electronics industry lacked online sales capacity and that a decision to use online marketing channels could be delayed. Competitors had basic informational websites about their products, but these were rarely updated. Therefore, an attractive and well-maintained website was all that was necessary to maintain market share.

Most companies in the market just have a website to publish information about the company, and some news . . . (so we) differentiate our product by being more relevant and informative (Marketing manager, Company D).

A factor in Company D's e-commerce decision was an oligopoly of three providers in the Saudi telecommunications sector, each of which has a distribution network similar to Company D. However, the standards of the distributing firms differ to some extent. The operations manager from Company C stated that their bookstore also sold electronics and peripherals, such as laptops, gaming software, smart phones, and computer supplies. Other products included art and craft materials, office supplies, and stationery. Customer expectations must be met in an increasingly crowded marketplace, where general merchandisers face more competition from niche stores that specialise in only a few products, but with greater variety.

Market competition is strong with (new stores opening) . . . customers can go anywhere to buy our products . . . (which) increases the pressure to remain sector leaders (Operations manager, Company C).

Nevertheless, many Saudi competitors were not at this point selling products online. The participant companies considered that embarking on a full online sales strategy would definitely position that firm as a market leader. There were also international competitors moving into the marketplace, as the CEO of Company A explained:

We moved early and became the first online Saudi firm in the industry because we think that it was a good defence against the pure-Internet players coming into the country.

Apparently, a full e-commerce transaction system was then not available in Saudi Arabia. The participant firms' competitors maintained websites which provided only basic

information about the company, products, and prices; if customers wanted a product, they had to go to a store. For Company A, this was a clear competitive advantage by becoming a leader in the industry:

We are the first to do this in Saudi Arabia, selling and shipping the same products from our shops and online. But for sure . . . competitors are not waiting around to see us going ahead, and there will be others that will follow suit (IT director, Company A).

As the participants explained, they believe that e-commerce is influential in both present and future plans to achieve and maintain market share:

Yes, if we don't update with the newer technologies, we will appear out-of-date, and end up out of business if we cannot cater to our customers' needs. But we can monitor competitors' e-commerce activities to stay on track (Distribution consultant, Company D).

These views showed that, with the exception of Company A, and to some extent company B with its interactive stage of e-commerce systems, the participant companies were cautious to proceed online when they saw no direct threat. They were willing to wait until competitive pressures forced the issue.

**Company image:** Company image was important to the participant firms. Competitive drivers, such as government and industry awards, rank Saudi firms as leaders in their industries, while international indices, such as A T Kearney's (2011, 2014) global retail index, rank Saudi firms for their online presence as well. Thus, it is crucial for any business to create optimum and consistent brand awareness and recognition to differentiate themselves in a crowded marketplace. The regional manager from Company A referred to the maximisation of brand awareness, and their IT manager confirmed that "the advantage is awareness, one of the most important factors". Company A updated their website format every six months to represent their products in a fresh light.

Company C also made the following comment about market share:

There are many cheap Chinese, Indian, Korean, and Malaysian products. There is competition in quality as well . . . some shops sell stationery and student supplies cheaper . . . regardless of the quality of the product (Marketing manager, Company C).

The marketing manager from Company B explained:

In the future, our goal is to reach neighbouring countries, so we need to present ourselves to those customers; whether for retail or business customers, so they are aware of us through our website (General manager, Company B).

Through the website, the company's name is becoming better known throughout the country (Marketing manager, Company C).

Market share and brand image are therefore important factors for these firms, and an online presence achieves this, whether or not they have full e-commerce facilities.

**Synchronise with international trading partners:** Online communications can include direct website contact or email through a provider for primary stage e-commerce systems. As explained earlier, firms need to maintain parity with their business partners in technological innovation or risk missing contractual obligations. For Saudi industry, the majority of products are sourced from international suppliers who rely on e-commerce. Thus, the technological level of suppliers is a factor in Saudi companies' decisions to upgrade their online presence in order to harmonise their operations. The CEO from Company A explained: "Our international partners have advanced IT systems, so the company has to be technologically compatible with them . . . it is a good communication method".

Previously, faxes were the main method of transmitting product information and for conducting transactions. For Company A, the e-commerce platform is far superior to traditional methods, enabling databases and communications out-of-hours. Other companies also noted supplier and business customer benefits:

(It is) very helpful for product quotation. Companies can go direct to the website and choose what they want from us . . . and send their order online (Operations manager, Company C).

Similarly, the IT manager from Company D stated:

Yes, it does affect us. We are dealing in e-solutions for the purposes of our trading; we would fall behind if we didn't have Internet access. Our suppliers would find other online companies if we didn't have the technology they need (IT manager, Company D).

Company B's customers are predominantly large local and international companies that use online transactions: "Most of our work is with local or international firms . . . if you know the benefits of technology, you would adopt it regardless of others"(General manager, Company B).

Thus, the use of e-commerce along the retail chain is also a factor in e-commerce adoption. It may point to a need to review a firm's e-commerce position in order to maintain the ability to trade successfully if systems lag behind the market.

### 5.3.3 Social-cultural motivations

An important factor which has apparently influenced companies to respond with the use of e-commerce appears to emanate from the social-cultural context of Saudi Arabia. One particular aspect in the culture in this regards are the restrictions imposed on women in public places. Saudi Arabia's conservative society places restrictions on women's actions outside of the home (Ahmad 2011). There are legal restrictions imposed on women in public places which are major factors in childcare, healthcare, household maintenance, worship, leisure, and socialising (Al-Munajjed 2010). Retailers are thus disadvantaged in attracting women into their public space, and must offer sufficient incentives to make it worth the woman's trouble. These include separate floors in shopping malls for families, separate guarded entrances and exits for women, and separate sections for shops, restaurants, and services (Al-Munajjed 2010). Thus, e-commerce could allow women to shop from home, browsing product catalogues, selecting goods, paying for them, and having them delivered to their home. This would not only circumvent the cultural restrictions, but would also enhance convenience. The marketing manager from Company B said:

It is difficult for women to go and buy their own goods . . . we can help by advertising products online and then delivering what she orders to her home without having to leave home to shop.

The marketing manager from Company A agreed: "We provide convenient facilities for women . . . from her home (so that women) will not face difficulties in buying their needs".

The general manager from Company C included younger women in the discussion:

The country has many universities and colleges for women, who (despite their higher education) have (the ability) to come to the store; not all can afford a private driver, or have a relative available to take them shopping. (E-commerce) would be a competitive advantage.

Under Saudi gender restrictions, and indeed under summer weather conditions, at-home purchasing is a distinct benefit to consumers. Further, there are legal restrictions concerning shopping hours for prayer times, where all shopping centres and shops must close for prayers five times each day for up to 40 minutes each time (Said 2014). Purchasing online is therefore practical so that shopping can continue during these periods. For example, customers could prepay their mobile phones online without needing to wait: "As you know, at prayer times, all shops and outlets close . . . in the future; our online sales can be made at any time" (General manager, Company D).



The youthful profile of Saudi Arabia, where 47 per cent of the population is under 25 years, is also a factor (World Factbook 2014). This cohort is highly-literate in telecommunications, with 176.5 mobile phones and 49.5 mobile broadband subscriptions per 100 people in 2013 (International Telecommunications Union 2014). This proportion of mobile phone users is a strong incentive for retailers to engage with potential customers through their mobile devices. The marketing director from Company A sees this as an opportunity for e-commerce:

The population is very young. In Saudi, we are talking about 69 per cent of the population below the age of 35 years. What does this mean I would not expect my father to engage in online transactions. I would not expect my uncle who is in his forties to do so, since he is not used to it, but we are used to it, my kids are used to it. So, the potential is greater as their generation grows up. Saudi is a growing population (with) a growing income. It's expected that in the next 5 years, income per capita will grow by 25 per cent and the current credit card penetration is 15 per cent . . . This will help to improve consumer behaviour.

Having a young, technologically-literate population also has a positive impact on consumer behaviour. A considerable proportion of the population has accepted e-commerce as a new tool for buying and selling. This provides further incentives for more companies to start using e-commerce websites. Company A's IT director made the following point: "More than 50 per cent of young people are using the Internet without any problems, so now they are eager to get access to more features from the sites".

These demographic attributes create a positive environment for firms to adopt online selling as a significant competitive edge in their markets, as the marketing manager from Company C attested:

The future of e-commerce is bright, people are young and more educated . . . for example . . . the rise in graduates from higher education gives an indication that e-shopping and e-marketing has a good future in the country.

### **5.3.4 Section summary**

From the above discussion, it is clear that a mix of factors have driven the adoption and implementation of e-commerce systems. The implementation is however at different levels, from the very basic to fairly advanced levels. However, none of the companies have managed to achieve the most advanced level of implementation, which would be capable of integrating sophisticated B2C interactions in the shopping experience.

Thus, although expressed generally as motivations, some of these driving factors have been largely aspirational and have been primarily expressed as anticipated benefits of e-commerce. The question that lingers from this analysis is why, despite all the enthusiasm, and seemingly, the motivation, Saudi businesses have not been able to achieve this aspirational level of e-commerce implementation. The following section deals with this question.

#### **5.4 Factors Influencing E-commerce Adoption**

In addition to the motivating factors based on the TOE framework, the analysis also revealed a number of forces which have influenced the process and determined the extent of success in the implementation of e-commerce in the different organisations. These findings are summarised in Table 5.2. These are also discussed in greater detail below, starting with technological influences.

Table 5.2 Model analysis according to TOE framework for each company

<b>Company A: E-commerce level Transactional website allowing online selling and purchasing of products/services including online payments</b>			
<b>Technology Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Internal IT infrastructure	- IT infrastructure developed and updated to suit implementation of e-commerce - Suitable and updated servers - Sufficient capacity of data room management (data storage) - Up-to-date IT hardware and connections	IT hardware	Positive
Compatibility	- Software compatible with IT hardware and infrastructure required for e-commerce - Adjustments to the company's operational processes as required by e-commerce adoption - Compatibility with employee skills and attitudes - Integration with the intranet and internet - Appropriate updated software	Software  Adoption process Skills & attitude  Integration	Positive
Human Resources	- Strong and dedicated professional IT team - IT experts and managers capable of increasing staff confidence in technology adoption - Extensive training at the initial stage	IT experts  Staff confidence  Staff Training	Positive
<b>Organisation Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
E-commerce strategy	- Perception of e-commerce as a key for achieving the company's vision and strategic goals - A clear plan for e-commerce adoption - Support for adoption of e-commerce by CEO and other senior management	Vision& goals  Adoption Plan  CEO support	Positive
Financial resources	- Sufficient budget for the implementation of e-commerce at the required/agreed level - Vision of e-commerce as investment for the future	Adequate budget  Investment	Positive
Organisational structure & Management Style	- Management support - Involvement of middle management to ensure effective delegation of implementation responsibilities - Management knowledge and awareness of e-commerce usage	Management Support  Delegation of responsibilities  Management awareness	Positive
<b>Environment Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Industry Adoption	- Limited acceptance of e-commerce among the organisation's partners in Saudi Arabia - Difficulties in dealing with business partners not using B2B e-commerce - Lack of experience/expertise/support in e-commerce	Lack of expertise&experience  Low Acceptance by partner	Impeding
Jurisdictional Issues	- The government does not accept e-commerce as a strategic tool - Low government interest in online sales - Absence of a legal framework for e-commerce, including relevant privacy laws, consumer protection laws, licencing, security regulations, etc.	Lake of government support  Lake of legal framework	Impeding
External Infrastructure	- Absence of clear zip codes and home addresses - Weakness of the banking system associated with low rates of credit card transactions - the cost of the internet use is expensive for the people -low Bandwidth -The internet quality is insufficient	No clear Addresses  Banking weaknesses Expensive internet  Insufficient internet Low Bandwidth	Impeding
Social and cultural beliefs	- Low penetration of credit cards in Saudi Arabian population due to religious beliefs and customs - Lack of trust in credit cards and online payment methods - High level of conservatism of Saudi people with regard to disclosing personal information	Low credit card acceptance  Lake of trust  Conservatism	Impeding

Table 5.2 Continued

<b>Company B: E-commerce level: Interactive website enabling users to search the company's product catalogue, make queries, and enter orders without buying online; online sales are available only in one city</b>			
<b>Technology Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Internal IT infrastructure	<ul style="list-style-type: none"> <li>- IT infrastructure developed and updated to suit implementation of e-commerce</li> <li>- Suitable and updated servers</li> <li>- Up-to-date IT hardware and connections</li> </ul>	IT hardware	Positive
Compatibility	<ul style="list-style-type: none"> <li>- Careful revision of the adoption plan and feedback from staff and customers prior to going live with e-commerce</li> <li>- Integration with the intranet and internet</li> <li>- Compatibility with employee skills and attitudes</li> <li>- Compatibility with supplier systems</li> <li>- Appropriate updated software</li> </ul>	Adaption in process Integration  Skills & Attitude  Software  Supplier System	Positive
Human resources	<ul style="list-style-type: none"> <li>- Strong and dedicated professional IT team</li> <li>- Training of employees (workshops, etc.)</li> </ul>	IT experts  Staff Training	Positive
<b>Organisation Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
E-commerce strategy	<ul style="list-style-type: none"> <li>- Perception of e-commerce as a key for achieving the company's vision and strategic goals</li> <li>- A clear plan for e-commerce adoption</li> <li>- Support for adoption of e-commerce by CEO and other senior management</li> </ul>	Vision& gals  Adoption Plan  CEO support	Positive
Financial resources	<ul style="list-style-type: none"> <li>- Sufficient budget for the implementation of e-commerce at the required/agreed level</li> </ul>	Adequate budget	Positive
Organisation structure	<ul style="list-style-type: none"> <li>- Flexible management at different levels</li> <li>- Management support</li> <li>- Involvement of middle management to ensure effective delegation of implementation responsibilities</li> <li>- Sharing of responsibility for implementation between management and employees</li> <li>- Management knowledge and awareness of e-commerce usage</li> <li>- Involving operational employees at all stages of implementation</li> </ul>	Flexibility  Management Support  Delegation of responsibilities  Management awareness	Positive
<b>Environment Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Industry Adoption	<ul style="list-style-type: none"> <li>- Limited acceptance of e-commerce among the organisation's partners in Saudi Arabia</li> <li>- Difficulties in dealing with business partners not using B2B e-commerce</li> <li>- Lack of experience/expertise/support in e-commerce</li> </ul>	Low Acceptance by partner  Lack of expertise& experience	Impeding
Jurisdictional Issues	<ul style="list-style-type: none"> <li>- The government does not accept e-commerce as a strategic tool</li> <li>- Low government interest in online sales</li> <li>- Absence of a legal framework for e-commerce, including the relevant privacy laws, consumer protection laws, licencing, security regulations, etc.</li> <li>- Lack of strategy on e-commerce adoption in the country</li> <li>- Monopoly in communication and Internet services</li> <li>- Insufficient legislative framework and regulations governing and controlling the Internet in the country</li> </ul>	No government strategy & interest  Lack of legal framework  Lack of government support	Impeding
External Infrastructure	<ul style="list-style-type: none"> <li>- Absence of clear zip codes and home addresses</li> <li>- E-payment methods are impossible or difficult due to slow broadband network</li> <li>- Shortage of logistical services</li> </ul>	No clear Addresses  Lack of e-payment  Logistics shortages	Impeding
Social and cultural beliefs	<ul style="list-style-type: none"> <li>- Low penetration of credit cards in Saudi Arabian population due to religious beliefs and customs</li> <li>- Lack of trust in credit cards and online payment methods</li> <li>- High level of conservatism of Saudi people with regard to disclosing personal information</li> </ul>	Low credit card acceptance  Lack of trust	Impeding

Table 5.2 continued

<b>Company C: E-commerce level Informational Website to publish information about the organisation and its products/services with support for selection and purchasing decisions; online customer queries are allowed</b>			
<b>Technology Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Internal IT Infrastructure	- IT infrastructure developed and updated to suit implementation of e-commerce - Up-to-date IT hardware and connections	IT hardware	Positive
Compatibility	- Integration with the intranet and internet - Installing simpler versions of software will remove incompatibility of employees - Appropriate updated software - Adequate firewalls for security purposes to increase trust in e-commerce - High quality IT for Internet access to reduce incompatibility issues	Integration Software Internet security	Positive
Human resources	- Strong and dedicated professional IT team - Training of employees (workshops, etc.) - IT experts and managers capable of increasing staff confidence in technology adoption	IT experts Staff Training Staff confidence	Positive
<b>Organisation Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
E-commerce strategy	- Perception of e-commerce as a key for achieving the company's vision and strategic goals - A clear plan for e-commerce adoption - Support for adoption of e-commerce by CEO and other senior management - The initial focus on B2B e-commerce, with the subsequent extension to B2C e-commerce, if there are market demands	Vision& goals Adoption Plan CEO support B2B focus	Positive
Financial resources	- Sufficient budget for the implementation of e-commerce at the required/agreed level	Adequate budget	Positive
Organisation structure	- Management support - Management commitment to e-commerce adoption - Improvement of communication and trust between senior and middle management, and between managers and staff - Management knowledge and awareness of e-commerce usage - Involvement of operational employees at all stages of implementation	Management support& Commitment Trust Management awareness	Positive
<b>Environment Factors</b>			<b>Influence to adoption</b>
Industry Adoption	- Limited acceptance of e-commerce among the organisation's partners in Saudi Arabia - Lack of awareness among Saudi companies of the benefits offered by e-commerce	Low Acceptance by partner low awareness of benefits	Positive
Jurisdictional Issues	- Low government interest in online sales - Absence of a legal framework for e-commerce, including relevant privacy laws, consumer protection laws, licencing, security regulations, etc. - Insufficient legislative framework and regulations governing and controlling the Internet in the country	Low government strategy & interest Lack of legal framework	Positive
External Infrastructure	- Absence of clear zip codes and home addresses - Shortage of logistic services - High credit card fees - Weakness of the banking system associated with low rates of credit card transactions - Weakness of communication infrastructure and security concerns	NO clear addresses Logistics shortages Banking weaknesses Weak ICT infrastructure	Positive
Social and cultural beliefs	- Low penetration of credit cards in Saudi Arabian population due to religious beliefs and customs - Lack of trust in credit cards and online payment methods - High level of conservatism of Saudi people with regard to disclosing personal information - Lack of knowledge of important consumer rights - Lack of credibility of some e-commerce sites	Low credit card acceptance Lack of trust Conservatism	Positive

Table 5.2 continued

<b>Company D: E-commerce level Basic website for publishing basic information about the company and its products/services; online customer queries are allowed queries</b>			
<b>Technology Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Internal IT infrastructure	- IT infrastructure developed and updated to suit implementation of e-commerce - Up-to-date IT hardware and connections	IT hardware	Positive
Compatibility	- Employee training - Encouraging email communication to push employees towards compatibility - Staged e-commerce adoption - Security-related software	Skills& Attitude Adoption process Software	Positive
Human resources	- Training of employees (workshops, IT training, etc.) - Self-motivation of the employees - Strong and dedicated professional IT team	Staff Training Self-motivation IT experts	Positive
<b>Organisation Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
E-commerce strategy	- A clear plan for e-commerce adoption - Support for adoption of e-commerce by owner's and other senior management - The initial focus on B2B e-commerce, with the subsequent extension to B2C e-commerce, if there are market demands	Adoption Plan Owner's support B2B focus	Positive
Financial resources	- Sufficient budget for the implementation of e-commerce at the required/agreed level - Owner's approval for allocating financial resources for e-commerce	Owner's approval	Positive
Organisation structure	- Management support - Improved communication and trust between senior and middle management, and between managers and staff	Management support Trust	Positive
<b>Environment Factors</b>	<b>Sub- Factors</b>		<b>Influence to adoption</b>
Industry Adoption	- Limited acceptance of e-commerce among the organisation's partners in Saudi Arabia - Difficulties in dealing with business partners not using B2B e-commerce (negative impact and lack of trust from a local partner not having Internet connection or e-commerce) - Preferences for personal contacts and cash payments - Lack of trust among some corporate companies that their employees would make appropriate use of the Internet	Low Acceptance by partner Lack of expertise& experience Chas preferences	Impeding
Jurisdictional Issues	- Lack of government support for e-commerce adoption - Delays and difficulties in the information-sharing process between private and government organisations - Absence of a legal framework for e-commerce, including relevant privacy laws, consumer protection laws, licencing, security regulations, etc.	Lake of government support Information sharing difficulty Lake of legal framework	Impeding
External Infrastructure	- Lack of a proper payment method - High cost of the Internet	Lake of e-payment Expensive internet	Impeding
Social and cultural beliefs	- Lack of awareness of e-commerce benefits for consumers - Lack of trust in credit cards and online payment methods - People prefer face-to-face contacts to negotiate the price	Lack of awareness Lack of trust	Impeding

Table 5.2 presents the factors for the adoption of e-commerce according to the (TOE) model. The technology used was labelled as *internal IT infrastructure* (due to the extent of the systems installed), *compatibility* (with existing systems), and *human resources* (to account for system support). The organisation factors were e-commerce *strategy, finance, and organisational structure*. The environment factors were assessed as *industry adoption* (competitors and suppliers), *jurisdictional issues* (government role and legal framework), *external infrastructure* (ICT capacity, state of e-payment, and delivery services), and *social influences* (consumer and industry behaviours). These are addressed in the following section.

#### **5.4.1 Technology context**

This section discusses the technological factors that have an influence on the adoption and implementation of e-commerce in organisations, including internal IT infrastructure, complexity and compatibility, and human resources.

##### *5.4.1.1 Internal IT infrastructure*

The data showed the extent that the quality of the systems infrastructure affected the e-commerce strategy of each firm. Company A's CEO stated that, as a relatively new company, the firm could build on its systems to meet the objectives of their e-commerce strategy. The first stage of their project was to ensure that the number of servers could meet future demand so that data management could be used for customer relations (e-marketing). The next stage concerned website design and structure:

We started from nothing to build a small base that we will continue to build over time . . . so our IT structure and infrastructure was launched as an integrated e-commerce solution. And by that I mean, you can go online, research products, and have products delivered to your home (CEO, Company A).

The CEO continued by explaining that the e-commerce project was assisted by the relevance of the existing systems:

Out of date IS infrastructure would delay the project . . . The organisation is 8 years old, but the main IT infrastructure is 5 years old. So we don't have a large number of legacy systems (CEO, Company A).

The firm's IT director (Company A) agreed:

This project has actually been easier than those I did in other organisations, which is probably due to the fact that we have got relatively new computer systems.

Other respondents from Company A concurred with these views and indicated that the firm was a relatively new retailer in the country. Thus, their contemporary systems assisted the e-commerce project.

Company B, on the other hand, did not have sophisticated IT systems on which to base their e-commerce decisions. Whilst they had an effective intranet and extranet (the Internet), the company believed that their IT infrastructure needed to be updated before e-commerce could be installed. At the decision-making stage, the firm conducted an evaluation of its systems. The early stages of the project included the upgrading of technological capabilities. The existing servers were updated, new servers and hardware were added, and other devices were reconditioned or replaced to ensure compatibility across all platforms. The general manager outlined the process: “Even before the e-commerce project started, we were working on upgrading the systems; we started in head office and then the branches” (General Manager, Company B). The customer services manager said:

Good IT infrastructure reduces the rate of error or unexpected problems arising that could badly disturb the work operation, either here at the administrative offices or in the stores (Customer services manager, Company B).

