MODERATING EFFECT OF RELIGIOSITY ON THE RELATIONSHIP BETWEEN TECHNOLOGY READINESS, TRUST AND DIFFUSION OF E-COMMERCE (B2C) IN SULTANATE OF OMAN

BASHARAT ALI

DOCTOR OF PHILOSOPHY

UNIVERSITI UTARA MALAYSIA

2016

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By

BASHARAT ALI

Thesis Submitted to
School of Technology Management & Logistics, College of Business,
Universiti Utara Malaysia,
in Fulfillment of the Requirement for the Degree of Doctor of Philosophy

Kolej Perniagaan
(College of Business)
Universiti Utara Malaysia

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Pemeriksa Luar *(External Examiner)*	: Prof. Dr. Megat Mohamad Hamdan Megat Ahmad	Tandatangan *(Signature)*
Pemeriksa Dalam *(Internal Examiner)*	: Dr. Mohamed Najib Salleh	Tandatangan *(Signature)*

Tarikh: **25 October 2015**
(Date)

Nama Pelajar (Name of Student)	:	Basharat Ali

Tajuk Tesis / Disertasi (Title of the Thesis / Dissertation)	:	MODERATING EFFECT OF RELIGIOSITY ON THE RELATIONSHIP BETWEEN TECHNOLOGY READINESS TRUST, AND DIFFUSION OF E-COMMERCE (B2C) IN SULTANATE OF OMAN.

Program Pengajian (Programme of Study)	:	Doctor of Philosophy

Nama Penyelia/Penyelia-penyelia (Name of Supervisor/Supervisors)	:	Assoc. Prof. Dr. Zulkifli Mohamed Udin

Tandatangan

Nama Penyelia/Penyelia-penyelia (Name of Supervisor/Supervisors)	:	Dr. Nazim Hussain Baluch
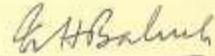
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ABSTRACT

Electronic commerce has tremendously revolutionized the global economic system. Notwithstanding it has been playing a catalytic role in strengthening economies of the developing states, many countries are lagging behind in practicing electronic commerce due to numerous factors including technology readiness and trust. This study aimed to investigate the nature of relationship that exists between technology readiness, trust and diffusion of electronic while focusing on the public sector higher education institutions of the Sultanate of Oman. Furthermore, the study indented to examine the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of e-commerce. A structured questionnaire representing dimensions related to technology readiness, trust, religiosity and diffusion of electronic commerce was duly designed. Data was collected using survey method, through the distribution of the structured questionnaires to the public sector higher education institutions of Oman. The Partial Lease Square - Structural Equation Modeling (PLS-SEM) was employed to test the hypotheses. The results indicated that technology readiness, trust and religiosity have positive effects on the diffusion of e-commerce. Additionally, the findings revealed that religiosity significantly and positively moderates the relationship between technology readiness, trust and the diffusion of electronic commerce. The results imply that all the stakeholders must call their attention to the core areas of e-commerce like technology readiness, trust and religiosity to ensure a brighter future in today's fast moving and competitive environment. While contributing to the body of knowledge and highlighting the importance of technology readiness and trust in the diffusion process of electronic commerce, the study appropriately provides practical, managerial, educational and theological implications to the prospective consumers, governmental officials, policy-makers and the e-commerce global community. In terms of limitations, this study is confined to the impacts of technology readiness, trust and religiosity on the diffusion of (business to consumer) electronic commerce, and has targeted academicians from the public higher education institutions, as respondents. On the basis of this study, future research can be conducted in the perspective of developing countries other than the Sultanate of Oman. It would also be valuable to employ the framework in conducting comparative studies on the developing and the developed nations.

Keywords: innovation, diffusion, technology readiness, trust, religiosity, electronic commerce

ABSTRAK

Perdagangan elektronik dengan secara mendadaknya telah merevolusikan sistem ekonomi global. Walaupun telah memainkan peranan sebagai pemangkin kepada pengukuhan ekonomi negara-negara membangun, namun ada negara-negara yang ketinggalan dalam mengamalkan perdagangan elektronik disebabkan oleh beberapa faktor termasuk kesediaan teknologi dan kepercayaan. Kajian ini bertujuan untuk menyiasat sifat hubungan yang wujud di antara kesediaan teknologi, kepercayaan dan penyebaran elektronik dengan memberi tumpuan kepada institusi pendidikan tinggi awam di negara Kesultanan Oman. Tambahan pula, kajian ditumpukan untuk mengkaji kesan keagamaan kepada hubungan di antara kesediaan teknologi, kepercayaan dan penyebaran e-dagang. Satu set soal selidik berstruktur yang mewakili dimensi yang berkaitan dengan kesediaan teknologi, kepercayaan, keagamaan dan penyebaran perdagangan elektronik telah direka bentuk dengan sewajarnya. Data dikumpulkan dengan menggunakan kaedah tinjauan melalui pengedaran borang soal selidik berstruktur kepada institusi pendidikan tinggi awam di Oman. Model Persamaan Berstuktur Kuasa Dua Terkecil Separa (PLS-SEM) telah digunakan untuk menguji hipotesis kajian. Keputusan menunjukkan bahawa kesediaan teknologi, kepercayaan dan keagamaan mempunyai kesan positif ke atas penyebaran e-dagang. Selain itu, kajian juga menunjukkan bahawa sumbangan keagamaan memberi kesan yang positif di antara hubungan kesediaan teknologi, kepercayaan dan penyebaran perdagangan elektronik. Keputusan menunjukkan bahawa semua pihak yang berkepentingan perlu menumpukan lebih perhatian mereka kepada bidang teras e-dagang seperti; kesediaan teknologi, kepercayaan dan keagamaan untuk memastikan masa depan yang cerah dalam dunia hari ini yang serba pantas dan persekitaran yang berdaya saing. Di samping menyumbang kepada ilmu pengetahuan dan menonjolkan kepentingan kesediaan teknologi dan kepercayaan dalam proses penyebaran perdagangan elektronik, kajian ini sewajarnya memberikan implikasi praktikal, pengurusan, pendidikan dan teologi kepada bakal pengguna, pegawai-pegawai kerajaan, pembuat dasar dan masyarakat e-dagang global. Namun begitu, kajian ini hanya terbatas kepada kesan kesediaan teknologi, kepercayaan dan keagamaan dalam penyebaran (perniagaan kepada pengguna) perdagangan elektronik, dan menyasarkan ahli akademik dari institusi pengajian tinggi awam di Kesultanan Oman sebagai responden. Berdasarkan hasil kajian ini, penyelidikan akan datang boleh dilakukan dari perspektif negara-negara membangun yang lain daripada Kesultanan Oman. Rangka kerja kajian ini seterusnya juga boleh digunakan bagi kajian perbandingan ke atas negara membangun dan di negara maju.

Kata kunci: inovasi, penyebaran, kesediaan teknologi, kepercayaan, keagamaan, perdagangan elektronik

PUBLICATIONS

Ali, B., Baluch, N., & Udin, Z. M. (2015). The Moderating Effect of Religiosity on the Relationship between Technology Readiness and Diffusion of Electronic Commerce. *Modern Applied Science*, 9(12), 52-60. doi:10.5539/mas.v9n12p52

Ali, B., Baluch, N., & Udin, Z. M. (2015). The Moderating Effect of Religiosity on the Relationship between Trust and Diffusion of Electronic Commerce. *Modern Applied Science*, 9(13), 176-187. doi:10.5539/mas.v9n13p176

Ali, B., Baluch, N. H., & Udin, Z. M. (2014). A Theological Approach towards Electronic Commerce Trust Building in Sultanate of Oman: An Analysis based on Rogers' Theory of Diffusion of Innovation. *Proceedings of "The 2nd International Conference on Applied Information and Communications Technology" - ICAICT 2014* (pp. 1-7. ISBN: 978-93-5107-285-0). Muscat, Oman: Elsevier Publications 2014. Retrieved from http://www.mec.edu.om/icaict2014/

Ali, B., Baluch, N. H., & Udin, Z. M. (2014). Diffusion of Electronic Commerce (B2C) in Oman through Education Sector -An Analysis based on E.M. Rogers' theory of Diffusion of Innovations (DoI) 1995. *International Conference of Technology and Operations Management 2014* (pp. 651-655). Kuala Lumpur: School of Technology Management and Logistics, University Utara Malaysia. Retrieved from http://stmlportal.net/ictom04/TOC.html

ACKNOWLEDGEMENT

"All praise and thanks be to Almighty ALLAH ﷻ, the Lord of existence. O ALLAH, You ﷻ are the most Gracious and the most Merciful". "O My Lord ﷻ, let Your Blessings come upon Muhammad ﷺ and the family of Muhammad ﷺ, as You ﷻ have blessed Ibrahim عليه السلام and his family. Truly, You ﷻ are Praiseworthy and Glorious. O ALLAH ﷻ, bless Muhammad ﷺ and the family of Muhammad ﷺ, as You ﷻ have blessed Ibrahim عليه السلام and his family. Truly, You ﷻ are Praiseworthy and Glorious".

I would like to express my deepest gratitude to my supervisors, Assoc. Prof Dr. Zulkifli Mohamed Udin and Dr. Nazim Hussain Baluch for their professional, intellectual, and invaluable advice and guidance throughout my study. I am also very thankful to all the teaching and administrative staff, from School of Technology Management and Logistics (STML) and Othman Yeop Abdullah (OYA) Graduate School of Business, for their support and guidance.

I gratefully acknowledge saintly guidance and moral support from my beloved parents (Shoukat Ali & Shahida Bibi), my wife (Nadia Basharat), siblings (Rubina S., Riazat Ali, Shahid H., Imran, Rehana K.) and my angelic daughter (Mishkawt Ali). I am thankful to Mr. Waheed Ali Umrani for his prolific, productive and scholarly company throughout; and all my friends at UUM. I would be pleased to dedicate this effort to my late grandfather, Muhammad Hussain (May Allah bless his Soul in Paradise!). In the last but not the least, I am also gratified to the Ministries of Higher Education and Manpower; Sultan Qaboos University, Higher Colleges of Technology, Colleges of Applied Sciences and College of Banking and Financial Studies in Sultanate of Oman.

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B2C   Business to Consumer

DoI   Diffusion of Innovation

GCC   Gulf Cooperation Council

ICT   Information and Communication Technologies

ITA   Information Technology Authority

MENA   Middle East and North Africa

SST   Self Service Technology

TOE   Technology Organization Environment

TR   Technology Readiness

TRA   Theory of Reasoned Action

WEF   World Economic Forum

PLS   Partial Lease Square

SEM   Structural Equation Modeling

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CHAPTER ONE
INTRODUCTION

1.0   Introduction

This chapter provides brief descriptions of the following points: background of the research study, problem statement, research objectives, research questions, scope of the study, significance of the research and its practical, educational and religious contributions. The last two parts underline the organization of the thesis and provide the summarized version of chapter one, respectively.

1.1   Background of the Study

Electronic commerce, a widespread and an efficient use of computer networks to improve organizational performance, is a massive revolution in business practice (Watson *et al.*, 2008). It has been overpoweringly revolutionizing the financial systems, marketplaces, manufacturing industries, merchandise service, delivery methods, consumers' attitude and job markets. Furthermore, e-commerce extends its enormous impacts on the global society, politics, existence of common men and their approach to the rest of the world (Drucker, 2002; Turban *et al.*, 2008). Today, under the rule of "survival of the fittest" (Darwin, 1869; Kowalczyk, 2014; Martin, 2014) all the developing states are keenly necessitated to build up e-commerce, to strengthen their social systems and to make their place in the global economic system (OECD, 2013). Correspondingly, Kennedy, a former president of the USA, emphasized saying "Change is the law of life. And those who look only to the past or present are certain to miss the future" (Wolley & Peters, 2014).

According to Siemer & Associates and Morgan Stanley, e-commerce retail sales touched a huge figure of $820.5 billion in year 2012 (as shown in Figure 1.1 and 1.2). Its

circulation has been increased from 4.0% in 2008 to 6.5% in 2012 and is expected to rise up to 9.3% by 2016, exceeding $1 trillion (Devitt *et al.*, 2013; Siemer & Associates, 2013). However, e-commerce in Middle East and North African regions (MENA) is expected to increase merely from 1.6% to 3.5% by 2016, and is believed to be almost five years lagging behind to the USA (Fredriksson, 2013; eMarketer, 2014; Petermeijer *et al.*, 2015). According to interactive media in retail group; the emergence of business to consumer electronic commerce in the Gulf cooperation council (GCC) is at its early stages and it has been suffering from distrust, payment insecurity, poor deliverance and cost (International, 2011).
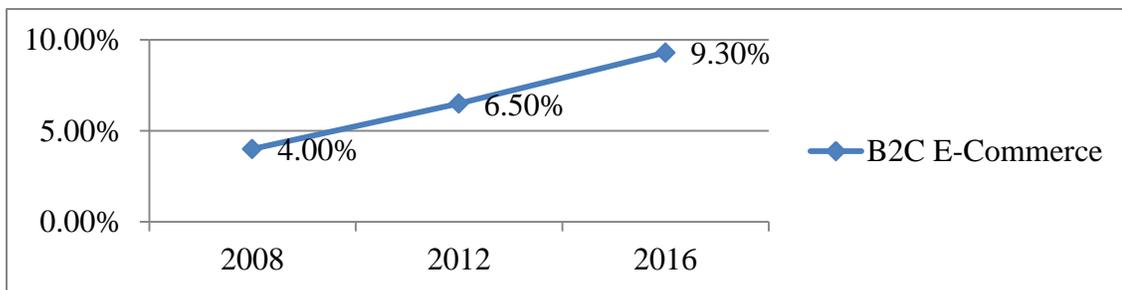
Figure 1.1
E-commerce Global Growth 2008-2016
Source: Adapted from Siemer & Associates, 2013; Devitt *et al.*, 2013
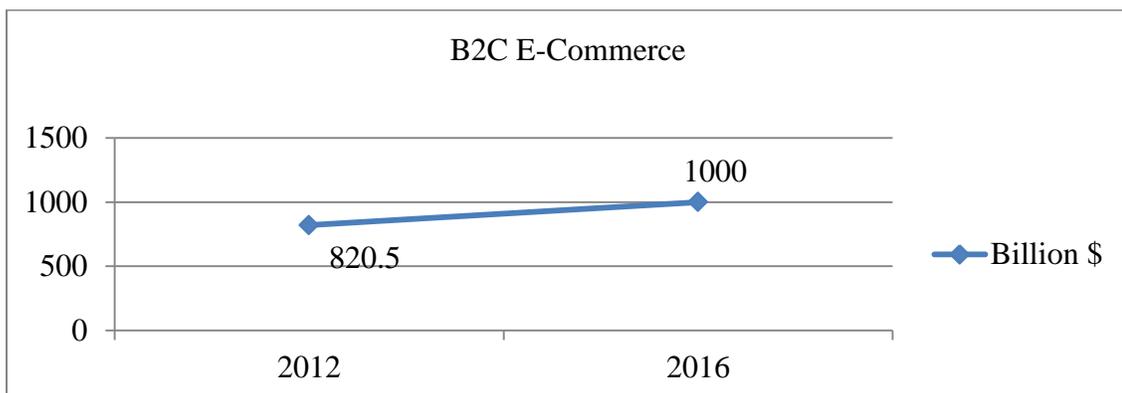
Figure 1.2
B2C E-commerce Global Growth
Source: Adapted from Siemer & Associates, 2013; Devitt *et al.*, 2013

Notwithstanding Sultanate of Oman is equipped with advanced technological infrastructure and 63% of the total population accessing internet; surprisingly, it ranks lower in the list of e-commerce practicing countries in the world as shown in Table 1.1, Figures 1.3 and 1.4 (PRNewswire, 2014; International, 2011). Electronic commerce, a common practice in the developed states, can be categorized as a new idea or an innovation for the nation due to very little electronic commerce in Sultanate of Oman.