The IT Manager explained the importance of appropriate systems running on the redeveloped software: “We adjusted the systems to suit our needs, changing some software to make it simple for our employees and customers” (IT manager, Company B).

The interviewees from Company C said that their simpler system was successfully installed. The IT manager explained:

Technology is integral to the company’s success. The company has advanced equipment at the data centre and new systems are centred on that . . . The company bought advanced software . . . we consider ourselves the first firm using advanced systems in the industry (IT manager, Company C).

The finance manager confirmed that the company also had good telecommunications support:

Our server and other equipment is up-to-date, the company supports technological change whether it is a (Microsoft) Windows program or an integrated system (Finance manager, Company C).

The technology manager from Company D said that their computer system was dated and that the firm was upgrading: “We couldn’t run the new systems with old computers, so we installed new hardware”. Their distribution consultant added: “every two years, we upgrade our software in finance, monitoring, and logistics”.



#### *5.4.1.2 Compatibility*

The compatibility of e-commerce with the organisation's infrastructure, employee competencies, and the business stakeholders is essential in ensuring effective implementation of e-commerce. If it is to be used efficiently by the organisation, e-commerce requires both technical and organisational compatibility. Technical compatibility refers to integration with existing systems and this requires careful planning.

Company A's existing systems were capable of adding e-commerce, as they had methodically worked through systems development with a large international systems provider. According to the CEO, "We are very good at systems development for integrating e-commerce with physical operations, so we will automate processes and develop new systems and procedures as the business grows" (CEO, Company A).

In the case of Company B, a staged e-commerce project was in place to allow time for the effective integration of new systems with existing practices, so that systems capability did not extend beyond the capacity of the organisation to adapt, or indeed, the infrastructure available in the country. That was the strategy behind a dedicated extranet for communicating with its suppliers and an intranet for the workplace.

We planned for compatibility with existing systems from the outset . . . so the IT team connected the e-commerce website with the extranet and intranet (IT manager, Company B).

The customer services manager from Company C agreed with this approach: "we first consider compatibility for any technology, first we decide if the new technology is compatible; if not, we think how we can make our target program compatible". The general manager from Company C said it was important for the firm to have a web presence that allowed for change and upgrading. Compatibility between systems was important to allow data retrieval and to ensure communications were not disrupted for employees to do their jobs. The general manager (Company C) asserted that "the e-commerce systems based on our web presence suits our existing systems . . . bridging over to the newer systems to facilitate work practices for everyone in the firm".

Company C installed their new systems over a six month period, as previously noted, using both systems in parallel to enable staff to learn, and for the IT team to resolve any problems that occurred. During this time, additions were made to the software, and security (firewalls) was added. As the IT manager from Company C said: "Compatibility with existing systems

for upgrades is necessary for the firm's functioning, as is staging software upgrades and taking time to full implementation”.

The Company D participants said that their upgrade was planned to be compatible with manual systems with upgrades staged over time. For example, the finance staff were accustomed to auditing the company accounts manually and did not want to audit online. The system was changed to allow some of the staff to temporarily audit offline, and then to enter the results. One participant explained: “I think after a while, everybody became comfortable with using the system. However, we needed to adjust the project to suit to them” (IT manager, Company D).

Company A used technological change as part of its policy to continually upgrade its business model:

It must be compatible and aligned (to our business model). There may be changes in the process of adoption . . . We may change this or that in the future to prevent any impediments to efficient installation (IT director, Company A).

The analysis showed that for effective implementation to take place, e-commerce should be established over time and in incremental stages. It should be tested and confirmed to be effective before moving on to the more advanced stages.

#### *5.4.1.3 Human resources*

To effectively use new technologies in retail operations, the computer ‘literacy’ of staff and customers is fundamental to online transactions. Organisations require knowledgeable staff to plan and install websites that are readily accessible by potential customers, and staff must be competent in workplace procedures directed at market appeal and obtaining cost efficiencies from such websites. Research shows that a company is more likely to adopt innovative technology when their staffs are computer literate (Al-Fawaeer 2014). At Company A, the systems technology team were a factor in achieving the successful integration of the project into the existing system and maintaining and developing e-commerce systems. The IT director from Company A asserted: “if you don't have a dedicated team to (monitor and upgrade systems) there can be severe repercussions”.

Referring to Company B, the technology systems manager agreed that systems monitoring was essential:

We have 22 professionals in the IT department, five are engineers and 17 are technical experts; they are excellent at their jobs and very helpful . . . Every city has a large store with an IT employee who is able to deal with any IT problems (IT manager, Company B).

Company C, the bookstore, had a technology centre responsible for establishing e-commerce in the organisation. The centre had 15 technical and e-commerce staff.

This is a complex project, so it is important for the company to have a technology centre. The centre uploads and manages products for the website and maintains it (IT manager, Company C).

The interviewees from Company D also acknowledged the importance of a dedicated online team. The organisation recruited Internet professionals for their website: “We have Internet staff who installed all the computers and the website and who monitor online services” (Marketing manager, Company D). The distribution consultant concurred, stating that the team responded to issues throughout the organisation: “We hired technical experts to set up and install the software that our company required”. This included training of remote staff:

We can also engage in distance learning and remote control, as employees download an application to their computer and we then train them (IT manager, Company D).

#### *5.4.1.3 Staff competencies*

Computer literacy for all staff was a fundamental concept for the firms. There were two factors in this: training staff who were not familiar with keyboard work, and training all staff in their particular job and its online component. As part of the project at Company A, the e-commerce team developed a comprehensive staff training package that included feedback from workshops. As well as gaining an awareness of the e-commerce project, the training assisted staff to understand the firm’s purpose in moving its work practices online, and the benefits in communications and the facilitation of daily tasks. As one interviewee explained:

We have taken all necessary measures to prevent problems . . . all employees were trained and extensively tested. I think we have overcome 90% of the challenges we faced in phase one, which is highly beneficial to the firm and its customers (Service manager, Company A).

All the respondents from Company A agreed with the service manager’s summary. As part of the training, simulated transactions were made, complete with a range of problems and mistakes. The employees worked through these to understand the solutions to issues if they occurred. As the regional manager (Company A) said:

From the start of the project, we trained staff across the company with fake transactions to see how the employees would respond, and we coached them through this. And so far, there have been no major issues at all.

Staff competency with keyboards and working online was another aspect of project implementation. The customer services manager from Company B explained that it was also important for people to be comfortable with keyboard work. Therefore, the company trained its workers so that they were comfortable with data entry and computer procedures when the new system began: “People have to be (comfortable with the new systems) . . . so, we always provide training . . . before adopting new programs or adding functions” (Customer services manager, Company B).

Staff in customer service, marketing, and inventory control were trained in their particular online system applications. During these workshops, the employees had the opportunity to express concerns about any issues which were examined, discussed, and addressed to ensure a smooth transition from manual practices to the online function. The customer service manager (Company B) noted: “Employees may have concerns or feel that the system is difficult to use; after the workshops . . . these issues were resolved”. This was also confirmed by the marketing manager (Company B) who indicated that a one-week training program was established for new staff as part of their induction:

The IT department trained staff . . . before a new employee can begin their job, they have to work for two days in the centre to understand the systems we use.

The interviewees from Company C said the firm could not achieve its objectives without developing the skills of its employees. This is achieved through their human capital development centre, which has extensive capabilities in enhancing employees’ skills and knowledge. Collaboration between the training and IT groups resulted in many of these training packages being delivered online. The firm held workshops for employees at the headquarters and in the stores to gain feedback on the issues they encountered while working online, and in turn, this assisted the staff to learn about the systems and how these were integrated into the firm. The general manager (Company C) explained: “The firm’s objective is to enhance its employees’ knowledge and train them to be confident and efficient at work”.

To allow staff members to learn the new system, and thus, to gain the benefits from the efficiencies of e-commerce, the general manager from Company C said that ease of use was a factor in deciding on which systems to install:

There are many programs in the market; however, the firm has to find the best and the easiest for its employees, I can say that an easy-to-use program will encourage its use. A good IT team can overcome issues related to compatibility with existing systems (General Manager, Company C).

Company C as noted, was a distributor to retail firms. The corporate sales staff were the first to be trained, and then the training was delivered to other people in the sales department. The IT manager explained:

The training was in two parts . . . the first workshops were to train staff in corporate sales, then the remainder of the staff . . . training is continuous and available to staff as they need it.

Somewhat surprisingly, the small electronics firm (Company D) encountered some resistance from its employees in relation to changes to their work practices from paper records to keyboard data entry. As the distribution consultant stated:

In the beginning, there was resistance because the sales staff were used to working on paper. Employees did not have basic keyboard skills, or in using programs like Microsoft, or emailing and scanning. We trained them to enter their data and to work online (Distribution consultant, Company D).

However, the more self-motivated staff were more inclined to use the new technology, as Company D's IT manager said:

At present, we are using almost 10 applications via the Internet. We find that sometimes people learn at double the rate of others and these people appear to be more cooperative.

This was the first indication from the managers of the different levels of interest of employees, as the other matters raised related more to training for awareness and avoiding errors. Enthusiastic technology users can act as agents for change in the organisation (Alaama 2014). Nevertheless, one interviewee admitted that training in the firm was not systematic:

We should support them, but frankly, we are not updating them on the latest technology . . . We may provide training every two years, but they need guidelines and regular training (Distribution consultant, Company D).

Some of the respondents from Company D appeared to believe that a level of general computer competency was sufficient for their basic applications, although this did not account for the firm's business practices, which required some level of training. The distribution consultant (Company D) made the following point:

I think in the future, the firm will be more efficient. But at the moment, the general mindset is not aligned to a business model that leads to e-commerce. So, we are doing only 50 to 60% of our business online. There is an opportunity to expand that if we can train our staff, if the authorities and the company can work together.

This reference to the firm and the government working together relates to the Ministry of Labour and the Human Resources Development Fund who were working with the Chambers of Industry and Commerce in the provinces to train unemployed Saudis in such workplace basics as English language, work ethic, computer programs, and customer relations (Oxford Business Group 2013).

The IT manager from Company D linked technological innovation with the employees' resistance to change. Resistance was overcome by training them and providing support:

The initial difficulty to manage them is adapting human nature and behaviour towards accepting change. Therefore, we need to give employees more flexibility and provide them with a friendly environment. This may involve going to their region to let them use some of our equipment. Also, we are open and accessible to employees for them to call if they have any problems (IT manager, Computer D).

This section demonstrates that all the participants saw the value of training, although those with online business models necessarily devoted more resources to training staff to gain the benefits of e-commerce. Companies C and D had minimal website presence for online sales, although the Company D representatives somewhat surprisingly admitted to the majority of their sales online. This should be flagged as an issue with the firm, pointing to the opportunities available if they engaged further with e-commerce.

#### **5.4.2 Organisation context**

The organisational factors presented here relate to the structures and processes within the organisation which significantly influence the way in which e-commerce has been implemented and how successful it has been. These are the factors which, it is reasonable to assume, that company management have had direct control over. They are primarily discussed from the perspective of organisational e-commerce strategy, financial resources, and the nature of the organisational structure.

##### *5.4.2.1 E-commerce strategy*

Once a number of firms within the business community begin to use the Internet, an organisational strategy becomes, initially desirable, and then a necessity (AlGhamdi, Drew & Alhussain 2012). The four participating firms displayed a range of responses to

computerisation which, in essence, ranged from company A's adoption of e-commerce, through to company D's expectation that everything would fall into place without intervention. The various attitudes are reported in this section.

The respondents from Company A said that the firm's vision was to lead in the area of consumer electronics in Arab countries, and particularly, to be effective and influential among Saudi retailers. Accordingly, e-commerce was the key to this vision. The CEO (Company A) explained:

Adopting e-commerce is really a strategic matter, so it is led by the senior staff of the company and our vision for the future of the organisation. Most of the employees do not sit in a world where they are thinking 5 years ahead, while I am paid to do so.

This view that the most efficient and cost-effective course of action to extend the company's reach in the Gulf countries, and to increase market share through e-commerce, was confirmed by the marketing director (Company A): "The company's strategy is to use the Internet to reach more customers; it is a big challenge unless you have (an appropriate plan)".

The strategy for Company A was purposive; the executive were knowledgeable and clear about their objectives. As well, they understood that the means to achieving dominance in their markets was to provide potential customers with full online capabilities, given the technical and commercial restrictions of the time. As the restrictions were resolved, the firm could then pursue its objectives.

Although a co-retailer, Company B was in a different market to Company A; that is, food and home-wares. Company B was proceeding with its e-commerce strategy in a different context to that of Company A. The interviewees in Company B saw e-commerce as a strategy to achieve the company's vision. The general manager (Company B) explained:

An online business solution is necessary to achieve our objectives and mission . . . we cannot be market leaders or retain market share without online sales.

Further, e-commerce was a long-term strategy for the firm which therefore required significant financial resources:

It is a long process that was started after the decision was made to adopt e-commerce, proceeding in stages from 2003 up to today . . . From the beginning, it required a good budget . . . for software and hardware, and new staff to develop and maintain the website (General Manager, Company B).

Company B's products differed from the electronics of Company A, and therefore, required a different set of logistics. This would affect its logistical networks, particularly if it was using dedicated warehouses for the distribution of fresh food or bulky items. The commitment to e-commerce would therefore affect its operations more than Company A. This was indicated by the levels of adoption by both firms, with Company B taking orders manually and delivering only in one city.

Again, Company C had a similar vision to the other firms: to achieve leadership in the industry, increase its profits, and provide its business customers with quality service. In its retailing niche, the company sold and distributed to other businesses; thus, as a wholesaler, its business was based on perhaps more formal arrangements than the retailers. Nevertheless, the status of online trading amongst booksellers was such that the operations manager had a long-term goal to place the firm's administration online and to avoid the inefficiencies of paper-based trading documentation. This project started in 2003 when the Internet became available to firms, first in the main office and then in its distribution centres. The firm adopted email as its preferred method for internal communications:

The executive director looked to transform this company to an electronic organisation from 2001 . . . we started in 2003 to use computers for all our internal records . . . we just have paper now for external use (Operation manager, Company C).

Other respondents from Company C confirmed the long-range plan:

Without a clear plan, achieving the goal (of an electronic organisation) would not succeed . . . Moreover, the plan continued in 2004 when the firm built its website for information about the company and its products and this information is updated (IT manager, Company C).

The company's online sales extend to individual corporate accounts that enable businesses to order online from the firm and to facilitate communications:

The company focused on improving its business-to-business program to enhance the relationships with companies and increase our sales to them, also attracting other firms (General manager, Company C).

The company strategy is to adopt e-commerce in three steps: an online catalogue that was then available for orders; the second step allowed customers to order and pay online, and then to collect the goods from a distribution centre; and the third would be full e-commerce in delivering the goods to the customer. The observation of Company C's online strategy is that, at the time, there was no impetus for the firm to extend its services to its customers, despite its vision to be the best in customer service. The current model of the customer ordering



online and then collecting the goods from the distribution centre had apparently been in place for a long time, and the company's long-range plans for deliveries did not appear to be put in place immediately. Given its niche market of wholesaling books, the company may be satisfied with its provision of services, and may not intend to expand beyond sector growth patterns.

Company D's vision is to again become a market leader by providing quality products and superior service to its customers. This includes online sales to other firms; however, it does not trade directly with consumers. As a family-owned enterprise, the owner had not taken this step: "Adoption of the Internet and its upgrade to a website was the owner's decision" (General manager, Company D). The marketing manager (Company D) confirmed this point: "Clearly, upgrading our website for selling online is the owner's decision to make . . . if he wants to develop it or not". Apparently, the firm did not see a contemporary market demand for online sales:

We do not know exactly when we are going to fully adopt an e-commerce website; however, it is to be based on market demand (Financial manager, Company D).

The general manager further explained that the company's priority at the time was as a business-to-business wholesaler rather than focusing on consumer sales:

We are not in a rush to (move to a) consumer market, especially as we use online communication with other organisations . . . in the future, we intend to sell online to our customers . . . I'm happy with approximately 60% of our website . . . still there are many things missing . . . we are still improving the website, still learning (General manager, Company D).

Companies C and D, although being wholesalers in different sectors (the other two companies were large retailers), operated through a formal business model, buying and selling as a group. Thus, their sector was to some degree protected from the market pressures of the retailers, as they operated as a conduit between producers and brand names, and simply changed orders as required. Whilst administration and communications were online, the need for a strategy to change their business models to online sales was not required in the fledgling Saudi business environment. This would have to change in the future as retailers, for instance, require seamless online data for their logistics. Especially in the telecommunications industry, Company D found that international competitors could easily cut out parts of the conduit and deal directly with retailers. Both Companies C and D need to recognise the commercial risk of their lack of willingness to innovate.

#### 5.4.2.2 *Financial resources*

Changing business models, especially when such a change involves moving from paper-based records to online data, requires considerable financial resources over time. Whether these are seen as an investment in the firm's objectives, or merely as an inconvenient operational cost, was a matter of early debate, especially among smaller firms. However, this was generally related to the amount of attributable costs for accounting purposes. Technology, as innovation, is generally accepted as a sound investment (Sarracco 2003).

Company A's e-commerce strategy required substantial investment in infrastructure, systems platforms and programs, peripheral equipment such as monitors and computers, and then installation and user training. The regional manager (Company A) commented on this point:

When any company invests in computer systems, it is expensive . . . the technology does not pay back immediately, it is a long-term proposition . . . We support a technical centre, and new Internet-enabled computers with programs installed (Regional manager, Company A).

The IT manager (Company A) agreed:

It was a cost rather than a profit in the beginning. We have a specific budget for e-commerce from day one where we put in a lot of money, a lot of investment, resources, people, infrastructure, and consultations and development, specifically for e-commerce.

The CEO (Company A) continued with this assessment:

Our investment made the e-commerce project comparatively easy. Our total investment into IT in this area would be approximately 6 million riyals, which is a relatively substantial sum even from a strategic point of view. In my mind, that is a very good investment because . . . you would be very surprised in five years' time if we weren't talking about having an extra 10% of sales going through that channel.

Company A was therefore willing to make a long-term investment in technology as part of its strategy for future growth, both on the Peninsula and throughout the Kingdom.

The interviewees from Company B agreed that their investment in e-commerce was substantial and ongoing. This was to support the firm's drive in e-commerce beyond the stage of servicing a single city. Financial planning was an integral part of the e-commerce project, as the general manager noted in a previous quote regarding resources: computers and professional teams for planning and installation.

With their different business-to-business models, representatives from Companies C and D remarked on other aspects of computerisation which are common to all Saudi users, such as spending more than other Gulf countries on Internet speed and data capacity. As Company C

had a large data centre, it was important to keep data in-house for security and access, and this was an expensive option, as the IT manager reported. As Company D was the smallest of the case study firms, its technology needs were purchased as required through its operational budget:

There is no precise budget allocated, but if the IT people want to upgrade the system or operational capacity, I can approve this and support them. This is because we see how IT systems are helpful to us . . . especially if we want better and more advanced services (General manager, Company D).

For Company D, the general manager therefore had financial delegation from the owner to upgrade or replace the computer or telecommunications system, as required. The financial manager said that these extra costs were ‘almost negligible’ in comparison to the benefits that accrued from them.

Financial commitment followed from the firms’ strategies in these case studies. The first two firms, A and B, had written strategies and the e-commerce projects were similarly detailed and implemented. Companies C and D varied to the extent that they commented on their technological resources; Company C had an ‘expensive’ data centre that took care to maintain, while the Company D representatives were dismissive of the cost benefits of their online operations.

#### *5.4.2.3 Organizational structure*

A major influence on e-commerce decisions in this study was management style; that is, the relationship between the different layers of management, management knowledge and awareness, and the level of senior management support. Al-Waqfi and Forstenlechner (2012) commented on young Saudis’ adverse attitudes to working conditions and supervision in the private sector in the Gulf countries. With regards to this study, the respondents felt that support from company management was an important organisational determinant as far as the adoption of e-commerce initiatives in the Saudi retail industry is concerned, and with specific reference to their localised experience.

According to the IT manager from Company A, innovation leads to organisational and work changes that may lead to resistance from employees or their supervisors. Technological change can result in changed work structures, changed job specifications, or loss of jobs if the firm does not wish to train staff for other positions. Thus, the executive should, at an early stage, explain the nature of the innovation, such as e-commerce, and the expected impact on

the staff, ensuring that they involve them in the project (Tipu 2014). An example of this was when, in preparation for online purchases, Company A established a new group for home deliveries and recruited employees to deliver online purchases to the customers: “It is a change . . . we set up home deliveries . . . and this affects everyone in the organisation” (Marketing manager, Company A).

In developing e-commerce projects, the participants mentioned the need for effective decision-making and, as noted, the board of Company A made their decision before they went public on the Tadawul (the Saudi stock market). The project was implemented in a phased manner to allow for orderly implementation, and was supported in full by the executive with supervisors being briefed as to their responsibilities toward the staff. The regional manager (Company A) said “we support our employees . . . encouraging them to minimise paperwork . . . although some prefer it . . . they are encouraged to work online”.

Company B established a flexible approach to e-commerce, ensuring that everyone was brought along over time. Once the decision was made on the innovation project, the executive committed to the e-commerce strategy, as the IT manager (Company B) stated:

that can be done by management flexibility to respond to the change by making strong decisions and . . . supporting the processes (involved) in moving from traditional methods to online delivery . . . commitment and continued support are very important.

Once the project began, it became a shared innovation throughout the organisation. The employees were involved at all stages of the project so that they took ownership of the project and were enthusiastic about it succeeding. This involvement developed a better understanding of the system through which the employees could then identify and effectively address any problems that may arise. The general manager from Company B described this aspect of the process: “Sharing the responsibility for the project between managers and employees leads to success . . . letting me know about the real obstacles (as they arose)”.

Company C had a centralised decision-making team on their board, and their slower adoption of e-commerce was influenced by market forces, given their business-to-business model. The finance manager (Company C) said:

The Internet is a tool that helps to improve the (way we) work. If (managers) do not support (staff), it would be detrimental to our company and we could waste our resources.

The IT manager (Company C) also mentioned the support given to employees in moving to online data:

For our company, the Internet is at the heart of our work. The CEO takes the initiative . . . and we are supportive with training in new applications and equipment.

Management support in new work practices was a factor mentioned by the finance manager from Company D:

I endorse the premise that financial employees should use Internet banking . . . if I did not support this stance, we would face trouble in the future.

Whilst Company C was not pursuing e-commerce, it continued to build confidence in its employees through trust, communication through an open-door policy, and feedback through workshops on workplace issues in administration and customer relations:

We are always open to discussion and welcome any new idea from the employees in any topic or subject. Just a couple of weeks ago, I had a discussion with an employee from accounting regarding a technical problem on the Internet (General manager, Company C).

Good management-employee relations were an aspect of work life in Company D. Moreover, the general manager believed that good interpersonal relationships within the company would assist with innovative practices. For example, a supervisor could assist an employee in a technical matter such as the accountant faced, and could be assisted without calling for technical assistance.

Here we are one family; I can discuss anything an employee wants to raise. For example, we discuss whether employees are using new work practices online, issues they may have with this, and the reasons behind such a decision . . . we have a supportive workplace culture (General manager, Company D).