Table 1.1
GCC Countries: a comparison

B2C E-Commerce	Bahrain	Kuwait	Qatar	Saudi Arabia	UAE	Oman
B2C 2010 ($mn)	175	280	375	520	1,900	70
B2C e-commerce 2011	250	450	600	800	2,800	100
Internet Users/000	679	1,380	1,170	10,700	3,555	1,866
% of population	50.3%	38%	69%	41%	43%	63%
Avg. Spend 2010 $	258	203	320	49	534	38

Source: International, 2011
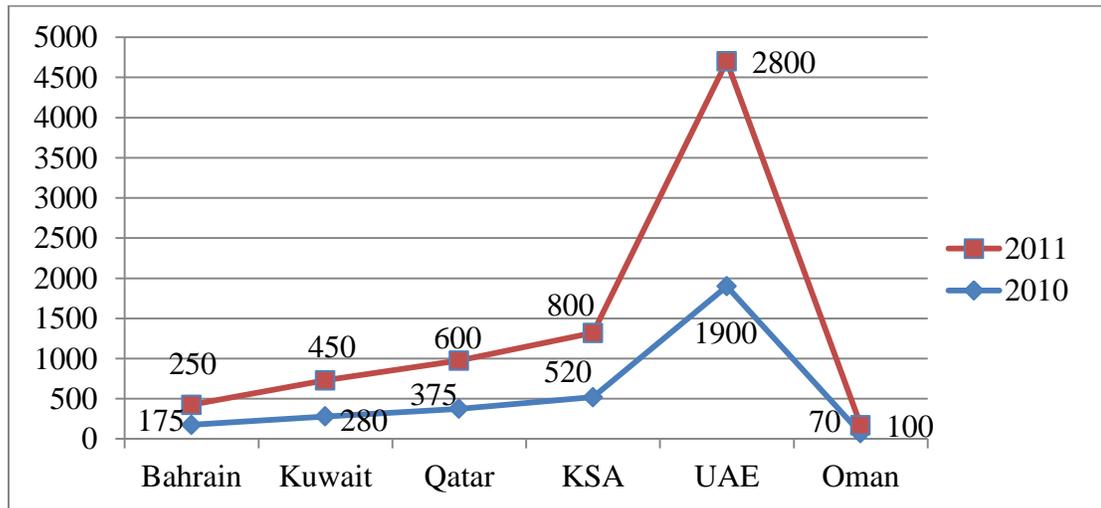
Figure 1.3
E-Commerce in the Gulf Cooperation Council States ($ Millions 2010-11)
Source: International, 2011
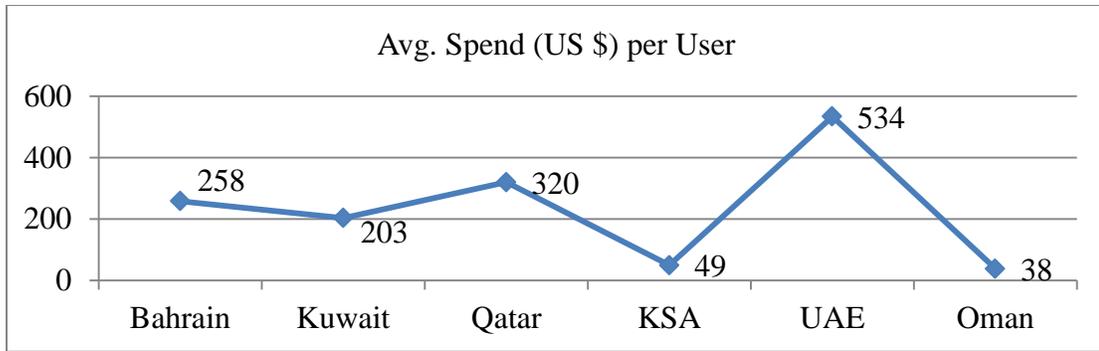
Figure 1.4
Average Spent through E-Commerce in the Gulf Cooperation Council States
Source: International, 2011

In the context of developing states, a thorough study of the adoption and diffusion of information and communication technologies (ICTs) in general, and electronic commerce in particular, reveals many potential factors leading to slower progress in this field. The developing part of the world, struggling towards e-commerce, needs a detailed domestic restructuring to let it land smoothly, safely and effectively. The emergence of electronic commerce demands appropriate infrastructures of technologies, process and regulations for an internet based culture, to replace traditional business systems with the "e" based ones respectively (Mann, 2000). For example, Malaysia that is a land of opportunity for electronic commerce needs to focus on the areas like; economic situation, salary packages, nation-wide internet coverage, technology readiness and awareness of online purchasing among masses. Furthermore, efficient use of information communication and technology and relevant education and training in this field can help bringing a noteworthy change in Malaysian e-commerce situation (Khan *et al*., 2010). In the perspective of the Arab world, both the major stakeholders i.e. business managers and consumers, mutually agreed that consumers' technological awareness, internet security, customer trust, computer literacy, infrastructure and privacy were few of the main issues

of e-commerce. The states seem unaware of the benefits internet technology duly offers (Aladwani, 2003). Furthermore, it was evident that the lack of technology awareness, minimal and unproductive use of computer, lack of trust, security, privacy and communication were the major barriers in the diffusion of e-commerce in Oman (Al-Gharbi *et al*., 2006; Baporikar *et al.*, 2012). Kingdom of Saudi Arabia, a neighboring country of Oman, needs to focus on many areas including; knowledge building, trust building, ICT infrastructure, technology readiness and language issues barriers to get the e-commerce successfully diffused (AlGhamdi *et al*., 2011; AlGhamdi *et al*., 2012; AlGhamdi *et al*., 2013). Also, Jordanian consumers and businesses lack in trusting e-commerce due to the security issues (Halaweh, 2011). Many researchers have explored that the developing states have been facing all kinds of infrastructural, socio-cultural and socio-economic barriers including; consumers' lower level of technology readiness and lack of trust (Lawrence & Tar, 2010; Mohanna *et al*., 2011). A comparative study reveals that Sultanate of Oman is lagging behind in the list of the Gulf Cooperation Council states, in terms of electronic commerce practice. Looking at country's demographics (Table 1.2), technological infrastructure, internet penetration and use of smart devices; the country is said to be a land having an enormous e-commerce potential.

Table1.2
Age Structure in Sultanate of Oman

Age	Male	Female	15-54 Years	Percentage
0-14	501,352	476,333		
15-24	335,404	304,261	639,665	19.9%
25-54	801,539	569,187	1,370,726	42.6%
55-64	67,085	58,254		
65 and over	53,320	53,040		
Total Aged from 15 to 54			2,010,391	62.5%

Source: Barrientos, 2014

From the above discussion, it can be summarized that the technology readiness and trust are few of the major issues of the diffusion of electronic commerce in the developing states. This study aimed to investigate the nature of relationship that exists between technology readiness, trust and diffusion of electronic commerce in Sultanate of Oman.

In Sultanate of Oman, an Arab independent sovereign state, Islam is the religion and Islamic law is the basis of legislation. More than 90 percent of the total population believes in Islam i.e. Muslims (Oman, 2014; Lugo *et al.*, 2009; Tanenbaum, 2011; Kettani, 2010) with a handsome number of people aged between 15-54 years as shown in Table 1.2, given above. The state is well equipped in terms to technological infrastructure and about 63 percent of the total population lies between the ages 15-54 years as shown in Table 1.2. However, regretfully it stands at the bottom of the list of e-commerce practicing countries globe wide as shown in Figure 1.5.
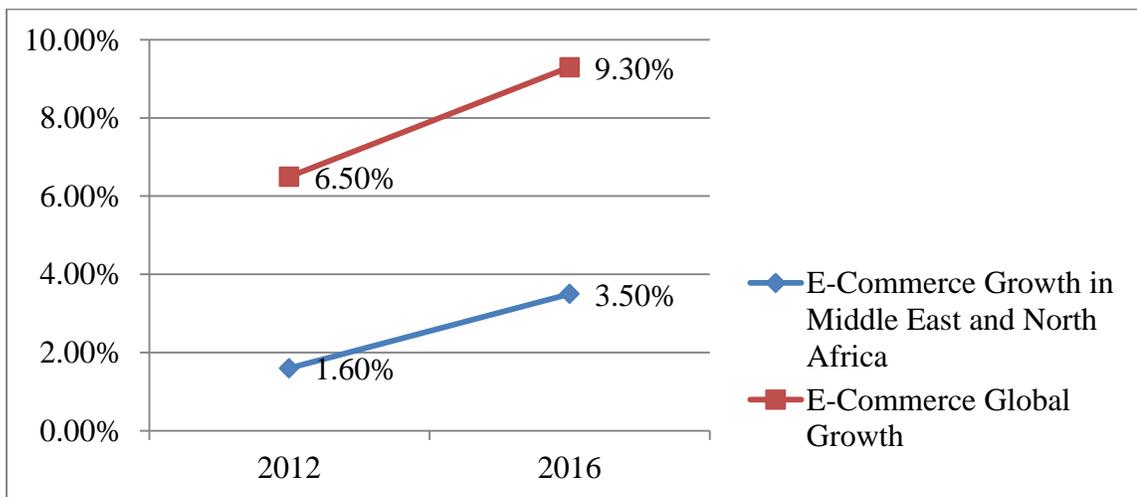
Figure 1.5
E-Commerce Global and EC in the Middle East and North Africa: a comparison
Source: Devitt *et al.*, 2013; Siemer & Associates, 2013

Sultanate of Oman is a country with 90 percent of Muslims population (Lugo *et al*., 2009). It is important to note that the religiosity has been playing an active role in all the religions (Reitsma *et al*., 2006). Religion plays a vital role in consumers' actions. Indeed both "intrapersonal and interpersonal" dimensions of the religiosity bear significant impact on consumers' shopping approach. Furthermore, religiosity is seen as main source towards shopping leading dynamics "quality consciousness, impulsive shopping and price consciousness" (Mokhlis, 2008; Mokhlis, 2009; Mukhtar *et al*., 2012). It would be quite meaningful and relevant to know the Islamic vision about the e-commerce, technology readiness and trust.