The participants emphasised cooperation between the multi-level hierarchical management layers found in Arab organisations, and the employees, usually recruits at one or two levels lower in the organisational strata. Such cooperation and collaboration among staff, according to the marketing manager from Company B, ensures effective communication and increased efficiencies for the firm:

A successful e-commerce project needs open and constructive communications. Considerable ideas and opinions are shared during discussions between management and employees (Marketing manager, Company B).

Due to the bureaucracy often found in Arabic firms, there can be limited communications other than between adjacent classifications; this means that there may be little communication between the executive and the higher supervision level (middle management) (Hofstede

2011). There should be an understanding that middle management is actively involved in the project. This is explained by the operations manager from Company B as follows:

This project is complex, so without support from the board of directors, implementation would be difficult financially and technically . . . and the middle managers in the various functions and locations need to participate.

The executive is therefore dependent on the remote managers to bring their local workplace practices into line with corporate directives. This brings in the efficiencies that the firms are seeking. The distribution consultant manager (Company D) explained:

Giving the middle management and store management the freedom to do what is suitable for their stores or employees increased the level of the project success.

Executive awareness of the benefits and potential pitfalls of the technology, and the ability to contribute to the firm's strategy for e-commerce, were aspects raised by the respondents. Company A's leadership in its sector was, in part, due to managers' knowledge and experience regarding the adoption of e-commerce. The service manager (Company A) noted that the CEO's past experience, and that of other executives, was instrumental in the success of the e-commerce project.

This aspect was raised by the respondents from Company B:

Our CEO is enthusiastic regarding an Internet presence . . . He is very keen to discover innovations . . . for e-commerce, and any new technology that can help the firm's business model (Marketing manager, Company B).

The impact of the executive on innovative attitudes in the firm was summed up by the general manager (Company C): "Management must have knowledge and commitment to develop the organisation, the technical staff, yes, but . . . employee skills as well".

Thus, in relation to the organisational factors, there is a clear distinction between the executives and the owners in selecting traditional or progressive business models. The predominantly retail firms sought growth, while those with business customers were not interested in adopting e-commerce. The next section discusses the external (environmental) factors.

### **5.4.3 Environment context**

The environmental context refers to the contextual factors which affect organisational processes and outcomes, but which the organisation's management does not have much

control over. Influences in this section are mainly discussed from a number of perspectives: from the perspective of a lack of government initiative, lack of legal framework, external ICT infrastructure, e-readiness among local trading partners, physical infrastructure, e-payment method, and socio-cultural beliefs. These are presented and discussed in the following section.

#### *5.4.3.1 Industry Adoption*

##### *5.4.3.2 Lack of trading partner readiness*

While the retailers made decisions about their online commercial models, their suppliers and customer firms were also an influence on online transactions. Frequently, suppliers and customers used traditional communications based on facsimile, telephone, and the physical delivery of documentation. The CEO from Company A noted that if either a supplier or a customer did not want online transactions, then the benefits of such trade were lost, even sometimes, the potential supplier. The IT director from Company A confirmed this:

It may stop me from working with them if they don't have a website with detailed item lists. It means more effort on my behalf to create data about the item and to communicate with them.

The participants from Company B agreed that many suppliers in their food and home-wares sector were not online. Most of these companies were in the small-to-medium enterprise category and were still using traditional methods for transactions.

I can say that most SMEs out of our partners rely on telephones and faxes to buy from the wholesale department . . . even if we wanted to buy from them, we would communicate with them manually (Operations manager, Company B).

Company C shared the point made by the Company A representatives in relation to suppliers who could not provide electronic supply lists, thus causing extra work and delays for the book and stationery retailer.

Some trading partners frustrate us, and it is difficult and slow because I have to send a fax to them, then they see the fax and send a reply to me, and so on, by this traditional method. They need a long process which consumes a lot of time (General manager, Company C).

The small distributor, Company D, was a wholesaler selling its telecommunications-branded products to other firms (business-to-business), rather than to end users. While Company D had a minimal online presence itself, it frequently received orders from other companies through traditional means, rather than by email with its benefits of online itemised data:

Firms can only deal with me, as I'm the authorised person to receive orders and the only authorised way to receive an order is via email. If they don't have Internet access, we can't receive their orders, even though sometimes they try to send a fax or start calling me in person. Clearly, such out-of-date activities merely hinder our efforts, slow down our work performance, and disrupt our flow (IT manager, Company D).

The issue was therefore that smaller Saudi firms, or those outside the telecommunications network in rural locations, were not upgrading their commercial models sufficiently to be able to trade. For such firms, an inability to change meant that they would be unable to serve customers, as the larger firms would increasingly refuse to accept orders that were 'non-standard', that is, not online. This was an interesting result as it showed that firms who could not access the Internet, or that refused to adjust to the first steps of e-commerce, would not survive for much longer.

Some companies are online and others prefer traditional methods. Some send their order or any query online, and some of them prefer to call or send faxes. Some are suspicious of technology, their trading partners, or their employees (Operation manager, Company C).

Those who could access the Internet may be suspicious that their employees would waste time browsing the Internet, or using social media. The marketing manager from Company D stated:

There is no apparent realisation as to the importance of adopting e-commerce to work online in some organisations . . . some organisations do not have their workers online . . . as they think that employees will abuse the system sending personal emails, and going on YouTube or Facebook rather than doing their work.

This suspicion of new practices, manifesting as a 'lack of trust' was, according to the financial manager from Company D, widespread in such a conservative country, where electronic data transfer was slowly gaining strength. Businesses in government-controlled industries had long-term relationships with their partners, and no wish for change in a protected commercial environment. However, globalisation and technological change has disrupted business practices (models) that had kept their traditions, such as using physical payment methods.

Some companies here do not trust e-commerce, as most prefer to pay their accounts by cheque or cash in person at the bank . . . they are still afraid of using financial services online . . . and some of them do not trust cheques (Financial manager, Company D).

Some of our trading partners in the Middle East and Arab countries have no interest in e-commerce at all . . . because they measure (the Internet as a cost) or (do not know) what



benefits they can achieve; they do not know the importance of working online (Operations manager, Company C).

Ease of use was another factor relevant to online transactions, according to the finance manager from Company D:

Now I can keep track of financial transactions without going to the bank as before. Our employees have user and sub-user accounts for me to send any reports regarding their financial issues or money deposits at the bank . . . I can also check an account online with confidence and security (Finance manager, Company D).

In some cases, the participants were eager for their suppliers and customers to go online to save time, cost, and especially administration in entering physical data into a database for access.

I have spoken to people, and have succeeded in getting some of them to use the Internet. I advised them that our work relations and operations will be smoother if they adopt advanced communications technology (General manager, Company C).

In summary, Companies A and B had either refused to trade with firms, other than in the online environment, or were intending to drop suppliers and customers whose orders had to be transcribed in-house, rather than being available as electronic data through emails. Representatives from Companies C and D were aware of the reluctance of conservative or suspicious traders to use the Internet, and the general manager from Company C took the opportunity to convince recalcitrant people to use more efficient online channels.

#### *5.4.3.2 Jurisdictional Issues*

##### *5.4.3.2.1 Lack of government role and legal framework*

As an absolute monarchy, the Saudi government directly or indirectly influences every aspect of Saudi people's lives, but most obviously in business life. One aspect of this, common to all governments, is enabling legislation that provides a framework for the interaction of parties to conduct transactions safely and securely on the Internet, for consumer protection, and creating a certification system for deliveries. Such enabling regulations and decrees are a continuing issue in Saudi Arabia (Abid et al. 2011; Ahmad & Agrawal 2012; AlGhamdi, Drew & Alkhalaf 2012). It should be noted that Al-Qatan (2014) reported that several agencies: the Ministry for Commerce and Industry, the Communications and Information Technology Commission, and the Saudi Arabia Monetary Authority were in the process of creating legislation for an e-commerce framework covering these issues, although the process would take some years.

The data analysis in this study found a lack of a national e-commerce framework and the will of the government to pursue it. Zhu and Thatcher (2010) found that government-influenced trading environments affect a country's e-commerce adoption rate; however, there were different effects from such interventions at different stages of e-commerce development. The IT director from Company A asserted that:

Actually, the government hasn't yet taken e-commerce as a strategy to improve the economy. So, from an e-commerce point of view, I don't think the government is doing enough . . . to promote . . . an e-commerce (environment). We are lobbying the government for (change).

The CEO from Company A agreed:

There is not . . . a very clear indication from the government as to whether or not they are supportive or unsupportive of e-commerce initiatives. So, I can't say here that the government is proactively encouraging it.

However, for representatives from Company B, establishing a national regulatory framework for e-commerce and other Internet uses was not a priority. The general manager (Company B) said that the government has a vague and ill-defined plan for e-commerce which was established in 2004 (Section 2.6), yet nothing concrete has resulted from it. In the general manager's view:

There is a lack of strategy on e-commerce adoption in the country . . . It's more than 10 years that the government declared a plan by standing committees from many ministries to promote e-commerce as an economic tool for the Kingdom; however, to date there is nothing (established) (General manager, Company B).

According to the respondents, such a lack of government commitment to provide an impetus delays business progress, as well as the people's acceptance of e-commerce. Another respondent from Company B explained that:

Any project without government support will not be successful, so the first point in my view is to take (e-commerce) as an economic tool . . . that will remove many obstacles . . . whether on the national or global level (Operations manager, Company B).

A participant from Company B also pointed to the lack of communication between the public and the private sector.

Actually, there's not as much support as we would expect. Some of the information that arrives and then audited is too late. I'm talking about government agency's relationships with private companies. Some of the data we need, or the things that we want to do, take up too much time. Responses are very slow in fact (Distribution consultant, Company B).

Such views reflect the centralised control of the Saudi public sector and its lack of transparency on such issues. Whilst e-commerce is just being established in the Kingdom, it has been fully operational in developed countries for many years, with online transactions dominating world trade. The traditionalist nature of the government hierarchy reflects its inability to react quickly to new technological circumstances.

Participants highlighted the lack of a comprehensive legal framework for e-commerce. According to the respondents, there was no legal framework incorporating privacy law or consumer protection law which could assist the development of online transactions. Potential online traders were concerned that information, including credit card numbers and personal data, could be stolen online, as the IT director from Company A explained: “There is no specific law to prevent people finding out information, not just in e-commerce . . . (throughout) the commercial information system generally”. An interviewee from Company D referred to privacy law as follows:

How we protect ourselves from hackers is important. This calls for protection, demanding up-to-date legislation on privacy and security to ward off cybercrime, or at least explain the punishment that can be expected for such crimes (General manager, Company D).

Consumer protection is not available in e-commerce, so that a faulty product purchased on the Internet is replaced only through the goodwill of the seller, rather than through obligation under the law. Whilst it would appear that the Ministry of Commerce and Industry is responsible for the carriage of such law, responsibility for gaining redress for damage or fraud is not evident in e-commerce. This was confirmed by the marketing director from Company A: “There is a lack of legislation . . . to protect consumers or companies”. As a result, people and businesses did not have sufficient confidence in the use of the Internet:

It is important to enact laws and regulations to increase the level of trust between the seller and buyer, and organise the relationship between them over the Internet (Marketing manager, Company A).

The need for legislation was particularly important according to the financial manager from Company D:

Most banks and companies are safe from hacker attacks; however, there is no specific law that organises the relationship between companies and customers in matters of . . . security and privacy.

This was corroborated by the general manager from Company C: “The absence of a legal umbrella makes the client less confident to use . . . e-commerce (as they do not know) how to protect themselves”.

It appears that there are no legal requirements for launching a website in Saudi Arabia. Therefore, any individual or organisation in the country can operate a website for buying and selling online, thus opening the buyer up to potential fraud with no legal redress for purchases made over the Internet. Therefore, the interviewees wanted the certainty of a government agency being made responsible for issuing licences to operate commercial websites for buying and selling online, and for that agency to monitor these websites and block any that are suspected of fraud. The IT manager from Company C said that:

The lack of regulation of this type of business limits (access to e-commerce) and (the effects of) achieving the desired results . . . The responsible government agency should have strong control; no license, no website for buying and selling.

This study shows that without legislation and appropriate regulation by a designated government agency, e-commerce should be approached with caution. The general manager from Company C explained: “The problem (is) consumer protection for buyers. (There is no) law protecting the rights of the buyer, (and this) will not encourage customers to buy online”.

The marketing manager from Company C added:

Before (Saudi) companies consider e-commerce, the government needs to increase customer trust in e-commerce and provide (a legal framework) for security, privacy, and consumer protection . . . to provide clear consumer protection law and use it to (protect consumers) from (fraudulent) companies or stores; then a consumer protection law for e-commerce activities, and then people will trust e-commerce.

A legal framework for e-commerce could assist consumers’ decisions about whether or not to buy online through protection for credit or debit card details to make payments over the Internet. The IT manager from Company B said, “There is a need for laws that can be enacted to protect privacy”. This indicates that the company considers that such a law may be drafted so that it is not equitable against website transgressors.

All the firms in this study made statements to the effect that the Saudi commercial-legal framework was inadequate in relation to consumer protection from fraud, especially in the case of e-commerce, where financial and personal details were transmitted through the Internet. While the banking sector was secure on these issues, the wider commercial

environment did not have the same protection. This position remained unresolved throughout the timeframe of this research.

#### *5.4.3.3 External infrastructure*

Three major deficits in the external infrastructure are the lack of ICT, physical, and e-payment infrastructure.

The respondents reported difficulties with accessing the Internet due to the poor capacity of the broadband network. While individual firms could address their in-house Internet requirements, the level of available infrastructure, at the time, did not support the speed or capacity that e-commerce needed. There was also a low rate of home-based computers, although mobile use was on the rise. The International Telecommunications Union (2014) reported that by 2010, 40.1 per cent of the country had access to the Internet, rising to 60.1 per cent in 2013. However, there were only 1.5m landline broadband connections in 2010, and 2.1m in 2013. The population of 30m people primarily uses wireless connections.

E-commerce technologies require high-quality Internet performance. The interviewees stated that the telecommunications capacity and speed in the country was inadequate. The marketing director of Company A explained:

With the current ICT infrastructure, it is difficult for companies and (potential rural) customers to connect online for e-commerce. I do not know how we can communicate with them . . . it discourages Saudi companies from engaging in e-commerce, and sends an unfortunate message to foreign companies (who may want to trade online) in the future.

A factor in the low online capacity at the time was that Saudi Telecom, a government organisation, was the sole provider of landlines. The other firms were provided with mobile Internet access through Saudi Telecom. The IT manager from Company B stated that:

The Internet is inefficient in many cities . . . the services are not what the customers want. I think that the oligopoly in telecommunications and Internet services of three companies, one ex-government and other 2 private companies, without giving others a chance to compete . . . has a negative impact.

The regional manager from Company B agreed:

The Saudi telecom company is not able to cover a big country like Saudi Arabia with its long distances. As a result, the Internet services have high prices and low speed of transmission . . . At times, while purchasing airline tickets online, the system would drop out, or if it did (take the booking), it would take too long to respond.

Low speeds and high costs have a negative impact on Internet usage. For example, when a customer places an order, the webpage may take them to the payment facility page. At this stage, if the Internet is not quick enough, security issues can arise, and credit card numbers and other details technically could be stolen by hackers. Therefore, some websites will not allow customers to pay online if the Internet is not fast, and cancel the procurement process. The IT manger from company C said that:

A strong telecommunications infrastructure can help e-commerce functions. A fast Internet service is necessary for e-commerce and e-banking.

Saudi Telecom, at the time, offered fibre-optic broadband services for the larger firms with very fast Internet and high bandwidth. The IT director from Company A stated that wireless Internet services assists companies and customers to use e-commerce efficiently; however, wireless access in some parts of the country was not suitable for e-commerce use.

Internet services were also offered by mobile phone. Transmission towers were set to cover a 10 km radius for mobile services and the Internet, and Internet speed was related to proximity to a tower. The IT director from Company C explained:

There are differences in Internet speed from city to city and area to area in the same city, it depends on the number of subscribers in the area you live in and on the distances from the (transmission) tower.

The speed of mobile phone services were also viewed as a potential security risk, and a source of frustration for users waiting for a response. The tower-based mobile network does not cover the entire country (given the satellite services). This was another issue for e-commerce, as the IT manager from Company D stated: “Some areas in the country do not have Internet coverage (at all) or insufficient coverage at best”. Further, service costs are higher in Saudi Arabia, according to the services director from Company A:

Compared with our neighbours in the Gulf, Internet costs in Saudi Arabia are too expensive . . . Sometimes I see 2 or 3 neighbours sign up in one name and share services by wireless (modem because) the cost of the Internet is too expensive for some people.

Thus, the government did not provide an open market, used three providers in an oligopoly, and determined the prices these companies were allowed to charge. A high price of access to Internet services makes e-commerce more expensive, negatively impacting upon the retailer’s potential benefits in offering online sales. As the general manager from Company D

explained: “The country need more companies to provide Internet services and telecommunications . . . (without competition), it is too expensive”.

In summary, all the firms commented that the Internet, at the time, was available to consumers mainly as a mobile service; services did not extend throughout the country; access was poor if the transmission tower was too far away; and the costs were high. Therefore, there was little incentive to pursue online retailing, due to the extra costs involved.

#### 5.4.3.3.1 Lack of physical infrastructure

One of the main issues, in terms of the physical infrastructure mentioned by the interviewees, is the lack of a clear home address system. It is difficult to find a home address in the country without asking a local person about the particular house that one wishes to find. One of the benefits of e-commerce is to serve the customer in a comfortable and convenient way by delivering products directly to the home address. In fact, in Saudi Arabia, most homes and streets do not have names and numbers, except for some main streets in neighbourhoods in which people from upper-class backgrounds live.

These challenges have a negative impact on business. This is particularly so, considering that one of the motivations for the adoption (or intent) of selling online is to serve Saudi women from their homes, as their movement is restricted by male guardians according to the tribal system(see Chapter 2). Without a clear zip code and home address, this will lead to complications for both the companies and residents. The marketing director from Company A pointed out that:

One of the biggest challenges in Saudi . . . as e-commerce is based on delivery, is the lack of proper addresses, mailboxes, and zip codes.

The operations manager and IT director from Company A also noted issues with deliveries:

This is because of the infrastructure of the country, so it is not our fault as a company. The government is not really helping us much as the addresses are not well-designed; if you don't have proper addresses, you don't have proper payment.

Two respondents from Company B said that Saudi Post was not providing adequate services:

Street addresses are not clear and there are no house numbers in the country, except for the main streets and buildings . . . At this time, each company has to have a transport service to deliver the goods to the customers (Regional manager, Company B).

Saudi Post is starting to improve and develop its services to residents; however, it is very slow, and is not adequate to extend into the e-commerce area . . . it's got some way to go (Regional manager (different region), Company B).

The general manager from Company C agreed that a lack of street addresses impeded online commerce through time being wasted on deliveries. Their marketing manager summed up the issues as follows:

The Saudi Post and private sector companies, such as DHL and FedEx, do not deliver to homes. If you have received a parcel, they ring you and ask you to go to their offices to collect it . . . there is a shortage of logistics services (Marketing manager, Company C).

The operations manager from Company B agreed:

We can deliver the order to other companies . . . or use some third party for delivering services. The country needs more delivery companies . . . Saudi Post is not enough . . . The country needs more companies for this service (General manager, Company B).

The IT director from Company A, which sells its products online and delivers them to its customers, described the issues associated with this situation:

This is the biggest challenge, transport and delivery services . . . the drivers can work around the problem by contacting the customer and asking for local landmarks and characteristics of their house.

In summary, representatives from the three large companies, who sold to end users, noted that transport and delivery systems are inadequate in the Kingdom and this is a factor in launching online purchase initiatives.

#### 5.4.3.3.2 Lack of E-payment infrastructure

Financial systems in the Kingdom are, as noted, divided between a cash system and the emerging electronic system; however, a large proportion of the community does not trust the integrity of online systems (Khan 2014). Online payments are an integral feature of full e-commerce development and, in Saudi Arabia, credit and debit cards are the accepted modes of payment over Internet connections that are not necessarily secure and are therefore open to hackers. Thus, credit cards are not readily available for purchasers, as the CEO of Company A noted: "there is a relatively low penetration rate for credit cards inside the Saudi population, and obviously you need a credit or a debit card to transact online". The general manager from Company B, the food chain, added that "credit cards are not widespread in the country compared to the size of the population. They are issued by banks".



Many Saudis are not familiar with their funds being stored on debit cards. Credit cards, by their nature, attract interest and accepting interest is forbidden under Islam. There are methods for capitalising interest which are acceptable in the Islamic finance system; however, it appeared that this was not widely known (Alanezi & Brooks 2014). The customer services manager from Company B said that the Saudi banks, perhaps because of already high profits, do not encourage the use of credit cards. The respondents noted that there were higher bank fees than in other Gulf countries, and the time it takes to transfer funds from the purchaser through the financial system to the retailer were added barriers. The finance manager from Company D said:

Credit cards are avoided (by consumers) due to high fees (and retailers have) low levels of services from banks. Some shops do not accept credit cards because they claim that the banks take too long to pay them.

Another issue is the distrust of credit cards and online payment methods. As the IT manager from Company B explained, current online services were not widely used even by those aware of the safeguards and benefits of online shopping. The participant thought that this was due to a lack of experience with the new systems and the changes to retail channels.

As well, part of the distrust with the financial system was the risk to the consumer if an online connection dropped out mid-transaction, as previously discussed. Company A's IT manager explained that:

Online payments such as eftpos<sup>3</sup> have problems due to infrastructure issues, both from the provider and the government.

Company A's CEO also raised the issue of high rates of credit card rejections in Saudi Arabia:

(From an international perspective), an unexpected thing is a high rejection rate from the banks of orders placed in Saudi Arabia. Whereas elsewhere, you get a 10 per cent rejection rate of the payment, here it is substantially higher.

The rejection rate may be so high for a number of reasons, such as insufficient funds in the consumer's account, or transactions being rejected because the Internet failed and the

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<sup>3</sup> Electronic financial transaction at point of sale

payment was not confirmed. This can occur both in-store or online through e-commerce. The general manager from Company B believed that this was due to sub-standard technology:

The infrastructure for electronic payments is very discouraging. For example, at peak time, it is often disrupted and does not work well . . . when we spoke to the bank regarding it . . . they said that it is not from the banking services, but from the electronic network generally, which is operated by the Saudi communications company.

Therefore, Companies A and B gave the online customer the options of either paying at the physical store after placing the order, or payment on delivery. This impacted upon the benefits that firms could expect from e-commerce.

#### **5.4.4 People and social-culture beliefs**

##### *5.4.4.1 Privacy*

Divulging personal information is an issue for Saudis. According to the regional manager from Company B, Saudi consumers prefer not to mention family names among strangers, based on tribal superstitions. For example, when promotional cards are used for marketing purposes, the majority of women use a pseudonym or write descriptions of themselves, such as wife or sister. The accompanying man may even write out the card on her behalf. This situation has created many problems for the company: “A Saudi person is concerned with sharing personal information, especially related to family issues” (Regional manager, Company B).

As well, there is a low awareness of consumer rights in the country, and potential Saudi customers are suspicious of a product that they cannot physically inspect, even if they know the product or the brand. There is also the issue of consumer restraint, whereby once converted to e-commerce, a consumer buys from all over the world without due diligence in researching the product. This was mentioned by the marketing manager from Company A:

In my opinion, many consumers . . . do not have any idea about consumer rights, or they are unaware of (the need to research a product), and this is inconsistent with buying over the Internet.

The lack of credibility of some e-commerce sites is a security issue. For example, some customers have been defrauded, paying for goods that they have not received. Such instances are spread through social circles and now, through social media, leading to the loss of credibility of e-commerce, with some people rejecting it altogether. For instance, the general manager from Company C stated that:

Bad experiences from other customers can affect people's decisions to purchase online. I read some cases in the news about people who bought products from foreign websites. They did not receive what they paid for and were defrauded.

Besides women's names, privacy issues extend to contact details for Saudis, leading to a lack of surety in a transaction about who the customer is; this is another barrier to e-commerce. The general manager from Company C stated:

People prefer not to disclose personal information. Even for completing government forms, either manually or online, they feel uncomfortable in allowing personal information to be revealed.

Without divulging names, contact details, or financial security, e-commerce has to gain the trust of potential consumers: "People need more education and a build-up of awareness regarding the importance of buying and selling products via the Internet" (Financial manager, Company D). Not all Saudis distrust the Internet to the same extent, as they accept online payments to government, although not to private firms, as the finance manager from Company D noted:

I think people do not trust companies in e-commerce. They will pay government fees online as they trust the government, but this is not so for the private sector. The people do not seem to trust companies in the private sector.

The proposition from the interviewees was that effective regulation by government would mean that people would gradually feel more comfortable with online transactions, particularly in terms of convenience. The problem was regulatory and recovering money from online fraud. However, this would be far harder to resolve with international transactions.

To sum up, the national infrastructure issues encountered by firms on the take-up of online trading presents barriers which are difficult to overcome. These include regulatory constraints in customer protection and online transaction security issues. The technological infrastructure supplied by the main provider, Saudi Telecom, is inadequate for commercial transactions. The legal and physical impediments to online financial transactions perhaps summed up the issues that firms contemplating e-commerce were subject to at the time. It appears that these issues, plus traditional cultural practices, are at the forefront of the public's resistance to online trading.

## **5.5 The Realised Benefits of E-commerce**

The foregoing sections have presented data showing the factors which drive companies to adopt e-commerce, as well as those which influence the level of success of implementation. In the first section, it was explained that the companies' motivations are mainly based on the expectation of the economic benefits that accrue from the use of e-commerce, instead of traditional, more inefficient methods. The respondents specifically highlighted a number of benefits which the participating companies had gained to date. This section presents an overview of the key benefits realised. These benefits are categorised into communication, marketing and customer service, increasing sales and awareness, and work practices. Although, the four companies had similar motivating factors that drove them towards the adoption of e-commerce, they have actually realised different benefits from each other because they have different levels of e-commerce integration into their business. Table 5.3 below shows the benefits for each company.

Table 5.3 *Derived benefits from adoption model, by company*

<b>Company</b>	<b>Derived benefit</b>
Case A	<p>Improved communications and information-sharing (transparency)</p> <p>Enhanced marketing, increased sales</p> <p>Reduced marketing costs</p> <p>Improved customer service and communications</p> <p>Enhanced customer involvement with firm</p> <p>Improved inventory control</p>
Case B	<p>Enhanced business and consumer communications</p> <p>Enhanced customer relations</p> <p>Enhanced business-to-business marketing</p> <p>Better marketing to consumers and improved sales</p> <p>Reduced marketing costs</p> <p>Reduced workloads, moving towards a paperless office</p> <p>Improved inventory management</p>
Case C	<p>Improved communications and information-sharing</p> <p>Efficiency gains along supply lines</p> <p>Improved relationships, particularly with trading partners (suppliers)</p> <p>Enhanced business and consumer marketing</p> <p>Reduced marketing costs</p> <p>Improved work practices, time and paper savings</p> <p>Improved customer service</p>
Case D	<p>Improved communications and information-sharing, particularly externally</p> <p>Efficient work practices</p>

The above table shows that there are similarities in the benefits to companies of adopting e-commerce in terms of improved communication and information flows, marketing, customer services, work practices, and inventory control. These areas are most likely to benefit from

computerisation and enhanced telecommunications due to the required low level of e-commerce usage. There were differences in the extent of the derived benefits in some companies, because some have higher levels of e-commerce implementation; for example, Company C's improved business relationships, and Company A's increased sales, which was a better outcome compared to Company B's 'improved' sales, which had not yet produced the response they expected. Nevertheless, these may reflect the different expectations of the various individuals within each company's business environment.

### **5.5.1 Communications**

With national telecommunications services evolving, particularly through the introduction of mobile devices, the respondents mentioned improvements through the use of email to contact customers and efficiencies in processing orders. This was achieved in a perhaps inadequate telecommunications environment (Ahmad & Agrawal 2012). Intranet services, through which staff interact internally, led to greater transparency with information and assisted with the delivery of company notices and directives. Email also has a receipt mechanism which can be very useful. As the IT director from Company A said:

Each employee at the company has email for sending and receiving messages related to our work . . . you can check if the receiver has read your message or comments.

According to the respondents from Company B, better technology has enhanced their communications with other businesses, including suppliers and customers, as explained specifically by the IT manager (Company B):

Now we communicate with business customers and retail customers better, we store the emails and the communication data. We do not need to write down telephone or fax numbers, which is much easier.

Furthermore, Company C's general manager confirmed that more efficient work flows with external suppliers (trading partners) have resulted from the uptake of e-commerce technologies. As the respondent stated:

Communications inside the company have improved and are more time-efficient. External communications, using email, reduce workloads and are timely, especially for overseas business partners in different time zones (General manager, Company C).

Similarly, the general manager from Company D reported: “I realised that (we had) become more time-efficient and improved employee communications”. To illustrate this point, Company D has a daily online conference-call via the Internet to coordinate operations across its stores nationwide. They discuss issues in relation to organisational performance, check targets and schedules, and collaborate on planning and the sharing of ideas:

I’m on the Internet every morning from nine to ten o’clock; we have a conference-call where we update everyone on yesterday’s events and the plan for the day ahead. We assess whether our objectives have been met, price changes in the market, what the competition is doing, and we communicate on management policies (Distribution consultant, Company D).

Similar benefits of enhanced communication have occurred between these firms and their overseas trading partners, as the Company C representatives explained. The Internet is of use for formal confirmation of orders, enquiries, and for working in different time zones:

Communications with our suppliers by Internet has become more efficient, replacing facsimiles. Also, I can transfer money over the Internet from my office to pay suppliers (Financial manager, Company C).

While the participating firms found financial, time, and flexibility benefits from the Internet in their communications, the national barriers of infrastructure and legal uncertainties may have hampered the progress of the firms in enhancing their e-commerce strategies. However, it appeared that, to the extent that the companies wanted to change their business models and adopt technology, they were at the time able to do so. It appears that Companies C and D changed their business practices according to their own decisions, rather than because of perceived constraints on the telecommunications sector in Saudi Arabia.

### **5.5.2 Marketing and customer service**

Online marketing was a relatively new concept for Saudis at the time of the study. Ghanem, Kalliny and Elgoul (2013) found that marketing practices in the Gulf region were undergoing significant changes which, they argued, would have an impact upon Arab culture. The three companies, A, B, and C, were using their websites to advertise their goods and to reduce their marketing budgets. As the IT director from Company A pointed out, they are able to “enter the website and update items, prices, and promotions all the time”. Thus, the ability to rapidly change information allows for greater flexibility that other forms of advertising cannot achieve.

These firms also use periodic email marketing campaigns to subscriber lists, including occasional discounted promotions. Company C's marketing manager observed:

In e-marketing, we do not need to wait for customers to come in, we go to them. It saves time and the cost of sending brochures by post; we send (offers) directly to the individual customer or companies by email. We used to print the brochure and send it by post, and it would take up to 10 days to arrive, but now we upload it on the website and then the customer enters the website and downloads it . . . it takes a few minutes rather than many days. This what e-commerce has achieved.

Other respondents also agreed:

The company gains benefit from a website for its marketing . . . we have online brochures for advertising new products and the website gives all the necessary information about each product (General manager, Company B).

Marketing strategies, such as online brochures, email advertising, and various promotions also aid customer relations. Part of marketing is the ability to gain feedback and address customer concerns about a product. This raises the customers' confidence in the firm and its products and, to some extent, addresses Arab concerns about buying unseen products and using personal information to complete a purchase (AlGhamdi et al. 2011). This, according to the managers, has greatly enhanced their customer relations because they are able to respond quickly to customer concerns, as explained by Company A's IT manager: "(Increased) credibility from customers, as customers now have more confidence because they know that we have the ability to trade using this technology".

Company B's marketing manager concurred, mentioning social media as part of the customer relations mix:

It helps to engage with our customers on Facebook, Twitter, and by email; we address their concerns or any unexpected problems that arise from our products.

Confidence appears to build over time as customers increasingly interact with online companies and are satisfied with the results. Companies benefit from positive customer reviews on their website, which then prompts potential customers to consider purchasing, as explained by Company A's marketing manager:

Sometimes we ask our customers to write a review regarding the product and mentioning if they are happy with it, to encourage other people to explore the website and buy.

Besides the confidence of the customer in the product, there is also increased interest in the image of the company:



This is something that is really useful about e-commerce, where potential customers can compare features about the products, and see the things sold, and their experience builds more confidence in the company (CEO, Company A).

In a similar context, Company C's general manager commented:

I'm happy as the customer is satisfied. We make the process of purchasing the product simple and fast, (therefore) the customer is satisfied . . . with using e-commerce.

This remark sums up the benefits of e-commerce. Firms can organise their business models to move part of their sales online to interact with the new cohort of potential customers who are researching their intended purchases online to compare features and costs. The first step is an attractive website to attract consumer attention, while the next is updating the details of the firm's products, and then on to ordering, payment, and home delivery. When both the retailer and the consumer are satisfied, e-commerce can grow.

### **5.5.3 Increasing sales and awareness**

Companies A and B were selling online, Company A nationally, and Company B in one city only. Company A was able to significantly increase sales and become a leader in its market, with strategies such as annual online clearance sales. Given the social and travel issues in the country, shop-based sales did not attract customers; however, the e-commerce model increased these annual clearance sales dramatically, and they are now known as 'mega-sales'. This process has resulted in an increase in sales, and the online aspect has greatly enlarged the customer database, and thus, customer reach:

One of the advantages is the 'mega-sale', which is the biggest annual event that we have. Our customers can buy online instead of coming to the shop and standing in a queue to buy a single item (IT manager, Company A).

Others in the company agreed:

As a result of using e-commerce, we are showing high traffic, meaning customers are accessing the website. Awareness of the website has improved, and we make many transactions on a daily basis . . . it saves the customer time (Services manager, Company A).

Actually, there are mainly advantages for us in selling more products, and I really don't see any disadvantages (Marketing manager, Company A).

For Company B, as many orders are now received via the website, and sales have increased, although the increase is less than expected due to infrastructure impediments and social conservatism. Nevertheless, e-commerce has allowed the company to increase awareness of

their products, as the regional manager (Company B) pointed out: “it increased people's awareness of product quality compared to our competitors’ products . . . and to e-commerce in general”. This is an important point in a country where there are issues in relation to online purchases for all companies.

#### **5.5.4 Work practices**

While e-commerce is concerned with online purchasing, there is also considerable attention paid by companies to systems technology, platforms, and software that support data flows and storage of the online business model. Ibrahim, Hussin and Busalim (2013) noted that there is a lack of ‘localisation’ of e-commerce technology in Saudi Arabia. The country tends to adopt global commercial platforms that may not be sufficiently intuitive to users or serve their business models. However, at this early stage, the respondents regarded all online work practices as being superior to their previous time-consuming paper-based work practices.

Some companies request any services or products they want online . . . and also we work online with them . . . it’s a lot faster (General manager, Company C).

Task time has been significantly reduced through these technologies, according to the CEO of Company B: “We can see efficiencies of time and effort inside the store and warehousing”. Email assists both formal and informal communications within the organisation and with trading partners in different time zones, when messages can be answered out of hours. Company B’s IT manager commented: “Information sharing and communication transformation has improved among business partners”.

The general manager from Company D expressed satisfaction with the use of email: “I realised that it saved time and improved the communications with the employees”. The respondents also found cost savings in online work practices. When Company A upgraded their systems, there was a range of savings elsewhere in the business:

There are savings on the costs of marketing, such as business marketing, e-catalogues, and . . . communications, particularly to suppliers. For example, before using the Internet, there was paper all over my office, but now there’s very little (as it is online) (Marketing manager, Company A).

The operations manager from Company B further explained that:

E-commerce enhances communications with our suppliers in Europe and the US, and also those companies in Asia and the Middle East who are using it . . . I realised the difference

from before . . . because it's cheaper than other (systems) and others can upgrade and share the same benefits.

In terms of cost savings, Company C previously used agencies for their marketing and administration; however, e-commerce has eliminated these unnecessary elements in their supply chains and in dealing directly with suppliers, thus realising substantial savings. Savings in costs extended to the in-house environment, where staff assigned to manage those agencies are now working elsewhere in the business:

E-commerce benefits included removing agents who mediated between us and suppliers or buyers, but now we can save those commission expenses (Financial manager, Company C).

Companies A and B reported inventory improvements through online orders. Company A now uses online sales to reduce their inventory, as the IT manager (Company A) reported: "it assists the level of inventory, because now we can push items that don't sell well in store with better promotion on the website".

Company B noted the process of fulfilling an order, which is directed to the sales department, and then to the distribution centre for despatch. This is an automated process, so that the customer's order is directly filled without human intervention, reducing the risk of error. The operations manager from Company B pointed out that:

It improves the overall operation management system; for example, by integrating the e-commerce website into the management inventory systems . . . the company achieves many advantages from the Internet over other practices.

### **5.5.5 Section summary**

Online marketing and the use of social media has revolutionised the business models of Companies A, B, and C. As the companies' representatives indicated, they are proceeding with e-commerce strategies according to their project plans, waiting to assimilate the gains into their organisations, and using new technologies such as social media as the take-up of mobile devices spreads through the population. Company A's position in the telecommunications market could potentially place it in the position of engaging with the millions of pilgrims who enter the country each year, as they purchase local mobile services to save money on overseas calls back home. Amro and Nijem (2012) noted a significant drop in prices for smart phones for the pilgrims, as they only use the devices for the time in which they are in the country.

On the other hand, Company B, the food and home-ware retailer is pursuing an e-commerce model and extending its marketing as capacity becomes available to pursue logistics in other cities. The company is expanding within its product markets and is ready to pick up market share as the opportunities are presented. Company C's business model is complex, split over business and retail customers. It has responded to the business environment by purchasing from overseas trading partners (brands) and then on-selling goods to other businesses and in its shops. Online marketing was a logical step, but without splitting the firm's structure into two self-administering divisions, the executive could not pursue a full e-commerce model for both the retail and business markets. Company D has also not seen any real benefit in anything but a minimal online presence, as relationships and ties form its business model, rather than the generation of new sales.

Sales from online orders have not yet reached the expected levels for Company B, although Company A is satisfied with its daily count. The other companies did not use the Internet for online sales. Instead, their Internet activities are driven by industry norms in ordering, communications, payments, and presumably, government reporting. Online sales would obviously take longer to gain acceptance with a wide sector of the online community, although as suggested, the hajj pilgrims and expatriate workers who may be used to online buying and selling would be able to purchase through a bilingual and multi-currency website.

Of interest in terms of online retail growth for the four companies, and for their potential competition, Euromonitor International (2014) reported that international and regional e-commerce websites started to deliver to consumers in Saudi Arabia in 2013. Websites such as [bloomingdales.com](http://bloomingdales.com), [macys.com](http://macys.com), [saksfifthavenue.com](http://saksfifthavenue.com) (generally clothing retailers) became operational in the country at this time by using an international logistics service within Saudi Arabia. Amazon.com was the clear leader in Internet retailing accounting for 25 per cent of Saudi e-commerce in 2013, as Saudi consumers viewed Amazon's brand as a guarantee of quality. Euromonitor International also noted that the Amazon site guaranteed delivery, had various payment options, and offered a wide range of goods in an easy to use format. There is also some indication of about 10 per cent of smart phone users shopping online in Saudi Arabia. These services are in contrast to Ibrahim et al.'s (2013) call for localisation of Saudi systems platforms, as Saudis' choice of Amazon.com for online purchases was over ten times that of its next competitor.

Placing work practices online was regarded by the case study participants as part of their business structure, and as responding to industry norms. E-commerce systems are complex and evolutionary; representatives from Companies A and C mentioned their intention to keep building on their systems to integrate platforms and software into their growth from market share and from new products and technologies. Change management was accepted by Companies A and B and, to a certain extent, Company C, but was completely ignored by Company D. As Company C was already eliminating firms such as Company D from its supply chains, this may have been an indicator of the future for the small company (Company D).

## **5.6 Chapter Summary**

The analysis began by showing that the four case studies derived a number of commonalities from their technical environment; thus they all used basic industry norms such as the Internet, email, websites, and possibly basic Microsoft programs. However, these were influenced by their various business models, so that Company A's websites were several generations removed from that of Company D. Incentives for the adoption of an e-commerce model included cost savings through efficiency gains, and new marketing channels which were viewed as creating more sales which, in turn, led to customer databases being developed which could be used for engaging with the customer, again leading to higher quality customer service. Increased market share and enhanced image were important factors for Companies A and C. E-commerce was thus viewed by the majority of the participants as providing a wider coverage of their market than a physical location could, while simultaneously reducing the costs of expansion.

The motivation for e-commerce along the retail chain were of interest to the larger firms (A, B and C), and thus, innovation was a necessity in attaining future market share, but also in maintaining efficient communications with suppliers and customers. For all the Saudi firms, this also meant ready contact with their trading partners, as either all, or the greater majority, of the goods sold were sourced internationally, predominantly from the northern hemisphere.

The retailers noted the conservative nature of Saudi Arabia and the socio-legal restraints on women. They saw women's travel difficulties as an incentive to use online websites to browse catalogues and product specifications. Gender restrictions, weather conditions, and erratic shopping hours for prayer times were factors for women shopping out of doors and

were also seen as incentives for them to shop online. Another factor was the youthful profile of Saudis, where nearly half were under the age of 25, and for whom the recent emergence of the Internet (2003-2005) was unknown. Young Saudis, whilst holding true to their religion and family traditions, were then seen to be more likely to use mobile devices for entertainment, browsing, and online purchases.

However, there were contrary issues at work against the success of the firms' online innovations. These issues included government inaction in initially supporting e-commerce with a dedicated organisation early in the century, and then abandoning it. Technical issues were mentioned as Saudi Telecom's inadequate resources and high costs (call prices determined by the government) and the low status of competition in the telecommunications sector, which amounted to a market only for smart phones and hand-held devices. Further impediments were inadequate banking and online payment systems, a lack of consumer protection and online sales registration, and an inadequate postal system. The social impediments to balancing the potential benefits of adverse weather and gender protection were variously described as fraudulent websites and lost goods, as well as privacy constraints in relation to names, addresses, and credit/debit card details being submitted online. Another matter was the (high) possibility of a phone-line dropping out during a purchase.

According to the analysis under the Tornatzky and Fleischer (1990) TOE model, each of the firms was at a different stage in its adoption of online activity. Company A planned for an e-commerce business model from the beginning; that is, Internet availability in the Kingdom, to gain and hold market leadership and market share. The company was working through a complete transition to this model over time, as resources and customer demand permitted. It had fully integrated its systems platforms and had a dedicated team. All staff were trained in online tasks. Its managers noted work practice and communication efficiencies, enhanced logistics including in the supply chain, and far greater engagement with its customers. Company B provided customer services on its website that were less advanced than Company A, possibly due to the market in which it was conducting its business. Its managers reported similar benefits to Company A, but also inventory management. Company B appeared to be more concerned than Company A about customer indifference to online shopping, especially as its predominant market would be women buying food and consumables for their families. The remaining firms were distributors or wholesalers, taking commissions for moving goods from international brands to resellers in the Kingdom, with Company C being a large firm,

and Company D being far smaller. These firms used the Internet to meet industry expectations, which their managers explained were low in telecommunications and Internet innovation. Both Companies C and D had websites for advertising purposes. With the exception of Company C's use of an inventory database, their greater use of online capabilities was in the area of communications using the Internet for voice and email.

In conclusion, the benefit for these firms of adopting e-commerce varied according to their business models. These were either aligned to the attractions of e-commerce (Companies A and B), or were based on industry norms (Companies C and D). The study revealed that internal factors that hindered the implementation of e-commerce (for online sales) when it was selected as a business model, were executive and board commitment; the available technological, financial, and human resources; planning; and in the case of some firms (Companies B and D), the views of the owners. Due to the ensuing take-up of online purchasing by Saudis, and its ready acceptance elsewhere in the Gulf countries, a case can be made for a future study of online shopping using smart phones. The next chapter moves to a discussion of the findings presented in this chapter

## Chapter 6 Discussion

### Introduction

This chapter presents a discussion of the major research findings of this study. It is structured into three major sections addressing each of the three research questions:

- 1 What are the most important motivation factors for the adoption of e-commerce in the Saudi retail industry? (Section 6.1)
- 2 What are the major impediments to e-commerce implementation and what are the critical factors for success? (Section 6.2)
- 3 What, so far, has been the outcome of e-commerce adoption in the Saudi retail industry, in terms of levels of implementation and benefits? (Section 6.3).

### 6.1 Motivation Factors

Motivation is the driving force behind the use of e-commerce technologies. It can help businesses to define objectives and strategies to achieve business goals, boost performance, and gain access to new markets and business partners. The importance and urgency of undertaking comprehensive research on the motivation factors and drivers for e-commerce under different business and cultural conditions have been repeatedly highlighted by a number of researchers (Zhang 2008; De Massis et al. 2012; Pittino & Visintin 2009; Gong 2009; Brdesse et al. 2013). Such research will help to build an understanding of existing differences in e-commerce and any barriers for its adoption within different business and cultural environments, as well as boosting its development throughout all cultures and nations for the benefit of businesses and consumers, thus potentially underpinning the major innovation drivers in the retail industry (Pantano 2014).

#### 6.1.1 Operational and marketing motivating factors for e-commerce

The list of major incentives/motivations for the adoption and development of e-commerce by Saudi Arabian retail companies was presented in Table 5.1 (Chapter 5). These motivations were naturally sub-divided into three different groups – operational, marketing, and social/cultural incentives – with each group reflecting a particular type of benefit potentially gained by the organisation as a result of the adoption and development of e-



commerce. Interestingly, the identified operational and marketing motivations (potential benefits) are rather non-specific to the cultural features of Saudi Arabia, but can also be identified in most other cultures and countries (Piris et al. 2004; Levenburg et al. 2006). On the contrary, the identified social incentives may appear to be rather culturally distinct (Table 5.1).