Notably, the study intends to aim Omani academicians from the public sector higher education institutions (HEIs), as target population. According to Rogers (2003), academicians' community, from the public sector higher education institutions, bears all the characteristics of opinion leaders and change agents those have been play a vital role in developing the diffusion of latest technologies. Furthermore the academicians are fully aware of external communication; they are more innovative, cosmopolite while enjoying healthier status in the society. As opinion leaders and change agents, the target population exists at the heart of interpersonal communication networks i.e. nationwide institutions, with an exclusive influence within the social system of Sultanate of Oman. Academicians from higher education institutions, as a community possessing higher education in the society, are the most qualified people in terms of technological awareness and innovativeness. Tarde (1903) reveals that people those are closest the source of the innovative idea are the one who adopt the idea first, which then travels from elite class to lower-status individuals.

On the basis of aforementioned discussion, this study indented to examine the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of e-commerce in Sultanate of Oman. To elaborate the concept further in detail, the following sections consist of discussion on technology readiness, trust and religiosity to explore the concept.

1.1.1 Technology Readiness

Technology readiness, in general, refers to individuals' broader mindset and approach towards innovations or the latest technology (Ferreira *et al*., 2014). It is considered as one of the efficiency enhancers and a key for efficiency driven economies (Greenhill *et al.*, 2012). Technology readiness, an important factor in embracing the new technology, can also be conceptualized as the "technology infrastructure and IT human resources" that refer to the current technologies and the skill to perform the required job (Kraemer, *et al*., 2006; Durbhakula & Kim, 2011).

According to Parasuraman (2000), technology readiness refers to the consumers' tendency to adopt and to take advantage of the latest technologies. Within the area of technology; it deals with consumers' positive attitude, flexibility and competence, perceived deficiency of control over technology, sentiment of being overwhelmed, and sense of uncertainty towards technology.   The phenomenon of technology readiness has been widely studied in the fields of innovation or new technology management, its adoption and diffusion (Parasuraman, 2000; Demirci *et al*., 2008; Lin *et al*., 2007; Summak *et al*., 2010; Vize *et al*., 2013; Elliott *et al*., 2008; Berndt *et al*., 2010; Son *et al*., 2011).

There is no denial to the significance of technology readiness in the perspective of diffusion of innovation or latest technologies including e-commerce. Studies (Caison *et al*., 2008; Son & Han, 2011; Abu-Assi *et al*., 2014; Demirci *et al*., 2008), done in the recent past, reveal that the technology readiness has been a successful model to study consumers' propensity to accept latest technologies. Technology readiness has been studied in the fields of: telecommunication sector, remote or electronic education, e-insurance and all models of electronic commerce (Summak *et al*., 2010; Massey *et al*., 2007). Tan (2006) and Abu-Assi *et al*. (2014) conducted their studies to find out the influence of the Internet and e-commerce in China and the determinants of internet banking adoption in Jordan respectively. The Chinese electronic commerce market was found suffering due to the lack of technology readiness along with other factors (Tan & Ouyang, 2004). Similarly, the Botswana consumers were observed facing technology readiness challenges including; internet access, computer know-how and internet understanding etc. (Uzoka & Seleka, 2007). Study taken by Summak (2010) revealed that the technology readiness among Turkish primary school teachers was not found good; hence more focus is required in this regard from the officials. Lou and Goulding (2010) established a strong link between "people, process, and technology". Study findings of Berthon *et al*. (2007), revealed that customers' ability to trust in e-commerce and altitude of users-friendliness contribute to technology readiness level of B2C e-commerce. Sultanate of Oman stands at 40th position out of 144 in the rank of networked readiness index (Bilbao-Osorio *et al*., 2013). Furthermore, it stays immature with respect to payment system, a major step toward e-commerce building, and it has a big room to improve its financial systems (Al-Jabri *et al*., 2012).

1.1.2 Trust

Trust – a fundamental principle of every business relationship – is a confidence or hope that the merchants' proclamation can be relied upon and the seller will not take benefit of the consumer's defenselessness. It is a multidimensional concept that plays a vital role in the adoption and diffusion of e-commerce (Gefen, 2000; McKnight *et al*., 2002; Corbitt *et al*., 2003). Moreover, it is a phase of relation building among the parties (Head & Hassanein, 2002; Sembok, 2003; Kamari *et al*., 2012) and a successful privacy and security handling help building it (Araujo, 2005; Belanger *et al*., 2002). Consumers want to ensure a legal back as they are to provide their highly personal details (Nagmetov, 2007). However, individuals, bearing different personal characteristics, behave differently when it comes to showing trust in e-commerce business (Lumsden & MacKay, 2006). Indeed, lack of trust is one of the main obstructions towards the adoption of B2C e-commerce (Chang & Cheung, 2005) and the privacy concerns strongly influence customers' trust in e-commerce, which leads them further either to accept or to reject online business options (Liu *et al*., 2005). Overall, nature of the online business itself is one of the main reasons of consumers' lack of trust in e-commerce (Ahuja, 2000; Sembok, 2003). Hence, mistrust is duly known as the main salient reason damaging consumers' perception towards e-commerce adoption (Al-Rawabdeh et al., 2012).

Towards trust building, researchers have been identifying and organizing key trust building factors to produce a framework to get the relation strengthen among the consumers and online businesses (Liao & Wang, 2010; Kamari *et al*., 2012). It is also believed that e-commerce enabled secure frameworks will help smooth diffusion of e-commerce in the developing states (Dey *et al*., 2009; Nardal *et al*., 2011). Ming-xia and

Dan (2007) and Wantang (2009) framed a conciliator mechanism in e-commerce trust-building figuring out the core importance of trust building and its means. Arab world seems isolated from global online trading and its inhabitants, although increasingly using internet, are found reluctant adopting e-commerce due to the lack of security leading to mistrust (Al-Rawabdeh *et al*., 2012). Natives of Middle East, a possessor of diverse cultural priority and a limited organizational integration, have been facing lack of technological knowledge that leads to lack of trust in e-commerce (Al-Hosni *et al.*, 2010).

It has been, in a general perspective towards e-commerce, found that few foremost professed obstructions among Omani nationals are: "privacy and security issues", "lack of computer ownership among people", and "lack of regulation and legislations on ecommerce" (Khalfan & Alshawaf, 2004). While reflecting their cultural, religious and traditional values, Omanis seem reluctant using online banking systems due to the lack of trust; usability and superficial quality (Riffai *et al*., 2012).

1.1.3 Religiosity

Religiosity has been playing an active role in all the religions (Reitsma *et al*., 2006). Since, the study focuses on Sultanate of Oman, a country with a population constituting 90 percent of Muslims (Lugo *et al*., 2009). It would be quite meaningful and relevant to know the Islamic vision about the e-commerce, technology readiness and trust. Islamic teachings fully support and allow positive practices in any field of life. However, at the same time, it recommends to ensure all the Islamic teachings in conducting electronic business for both customers and businesses (Zainul *et al*., 2004; Dali *et al*., 2004). For instance, Amazon's online business generally satisfies Islamic law of contract except

non-Halal products and a payment using "conventional credit cards (*riba*) (Muhammad *et al*., 2013).

It is believed that human beings have been awarded the best status among all the creatures. They themselves are responsible to maintain their modesty in all aspects of life including; religion, ethics, secular knowledge, science and technology etc. Human behavior at all stages has been significantly influenced by religion. Studies suggest that religiosity should be dealt as a possible element of trust in e-commerce (Sohaib & Kang, 2014). Muhammad (2013) establishes that to build a business trust relationship and to convince Muslims' market, e-commerce business needs to satisfy the "religio-centric" mindset. Further, he suggests that the charisma of online trust among online consumers in this internet-enabled environment may get influenced by the "Shariah-compliant e-commerce". Previous studies have also observed that Muslim websites (for example, www.dar-us-salam.com) gained more trust by the Muslim consumers, while comparing to the neutral sites (Azam *et al*., 2013; Siala *et al*., 2004).