This is because the general operational and marketing needs of successful businesses under different cultural conditions are rather similar. Any business in a developing country (e.g., in Saudi Arabia) or in a developed country (e.g., in Australia) needs to reduce operational costs, increase customer reach and awareness, boost sales and competitiveness, improve management efficiency, enhance marketing and advertising, and boost and synchronise collaborations with partners. Because the adoption and adequate development of e-commerce capabilities has the capacity to influence all these factors, it should not come as a surprise that businesses under different cultural conditions are likely to be motivated by these general incentives for exploring e-commerce opportunities.

At the same time, it is also clear that cultural and religious differences between different nations may have significant impacts on the specific content of these rather common operational and marketing motivational factors (Table 5.1), including the ways in which these motivations/incentives are viewed, interpreted, and achieved by the respective businesses. Therefore, the comprehensive analysis of any of these motivating factors should be conducted in light of the culture-specific business environment, infrastructure, and traditions (Sagi et al. 2004; Gong 2009; Peng & Kurnia 2008; Saffu et al. 2008; Modimogale & Kroeze 2011).

Furthermore, it is important to understand that the perceived motivations for the adoption of e-commerce have experienced continuing and significant changes with the development of electronic network facilities and the ongoing evolution of views on the capabilities and roles of e-commerce (Piris et al. 2004). At the same time, there is a significant lag (of years or even decades) in the development of electronic network capabilities in developing countries compared to the developed world. This should naturally cause a similar lag in the evolution of the major motivations for e-commerce. In other words, the present perceived motivations for the adoption of e-commerce in developing countries could be the same as, or similar to, those experienced in developed countries a decade ago, or even earlier, but which do not prevail in the developed world any longer. The current thesis

argues that this is an important issue that needs to be carefully taken into account when conducting an analysis, and comparisons, of motivations for the adoption of e-commerce across different cultures.

For example, as demonstrated in Table 5.1, there was a general consensus among the Saudi Arabian participants of this study that communication costs can be significantly reduced by implementing electronic communication systems, as opposed to telephone, fax, or other types of physical communication (e.g., by means of courier or post). This is also likely to lead to the significant enhancement of management and operational efficiencies, as well as being expected to assist with improvements in inventory management. As a result, the reduction of communication costs is, by consensus (Table 5.1), regarded as a significant motivation for the introduction and adoption of e-commerce in the Saudi Arabian business environment.

At the same time, electronic communication is rather a basic aspect of e-commerce. In the developed western countries, this type of communication is less likely to be perceived as a motivating factor for the adoption of e-commerce (although it could have been perceived as such about 20 years ago), because it is currently perceived as a given and commonly available facility for everyone. For at least one or two decades, electronic communication has been widely accepted and has largely replaced other types of written communication in developed countries. As a result, it cannot be normally considered as a motivating factor for the adoption of e-commerce in these countries. On the contrary, the situation in the developing countries may be significantly different. For example, an analysis of the perceived benefits of business-to-business (B2B) e-commerce in Thailand (Vatanasakdakul et al. 2004) revealed that the use of electronic communication might not be as widely accepted by businesses. In addition, the existing perceptions of the importance of face-to-face contacts for conducting business and establishing trust and confidence between business partners are more prevalent in the developing world (Vatanasakdakul et al. 2004), particularly in those countries with less-developed electronic communication facilities and a lack of an extensive history/ tradition of their use. This creates a significant niche for the rapid expansion and adoption of, for example, email systems in developing countries (Iddris 2012), including Saudi Arabia, which in turn, could be perceived as a significant incentive or motivation for the adoption of e-commerce through reductions in communication costs (Table 5.1). We believe that this is one of the major reasons why all of the Saudi Arabian study participants

expressed a consensus that the use of email communications could be a significant part of e-commerce, helping to reduce the costs of communication and boosting management and operational efficiency – these benefits and motivations would be difficult to expect in western countries where email communication is a given reality for any company or firm.

A Similar situation occurs with online presence and representative websites for retail companies in Saudi Arabia. The development of these online representative tools in Saudi Arabia, and the related expertise of Internet/website developers and providers, is rather substandard and associated with excessively high costs (Brdesee et al. 2013). The existing telecommunication and broadband services in Saudi Arabia are also of significantly lower quality and are more expensive than in the developed world, which contributes to the widening of the economic disparity between developing and developed countries (Peng & Kurnia 2008). Under these circumstances, a properly developed informative company website could make a significant difference for retail business development in Saudi Arabia where more than half of all companies do not have any online representation (ATKearney 2014). Therefore, a simple informative website could be seen as a means for reducing marketing costs, increasing customer reach and sales, enhancing the firm's competitive position, and improving information search and management, etc. The result is a significant consensus among the study participants in relation to the corresponding perceived motivations (Table 5.1). The responses of the participants (Chapter 5) demonstrated that these motivations are largely associated with the existence of online representation (ie, a simple informative website) – a rather basic component of e-commerce such as the email communication system discussed above.

The content of the same motivations in the developed world is likely to be quite different. Most of the successful companies in the western world already have online representation in the form of informative websites. Their motivations to adopt higher-level e-commerce would normally be associated with online sales and payments, interactive online tools aimed at providing specific 'upon request' information to potential customers, customer-targeted interactive online advertising, etc. This again demonstrates the major differences between the actual content of the motivations and incentives for companies to adopt/develop their e-commerce capabilities between developed and developing nations.

A reduction in labour costs was also perceived by two of the four participating organisations as another perceived benefit of the adoption of e-commerce. It is argued that

this perception could again be related to the overall state of electronic communication and information systems in Saudi Arabia. The low level of acceptance and insufficient availability of online information systems, as well as their high cost compared to the cost of labour, results in retail companies turning to more traditional (offline) approaches when seeking information about potential partners, products, and customers. Apparently, these approaches are typically labour-intensive, which is likely to create a perception of a significant potential reduction of labour costs and higher labour efficiency as a result of the adoption of e-commerce. Such a perception is more likely to emerge within a business environment where electronic information technologies are rather substandard (such as in developing countries with insufficient Internet facilities and adoption). Therefore, transformation to a much more efficient online information-retrieving system has the potential to significantly reduce labour costs and the number of employees, which was indicated by Companies A and B (see Table 5.1 and the related discussions in Chapter 5). The same perceived incentives of labour cost reduction associated with the adoption of online information systems are less likely to exist in developed countries where information and Internet technologies are widespread and typically routinely available in most companies and organisations.

However, this finding is different from the other studies in developing countries where researchers found that the cost of manual labour is cheaper compared to the cost of technology use (Karnali & Kurnia 2011; Iddris 2012; Vatanasakdakul, Tibben & Cooper 2004). Therefore, those organisations that work manually do so because it is cheaper than using technology. This indicates that the cost of technology in Saudi Arabia is cheaper than in developing countries that identified the high cost of technology as the main barrier for e-commerce implementation. Moreover, this finding supports previous studies, which stated that different economic conditions within developing countries might contribute or impede the adoption of e-commerce in these countries (Modimogale & Kroeze 2011; Van Huy et al. 2012).

Importantly, the described findings with regard to the motivations for the adoption of e-commerce by Saudi Arabian retail companies (Chapter 5 and Table 5.1) are based on the four participating organisations (from the case studies), all of which have adopted at least some level of e-commerce. A very significant proportion of Saudi Arabian retailers do not have any level of online e-commerce facilities, and either do not see the value in the listed

incentives for their businesses, or do not see reasonable opportunity and/or grounds to adopt e-commerce. This suggestion is consistent with the previous findings (for the Egyptian business environment, which is rather similar to the Saudi Arabian) that “adopters appear to agree with the drivers of adoption, while non-adopters disagree with these drivers”, or are not sufficiently influenced by the necessity to adopt new technology (Abou-Shouk et al. 2013). This also corroborates another earlier finding (Vatanasakdakul et al. 2004) that new technologies evolving from western society may not always be directly extendable into the commercial environments of developing nations with the expectation of an immediate and direct positive effect. Often, existing cultural, infrastructural, and economic barriers (Lawrence & Tar 2010) must be circumvented before the expected benefits and incentives start to flow, or start to work. Resistance to new methods of working, and the lack of awareness of the benefits of e-commerce to businesses strongly affect adoption decisions of companies which do not wish to adopt e-commerce opportunities (Abou-Shouk et al. 2013).

On the other hand, a comparative analysis of the findings from this study with those from other developing countries (Vatanasakdakul et al. 2004) has also highlighted some significant differences. For example, an analysis conducted on Thai businesses suggested the possibility of coercion of some firms into adopting e-commerce systems by parent overseas companies, executive orders by overseas head offices, pressure from trading partners, and government projects (Vatanasakdakul et al. 2004). As a result, there was little, to no, benefit realised through the adoption of e-commerce at the local operations level. These findings were not supported by the current study in the Saudi Arabian context. No coercive pressures were reported by any of the study participants. One of the explanations for this difference could be that the companies involved in this study (as with the majority of companies in Saudi Arabia) do not have parent overseas companies or head offices. In addition, all of the participants in this study highlighted only limited access to e-commerce among local trading partners, including significant resistance to the introduction of compatible e-commerce solutions (Table 5.2). Therefore, at this stage of the development of e-commerce in Saudi Arabia, companies are more likely to experience pressure from their partners to not introduce e-commerce, which is very different from some other developing countries with opposite trends (Vatanasakdakul et al. 2004). In addition, all of the participants indicated low government interest in online sales and a lack of government support (projects) for e-commerce. As a result, the internal and external pressures on introducing e-commerce that exist in, for example, Thailand (Vatanasakdakul et al. 2004), are not prevalent in Saudi

Arabia, and these same factors appear to be barriers for the adoption of e-commerce. This highlights the major differences in the adoption and propagation/diffusion of e-commerce in different developing nations, and demonstrates the need for selective approaches to this matter under a variety of national conditions and traditions in the developing world.

One of the most important and widely recognised motivations for adopting e-commerce in the developed, and some developing, nations is the competitive advantage offered by online commercial activities (Alam et al. 2011; Wongpinunwatan & Lertwongsatien 2003; Zhu & Kraemer 2005; Sparling et al. 2007; Lin & Lin 2008). Contrary to these findings, gaining a competitive advantage was not identified as a significant motivating factor for the participating organisations in Saudi Arabia. A possible reason for this is that e-commerce is still very new and not widely spread in this country. As a result, companies adopting e-commerce see it as an internal operational and managerial improvement, rather than a means for gaining a competitive advantage over (or not losing this advantage to) its competitors. This outcome is also consistent with the findings by Piris et al. (2004), that e-commerce is not necessarily perceived as a competitive necessity, but could be “assessed more as an indirect medium to support and enhance the organisation’s strategy”.

Another important finding of this thesis is that all four participating companies recognised their motivations to adopt e-commerce as ensuring the more efficient development of relationships with their business partners (B2B e-commerce), while only Companies A and B were also motivated by developing business-to-customer (B2C) e-commerce. This is an indication that, in Saudi Arabia, motivations towards the adoption and development of B2B e-commerce appear to be more prevalent than motivations towards B2C e-commerce. A proposed explanation for this state of affairs lies with the significant resistance of Saudi Arabian consumers to the introduction of online sales and payments, poor infrastructure and lack of government support and regulations for e-commerce, insufficient security of online operations, as well as existing traditional and religious barriers for the widespread introduction and adoption of credit cards. These issues significantly impede the effective development of B2C e-commerce in Saudi Arabia, thus, significantly reducing business motivation to adopt this type of commerce and online sales. At the same time, these barriers are less important for the adoption and development of B2B e-commerce. B2B e-commerce does not require the same level of online exposure to a significant audience (which reduces security concerns and relaxes the need for high-level protection of company

websites). B2B commerce does not have the same requirements for frequent online payments and significantly reduces the need for the use of credit cards. Substandard infrastructure and broadband services are considered to be sufficient for supporting the rather limited online traffic flows of B2B e-commerce. Government regulation of B2B e-commerce involving limited numbers of companies and trading partners is not as essential as for B2C e-commerce which potentially involves millions of customers. As a result, the Saudi Arabian retail industry is currently more inclined towards the adoption of B2B e-commerce, apparently recognising logistical, contractual, and other incentives and benefits flowing from well-integrated supply chains (Jinfu & Aixiang 2009; Melnyk et al. 2010). At the same time, B2C e-commerce appears less appealing and less motivating for the current Saudi Arabian retail industry, with fewer companies indicating tangible incentives towards adopting this type of e-commerce.

Finally, each of the four companies participating in this study indicated that they were additionally motivated to adopt e-commerce by the nature of their products and the need to constantly seek customers for their retail commercial activities, including the provision of detailed and specific information about a wide range of their products to potential customers. This finding is consistent with earlier findings that the nature of the product could be an important driver for e-commerce innovation (Almoawi & Mahmood 2012; Chandra & Calderon 2009; Mndzebele 2013). It could thus be concluded that the retail industry in Saudi Arabia appears to be at the forefront of e-commerce innovation and could be regarded as one of the major (if not the major) industry driver for the adoption and development of e-commerce applications and facilities. This finding could inform evidence-based government decision-making in prioritising any potential support for the adoption of e-commerce in Saudi Arabia by showing that the retail industry is likely to be most open to potential government initiatives related to the more widespread introduction of, and support for, e-commerce. According to this study, any such initiative should include support for retail companies that may potentially be open to e-commerce ideas and practices to be quickly accepted and further developed by Saudi Arabians.

### **6.1.2. Social motivating factors for e-commerce**

As explained in the previous section, the operational and marketing motivational factors for adopting e-commerce, identified by the Saudi Arabian study participants, displayed a significant degree of commonality with those identified in other developing and

developed countries, though with significantly different content-specific contexts. On the contrary, social incentives for the adoption of e-commerce are far more likely to be significantly linked to the socio-economic and cultural structure of a particular society. Although earlier studies have demonstrated that Saudi culture may have a negative impact on the use and development of e-commerce (Brdese, Corbitt & Pittayachawan 2012) (these barriers will be discussed below in more detail), e-banking (Al-Somali, Gholami & Clegg 2009), and IT (Al-Gahtani, Hubona & Wang 2007), it is also likely to generate rather unique incentives and trends towards introducing these types of commercial activities. Therefore, at least some social incentives in Saudi Arabia towards adopting e-commerce (Table 5.1) could be rather unique to this country and its cultural and religious traditions.

For example, the most consistent motivating factor for adopting e-commerce, indicated by three of the four companies participating in this study, was the motivation to assist women with their shopping needs (Table 5.1). It is not customary in Saudi Arabia for women to appear alone in public, and freedom of movement of women is significantly restricted. For example, women are not allowed to drive cars, and their access to shops and shopping centres is restricted. They have only limited opportunities to actively participate in shopping, even in the presence of a guardian. This results in significantly reduced the potential buying power of the population, with nearly half of the adults and teenagers being effectively excluded from the active purchasing process.

Such social restrictions on women cause significant market losses for Saudi Arabian retailers and businesses. E-commerce could be a quick and efficient way to circumvent this difficulty and involve female consumers without any need for them to travel to, or to access, physical shopping facilities, shopping centres, or public places. B2C e-commerce facilities enable women to shop online, find and inspect, and choose and order suitable products and goods from their homes. As a result, e-commerce is likely to be not only a means for assisting women with their everyday shopping activities, but will very probably be a golden opportunity for retailers to attract new customers, boost sales, and advertise their products to women. As a demonstration of this huge potential for the retail industry, approximately 28% of current online payments in Saudi Arabia are made by women (Arabian Gazette 2014), despite the fact that e-commerce is still very new in the country. This significant motivation for adopting e-commerce by retailers and businesses is rather specific to Saudi Arabia, which significantly differentiates this country from other Arabic nations which have more relaxed



restrictions on women's movement, and particularly, from non-Islamic developed and developing countries.

Another incentive for introducing e-commerce, indicated by participating Companies A and C, is the targeting of younger consumers. This incentive could be particularly important and significant in Saudi Arabia where the proportion of young people exceeds those in other countries, with over a quarter of the total population (27.6%) being teenagers under the age of 15 years (World Factbook 2014). Targeting young people is likely to have a two-fold benefit for companies and consumers. Firstly, the targeting of the younger generation is a beneficial strategy for a retail company. As a result of this targeted approach, younger people are likely to develop buying and consumption habits involving the products of a company, as well as long-term trust and loyalty towards a company. This is likely to ensure long-term benefits and a competitive advantage for a company and its products. Focusing on e-commerce when targeting the younger generation is particularly productive, as younger people are particularly inclined to explore and adopt new technologies and capabilities, including the use of online and other electronic facilities. Secondly, through the use of e-commerce facilities, younger people receive significantly greater opportunities to participate in shopping and satisfying their practical needs by conveniently considering a wider variety of products, services, and commercially-available opportunities in accordance with their lifestyle and financial capabilities. Younger people also gain additional experience from, and access to, direct participation in shopping and purchase decision-making, which otherwise could be restricted by their parents' unavailability or other difficulties with accessing physical shopping facilities.

The described incentive to target younger people through the adoption of e-commerce can be seen as being common to all developing and developed nations. At the same time, the traditional and religious customs in Saudi Arabia may form an additional motivational ground for this incentive. For example, the existing family and religious traditions in Saudi Arabia could be more restrictive for younger people, particularly girls, in relation to their shopping needs and ability to access products and services. This could significantly contribute to the reduced buying power of the population. The development of e-commerce is likely to make it easier for retail companies to deliver the information about their products to younger people without the need for them to attend physical shopping facilities, which could further boost the sales, commercial standing, and performance of these companies.

It should not come as a surprise that Company C, which specialises in office and school equipment, would be particularly interested in exploring the indicated incentives for targeting young people and women through e-commerce capabilities, which is consistent with the largest number of social incentives for e-commerce adoption indicated by this company (Table 5.1).

Interestingly, the consensus between the participating companies with regard to social motivations is significantly weaker than are the operational and marketing incentives (Table 5.1). This is probably because Saudi Arabian society is rather conservative, which means that it may be difficult to expect and achieve consensus on such potentially controversial issues as the adoption of new Internet capabilities by younger people, consideration of the needs of younger women, shopping on religious days and holidays, etc. These issues might be difficult to accept for some people in Saudi Arabia, as they could sometimes be perceived as potentially detrimental to traditional family and religious values. Nevertheless, it is important that three out of the four participating companies highlighted assisting women with shopping as one of the significant motivations for the adoption of e-commerce (Table 5.1), which might be a reflection of a rather common view in the Saudi Arabian retail industry. At the same time, it should be repeated that these findings are only relevant to those companies that have already adopted at least some level of e-commerce into their commercial activities. The non-adopting companies could have significantly different views and perceptions (an analysis of which is beyond the scope of this thesis).

## **6.2 Factors Influencing E-commerce Adoption**

The previous section (6.1) described and discussed the identified perceived motivations/incentives for adopting e-commerce within the Saudi Arabian retail sector. Motivations can be defined as anticipated benefits and are distinct from realised benefits, as well as from the factors (including the inhibiting factors) that influence the adoption of e-commerce. To the best of our knowledge, there have been no studies that have simultaneously identified and investigated motivating factors, the factors that influence the process of the adoption of e-commerce, and the associated realised benefits. The aim of this thesis is to implement such an analysis for the Saudi Arabian business and cultural environments. Therefore, the next step after the discussion of the motivating factors (Section

6.1) is the analysis of the factors which influence the adoption of e-commerce within the same organisations (Table 5.2).

As described previously in the literature review for this thesis, around 25 different approaches/theories have been developed and used for the analysis of factors affecting the adoption process for e-commerce (Sila 2013). However, according to Chong et al. (2009), the most conventional, well-developed, and frequently-used models suitable for the analysis of these factors at the company level include the diffusion of innovation (DOI) model (Rogers 1995), and the technology, organisation, and environment (TOE) framework (Tornatzky and Fleischer 1990). As has also been explained and justified in the literature review, DOI has significant disadvantages compared to TOE, including its failure to properly involve organisational and environmental factors, inter-organisational relationships, the specifics of different types of industries and markets, complex social contexts, etc. (for more detail see Sections 3.7.1 and 3.7.2). Therefore, this discussion will be based mainly on the TOE framework, although DOI will also be mentioned where, and as, appropriate.

It is clear that social and religious traditions, available national infrastructure, and technological capabilities are likely to have a major impact on the factors influencing the adoption of e-commerce (Sagi et al. 2004; Vatanasakdakul et al. 2004; Saffu et al. 2008; Gong 2009; Peng & Kurnia 2008; Modimogale & Kroeze 2011; Brdese et al. 2013). These aspects are naturally taken into account in the two main theories for the analysis of the adoption factors (Rogers 1995; Tornatzky & Fleischer 1990). In addition, it has recently been shown that organisational culture may also have a major impact on e-commerce adoption (Senarathna et al. 2014). Because the average or typical organisational culture significantly depends upon social and cultural customs and traditions, this opens an additional channel for an indirect effect of social culture and traditions on the adoption of e-commerce through the mediating construct of organisational culture. Although this aspect can be incorporated into the TOE framework (and, sometimes, into the DOI theory), it is important to clearly understand the origins of the corresponding positive and negative indirect impacts on the adoption of e-commerce. These impacts have had little attention in the literature thus far.

### **6.2.1. Technology context**

Due to internal IT infrastructure and compatibility issues being naturally related to each other, and both being relevant to technology availability issues, we start the discussion

in this chapter from these two groups of factors. All four companies participating in this study identified internal IT infrastructure and compatibility as significant factors influencing the process of the adoption of e-commerce (Table 5.2). These factors are directly related to the internal facilities and operational capabilities of the company adopting e-commerce in its relationships with customers and/or business partners. Many of these factors appear to be common across the four participating companies (Table 5.2), and this demonstrates their persistent and prevailing nature. Somewhat greater diversity can be seen between the participating companies with regard to the compatibility factors (Table 5.2). This is probably caused by the diversity of specific problems faced by the companies during the adoption process, different retail foci, and different levels of e-commerce being adopted (Table 4.1). Importantly, the identified IT infrastructure and compatibility factors are consistent with the TOE framework and are implicated in this framework within the technological context (Figure. 3.5).

In this regard, it is also important to discuss the impacts of the specific Saudi Arabian conditions on the technological context and the identified related factors (Table 5.2). For example, the internal and external IT infrastructure is typically substandard in Saudi Arabia (Brdese, Corbitt & Pittayachawan 2012; Al-Somali, Gholami & Clegg 2009; Al-Gahtani, Hubona & Wang 2007), which inevitably has a significant impeding effect on the adoption of e-commerce by the retail industry. At the same time, all four participating companies were in clear consensus that properly developed and updated IT infrastructure, hardware, and software are essential for the successful adoption of e-commerce. This is a unanimous confirmation from the study participants that the commonly substandard level of internal and external IT services, infrastructure, hardware, and software in Saudi Arabia is a major impeding factor for the adoption of e-commerce. As a result, a number of recommendations have been made to government and private organisations. For example, specific programs and collaborative projects aimed at alleviating this technical difficulty should be implemented to ensure the full compatibility of Internet and IT services with the needs of e-commerce, as well as with the infrastructure in other developed and developing countries. Such a step is essential for the successful and rapid development of e-commerce capabilities in Saudi Arabia. This is also because the technological context in the TOE framework is one of the most important for the successful adoption and development of any technology-based innovation (Thompson 1967; Khandwalla 1970; Hage 1980; Tornatzky & Fleischer 1990).

The internal IT infrastructure, information processing, and communication capabilities of a firm have been found to be of major importance for the adoption of e-commerce (Elahi & Hassanzadeh 2009; Bharadwaj et al. 2013; Al-Aama 2014; Austrade 2014). In this study, all four participants indicated that they had had sufficient technological context to adopt at least some level of e-commerce (Table 4.1). However, there are also thousands of Saudi companies that are not able, or do not want, to adopt e-commerce (The Communications and Information Technology Commission 2010) . One of the significant causes for this situation is likely to be the insufficiently developed technological context (including IT infrastructure and compatibility), which does not allow the Saudi retail industry to widely adopt these beneficial types of commercial activity (Brdese, Corbitt & Pittayachawan 2012; Al-Somali, Gholami & Clegg 2009; Al-Gahtani, Hubona & Wang 2007). This is one of the significant distinctions between Saudi Arabia and the developed world, but is also a similarity shared with other developing countries having substandard levels of Internet and IT services (Alam et al. 2011; Saffu et al. 2008; Assimakopoulos & Wu 2010; Zhai 2010). Combined with the typically excessive costs of such substandard services, this makes the wide adoption of e-commerce very difficult (particularly at the B2C level).

Nevertheless, the serious commitment of all four companies participating in this study to adopt and develop e-commerce (at least at some level – Table 4.1) are a clear demonstration that the levels of compatibility and IT infrastructure required for the successful adoption of e-commerce are achievable in Saudi Arabia. This also provides significant confidence that a relatively small boost to the existing technological context (through government and private programs, and encouragements and investments) is likely to result in the rapid and wide adoption of e-commerce in the Saudi retail industry, causing a retail revolution similar to that in the developed world. This important finding of this thesis is further corroborated by the massive recent Internet growth in Saudi Arabia, with more than half of the population accessing Internet services in 2014 (Ahmad 2014; Communications and Information Technology Commission 2014; Sharma 2014), and around 40% of Arabic language social media users coming from Saudi Arabia (The Arabian Gazette 2014). Further, the Saudi population is becoming increasingly educated, with around 1.2 million university students in the Kingdom, and a further 163,000 students studying overseas (Aljubaili 2014). These are strong indications that the country is ready for the widespread adoption and expansion of e-commerce facilities and activities at all levels.

The three different contexts in the TOE framework are inter-dependent on each other (Figure. 3.5). For example, the insufficiently developed technological infrastructure (the Technology context) would have a significant impact on a typical organisational structure (the Organisational context), and on existing government support and legislative background (the Environmental context). It can be seen that the 'Human Resources' group of factors residing within the Technology context (Table 5.2), can be considered as being mutual for the Technology and Organisation contexts (see also the 'Organisation Structure' group of factors in the Organisation context – Table 5.2). The 'Human Resources' group was included into the Technology context because it emphasises the need for the existence of strong professional IT teams, staff confidence, and adequate training which would be a reflection of the available technological knowledge. At the same time, the formation of a professional IT team, the training of employees, and efficient management that boosts staff confidence are also relevant to the organisational structure and management (the Organisation context). This is a strong indication of the significant links and intrinsic inter-relations between the Technology context and the Organisation context (Figure. 3.5).

IT knowledge is a recognisably important factor for the adoption of new technologies (Bordonaba-Juste, Lucia-Palacios & Polo-Redondo 2012; Huy et al. 2012; Oliveira & Martins 2010). Further, a lack of technical skills could be related to the low level of e-commerce adoption in Saudi Arabia (Ahmad et al. 2014; Alanezi & Brooks 2014; Al-Hudhaif & Alkubeyyer 2011). It is further argued here that the existence of highly professional teams and individuals is naturally related to the level of existing technology – these two things are mutually dependent on each other. If there is no technology, there can normally be no professionals in this technology (at least such professionals would not have a natural opportunity to appear in the absence of the technology). Therefore, the lack of a sufficiently developed Internet and IT infrastructure in Saudi Arabia does not support the appearance of highly professional teams in this area. The same can also be said about efficient management in boosting staff confidence in e-commerce, appropriate employee training, management knowledge, and awareness of e-commerce (Table 5.2). The fact that the participating organisations consistently highlighted these factors as supporting the adoption of e-commerce (Table 5.2) reinforces the notion that their absence would be a significant impediment for the adoption of e-commerce. At the same time, the typically insufficient infrastructure and knowledge about e-commerce among the population and company management in Saudi

Arabia makes these factors scarce and difficult to be able emerge. The result can be seen in the major difficulties faced by many retail companies with the adoption of e-commerce.

Nevertheless, the four companies participating in this study (who have already adopted at least some level of e-commerce) highlighted these factors (at the crossroad between the Technology and Organisation contexts) as being important for the adoption of e-commerce. This is a strong indication that, in order to ensure the more widespread adoption of e-commerce in the Saudi retail industry (including the respective benefits for the industry and wider society), major efforts by government, and regulating and teaching organisations and bodies, need to be focused on training, education, information, and management support aimed at improving general knowledge and professional expertise in e-commerce and online sales practices. Combined with the targeted development of the Internet and IT infrastructure, these measures should cause a rapid increase in the adoption of e-commerce with positive feedback gains accruing for both general expertise and infrastructure in this area.

### **6.2.2. Organisation context**

In addition to the factors belonging to the 'Human Resources' group, but also having a relationship to the Organisation context (as discussed in the previous Section 6.2.1 in relation to the Technology context), there are three other groups of organisational factors: E-Commerce Strategy, Financial Resources, and Organisation Structure (Table 5.2). These factors are also significantly impacted upon by the specific business and social environment of Saudi Arabia.

All four companies participating in this study were remarkably consistent in identifying the major strategies for e-commerce and their importance for the adoption process (Table 5.2). It is obvious that a clear plan for adoption and the stronger linking of e-commerce to the company's vision and strategic goals are typical and very common factors prevalent in all environments in all countries (Mohamad & Ismail 2009; Laforet 2009). Without these factors, it is hardly possible to expect successful business development and adoption of any innovations. Clearly, if an innovation does not support the current vision and strategic goals of the company, this is a 'dead' innovation that no commercial company will be prepared to adopt and spend resources on. This is relevant to Saudi Arabia and to any other developing or developed country.

The other commonly-identified factor from the E-Commerce Strategy group – support for the adoption of e-commerce by CEOs and other senior management (Table 5.2) – has an interesting relationship with the Saudi Arabian business environment. Most private Saudi companies are family-owned, particularly in the retail sector. This is a reflection of strong existing family and tribal traditions in which business is often conducted on the basis of tribal and family identities. At the same time, it was found that family businesses tend to be less motivated to adopt innovative strategies, and therefore attempt to avoid the associated risks (Miller, Le Breton-Miller & Lester 2001; Classen et al. 2012; De Massis et al. 2012). The level of trust in business dealings between people that are not related through family and/or tribal ties in Saudi industry is also significantly lower than in other developed, and even many developing countries (Al-Rasheed 2013; Ramady & Sohail 2010). As a result, it is typical that family or tribal members are directly involved in management and decision-making in a private company. In addition, the strong family/tribal hierarchy, with the male head or an elder in the family having final decision-making authority, strongly contributes towards the typical structure of a private company where the decisions are made only at the highest level of management (by the CEO and, possibly, other senior management staff), and the other managerial levels and workers simply follow the instructions to implement these decisions. The prevalent patriarchal traditions dictate that the leader in an organisation is fully relied upon and is not obliged to listen to, or consider, the views of subordinates (Bhuian, Abdulmuhmin & Kim 2000). Therefore, there is very little contribution to the decision-making process from the middle- or lower-managerial levels or workers (Yavas 1997), with practically no feedback to the higher levels of management. This creates a discussion vacuum that does not promote a culture of exchanging ideas, severely limits brainstorming efforts involving staff and management, and introduces a high risk of managerial errors and misjudgement. This is rather a distinct characteristic of the Saudi business environment which has a significant impact on the adoption and development of e-commerce (jointly identified by all four participating companies – Table 5.2).

It has been suggested that in collectivist high-context cultures (such as the Saudi Arabian culture), the penetration and diffusion of innovations could be significantly facilitated by the more prominent and extensive networks for interpersonal communication and information exchange that currently exist (Gong 2009). In addition, according to DOI theory, high-context cultures are related to more extensive information flows through imitators and interpersonal verbal and non-verbal communication ('by example'), which also



significantly promotes the adoption of innovation, including e-commerce (Mahajan et al. 1990; Rogers 1983; Gong 2009). However, the conservative patriarchal culture in Saudi Arabia has a major impact on the organisational culture (see the previous paragraph), introducing an additional dimension of negative pressure on the adoption of innovations, such as e-commerce. Therefore, despite the presence of the collectivist high-context culture in Saudi Arabia (promoting the adoption of e-commerce), the competing negative impact through the mediating organisational culture appears to dominate the existing collectivist and high-context trends, and makes the adoption of e-commerce more difficult.

The initial focus on B2B e-commerce, with the subsequent extension (where necessary) to B2C e-commerce, was identified as an e-commerce strategy factor by two of the four companies whose e-commerce adoption was mainly focused on the B2B level (Table 5.2). It is argued that this strategy is likely to become more popular in Saudi Arabia with its rather limited IT and Internet infrastructure and facilities (see the discussion of the Technology context above). As explained above, B2C e-commerce may require the extensive development of the Technology context, which may not always be easily available to retail companies willing to adopt online business operations. At the same time, B2B e-commerce appears significantly less demanding on the available Internet infrastructure and capabilities, which makes it a good and useful starting point. Therefore, the initial adoption of the B2B level of e-commerce could be regarded as a 'test phase' for the subsequent, and more comprehensive, strategy to adopt the full version of e-commerce involving B2C. This could be seen as a favourable step-by-step approach for the Saudi retail industry to ensure that this innovation results in maximum benefits for businesses and consumers.

There was a general consensus that the major financial resource factor within the Organisation context is having a sufficient budget for the implementation of e-commerce at the required level (Table 5.2). This is a natural requirement that is expected to exist in any business in any (particularly a developing) country (Zhu & Kraemer 2005; Arendt 2008; Lawrence & Tar 2010; Reyner & Sherah 2011; Abid 2011; Maryeni et al. 2012). The introduction of any innovation should obviously be supported by an adequate and appropriate financial budget. No innovation could be successful without at least some degree of financial investment into its adoption. Therefore, the vision of e-commerce as an investment for the future (Company A – Table 5.2) is an essential factor governing and stimulating the process of the adoption of e-commerce. The fact that this factor was indicated only by Company A

could be a result of the highest level of e-commerce being adopted by this company, compared to the other study participants (Table 4.1). Therefore, this company was able to fully understand and clearly see the role of such an investment in its future development. It is therefore argued that, despite the lack of express confirmation from the other three companies, the vision of e-commerce as an investment in the future of the firm should be regarded as one of the major factors for the fast and successful adoption of e-commerce in the Saudi Arabian retail industry.

The third identified factor: “Owner’s approval for allocating financial resources for e-commerce” (Company D – Table 5.2) is consistent with the previously discussed strict hierarchical structure of the majority of Saudi retail businesses. Under this structure, approval by the owner or the CEO of the required financial resources is an essential factor for the success of the adoption.

As explained above, the ‘Organisation Structure’ group of factors from the Organisation Context is closely linked to the ‘Human Resources’ group of factors from the Technology Context (Table 5.2). These links are largely responsible for the close interrelations between these two contexts (Figure. 3.5). The ‘Organisation Structure’ group is mainly focused on the factors associated with management support and improvement, including a focus on the improvement of effective links, trust, and collaboration between different levels of management (Table 5.2). Management knowledge and awareness of, and commitment to, e-commerce adoption and usage were also essential common factors highlighted by three of the four participating companies (Table 5.2). These factors are particularly important in Saudi Arabia, where business often lacks effective relationships between different levels of management, and where the decision-making process is limited to the very top of the management hierarchy. Lack of effective communication between the management levels, which often causes a great deal of mistrust and resentment at the lower management levels, can have a damaging effect on the efficient adoption of any innovation, including e-commerce. It is therefore argued that the Organisation Structure factors (Table 5.2) related to the improvement of management relations and support may be crucial for the fast and widespread adoption of e-commerce in the Saudi retail industry. This is yet another distinctive feature of the e-commerce adoption process in Saudi Arabia compared to other countries (including many developing ones), which constitutes a significant finding of this thesis.

### **6.2.3. Environment context**

Four different groups of factors were identified within the Environment Context considered in accordance with the TOE framework (Table 5.2). The first group includes the factors associated with the capabilities and characteristics of existing trading partners. All four companies highlighted the limited acceptance of e-commerce among partner organisations as one of the major hindering factors for the successful adoption of e-commerce. This is the natural consequence of the low levels of penetration of e-commerce into Saudi Arabian industry. Therefore, this factor is closely linked to the aforementioned substandard IT infrastructure, widespread difficulties with compatibility, organisational culture, etc., which cause the low rate of the adoption of e-commerce in Saudi industry. This outcome again illustrates the significant degree of interaction between the three contexts considered in the TOE framework (Figure. 3.5), all of which are intrinsically linked to each other and should not be considered separately.

The limited acceptance of e-commerce among industrial partners represents a vicious cycle (at least for B2B e-commerce) – businesses are not willing to adopt e-commerce because of the lack of penetration of B2B e-commerce into Saudi industry, and the level of penetration of e-commerce will not improve until businesses start adopting it. Breaking this cycle will require external help (presumably, from the government and the regulating authorities) – otherwise, the wide adoption of B2B e-commerce into Saudi industry may be a long and difficult task. Fortunately, this does not have the same severe impact on adoption and development of B2C e-commerce, though B2C e-commerce also experiences significant negative pressures from other environmental factors – see below.

A closely-related factor is associated with the difficulties in dealing with partners who are not using B2B e-commerce (Table 5.2). This factor directly stems from the low penetration of B2B e-commerce in Saudi industry, and is often related to a lack of trust from business partners towards online business operations. Three out of the four participating companies highlighted this factor as significantly hindering the process of the adoption of e-commerce. This significant notion of the lack of trust towards online business interactions also underpins the existing preference for personal contacts and lack of trust in employees to make proper use of e-commerce facilities (Company D – Table 5.2). This is also closely related to the described vicious cycle, as trust should improve with the increasing penetration of B2B e-commerce into Saudi industry, but increasing penetration is hindered by the lack of

trust. The existence of this vicious cycle is an interesting and significant phenomenon highlighted by all four participating companies (Table 5.2), which is also one of the significant findings of this thesis.

Somewhat different are the other two identified factors related to trading partners: (1) lack of experience/expertise/support in e-commerce (Companies A and B), and (2) lack of awareness of the benefits associated with e-commerce (Company C). Both of these factors are either fully, or at least partly, related to the issues of e-commerce education and the boosting of specific expertise among businesses and managers. In this regard, these factors provide yet another link between the three contexts (Figure. 3.5 and Table 5.2) – namely, through the three groups of factors: Human Resources (Technology Context), Organisation Structure (Organisation Context), and Trading Partner Capabilities and Characteristics (Environment Context). According to our findings, a consideration of such links must be an essential part of the TOE framework enabling the correct identification of the actual sources of positive and negative pressures for the adoption of e-commerce in the Saudi Arabian retail industry.

These factors associated with trading partners, discussed above, are impeding the process of the adoption of primarily B2B e-commerce, which was highlighted by all four participants in the study. At the same time, the retail industry is largely based on extensive and complex supply chains, including retailers, suppliers, importers and distributors, transport logistics and storage, commercial real estate agents and landlords, and others. As was discussed in Chapter 3, the successful operation of such supply chains is characterised by a dynamic network of business relationships which requires a swift and accurate order-delivery-payment system, where documentation transfer and goods handling are minimised (Jinfu & Aixiang 2009; Melnyk et al. 2010). This creates a significant environmental pressure towards the adoption of B2B e-commerce (Section 6.1.1). However, in the Saudi retail business environment, this significant motivation is largely hampered by the low penetration of B2B e-commerce, and other impeding factors associated with trading partner capabilities and characteristics (Table. 5.2). At the same time, it is possible to say that this motivating factor is one of the major levers for breaking the currently existing vicious cycle associated with low penetration of B2B e-commerce in the Saudi retail industry.

Another important group of factors capable of having a major impact on the adoption and development of e-commerce is associated with the existing legal and regulatory

frameworks in the retail industry in Saudi Arabia (Table 5.2). In most countries where e-commerce has been adopted successfully, the process of adoption was always preceded by an elaborate government strategy to promote and support e-commerce (Gibbs & Kraemer, 2004). At the same time, all four companies highlighted a major lack of government interest in, and support for, e-commerce, and the absence of legal and regulatory frameworks for e-commerce and Internet use (Table 5.2). This significantly increases the risks of fraudulent financial operations and activities, dishonoured payments, theft, and misuse of sensitive personal information, which are the major contributors to the currently widespread mistrust in online business operations. Targeted government support for e-commerce and regulatory frameworks are thus essential for boosting trust and confidence in online operations, sales, and service. As described in the previous sections, trust is one of the major issues in the currently existing vicious cycle of low penetration of e-commerce into the Saudi retail industry. Therefore, government action towards recognising e-commerce as a strategic tool for economic progress, and the development of adequate legal and regulatory frameworks are urgently needed to boost online commercial activities and break the vicious cycle of resistance and lack of trust towards e-commerce.

As explored in Chapter 2, in 2000, the Saudi Government established a permanent technical committee for e-commerce, including members from different government sectors. The role of this committee is to enhance and promote e-commerce in the country. Nonetheless, the current study demonstrates that these measures have been insufficient, and there is still a significant lack of strategic vision for e-commerce as a major economic tool in this country. As an example, government support and regulations are sorely needed to overcome the significant difficulties with effective information-sharing between private sector organisations and government agencies (Table 5.2 – Company D). The findings of the current study are consistent with previous suggestions about insufficient government support for the adoption of e-commerce in Saudi Arabia (Abdallah & Albadri 2009; AlGhamdi et al. 2013).

The other two factors that have a negative impact on the rate of adoption of e-commerce in the Saudi retail industry are the existing monopoly on communication and Internet services (Company B), and difficulties with information-sharing between private and government organisations (Company D). Once again, these are government-related issues

that require an effective legislative framework to facilitate the rapid adoption of e-commerce for the benefit of retail businesses and consumers.

Social, religious, and cultural beliefs play a particularly important role in the adoption of B2C e-commerce. It is clear that the social and religious structure of Saudi society has major impacts on a number of issues associated with business, retail, and e-commerce (see, for example, the above section on social motivation factors). The lack of trust in credit cards and online payment methods is probably one of the most difficult issues to be overcome on the way towards successful and wide adoption of e-commerce by the Saudi Arabian population. Due to religious beliefs, most people and some companies and shops do not accept credit card payments. The existing religious taboo on providing and accepting credit is a difficult issue that has a profound negative impact on online methods of payment. Furthermore, Islamic law (known as Reba) prohibits certain bank operations typically involving credit cards, such as charging additional fees for not making credit card payments, etc. To overcome these religious taboos, some Saudi banks issue pre-paid cards equivalent to normal credit cards. However, these cards are not subject to any existing rules and government regulations (which makes this a major issue that overlaps with the previously-discussed lack of legal and regulatory frameworks), which can increase associated risks (The Communications and Information Technology Commission 2011). The country has PayPal as a payment method, but this method is used only for sending money but not for receiving payments, which is a significant obstacle for e-commerce (The Communications and Information Technology Commission 2011). The Saudi Gazette (2012) reported that, according to an international credit provider, the Gulf populations' over-reliance on cash extended to 90% of all transactions. This preference for cash is a major cultural factor that has a significant impact on the consumer's intention to buy in Arab nations, including Saudi Arabia (Yasin & Yavas 2007; Hofstede 2011).

The relatively recent move (in 2004) of the Saudi Arabian Monetary Agency (SAMA) to introduce a payment gateway solution known as 'SADAD' was designed to alleviate the problem of the absence of a regulated electronic payment facility. It has been expected that this reliable and secure e-government service will provide sufficient incentive for the private sector to adopt similar systems, which should strengthen the core attributes of e-commerce (SADAD 2011). However, this still has not resolved all the problems and the lack of trust associated with online payment facilities and the full adoption of e-commerce.

The low penetration of credit cards in Saudi Arabia was put forward as a major detrimental factor for e-commerce by three of the four participating companies, with only one of them having adopted an online method of payment (Table 4.1).

A lack of knowledge of consumer benefits and rights associated with e-commerce, and the high level of conservatism of the Saudi people in relation to disclosing personal information are the other major social factors impeding the widespread adoption of B2C e-commerce. Once again, many of these factors can be reduced to the major lack of trust of Saudi people in online commercial activities and purchases, which is yet another contribution to the above-described vicious cycle related to significant resistance and lack of trust towards e-commerce (this time, at the B2C level).

Another cultural feature of Saudi Arabia is that the population generally considers government services as being more trustworthy than those provided by private companies. This is another significant finding of this study, that government electronic services enjoy significantly higher levels of trust from the Saudi public than does e-commerce through the private sector. This could be explained by the traditionally high level of government control over the Saudi economy, which has created a culture of perceived trust in, and a trend towards, government enterprises and services. As a result, strong government support of a push towards e-commerce would be particularly helpful in breaking the existing vicious cycle of low levels of trust in online commercial activities.

The last group of significant environmental factors impeding the rapid adoption of e-commerce in the Saudi retail industry is related to the general national infrastructure existing in the country. The associated infrastructure deficiencies include a range of issues associated with weaknesses in the banking system, which are in turn associated with low rates of credit card transactions, communication and security, and logistics services (Table 5.2). Many of these weaknesses are closely related to the previously explored Technology and Organisation Contexts, once again highlighting the essential need for a consideration of the existing links between the three contexts in the TOE framework (Figure. 3.5).

One such general infrastructure weakness is related to the fact that only a limited number of transactions are typically allowed on a given credit card, which further impedes credit card usage for routine purchases. This is caused by the current weaknesses in the overall banking network and infrastructure. This general infrastructure deficiency requires a

global effort on the scale of the entire nation, and will also need government support and encouragements/incentives.

Further, three of the four companies participating in this study highlighted that the absence of numerical zip codes is a significant obstacle on the way towards the widespread adoption of e-commerce (Table 5.2). This is an important factor that appears to be rather unique to Saudi Arabia, causing difficulties with logistics operations. Despite the presence of some international delivery companies such as FEDX and DHL in Saudi Arabia, their delivery services are significantly impeded by the absence of properly labelled and formalised house addresses and zip codes. In many cases, customers are being asked to visit the delivery company offices to pick up the products. Because the delivery service is the final and essential step for e-commerce, delivery problems associated with the lack of formal standard addresses and zip codes is a major obstacle for online commercial activities, particularly involving B2C e-commerce.

Although Saudi Post started issuing numerical national addresses to residents from 2012, this was only undertaken at the resident's request, and was not undertaken automatically for each building (Post, 2014). Moreover, this process of formalising residential and other addresses appears to be a long and complicated process (Aleqtisadya 2014) which could significantly delay the anticipated rapid adoption of e-commerce in the Saudi retail industry. Significant government intervention and support are also required in this area to fix the problem and ensure that Saudi residential and other addresses are in accordance with required international standards to facilitate commercial activities and communication for business and residents.