Keeping in mind the prime importance of the religiousness, it will be helpful to brain storm more about the role of religion in terms new products and ideas adoption. Religion plays a vital role in consumers' actions. Indeed both "intrapersonal and interpersonal" dimensions of the religiosity bear significant impact on consumers' shopping approach. Furthermore, religiosity is seen as main source towards shopping leading dynamics "quality consciousness, impulsive shopping and price consciousness" (Mokhlis, 2008; Mokhlis, 2009; Mukhtar *et al*., 2012). Generally, more religious individuals have been found regular donors and their religious affiliation plays an affirmative role (Reitsma *et*

al., 2006). Past researches also revealed that people with higher religiosity were found in better health and lived longer (McIntosh & Spilka, 1990; Williams *et al*., 2007; Salleh, 2012). Multi-level regression analysis reveals that religious people are living happier and more satisfactory lives comparing to non-religious fellows and more religion oriented countries, the results reveals, citizens are treated more respectfully (Stavrova *et al*., 2013).

Islamic religiosity measurement is rarely found in literature and its composition with different dimensions is a complex phenomenon (Idris *et al*., 2012). It's the religiosity that guides Muslims consumers in deciding whether or not to adopt a new product even buying medicines (Rehman *et al*., 2010; Alam *et al*., 2011; Baig *et al*., 2013). Similar researches, upheld by Azam *et al*. (2011) and Ansari (2014), quantified the relationships between "religiosity and new product adoption" by using five dimensions: "Ideological, Ritualistic, Experiential, Intellectual and Consequential" and the innovation diffusion framework. It shows that religiosity has a significant impact on the diffusion rate of innovation. However, purchasing move in the context of changeable levels of religiosity and product association may produce better understanding of consumers' behavior (Yousaf & Malik, 2012).

Above discussion covers the following points: global and national situation of e-commerce followed by technology readiness and trust - the leading factors of e-commerce in the developing states, and the Islamic version of technology readiness its teachings related to new technology. Concluding, technology readiness and trust are two of the leading factors in developing e-commerce. Moreover, the religion (Islam)

promotes all new ideas and positive changes in life, if inclined with the teachings of Islam.

1.2   Problem Statement

Today, electronic commerce has a wide-reaching impact due to its prime role in the global economic system (Nanehkaran, 2013). In Europe, for example, European internet economy is estimated to have 2.2% share towards gross domestic product (GDP), which is expected to increase as double by 2016 and triple by 2020 (Nagelvoort *et al*., 2014). Grove, the then Intel's president, realizing the prime importance of electronic commerce, rightfully stated that every business would be an internet based or it would not be a business at all and would be dead (Intel, 2014; Phan, 2003). As mentioned above, B2C e-commerce is going through at its initial level in Sultanate of Oman instead of having all the basics, hence diffusion of business to consumer (B2C) e-commerce in the state is the core concern of this study.

Although, "eOman" program, lead by the information technology authority (ITA), was launched few years back to promote "e" activities in every possible field, the country has utterly failed to get noteworthy results out of it (Weening, 2011). In terms of its online market attractiveness, online infrastructure establishment and retail development, it ranks lower (Kearney, 2012). A thorough research reveals that lack of technological awareness, unproductive use of computer, mistrust in technology, security; privacy and communication have been few of the major barriers in the diffusion of e-commerce in Oman. Potentially, e-commerce offers a great assistance in narrowing down the gaps between Arab and Non-Arab business communities focusing on the discrepancies

between Arab and others nations. Its multi-variety, customer oriented, focused applications may serve customer with specific cultural concerns and the same applies to amplify "intra-Arab" regional trade. Conversely, in Arab countries, the prospective consumers are facing different challenges towards e-commerce and Western phobia is one of those (Al-Rawabdeh *et al*., 2012; AlGhamdi *et al*., 2011). It is worthy to note that Omani culture is a male dominated society, and the females need to be encouraged to acquire good education to contribute in boosting up the technology readiness level (Elnaggar, 2007). Like many other developing countries (Mann, 2000), Oman is believed to be facing issues with its technology readiness and lack of trust in its people toward e-commerce, a phenomenon that has resulted in poor consumers' response towards e-commerce instead of reasonably high internet use in Sultanate of Oman i.e. from 48% in 2011 to 66.45% in 2013 (WorldBank, 2014).

Technology readiness is said to be the backbone of e-commerce practice (Shih *et al*., 2005). However, consumers approach towards electronic business certainly varies from person to person and place to place (Berndt *et al*., 2010). In the developing states, e-commerce has been widely suffering due to the lower level of technology readiness; as consumers' willingness buying online shows the potential of e-commerce (Kraemer *et al*., 2006). At the same time, customers are expected to have mixed attitude (optimistic, pessimistic or neutral) towards ideas, innovations or services. It is worthy to note that technology readiness may or may not be influenced by the cultural diversities (Demirci & Ersoy, 2008), and so far the Western cultures have been the main focus of technology diffusion research (Venkatesh *et al*., 2007; Hu *et al*., 2010). Hence empirical research in this regard on the different cultures would be of immense help (Demirci & Ersoy, 2008).

The first plan of the study was to investigate the nature of relationship between technology readiness and diffusion of e-commerce in the perspective of Sultanate of Oman.

Trust, a multidimensional concept, plays an imperative role in the adoption and diffusion of e-commerce (Gefen, 2000; McKnight et al., 2002; Corbitt et al., 2003). There are few studies those have explored a general perspective of importance of trust in e-commerce (McKnight *et al*., 2002; Corbitt *et al*., 2003; Nagmetov, 2007; Dey *et al*., 2009; Nardal & Sahin, 2011). Similarly, a study conducted in the context of the USA and Canada, showed a positive relation between privacy and security with the trust in B2C e-commerce, (Belanger *et al*., 2002; Araujo, 2005). Chang and Cheung (2005) calculated that the regression results show that "all three trust building mechanisms have significant positive effects on trust in the online vendor". Promoting trust in e-commerce, frameworks outlined by Liao and Wang (2010), and Kamari *et al.* (2012) have helped diffusing e-commerce by offers immense support to both customers and businesses in building their confidence in e-commerce. All the above mentioned studies have been conducted in the perspective of the developed states like; USA, Australia and New Zealand etc. (Gefen, 2000; Corbitt *et al*., 2003). Whereas; further research in this area in the perspective of developing nations in general and Sultanate of Oman, in particular, is still pending. The second objective of the study was to investigate the relationship between trust and diffusion of e-commerce in Sultanate of Oman.

Religiosity is a dominant factor in building Muslim consumer's opinion towards innovations i.e. new ideas; technology (Rehman & Shabbir, 2010; Azam *et al*., 2011;

Ansari, 2014) and customers' actions are deeply influenced by the religions both intra-personally and interpersonally. Furthermore, religiosity is seen as main source of shopping dynamics i.e. "quality consciousness, impulsive shopping and price consciousness" (Mokhlis, 2008; Mokhlis, 2009; Mukhtar & Butt, 2012). It is revealed in the Holy Quran that, "And WE (Allah Almighty) have certainly honored the children of Adam and carried them on the land and sea and provided for them of the good things and preferred them over much of what WE (Allah almighty) have created, with [definite] preference" (Al-Quran, 17:70). The Creator has blessed human beings with an inclusive and comprehensive dignity. Hence, they are asked to save and maintain all aspects of human life including religious, ethical, intellectual, physical, secular and scientific (Osman, 2001). Islamic teachings deal with all aspects including; sociology, economics and politics. Under the umbrella of Islamic law, Islamic states have to be welfare states for its people addressing both the "spiritual and material" aspects of life. Efforts made by the people in the fields like; economic, social, educational, scientific goals, is considered spiritual provided it comply with the teachings of Islam. Islamic Welfare States is liable to provide material and spiritual prosperity to the citizens, to ensure freedom of worship, good schooling facilities, health, safety, security, food and infrastructure (Gummi, 2013).

Today, the concept of innovativeness in Islam needs to be duly highlighted to promote religious variety (Amanullah, 2012). According to Barbara, if the proposed ideas, technologies or innovations are in agreement with the cultural values, those receive better and quicker response in the societies, as religiosity or religiousness outlines cultures, and the cultural values eventually influence adoption or diffusion processes (Wejnert, 2002). Since, Islam is complete code of life (Al-Quran, Al-Quran, 16:89; Abdullah & Suhaib,

2011), Islamic societies are required to ensure human welfare domain in the relevant aspects; economic, sociology, politics, health, communication, culture etc. (Gummi, 2013). Previous studies have found that religious values significantly contribute in trust building towards new ideas (Daniels & Ruhr, 2010). Muhammad *et al.,* (2013) emphasized that it was essential to follow the Islamic rules and regulations to encourage B2C e-commerce, particularly in Muslims societies (Muhammad *et al*., 2013). In B2C e-commerce, trust gets influenced by cultural and religious relationship, moreover Muslims consumers are found different from their counterparts in this regard (Azam *et al*., 2013). Moreover, religiosity bears different perspective and its findings are likely to have different results place to place (Khraim, 2010).