### **6.3 E-commerce Benefits**

An important and significant contribution of this thesis is that, for the first time, there has been research conducted which presents a simultaneous analysis (using the same participants) of motivation factors (Section 6.1), adoption factors (Section 6.2), and the realised benefits from e-commerce (the current section). Therefore, this section presents a logical conclusion to the discussion chapter by providing an overview of the ultimate



outcomes of adoption of any innovation, including e-commerce – its tangible and realised benefits.

The major benefits identified by the participating companies, and then realised by these companies as a result of the adoption of e-commerce, have been listed in Table 5.3. It is widely recognised that e-commerce could play an important role in organisational performance, as it helps in creating new business opportunities and enables organisations to successfully compete in the market. It is not a surprise that many of the realised perceived benefits appear to be mutual for the participating companies (Table 5.3), with, probably, the one exception of Company D, whose realised benefits were quite limited. This can be explained by Company D having the lowest level of adoption of e-commerce of the four participating firms, as well as by its relatively small size. It is quite natural that the number of realised benefits should rapidly increase with the adoption of more comprehensive versions of e-commerce enabling greater commercial benefits and performance. This is the main reason for the limited realised benefits for Company D, as the only element of e-commerce adopted by it was, essentially, a basic informational website about the organisation and its products/services (with a rather limited option for online queries) – Table 4.1.

Four significant groups of major benefits were identified by the participating companies: improved communications and information exchange (all participants), more efficient work practices (all participants), increased sales and reduced marketing costs (three companies), and improved customer relations (three companies) (Table 5.3).

Significant improvements in communication and more efficient work practices are probably the most readily recognisable and widespread benefits of e-commerce (Bhagwat & Sharma 2007; Devaraj et al. 2007; Xu & Quaddus 2009; AlGhamdi et al. 2012; Jahanshahi et al. 2012; Huang & Benyoucef 2013). The fact that all four participants clearly recognised these realised benefits demonstrates that these are arguably the most readily achievable benefits from the adoption of e-commerce in the Saudi Arabian retail industry, which constitutes one of the findings of this thesis. Therefore, it could be concluded that, if Saudi retail companies are aiming to improve their communications, information-sharing, and work-related practices (including improved inventory, reduced workloads, saving time and physical resources, etc.), the adoption of e-commerce could be a viable and appropriate way to proceed. Even at a very basic level (such as for Company D – Table 4.1), the adoption of

e-commerce is likely to result in significant benefits in the form of more efficient communication and work practices (Table 5.3) for large and small companies in different areas of the Saudi retail industry.

The other significant areas of activity, where the adoption of e-commerce is likely to bring major benefits (Alam & Noor 2009; Xu & Quaddus 2010; Abid et al., 2011; Chaffey 2011; Sajuyigbe 2012; Ramanathan et al. 2012; Zain & Kassim 2012), are in increased sales, reduced marketing costs, and improved customer relations (Table 5.3). However, these benefits of e-commerce are more likely to be realised only where sufficiently high levels of e-commerce have been adopted. For example, the use of social media for marketing purposes (Eley & Tilley 2009) by Companies A, B, and C is likely to give these companies a much wider customer reach, particularly among younger people. However, this can be achieved only under a sufficient degree of sophistication of the company websites, which is characteristic of higher levels of e-commerce adoption. On the contrary, Company D did not identify any of these benefits (Table 5.3), which is most likely a result of only a very limited adoption of e-commerce by this company (Table 4.1). Reduced marketing costs and increased sales can follow only where customers and business partners (in the case of B2B e-commerce) are provided with more sophisticated online information and interactive tools targeting their actual needs. A basic website is typically not a sufficient online tool to achieve significant marketing and sales benefits. Similarly, such a basic website is unlikely to change existing relations with customers, which means that a higher level of adoption of e-commerce is typically required to achieve significant benefits in this area.

It is also important to consider the differences between the B2B and B2C types of e-commerce in relation to the realisable benefits in the Saudi retail business environment. Clearly, achieving benefits from B2C e-commerce is more reliant upon sophisticated website interactive instruments aiming at potential customers, providing them with targeted information about the available products. This requires a great deal of sophistication of the web-based instruments, well-developed capabilities for product searching online, online payment facilities, etc. Therefore, significant benefits from B2C e-commerce can be obtained typically where the company achieves the highest (or close to the highest) level of adoption (such as by Companies A and B – Table 4.1). On the contrary, realising the benefits from B2B e-commerce can already be achieved by the introduction of a viable email system, or a basic searchable website focusing on communicating with, and providing information to, the

existing and prospective business partners. Just this elementary level of e-commerce has the potential to significantly enhance the performance of supply chains (Bhagwat & Sharma 2007; Ramesh et al. 2010; Anbanandam et al. 2011) linked to the Saudi retail industry. It is, therefore, argued that while the benefits achieved by Companies A and B stemmed from both the B2B and B2C types of e-commerce, the realised benefits for Companies C and D (and particularly for Company D) came from B2B e-commerce (see, for example, the repeated indications towards B2B e-commerce in the list of realised benefits for Company C – Table 5.4).

Furthermore, a major conclusion that could be made here is that Saudi retail companies that intend to adopt e-commerce should probably focus on the initial adoption of B2B commerce, as the associated benefits are far easier to achieve in practice under the existing business environment (particularly in the presence of the described vicious cycle of the low penetration of e-commerce in the Saudi retail industry and the lack of trust of online financial operations from the majority of the Saudi population – see the previous sections).

At the same time, the indicated significant range of realised benefits for all four companies participating in this study (Table 5.3) is also a strong indication that the adoption of e-commerce at any level is likely to provide major benefits and a commercial edge for the adopting companies. Therefore, there is little doubt that the future is about the widespread adoption of e-commerce in the Saudi retail industry at both the B2B and B2C levels. The major adoption factors included in the considered TOE framework, and their relationships to the adoption of e-commerce, are further illustrated in Figure. 7.1.

## **Chapter 7 Conclusions**

This research was developed to examine and identify the issues and incentives of Saudi retailers to pursue e-commerce and to be more closely integrated into supply chains where Internet use and technology is becoming of greater significance.

This final chapter presents an overview and key conclusions of the study, which is followed by the study's contribution to the general body of knowledge, and the methodological and theoretical contributions. The implications of the findings for managers and government will be presented, and the study will be completed by exploring the limitations of the research and making suggestions for further research.

### **7.1 An Overview of the Research and Proposed Framework**

E-commerce is an Internet-based Information Technology (IT) that is used increasingly by business organisations to attain greater efficiency, productivity, and profitability, and to enhance business relationships. IT has been used primarily to change the platform of conducting business transactions from a predominantly physical, face-to-face, human-moderated mode, to an online and technology-moderated one.

There is much research on the adoption of technology; however, most is focused on developed countries, with few studies on developing countries, especially in the Middle East, and in particular, in the Gulf region and Saudi Arabia.

In developing countries generally, the adoption and implementation of e-commerce is often hampered by factors such as a lack of legislation, poor telecommunications infrastructure, a lack of workforce competencies, cost, consumer demand, a lack of computer literacy, and others, as identified in Chapter Three. Despite the strong economies and wealth of the countries that make up the Gulf region, the adoption and implementation of e-commerce has remained low, especially in Saudi Arabia, as reported in Chapter Two. Recently, in Saudi Arabia, there have been a number of attempts to understand the adoption and implementation of e-commerce. However, most of these studies have lacked depth and had a number of limitations (see Chapters One and Three). The findings of this research have provided a comprehensive report on the case of Saudi Arabia with specific emphasis on the retail industry. The companies that participated in the study were carefully selected based on

different levels of e-commerce adoption in order to investigate the critical factors involved, rather than being randomly selected. The research integrated elements of previous studies in e-commerce and e-business with the empirical data, to address the research concerns.

The overall purpose of this study was to explore the factors influencing the process of the adoption and effective utilisation of e-commerce by large companies in the Saudi retail industry at the organisational level. In this research, the motivations for Saudi retailers' decisions to adopt e-commerce have been identified. The study also investigated the critical technological, organisational, and environmental factors influencing the success or failure of e-commerce implementation in the Saudi retail industry. In addition, the study discussed the impact of e-commerce usage on organisational performance at different levels of e-commerce implementation. It is intended that the recommendations that are put forward, based on the empirical findings of this research, will help to provide a guide for decision-makers in the Saudi business environment, and policy-makers, to increase the take-up of e-commerce usage in Saudi Arabia, and in similar business environments across the region. Figure 7.1 below shows adjusted TOE framework for the process of e-commerce adoption and implementation in Saud retail industry.

Figure 7.1 adjusted TOE framework for the process of e-commerce adoption and implementation in Saud retail industry.

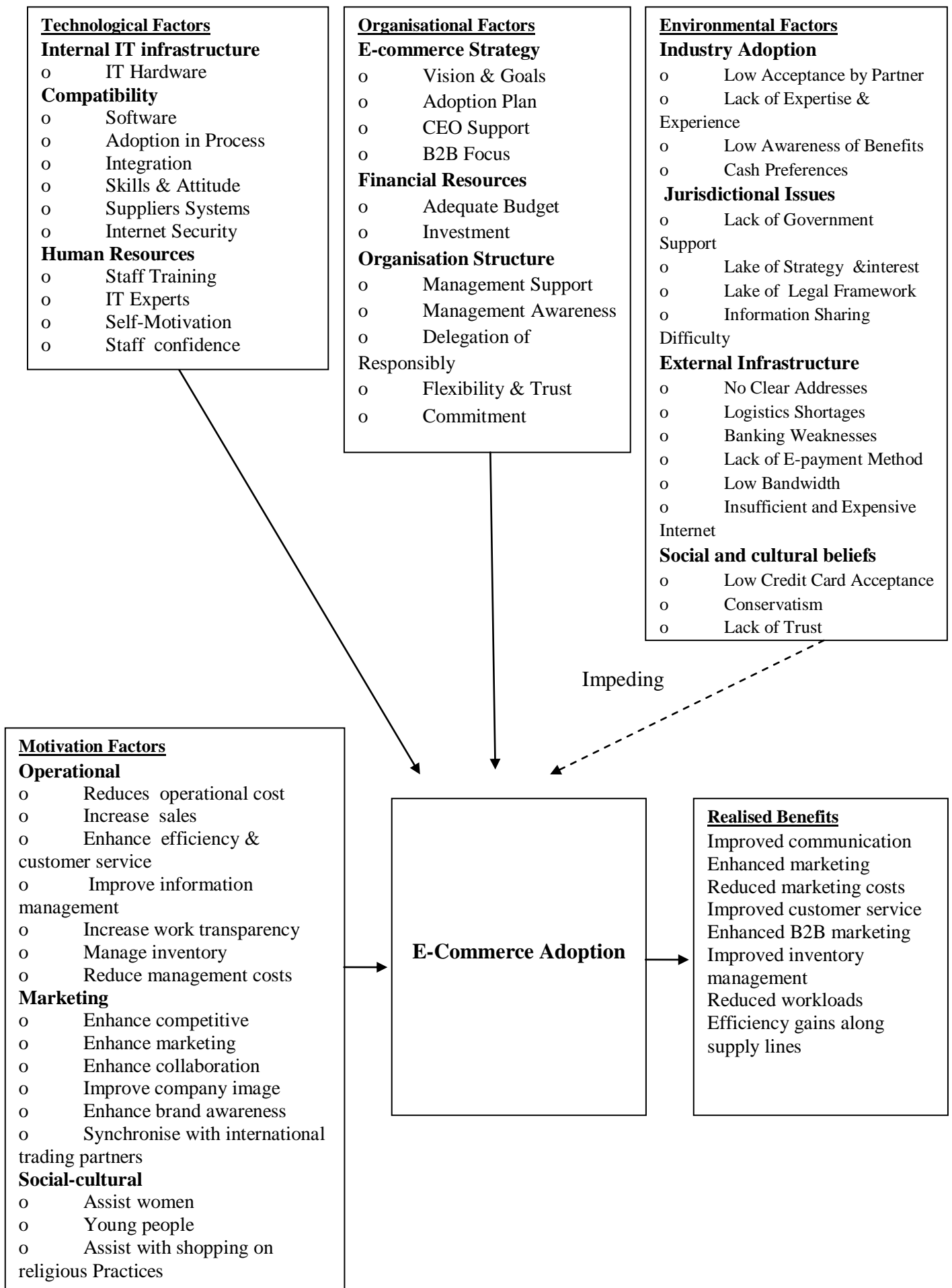


Figure 7.1 show the final TOE framework for e-commerce adoption in Saudi Arabia, including the major adoption factors for the motivations (Table 5.1) implementation and actual usage (Table 5.2) and realised benefits (Table 5.3). The dashed arrow indicates the impending impact of the considered factors from the Environment Context on adoption of e-commerce. All presented adoption factors are grouped into the 14 constructs.

The motivational constructs are the reasons behind the Saudi retailers towards adopting e-commerce solutions. These have a positive impact on the decision makers in these businesses and serve as the pre-adoption step. They help retailers design, develop, and effectively implement and use innovation, and they also determine the owners' strategies towards e-commerce adoption (Pittino & Visintin 2009). This study has identified three motivational factors, including operational, marketing, and socio-cultural reasons behind companies adopting e-commerce technology.

Although the Saudi retailers in this study sold different products, they confirmed that reducing operation costs, enhancing customer reach and customer services, enhancing overall efficiency, improving communication within and outside of the organisation, and improving information management efficiency, were important operational drivers. Marketing motivations, such as the enhancement of marketing and advertising, enhancing competitive positioning, and synchronising with international trading partners, were the motivations for Saudi retailers to adopt e-commerce. However, in contrast to the findings in the literature, Saudi Arabia has different cultural motivations from both developed and other developing countries, and even from those in the Gulf region. This finding is unique to Saudi Arabia and the Middle Eastern context which relates to the social-cultural restrictions placed on the woman's public engagement. Because women manage the home and normally plan the household and do the shopping, progressive businesses that wanted to expand their customer base and increase sales sought ways to ensure that women were able to do their shopping while at the same time observing Saudi's socio-cultural norms. The religion-informed restriction imposes a requirement that women are not to appear in public places without the company of a male relative. They are also not allowed to drive, particularly in Saudi Arabia. Therefore, this thesis argues that different cultures create different attitudes and practices that need to be taken into account in order to understand the reasons for the usage of an innovation.

This study considers e-commerce as a complex innovation adoption at the organizational level. Therefore, it was important to identify the critical technological, organisational, and environmental success factors to facilitate this. Therefore, the implementation stage of the proposed framework is according to the three elements of TOE model.

In terms of the technological factors, this thesis identified internal IT infrastructure, and the compatibility of human resources as important technological factors for successful complex innovations, such as the adoption of e-commerce. All the participants noted that developed and updated internal IT infrastructure, hardware, and software are essential for the successful adoption of e-commerce. However, external IT services, infrastructure, hardware, and software in Saudi Arabia are major impediments to the adoption of e-commerce. The compatibility of e-commerce to the internal IT infrastructure and the employee's key competencies was another technological influence in effective implementation. Different levels of compatibility were found between companies based on the level of e-commerce usage and the availability of professional IT teams, staff confidence, and adequate training. Key competencies

With reference to organisational factors, this study has identified that e-commerce strategy, organisational structure, and financial resources significantly impacted upon the business environment of Saudi Arabia.

This study has shown the importance of having an e-commerce strategy or plan for the pre-adoption phase as well as for the actual adoption process, which links to the company vision and goals. However, in the Saudi business environment, this strategy or development plan is influenced by family figures who are the main decision-makers. The organisational culture appears to make the adoption of e-commerce more difficult. In Saudi Arabia most organisations are family-led. Thus, the leader in any setting or organisation is relied upon for the final word on decisions, and he (the family figure who is always a male) is not obliged to listen to or consider the views of subordinates. Furthermore, the 'leader' also maintains absolute control over resources and dictates their allocation and utilisation. This therefore creates a particular hierarchical organisational system, evident in Saudi businesses, in which decisions are handed down and followed without question, or moderation, and are seldom challenged by middle management or low-level employees. This has an influence on the capacity of businesses to make decisions to adopt and implement innovations such as e-



commerce. Thus, all the participants in this study agreed that management knowledge, awareness, commitment to adopt, and then e-commerce adoption and usage, are very important factors.

In terms of financial resources, Saudi retail businesses are different from those in other countries, particularly in developing nations, finding little to no financial obstacles for e-commerce adoption. The four companies in this study have a sufficient budget for adoption; however, although Company D has sufficient financial resources for e-commerce, the company has to gain approval from 'the company father' in order to devote resources to such a project. This study has argued that the rapid and successful adoption of e-commerce in the Saudi Arabian retail industry can be better facilitated if organisations consider an e-commerce strategy as an investment for the future.

Moreover, according to figure (7.1) the environmental factors were the main impeded for e-commerce adoption and implementation. The lack of local trading partner access to e-commerce was also found to be an environmental barrier. The research shows that the problem associated with the lack of local trading partners in using B2B e-commerce is the lack of trust between business partners. This is related to Saudi business culture where traders prefer face-to-face contact, and also a lack of trust towards employees in using the electronic communication or the Internet for personal reasons. Moreover, lack of experience and expertise, and lack of support for e-commerce were other obstacles for Saudi organisations in adopting e-commerce. In fact, a lack of awareness of the benefits associated with e-commerce was another important barrier. Therefore, this thesis has emphasised the idea that it is very important to identify the motivating factors for the adoption of e-commerce in order to identify how a company can use the technology, and the barriers that can hinder its progress.

Furthermore, the government's failure to implement suitable policies or regulations that can stimulate the uptake of e-commerce in Saudi Arabian business was identified as an important factor that delayed the adoption of e-commerce in the country. Similarly, the lack of legal and regulatory frameworks for e-commerce and Internet technologies for commercial usage were regarded as further factors. In addition, Saudi organisations encounter difficulties with government organisations in relation to information sharing. Likewise, the monopoly in communication and Internet services by government resulted in high costs and poor levels of

Internet connection. These were found to be major barriers affecting many Saudi residents and businesses in terms of e-commerce usage.

There are also challenges associated with social, religious, and cultural beliefs, such as a lack of trust in credit card usage for religious reasons and online payment methods. For example, if the customer does not pay the credit card fees and charges by the due date to the bank, the bank will charge the clients extra fees. These extra fees are prohibited in Islamic law, which is known as Reba. Therefore, there is a low penetration of credit cards among people in the country. Moreover, a lack of knowledge of the consumer benefits and rights associated with e-commerce, and high levels of conservatism in relation to the disclosure of personal information were also barriers for e-commerce usage in the Saudi Arabia.

Another key factor that emerged from this research is the poor infrastructure in the country, such as the weaknesses in the banking network and the associated low rates of credit card transactions, communication, and security. This is a result of the current weaknesses in the overall banking network and in the external IT infrastructure. The absence of numerical zip codes is another significant obstacle on the way towards the widespread adoption of e-commerce. Finally, there is another challenge linked to a shortage of logistics services.

The third part of the proposed framework for this study is the post-adoption stage. According to the literature review the realised benefit of IT in general at organisation level is under debate. Thus, e-commerce realised benefits in developing countries are unclear. This study argues that realised benefits of e-commerce in different stage of usage would encourage decision-maker to embrace and upgrade the low level of e-commerce usage to higher level. Hence, the impact of e-commerce on organisational performance was addressed in the final proposed framework. E-commerce has been identified as an essential tool that should be aligned with every company's organisational strategy, although the research findings indicate that the benefits resulting from e-commerce investment vary depending on various stages of e-commerce usage. All the participating companies identified a number of benefits which they had experienced since the adoption of e-commerce. Some of these benefits included improved communications, the enhancement of marketing, reducing paper usage, improving the overall operations process, improving customer services, increasing people's awareness of their products and prices, and enhancing information sharing.

## 7.2 Study Contribution

This study has contributed significantly to the general body of knowledge, and has also made methodological and theoretical contributions.

In terms of the contribution to knowledge, firstly, a study of the four companies helps to advance current understandings of motivations, processes, and outcomes in the implementation of e-commerce. By looking at the process, we can increase our understandings of how and why organisations adopt innovation and what the outcomes of the implementation are. Most of the previous research undertaken on e-commerce at the organisational level focused on the implementation phase, with an emphasis on either pre-implementation or post-implementation (Aarons, Hurlburt & Horwitz 2011; Wisdom et al. 2013).

Secondly, Most of the previous research on e-commerce in developing countries have been conducted in the South-East Asian region (Reyner & Kurnia 2011), with far less attention being paid to the Middle East and the Arab world (Al-Fawaer 2014; AlGhamdi, Drew & Alkhalaf 2012; Muhannad & Ahmed 2014). However, these studies cannot be applied directly to Saudi context because each country in developing country has different culture, economy, government and infrastructure (Abou-Shouk, Lim & Megicks 2013; Lawrence & Tar 2010). Therefore, this research enriches the existing IT literature in relation to e-commerce adoption and its utilisation in the retail industry in developing country contexts by focusing on Saudi Arabia. It provides a better understanding of the process of innovation adoption in the retail industry, which has not been investigated previously. Exploring the motivations, technological, organisational, and environmental factors and realised benefits yields a deeper understanding of e-commerce development. Moreover, this study is important for studying the cultural aspects of the retail industry in Saudi Arabia, which is different from other developing countries. Therefore, this study will enhance e-commerce literature by providing more knowledge on cultural practices and their impact on organisations' cultures and people's intentions to use such technology.

Thus, the factors identified in this study are unique and are completely appropriate in the Saudi context. Hence, information obtained from this study can be used as a baseline and applied to other industries. According to Yin (2009) and Merriam (1998), the findings from

multiple cases increase and enhance the strength of generalising the findings. The data for this study were collected from four companies, multiple cases which can be generalised to other countries. Accordingly, the findings from this study can be generalised and used in the Middle Eastern region.

Although there has been a greater recent interest in conducting research on e-commerce in the Arab world and in Saudi Arabia, most of these studies have been focused on the individual or end user level, which is different from the organisational view (Al-Mowalad & Putit 2012; AlGhamdi, Drew and Al Faraj 2011). This study increases our understanding of e-commerce adoption and implementation from the management point of view in terms of motivation, implementation and usage.

This study is focused on one particular industry, unlike other studies in developing countries and Saudi Arabia which did not focus on any single industry (Brdesee et al. 2012; Boateng et al. 2008; Kurnia & Ali 2012). Therefore, this study increases the depth of our understanding of the adoption and implementation of e-commerce in the retail industry in Saudi Arabia.

It was observed that few studies have examined the motivational factors influencing the adoption of innovation in the retail industry. Pantano (2014) pointed out that most of the research on the retail industry has focused on consumer demand or acceptance of products and services. Hence, this research is considered the first to examine the motivational factors for the adoption of innovation in the retail industry in the Middle East and the Arab world. Therefore, this study adds to the literature on motivational factors for innovation in the retail industry by identifying new connections between cultural value and innovation adoption. In addition, this research shows that Saudi's culture can be an important reason for retailers to adopt e-commerce technology as B2C.

Interestingly, although culture is considered a barrier for e-commerce in developing countries including Saudi Arabia, this study found that Saudi's culture can be a driver for organisations to adopt e-commerce. However, this depends on the government's facilitation of its implementation, which would reduce the mistrust of such technological use by its people.