Studies also suggest a catalytic role of technology readiness in the fields of technology management, adoption and diffusion. At one hand, many studies (Durbhakula & Kim, 2011; Massey *et al*., 2007; Demirci & Ersoy, 2008; Elliott *et al*., 2008; Lai, 2008; Abu-Assi *et al*., 2014; Parasuraman, 2000; Meuter *et al*., 2003) indicate positive relationship between technology readiness and diffusion of innovations or latest technologies. On the other hand, few of the studies (Berndt *et al*., 2010; Lin & Hsieh, 2007; Walczuch *et al*., 2007; Summak *et al*., 2010) have found an insignificant relationship between the technology readiness and diffusion of innovations.

Literature review exposes two different standpoints with regards to the relationship between trust and diffusion of innovations or new technologies. For instance, studies (Al-Rawabdeh *et al*., 2012; Azam *et al*., 2013; Corbitt *et al*., 2003; Gefen, 2003) reflect significantly positive relationship between trust and diffusion of innovation or new

technologies. While, on the other hand, studies (Eid M. , 2011; Corbitt *et al*., 2003), have found insignificant relationship between trust and diffusion of innovation or new technologies including B2C e-commerce.

As discussed above, empirical results of the studies, examining the relationships between technology readiness and diffusion of innovations or latest technologies including B2C e-commerce are inconsistent. The relationships between trust and diffusion of innovations or latest technologies also show dissimilar results and lack of consistency; hence it is appropriate to add a moderating variable that can determine the ability of diffusion of B2C e-commerce to be benefitted from technology readiness and trust practices. On the basis of thorough literature review it can be hypothesized that the religiosity may influence the relationship between technology readiness, trust and diffusion innovations (Wejnert, 2002; Daniels & Ruhr, 2010; Muhammad *et al*., 2013; Azam *et al*., 2013).

Under the light of the above discussion, the third focus of the study was to investigate the relationship between religiosity, followed by the fourth plan of investigating the moderating effect of religiosity on the relationship between technology readiness and the diffusion of e-commerce in the state. Similarly, the fifth objective of the study was to investigate the moderating effect of religiosity on the relationship between trust and the diffusion of e-commerce in Omani society. In conclusion, this study aimed to investigate the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of e-commerce in the Sultanate of Oman.

1.3 Research Questions

In general, the study attempted to ask following main questions: to what extent do technology readiness and consumers' trust and religiosity relate with the diffusion of electronic commerce (B2C) in Sultanate of Oman; and to what extent the relationship between technology readiness, trust and diffusion of e-commerce (B2C) is facilitated by religiosity. Specifically, the research asks the following questions:

1. Is there a positive relationship between technology readiness and diffusion of e-commerce?

2. Is there a positive relationship between trust and diffusion of e-commerce?

3. It there a positive relationship between religiosity and diffusion of e-commerce?

4. Does religiosity moderate the relationship between technology readiness and diffusion of e-commerce?

5. Does religiosity moderate the relationship between trust and diffusion of e-commerce?

1.4 Research Objectives

The study indented to examine the relationship between technology readiness, trust and diffusion of e-commerce (B2C) along with the moderating effect of religiosity. The study, in particular, looked to fulfill the following objectives:

1. To examine the relationship between technology readiness and diffusion of electronic commerce.

2. To examine the relationship between trust and diffusion of electronic commerce.

3. To examine the relationship between religiosity and diffusion of electronic commerce.

4. To examine the moderating effect of religiosity on the relationship between technology readiness and diffusion of e-commerce.

5. To examine the moderating effect of religiosity on the relationship between trust and diffusion of e-commerce.

1.5 Scope of the Study

This research is contextualized in the perspective of Sultanate of Oman, while focusing on electronic commerce in the country; it aims to quantitatively investigate the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of business to consumer (B2C) electronic commerce. Keeping in view an imperative role of opinion leaders and change agents in the diffusion process of innovations, Omani academicians from the public sector higher education institutions (HEIs) of Sultanate of Oman have been specifically and purposefully targeted. The academicians, ranking from juniors lecturer to professors, belong to fifteen public sector education institutions in Sultanate of Oman namely; Sultan Qaboos university (SQU), college of applied banking and financial studies, six colleges of applied sciences located in the main regional cities of the Sultanate – at Nizwa, Ibri, Sur, Sohar, Rustaq, and Salalah; and the regional colleges of technology, located in Musanna, Nizwa, Ibra, Salalah, Shinas, Ibri and Muscat organized by the ministry of manpower.

1.6 Significance and Contribution of the Study

This study has incorporated distinct literature streams namely; technology readiness, trust, diffusion of e-commerce and the religiosity. Being among pioneers, the study presented an integrated and a multidimensional framework to investigate the nature of relationship that may exist between the aforementioned variables. Moreover, it examined the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of e-commerce in Sultanate of Oman – a Muslims majority state. Whilst contributing to the body of knowledge, this study would provide practical, educational and theological implications to all the stakeholders including; prospective consumers, governmental concerned authorities and e-commerce global community as mentioned in the Table 1.3. Above and beyond, the study aimed to highlight the significance of technology readiness, consumers' trust, religiosity and diffusion of e-commerce in today's world. With a unique combination of predictor variables (technology readiness and trust) and the criterion variable (diffusion of B2C e-commerce) the study examined the moderating effect of religiosity on the relationships between the two i.e. predictor variables and the criterion variable. Previously, there are no comprehensive studies found on the subject of the moderating effect of religiosity on the relationships between technology readiness, trust and diffusion of (B2C) e-commerce. While highlighting the practical implications of the religiosity in Islam, the research has empirically proved the concept of innovativeness in Islam and the exclusive traits of the religion like; applicability, universality, completeness, ever-freshness, richness, fullness and comprehensiveness. Table 1.3 comprises the significance and the contribution of the study.

Table 1.3

Significance and Contribution of the Study

Perspective	Significance and Contribution
Theoretical Contribution	– Investigating the relationships of both the technology readiness and trust with diffusion of electronic commerce, in the context of Sultanate of Oman, one of the developing countries
	– Demonstrating the important role of religiosity in strengthening the relationships between technology readiness, trust and diffusion of electronic commerce
	– First study looking into the relationship between religiosity and diffusion of electronic commerce, especially in the practicing Muslims community, the Sultanate of Oman
	– Highlighting the importance of technology readiness and trust in boosting up the diffusion of electronic commerce in the developing states in general and in Sultanate of Oman in particular; Building a strong link among technology readiness and trust to support the diffusion process of electronic commerce in Sultanate, by providing empirical evidence to prove that the significance of religiosity in terms of its practice, marketing and benefit of common man
	– Highlighting the importance and significance of Islamic teachings in our lives
Policy Implications	– Valuable suggestions for the practitioners and policy makers to be considered; officials and the electronic commerce promoting bodies can take advantage to get the diffusion process enhance in developing countries
	– Providing scholarly and practical insight approaches on how important is to focus on the levels of technology readiness and trust; empirical evidences on the importance of religiosity in strengthening the relationships between technology readiness, trust and the diffusion process
Managerial Implications	– As a joint venture, all the stakeholders involved in the diffusion process including; consumers, businesses, organization, academicians, religious scholars, officials and policy makers can take benefit from the outcome of this research
	– Consumers are encouraged to realize the importance of technological readiness and trust to practice electronic commerce
	– Businesses needs to invest on marketing themselves keeping in view market's technology readiness and trust levels while promoting their mottos under the light of Islamic teachings

Importantly, it would be appropriate to highlight the previous researchers' work in this regards to address significance and contribution of the study. In the past studies, the researchers have studied the technology readiness model to explore consumers' inclination towards latest technologies (Caison *et al*., 2008; Son *et al*., 2011; Abu-Assi *et al*., 2014; Demirci & Ersoy, 2008) including; telecommunication sector, remote or electronic education, e-insurance and electronic commerce, in general perspective. Similarly, few other innovation researchers studied post-adoption attitude of consumers, impacts of technology readiness on emotions and cognition in Brazil, customers' perception and adoption of the innovations and self-service technologies respectively (Son *et al*., 2011; Ferreira *et al*., 2014; Demirci & Ersoy, 2008; Parasuraman, 2000; Lin *et al*., 2007). Correspondingly, the studies, undertaken by Tan 2006; Abu-Assi *et al*. (2014) explored "impacts of the internet and E-commerce in China and determinants of internet banking adoption in Jordan". Although the studies are available in the field, but majority of the studies have been performed in the perspective of the Western cultures (Venkatesh *et al*., 2007; Hu *et al*., 2010), hence empirical research in this regard on the different cultures thought to be of immense help. This study employed a quantitative approach to empirically explore the relationship between technology readiness and diffusion of e-commerce in the perspective of Sultanate of Oman – a Muslim majority state.