This study examines e-commerce as a complex innovation process in order to identify the different factors that encourage adoption at each level, and to ensure that such innovations

are accepted. Thus, the insights gained from this study can complement the previously accumulated knowledge in relation to specific e-commerce applications.

There have been no previous studies that have empirically examined the realised benefits of using e-commerce for organisations in Saudi Arabia, and this is one of the few studies that have identified the realised benefits of e-commerce usage in large organisations in developing countries. According to Mora-Monge (2010), there were contradictory results of the outcome of IT on organisations. Therefore, this study adds to the existing body of literature and makes specific contributions to the field of IT by providing insights into the realised benefits of the use of e-commerce. The benefits identified in this research for Saudi retailers can provide further insights into the impacts of e-commerce.

Insights from this research have also shown that factors which affect the adoption and effective use of e-commerce in every country are different, although some factors may be similar. The previous research, as indicated in Chapter Three, identified, for example, a lack of finance as a key factor which negatively affects the adoption of e-commerce in developing countries. However, in this research, there were no financial barriers to adoption; in fact, it was the external environment which was the main inhibitor of adoption. The research findings suggest that many Saudi retailers would adopt full e-commerce services if the external services were of higher quality and able to support the business sector.

Third, most of the previous studies in developing countries have been conducted on SMEs Reyner & Kurnia (2011) which is different from large organisations in terms of strategy, resources and management whereby expected different attitudes and factors influencing organisations to adopt such innovation. Hence, this study examined e-commerce from a large organisation perspective in order to enrich the literature.

Furthermore, the study also contributes to methodological considerations by using interpretive multiple case study approaches, as opposed to most studies on this topic which have adopted descriptive methods (Boateng et al. 2008; Reyner & Kurnia 2011). According to AlGhamdi et al. (2011), studies in e-commerce in Saudi Arabia have lacked depth and most of the research has been descriptive. This strategy is important for providing a clear on in-depth understanding of the process of e-commerce adoption and implementation in the Saudi retail industry. Moreover, using multiple case studies in this research design improves theory building (Bryman 2008) in e-commerce research. The data collection approach for this research was based on an interpretivist paradigm using multiple case studies.

This study supports previous studies in developing countries and provides a richer view of the important environmental factors impeding e-commerce adoption, such as a lack of government support, poor Internet services and a lack of trust. Therefore, it is important for governments to take the initiative towards supporting and building solid positive factors that lead to successful adoption.

In terms of culture, according to Gong (2009), there is a need to investigate potential national cultural influences on e-commerce adoption. Moreover, the author asserts that the literature focuses on online behaviour at the individual level. This study contributes and extends the knowledge in the IT/IS literature by identifying various cultural aspects influencing e-commerce adoption at the organisational level, and their impact on the decisions made in Saudi Arabia. It is one of the first studies to identify cultural factors as pre-adoption drivers and actual adoption barriers that influence the adoption of e-commerce in Saudi Arabia. Moreover, this study increases our understanding of the unique socio-cultural characteristics of Saudi people in terms of avoiding credit card usage for religious reasons and their lack of trust in using such technology. Therefore, understanding these aspects would help policymakers at both the organisational and government levels to find new methods to overcome these issues.

This research also demonstrates how the TOE conceptual framework can be applied to enhance our understanding of the enablers and impediments to effective e-commerce implementation in developing countries, which can assist decision-makers in those organisations, particularly in Saudi Arabia, to implement more effective strategies towards the successful adoption of e-commerce. Moreover, this framework has differences in many ways.

Firstly, unlike other studies, the framework used to analyse the data builds on the Technology-Organisation- Environment (TOE) framework at the organisational level, and the factors identified here are somewhat different from other frameworks that have been built by using theories at the individual level, such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Diffusion Of Innovation (DOI) model. Therefore, this adds to our understandings of how e-commerce, as an organisational strategy, is adopted, implemented, and used at the organisational level.

Secondly, most of frameworks and model were developed in western countries which cannot be applied directly to developing countries ( Gunasekaran & Ngai 2005; Tan, J, Tyler

& Manica 2007). This framework developed based on empirical data from developing country which is assisting and more appreciating for developing countries.

Most importantly, this framework focuses on the process of e-commerce as (pre-adoption- actual use and post- adoption) rather than the factors that facilitated the success or failure of the 'adopted or not adopted, or intention to adopt' approach. This is important because the success of e-commerce implementation is the continuous process of using and realising its benefits, rather than focusing on its initial adoption (Cullen & Taylor 2009; Limayem, Hirt & Cheung 2007). Another unique contribution from this research is that it explains the complexity of e-commerce implementation, which can help decision makers to better manage and reduce the risks of e-commerce failure.

The following section will present practical contribution and implication of thesis finding for managers at organisational level and policy makers at government level.

### **7.3 Practical contribution**

This study has contributed to policies and practices by providing rich information about factors affecting the motivation, actual usage and realised benefits with respect to e-commerce adoption and implementation in the retail industry. The findings of this research have a number of important implications that may assist business managers and governments to facilitate the adoption of e-commerce.

Firstly, the framework that has been developed can assist retailers and other industries in Saudi Arabia and Arab countries by identifying the motivational factors behind e-commerce usage prior to its implementation, which can enhance the level of awareness for managers interested in adopting e-commerce. Moreover, the cultural mindset can impede e-commerce usage due to its conservative attitude towards using credit cards and a lack of trust. Therefore, organisations and governments need to work together to solve these issues, particularly in the Saudi population, which is mostly young and familiar with new technology.

For management this study demonstrates the importance of business owners and management in developing e-commerce during the adoption and implementation process. In fact, without the knowledge and commitment of management, and their willingness to share the responsibility of the implementation process with employees and middle management, e-

commerce will not be successfully adopted and implemented. Moreover, it is essential for management in developing countries to trust and encourage their employees in using new technology. In addition, high quality internal information technology (IT) infrastructure, and access to financial resources, will help organisations in developing countries to adopt e-commerce.

The firms in this study appeared to equate customer service with allowing the potential customer to know which products are for sale through a catalogue. Customer service that engages with the consumer at the time of the sale, and after-sales service are important factors for repeat sales, more so than simply trying to sell more products. This can be undertaken online equally as well as in a store. Moreover, the consumer risk of delaying full transactional services is realised in terms of the loss of sales, both in the physical and online environments. A purchase made on an overseas website does not provide profit for the business owner, or a job for a Saudi; it is a competitive imperative that must be engaged with.

Training of Saudi staff was noted as an important factor in computerisation; this should extend to the fundamentals of the sales process in engaging the customer and offering to satisfy customer needs, rather than simply selling another item. While the automation of online transactions removes person-to-person contact, online chat for enquiries and a well-designed transactional website can fulfil the service expectations of the customer.

Moreover, organisations must have a clear plan for e-commerce adoption that is in alignment with the company's strategies. This will enhance competition in the country and support trading partners to implement such technology.

For government, this study reveals that without government support in developing countries, businesses and the public will not embrace e-commerce, particularly in Saudi Arabia, where the people trust the government more than private enterprise. This framework demonstrates the responsibility of government to address the country's legal framework to organise the relationship between sellers and payers, and to increase trust towards the use of online services for commercial purposes. As well, the Saudi government needs to issue strong privacy and personal information disclosure laws.

The Saudi government needs to improve IT infrastructure by liberalising Internet services and allowing a wide range of companies to operate services rather than allowing a



monopoly on computation services. Saudi Post, which is a government agency, also needs to improve the postal address and home numbering system.

Indeed, the Saudi government has the power to influence banking regulations and systems. The government can force these financial institutions to improve their services and reduce the high fees charged for their products, especially since Saudi banks do not pay taxes.

Furthermore, Saudi government has to encourage private sector to establish logistics services that can facilitate e-commerce up take in the country.

#### **7.4 Limitations, Future Research and Conclusions**

The findings of this study have revealed the motivations, and the technological, organisational, and external factors that contribute to perceptions about the successful adoption and implementation of e-commerce in the Saudi retail industry, which have led to better organisational performance in all cases in this study. However, this research also has a number of limitations. Firstly, the data collection process was problematic for the researcher because many potential interviewees believed that there was little to no benefit for their participation in the project. Secondly, the participants hesitated to answer questions related to the role of government in the adoption of e-commerce adoption. In response, the researcher changed the manner of asking questions by taking a more indirect approach. Thus, the interviewees did not reveal all the information required for the study. Another limitation of this research is that the study was conducted from the perspective of the retail industry, which may not be able to be generalised to other industries. Therefore, further studies may need to be conducted from the point of view of other industries. A quantitative study could also be conducted to validate the findings from the four companies which participated in this study. Moreover, this research was focused on the management perspective, so it may be interesting for future research to focus on the employee perspective in order to understand the role of management and leadership in the Saudi business environment.

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## **Appendix A Interview Protocol and Guide**

### **Interview instructions:**

- 1- Provide research background and the purpose of the study.
- 2- Describe the procedure to the interviewee and get his or her content.
- 3- The interviewer determines the questions in advance of the interview, but is prepared to adjust them based on what is appropriate during the course of the interview itself.
- 4- Human Subjects Approval regarding privacy.
- 5- Permission to tape-record interview.
- 6- Collect general information and content from participant.
- 7- Conclude the interview by providing a summary to the interviewee for his or her confirmation.
- 8- Close the interview and thank the interviewee.

### **General information:**

1. Can you briefly explain what your business does?
2. How long have you been in this business?
3. What is your role in the company?
4. How many employees does the company have?

### **E-commerce adoption**

5. How was e-commerce adopted in your organization? What led to the idea of using e-commerce?
6. When were the e-commerce applications in your company first established?
7. What type of e-commerce do you currently use?
8. What was required to implement the e-commerce applications successfully?
9. Have there been any instances of unsuccessful implementation, and what were the main hindrances?
10. In what ways do you think e-commerce has, and could further, help your business? (discuss the driving factors).



### **Technology Factors**

11. In terms of the way you usually do business, has anything unexpected occurred since using e-commerce applications?
12. How would you describe the level of difficulty in the adoption of e-commerce?
13. How compatible has e-commerce been with your business processes and employee operations?

### **Organisational Factors**

14. Where do you see your company's involvement with e-commerce one year from now?
15. How do you support your employees in using e-commerce?
16. Was the cost of the e-commerce adoption an important issue for your company?  
Discuss the impact of the company's financial resources and IT infrastructure on the adoption decision of new IT in your organization?
17. To what extent did your employees affect your decision to adopt e-commerce?
18. How do competitive pressures in your industry influence you to adopt and use e-commerce?

### **Environmental Factors**

19. In your opinion, to what extent does the readiness of your trading partners to adopt e-commerce affect your company's pace of implementation of the same?
20. How does government and government regulation support the adoption and use of e-commerce in your industry? How has this support been experienced in your organization?
21. In your opinion, what is the major barrier to the adoption of e-commerce?

### **E-commerce Outcome**

22. Is e-commerce used in your supply chain? If yes, for how long has this been the case?
23. How does e-commerce impact upon delivery performance?
24. How does e-commerce impact on the utilization of resources? e.g., the ability to reduce inventory, and human resources.
25. How does e-commerce impact upon the processing of orders?
26. How does e-commerce impact upon customer service in your company?

27. Do you have any recommendations and suggestions in relation to the factors that can enhance or impede the adoption and implementation of e-commerce in Saudi Arabia?  
If yes, please explain.

**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: The impact E-commerce adoption on supply chain performance in Saudi retail industry

Name(s) of Investigators: (1) Majed Aljowaidi Phone: \_\_\_\_\_

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).

**Participant's Consent**

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Participant)*

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Witness to signature)*

Where participant is under 18 years of age:

I consent to the participation of \_\_\_\_\_ in the above project.

Signature: (1) \_\_\_\_\_ (2) \_\_\_\_\_ Date: \_\_\_\_\_  
*(Signatures of parents or guardians)*

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Witness to signature)*

*Participants should be given a photocopy of this consent form after it has been signed.*

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 *///* or email address [rdu@rmit.edu.au](mailto:rdu@rmit.edu.au). Details of the complaints procedure are available from <http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo>

## Appendix B Consent Form Arabic



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### استمارة موافقة على المشاركة في المقابلة الشخصية لمشروع بحث دكتوراة

**عنوان الدراسة:** تأثير استخدام التجارة الإلكترونية على أداء سلسلة إدارة الإمداد في قطاع التجزئة السعودي أوافق أنا الموقع اسمي أدناه على المشاركة في مشروع البحث المقدم من الباحث / ماجد بن أحمد الجويدي من جامعة آر إم أي 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 معرفة تأثير استخدام التجارة الإلكترونية على أداء ادارة سلسلة الإمداد والعوامل المؤثرة على انجاحها في المملكة.

كما إنني على دراية كاملة بأن موافقتي على المشاركة في هذا البحث تعني:

1. أنني 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 صوتياً:  نعم أوافق،  لا أوافق.
4. المعلومات سوف تستخدم لمشروع هذا البحث فقط وسوف تحاط بسرية تامة وسيتم اتلافها بعد الانتهاء من البحث.
5. أنني أعطي الصلاحية لاستخدام اسمي أو أسم منشئتي:  نعم أوافق،  لا أوافق.
6. أوافق على التالي:
  - (a) أنني 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.
  - (e) 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 أمل 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 // or email address rdu@rmit.edu.au. Details of the complaints procedure are available from <http://www.rmit.edu.au/browse;ID=2jqrn7hnpyo>

## Appendix C Invitation to Participate in a Research Project English



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**Project Title:** The impact E-commerce adoption on supply chain performance in Saudi retail industry

### Investigators:

- Mr. Majed Ahmad Aljowaidi (Logistics , PhD candidate, Majed.Aljowaidi@student.rmit.edu.au)
- Dr Victor Gekara (Senior Supervisor, School of Business IT & Logistics, victor.gekara@rmit.edu.au)

### Dear Participant,

Your participation in this research is deeply appreciated. You are invited to participate in a one-to-one interview which will last for an approximate of 90 to 120 minutes and will be tape-recorded if your permit. This interview is the main research activity for my PhD degree in logistics at the School of Business Information Technology & Logistics, at the RMIT University in Melbourne, Victoria, Australia. The title of this study is **The impact E-commerce adoption on supply chain performance in Saudi retail industry** is under the supervision of Dr Victor Gekara . This research has received ethical clearance from the RMIT Business College Human Ethics Advisory Network. Should you have any concerns or complaints about your participation in this research, please do not hesitate to contact the RMIT Business College Human Ethics Advisory Network at the following address:

Chair, Business College Human Ethics Advisory Network

College of Business, RMIT.

GPO Box 2476V, Melbourne, 3001.

Phone: (+61) 399255598 or email address rdu@rmit.edu.au.

Details of the complaints procedure are available from <http://www.rmit.edu.au/browse;ID=2jqrn7hnpyo>

Electronic commerce (e-commerce) is one of the Information Technology (IT) based communication-tools that has been widely used in the past decade and has changed the way of business by using internet to create and transform business relationships .E-commerce is defined as “conducting one or more core business functions internally within organisation or externally suppliers, intermediaries, consumers, government, and other members of the

enterprise environment through the application solutions that run on internet-based and other computer networks". Molla and Licker (2004, p. 90).

Supply chain management (SCM) can be defined as "the management of material and information flows both in and between facilities, such as vendors, manufacturing and assembly plants and distribution"(Ross 1997, p. 10). Many organisation in Saudi Arabia has been adopted e-commerce as a major tools to conducting their work and others are still struggler to adopted it. This study aims to discover the impact e-commerce use on supply chain performance in Saudi retail industry and the determine to adopted e-commerce. There are two research questions for this study:

- 1) What is the impact e-commerce adoption on supply chain performance?
- 2) What are the determinants of e-commerce adoption?

The research will collect information from Saudi's organisations that are implemented and using e-commerce. An estimate of 30 interviews will be conducted with managers and employees.

Your organization has been selected to be included in this research from the directory of companies distributed by the council of Saudi Chambers of Commerce and Industry (CSCCI).Your contact information has been obtained from your organizations. You are being approached to participate because your organisations' are considered as one of the implementing e-commerce in the industry. Your participation is greatly valuable to this study. The interviews aim at exploring the impact e-commerce adoption on the supply chain performance and the detriments of ecommerce adoption. Data collected through interviews will be analysed to identify e-commerce adoption and its impact and classify the determinants of e-commerce adoption. Examples of interview questions are:

- List the advantages or disadvantages that accrue to your organisation as result of adopting e-commerce?
- Do you support or encourage your employees to use e-commerce? If yes, How?
- Does the competitive pressure in the industry force you to adopt and use e-commerce? If yes, How?
- How did e-commerce impact the delivery performance?

Should you decide to participate, please be assured that all information obtained during the interview will be kept confidential and that none of your personal or organization's information will be released unless if (1) it is considered mandatory to release such information to protect you and/or others from harm, (2) a court order is issued to disclose this information, (3) a written permission is obtained from you. A written consent is provided to you with this statement along with a list of the actual interview questions. All information obtained from the interview will be used for research purposes only, and will be stored in a locked filing cabinet in my office at the university for a period of five years as prescribed by RMIT University regulations. Only my supervisor and I will have access to this data. If you

have any questions or concerns about this interview, please feel free to contact any of the investigators; their contact information is provided above.

I would like to inform you that your participation in this study is voluntary. The findings of this study might be published, but no identifying information about you will be released. As a participant, you have the rights to:

- Withdraw your participation at any time, without prejudice.
- 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.
- Have any questions about the interview answered at any time.
- Have time to discuss off-topic issues after concluding the interview.
- Choose not to answer any of the interview questions.
- Request that audio recording be terminated at any stage during the interview

If you have any questions or would like to receive a copy of the summary of findings of this research please call me on the following phone number +61450393353 or E-mail at Majed.aljowaidi@rmit.edu.au; or contact my senior supervisor Dr Victor Gekara on +61-3-99255550 or E-mail at victor.gekara@rmit.edu.au

<b>Investigator</b>	<b>Senior Supervisor</b>
Majed Aljowaidi Logistics , PhD Candidate	Victor Gekara School of Business IT & Logistics
Signature:	Signature:

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 (//) or email address rdu@rmit.edu.au. Details of the complaints procedure are available from <http://www.rmit.edu.au/browse;ID=2jqrn7hnpyo>

## Appendix C Invitation to Participate in a Research Project Arabic



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### رسالة دعوة للمشاركة في بحث مع شرح لمشروع البحث

#### عنوان مشروع البحث

- تأثير استخدام التجارة الإلكترونية على أداء سلسلة إدارة الإمداد في قطاع التجزئة السعودي

#### الباحثون

- الباحث: ماجد بن أحمد يحي الجويدي ، درجة الدكتوراه  
, Majed.Aljowaidi@student.rmit.edu.au

- المشرف على البحث: الدكتور فكتور جيکارا

, victor.gekara@rmit.edu.au

#### عزيزي المشارك

السلام عليكم ورحمة الله وبركاته

أفيدكم علماً أنا الطالب ماجد بن أحمد الجويدي ، المبتعث حالياً من وزارة التعليم لتحضير درجة الدكتوراه في التجارة الإلكترونية من جامعة رMIT) بمدينة ملبورن بولاية فكتوريا بأستراليا. وعنوان بحثي هو ( تأثير استخدام التجارة الإلكترونية على أداء سلسلة إدارة الإمداد في قطاع التجزئة السعودي ). يشرف على البحث الدكتور فكتور جيکارا . تهدف هذه الدراسة الى معرفة تأثير استخدام التجارة الإلكترونية و العوامل التي تؤثر على نجاحها في المملكة بشكل عام و في قطاع التجزئة بشكل خاص. وسوف أقوم بجمع المعلومات بمشيئة الله من خلال إجراء بعض المقابلات الشخصية مع المسؤولين العاملين في الشركات التي تطبق بعض أنظمة التجارة الإلكترونية . مع العلم أنه تم اعتماد وتصريح هذا البحث من شبكة اعتماد أخلاقيات البحث بكلية الأعمال بجامعة رMIT Business ) (College Human Ethics Advisory Network). وسوف يتم استأذانكم في تسجيل المقابلة صوتياً وذلك لضمان جودة المعلومات المستخلصة من المقابلة.

يسرني دعوتكم للمشاركة في هذه الدراسة من خلال مشاركتكم في إجراء المقابلة الشخصية الخاصة بالبحث، والتي تهدف إلى استكشاف تأثير استخدام التجارة الإلكترونية على أداء إدارة سلسلة الإمداد و نجاحها في منظماتكم بصفة خاصة و المملكة بشكل عام. حيث سيتم القيام بهذه المقابلات مع حوالي 30 مدير شركة مسئول عن اتخاذ القرار في استخدام التجارة الإلكترونية للإجابة على السؤالين الرئيسيين للبحث وهما:

- ما هو تأثير استخدام التجارة الإلكترونية على أداء إدارة سلسلة الإمداد؟
- ما هي العوامل التي تؤثر على استخدام التجارة الإلكترونية في قطاع التجزئة في المملكة العربية السعودية؟

لقد تم اختياركم بصفقتكم أحد المسؤولين أو ذو العلاقة في اتخاذ القرار في تبني تطبيق التجارة الإلكترونية في شركتكم . لذا فإن مساهمتكم في البحث من خلال الإجابة على أسئلة المقابلة والتي تتراوح مدتها من (90-120 دقيقة) مهم جداً لموضوع



البحث حيث أن إجابتك سوف تساعد في فهم الطرق التي تؤدي إلى إثراء المحتوى العلمي والعملية عامة للدراسة والمتعلق بالسعودية خاصة. كما أود أن أوضح لكم ان 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 طبقاً 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 او اي معلومات اخرى قد تدل ضمناً على شخصكم.

ولكم الأحقية فيما يلي:

- الانسحاب من المقابلة في أي وقت دون قيد أو شرط.
- سحب أي مواد تم توفيرها لغرض البحث قبل استخدامها.
- الإجابة على استفساراتكم فيما يتعلق بالمقابلة في اي وقت خلال المقابلة.
- الحصول على وقت كافي للتحدث عن اي شيء يخص المقابلة بعد المقابلة مباشرة.
- إيقاف التسجيل الصوتي وسحبه أو مسحه في أي مرحلة من مراحل اللقاء.
- اختيار عدم الاجابة على اي سؤال من الاسئلة المطروحة.

إن مساهمتكم في هذه الدراسة مفيدة ومهمة لإكمال دراستي وتعاونكم محل احترامي وتقديري ، 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 خالص التحيات وجل التقدير والاحترام،

Investigator الباحث	Senior Supervisor المشرف على البحث
Majed Aljowidi مرشح للحصول على درجة الدكتوراة PhD Candidate	Dr, Victor Gekara School of Business IT & Logistics
التوقيع:	التوقيع:

للاستفسار عن نتائج الدراسة أو لمزيد من المعلومات يمكن الاتصال خلال هذه الفترة على رقم التلفون داخل السعودية أو مراسلتي على البريد الإلكتروني [majed.aljowaidi@rmit.edu.au](mailto:majed.aljowaidi@rmit.edu.au) وفي حالة الرغبة للتقدم بشكوى حول كيفية إدارة المقابلة الشخصية أمل 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 // or email address [rdu@rmit.edu.au](mailto:rdu@rmit.edu.au). Details of the complaints procedure are available from <http://www.rmit.edu.au/browse;ID=2jqrn7hnpyo>