Apart from the long list of other education disciplines, trust has been widely studies diffusion of innovations studies including latest technologies and e-commerce. For instance, Palvia (2009) and Beldad *et al*. (2010) investigated the importance of trust

towards consumers in e-commerce. A study by McKnight, Choudhury and Kacmar (2002), empirically confirmed the disparity among the measurements namely; "competence, benevolence and integrity", found that consumers were inclined towards definite dimensions and not the broader scales. While investigating customers' trustworthiness in e-commerce, Gefen (2000) employed five dimensions; "tangibles, empathy, responsiveness, reliability and assurance", followed by Liao and Wang (2010), and Corbitt *et al*. (2003) those who used, "ability, integrity and benevolence" and "competence, predictability and goodwill" respectively to study consumers' perception toward B2C e-commerce. Keeping in view trust issues in the field of global B2C e-commerce, few studies can be found in the perspective of New Zealand, Uzbekistan, Bangladesh and Turkey respectively (Corbitt *et al*., 2003; Nagmetov, 2007; Dey *et al*., 2009; Nardal *et al*., 2011). Other studies conducted on the trust topics are found to be addressing the developed states like; USA, Australia etc. (Gefen, 2000; Corbitt *et al*., 2003). Another study, showing positive link between privacy, security and trust in B2C e-commerce, was upheld in the context of the USA and Canada (Belanger *et al*., 2002; Araujo, 2005). To help diffusing e-commerce, trust building frameworks were sketched out by Liao and Wang (2010) and Kamari *et al*. (2012), offering great assistance to the consumers and business the companies. Trust level in e-commerce varies person to person and place to place (Lumsden & MacKay, 2006). This is believed to be the first study, in the perspective of Sultanate of Oman, examining the impact of trust on diffusion of B2C e-commerce.

Since, the aim of the study was to employ "religiosity" as a moderating variable to investigate its effect on the relationship between technology readiness, trust and diffusion

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of B2C e-commerce, the concept of innovativeness in Islam would be duly explored. The concept of innovativeness in Islam would be of great help in today's world (Amanullah, 2012). It is widely accepted that any of the new ideas, technologies or innovations, if proposed in accordance with the religious values, gets better applause from the consumers (Wejnert, 2002). Numerous studies are found highlighting the comprehensiveness, completeness, freshness, applicability, universality and other traits of Islam (Abdullah & Suhaib, 2011; Gummi, 2013). This study is believed to be helpful while emphasizing more on the religious perspective in all aspects of our lives and addressing the theological perspective of Islam.

Previous studies have found that the religious values significantly contribute in B2C e-commerce trust building (Daniels & Ruhr, 2010; Muhammad *et al*., 2013), particularly in Muslims societies (Muhammad *et al*., 2013; Azam *et al*., 2013). Other studies generally highlight the importance of trust of individuals and companies in opinion building towards e-commerce (Rehman *et al*., 2010; Azam *et al*., 2011). Moreover, religiosity bears different perspective and its findings are likely to have different results person to person and place to place (Khraim, 2010; Lumsden & MacKay, 2006) and it lacks at quantitative research too (Idris *et al*., 2012). This is the first study in its kind to quantitatively examine the moderating effect of religiosity on the relationships between technology readiness, trust and diffusion of B2C e-commerce in the perspective of Sultanate of Oman.

1.7 Operationalization of the Predictors and Criterion variables

According to Sekran (2006) operationalization enable researchers to look into the "behavioral dimensions, facets, or properties denoted by the concept". Researchers translate those dimension or properties into "observable and measurable elements" to build up an index of measurement of the variable, element or concept.

1.7.1 Technology Readiness

Technology readiness has been used to operationalize the diffusion of the latest technologies or ideas; for instance to measure consumers' tendency towards the innovative objects, ideas or practices (Summak *et al*., 2010; Massey *et al*., 2007; Caison *et al*., 2008; Son *et al*., 2011; Abu-Assi *et al*., 2014; Demirci *et al*., 2008). On the basis of technology readiness level of consumers, the respective strategies can be revised, reviewed, ignored or adopted either by consumers or by the technology suppliers. Keeping in consideration the nature of electronic commerce business, the technology readiness operationalization and measurement is massively imperative.

Parasuraman (2000) developed technology readiness measurement scale supported by four dimensions i.e. optimism, innovativeness, discomfort and insecurity. The measurement scale has been widely used in the studies (Parasuraman, 2000; Lin *et al*., 2007; Demirci *et al*., 2008; Tsikriktsis, 2004; Summak *et al*., 2010; Berndt *et al*., 2010; Elliott *et al*., 2008; Walczuch *et al*., 2007) investigating consumers' technology readiness level in different aspects. This study used the technology readiness scale by Parasuraman (2000).

1.7.2 Trust

Notwithstanding the technological developments have been enormously benefitting customer, an increasing frustration towards the technology use is also found. There is no denial to the significance of trust in the perspective of diffusion of innovations or the latest technology. Trust refers to the consumers' confidence in dealing with the technology. In e-commerce, where transactions take place more namelessly and anonymously (Cyr *et al*., 2004), the trust is found one of the main factors in the success of any online business (Cheskin, 1999; Patton *et al*., 2004).

Trust, a multidimensional concept, operationalization and measurement has been taking place using different dimensions. Generally used dimensions of trust in the field of e-commerce are noted as: "competence, integrity, and benevolence" (McKnight *et al*., 2002; Liao *et al*., 2010), "belief that the e-Vendor is trustworthy" (Gefen, 2000; Gefen, 2002b; Pavlou, 2003), "ability, integrity and benevolence" (Jarvenpaa *et al*., 1999; Jarvenpaa & Todd, 1996), and "competence, predictability, goodwill" (Corbitt *et al*., 2003). This study used an scale used in well established study investigating customers' trust in B2C electronic commerce, adopted from conducted by Corbitt *et al*. (2003). Following the study, the current framework used three dimensions i.e. competence, predictability and goodwill, to measure trust in B2C e-commerce.

1.7.3 Religiosity: Operationalization and Measurement

Religiosity refers to the level of religiousness and piousness found within those who believe. It has been studied as one of the most important socio-cultural decisive factors towards latest technologies (Coccia, 2014; Fam et al., 2002; Sohaib et al., 2014;

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Eid et al., 2015; Mokhlis, 2009; Khraim, 2010). Consumers' religiosity levels exceptionally influence different aspects of consumers' mind-set (Yousaf et al., 2012), particularly in Muslim community (Ansari, 2014; Rehman et al., 2010; Hanzaee et al., 2011).

This study has used an established scale developed by Stark and Glock (1968) with five dimensions i.e. ideological, ritualistic, intellectual, consequential and experimental, as shown in Table 3.3. The scale has been widely used to measure consumers' religiosity levels while studying innovations, new product adoption and technology diffusion etc. (Holdcroft, 2006; Glock, 1962; McAndrew & Voas, 2011; Ansari, 2014; Rehman et al., 2010; Azam et al., 2011; Hanzaee et al., 2014).

1.7.4 Diffusion of B2C Electronic Commerce

Diffusion of innovation can be defined as a development by which an innovation, new idea or new technology is communicated or transferred into a social setup within certain period of time (Rogers, 2003; Nutley *et al*., 2002). Technology related studies have been widely using the theories related to diffusion concept since decades. The diffusion notion has been widely used in the studies related to communication, economics, marketing, education, sociology and technology (Greenhalgh *et al*., 2004). For instance, health care technologies related studies have been operationalized and measured using dimensions like; "relative advantage, trialability, observability, communication channels, homophilous groups, pace of innovation" or "reinvention, norms, roles and social networks, opinion leaders, compatibility and infrastructure" (Rogers, 2003; Cain *et al*., 2002; Nutley *et al*., 2007; Atkinson, 2007; Abu-Assi *et al*., 2014; Roman, 2003).

Moreover, Slyke *et al*. (2004) empirically investigated the influential factors towards online or B2C electronic commerce. Following studies by Al-Majali (2013), Al-Jabri *et al*. (2012) on the internet trading services and adoption mobile banking, this study has duly adapted and modified the questionnaires used by Moore & Benbasat, 1991; Nor *et al*., 2007, Poon 2007 and Roberts *et al*., 1997.

To measure diffusion of B2C electronic commerce, this study used five dimensions by Rogers (1995); those are: "relative advantage, compatibility, complexity, trialability and observability". For the study, the dimensions have been duly adapted from the studies conducted in the perspective of online business, electronic commerce or technologies by Moore & Benbasat, 1991; Nor *et al*., 2007; Poon, 2007 and Roberts *et al*., 2002.

1.8 Organization of the Study

First chapter outlines various important contents those are relevant to this research study. The specific contents are: background of the research study, problem statement, research questions, research objectives, scope of the study, significance of the research and its contribution. Second chapter discusses the underlying theories diffusion of innovation (e-commerce) and models. The relevant contents of this chapter include underpinning theories, technology readiness, trust and religiosity.

Third chapter discusses important concepts related to the development of theoretical model of this study. Various contents of this chapter comprise of: research model, conceptual framework, research hypothesizes, research design, sampling techniques, questionnaire design and distribution, and statistical analysis. Fourth chapter discusses

results and discussion that includes: the research response rate, data screening and preliminary analysis, non-response bias, common method variance test, demographic profile of the respondents and confirmatory factor analysis. It further discusses evaluations of models (assessment of measurement model, assessment of structure model) that includes detailed results of convergent validity, discriminant validity, assessment of hypothesis, assessment of variance explained in the endogenous latent variable, assessment of effect size (f^2),assessment of predictive relevance, moderating effect and the strength of moderating variable. The fifth chapter five, recapitulating the study, discusses the findings and highlights the contribution of the study in different perspectives. This chapter further leads to the limitations of the study and the future recommendations. In the final phase, the chapter comes down with the concluding remarks of the study.

CHAPTER TWO
REVIEW OF LITERATURE AND UNDERPINNING THEORIES

2.0 Introduction

This chapter reviews the literature extensively about the variables used in the study. This chapter also reviews the literature to discuss the underlying theories with reference to the variables used in the study. In the section 2.1, academic field of e-commerce has been introduced briefly; various definitions, models of e-commerce, its diffusion in developing states and in the Arab World, followed by and Islamic perspective of E-commerce have been discussed. In the section 2.2., prior to the discussion on the diffusion of e-commerce and its measurement, different relevant phenomenon like; diffusion of innovation and diffusion of technology have been duly discussed.

In the section 2.3, the literature review regarding the definitions of technology readiness, its role in diffusion of innovation in general, and diffusion of e-commerce in particular. The section also contains literature review on dimensions and measurement of technology readiness.

Section 2.4 discusses the definitions of trust; sheds lights on the salient features and role of trust in the diffusion of e-commerce. It also discusses role of trust in e-commerce in different parts of the world including the Arab world, its Islamic perspective and dimensions in the perspective of B2C e-commerce. Section 2.5 includes: definitions of religiosity, its impact on technology readiness, trust and diffusion of e-commerce followed by the measurement of religiosity. Section 2.6 discusses the underlying theories that guide this study, whereas section 2.7 comprises the summary of the chapter.

2.1   Electronic Commerce

Electronic commerce, a powerful notion and a course of action that has vitally changed the present of human lives (Nanehkaran, 2013), takes place through telecommunication system, in particular the "internet". It is one of the main courses towards the revolution of information technology and communication in the field of financial system (Turban *et al.*, 2008; Muhammad *et al.*, 2013; Watson *et al.*, 2008; Laudon *et al.*, 2001; Khurana *et al.*, 2011). Hence, business operations get mediated by digital technology. It is also argued that e-commerce takes in the entire system of electronically based organizational actions supporting business's market exchanges including organizations records (Rayport *et al.*, 2002).

Comparing to traditional commerce, in its nature, e-commerce bears several distinctive features like; "ubiquity, global reach, universal standards, richness, interactivity, information density and consistency, personalization or customization, cost saving, shortest remittance time". Among all the e-commerce models, business-to-consumer (B2C), as a retail provider, bears the topmost contribution (Corbitt *et al.*, 2003; Kamari & Kamari, 2012; Laudon *et al.*, 2001; Wen *et al.*, 2001). E-commerce, an exercise of information technology to boost communications and business with all of organization's stakeholders, enables organizations to gain profits in the forms of growing productivity, better market share, superior consumer service, and faster product delivery (Watson *et al.*, 2008; Khurana *et al.*, 2011; Wen *et al.*, 2001).

The studies of "communication systems, data management systems and security" are pointed out as the key components of electronic commerce (Nanehkaran, 2013). Turban

et al. (2008) defines e-commerce as "a process of buying, selling, transferring or exchanging products, services and/or information via computer network, including the internet". Moreover, it can be categorized into four major categories: 1) business-to-business refers to business doings among companies such as producers who sell their manufactured goods to distributors, 2) business-to-consumer deals with selling goods or services to customers over the internet where no physical interactions among parties take place, 3) consumer-to-business let consumer exhibit their saleable or services online to be reviewed by the companies, 4) consumer-to-consumer, a business platform among consumers only (Turban *et al.*, 2008; Fruhling *et al*., 2000; Frank, 1997).

Delineating e-commerce as "the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals", two more categories: business-to-government (B2G) and mobile commerce (m-commerce) were added as e-commerce models (Turban *et al.*, 2008; Muhammad *et al*., 2013; Khurana *et al*., 2011; Al-Gharbi *et al*., 2006; Nanehkaran, 2013). According to Rana (2000), it was due to the internet that e-commerce exercising distinct features like; business in material goods and of intangibles, online marketing and legal advice, delivery and after sales assistance and support for cooperation among companies.

In a broader sense, e-commerce framework has three stages; products and structures, services and infrastructure. E-commerce, while offering many advantages (door-step availability, easiness, less transaction cost etc), it has been facing few challenges

(security and privacy issues, warranty claim and guarantee, lowering social relationships, marketing and logistics) too. (Nanehkaran, 2013). Moreover, poor infrastructure, socio-cultural and economic hurdles and insufficient technological awareness or education and distrust have been found few of the main issues of the developing states in term of e-commerce diffusion (Lawrence *et al*., 2010; Pons *et al*., 2003; Al-Rawabdeh *et al*., 2012). To explore electronic commerce more, the following sections explores a worldwide perspective of e-commerce and that in the Arab World, followed by the its Islamic perspective.

2.1.1   E-Commerce: A Worldwide Perspective

The developing world has been focusing on e-commerce to chase the increasing pace in this field (Mann, 2000). For instance; Malaysia was in needs of a proficient deployment in the fields of information communication and technology and relevant awareness education to get country's B2C e-commerce scale upgraded (Khan *et al*., 2010). To tackle the issues of security, privacy, cost and lower readiness level in the perspective of Singapore and small islands, new strategies were to acquire superior global e-commerce worldwide rank (Wong, 2003; Wong *et al*., 2004a). Correspondingly, investigating the issues and challenges towards e-commerce accomplishment, Dehkordi *et al*. (2011) studied the impact of "culture, gender and previous behavior" on the issues like; "national control, privacy cost, property rights, access rights, internet infrastructure and consumer preferences". There were no empirically not able differences among culture groups or gender in attitudes about privacy cost and consumer choices found. In a Nepal-based online business, "economic, sociopolitical and cognitive factors" were found of an

immense importance for the development of "e" business models in the perspective of the developing states (Kshetri, 2007).

As local environment features plays a vital role in recognition and development of e-commerce, hence it varies place to place. In this regard, Efendioglu, Yip and Murray (2009), and Wong *et al*. (2004b) suggest need of more research to address respective cultural perspectives. For instance, cultural issues such as "socializing effect of commerce", "transactional and institutional trust", and "attitudes toward debt" play a very major role in China. A similar work, done by Lawrence and Tar (2010), reveals that inadequate infrastructure, socio-economic and official issues were few of the significant blockades in the diffusion and growth of e-commerce in developing countries. Moreover, areas hindering e-commerce and latest technology adoption in developing countries were: infrastructure, technology, language, socio-cultural attitude, trust, education, financial sector, payment method and logistics etc. (Lawrence & Tar, 2010; Halaweh, 2011; Aladwani, 2003; Khalfan & Alshawaf, 2004; Al-Senaidi *et al*., 2009; Azam *et al*., 2013). Studies conducted by Mohanna *et al*. (2011), and Elbeltagi (2007) revealed that exploration of e-commerce in Iran had been facing socio-cultural issues along with lower awareness and distrust among the potential consumers. In the Indian market too, factors like; poor logistics, tax arrangement and security were customers' concern (Reddy & Divekar, 2014).

According Singh and Gilchrist (2002), community schools, awareness, e-commerce rules and regulations and wise use of technology can uplift consumers' trust level bridging the gap between developed and the developing states. Studies confirm that educated workers

can play an effective role in diffusing technology, not only in the developing world but in Europe too (Licht, 2009). Using technology organization environment (TOE) framework, Ahmad *et al.* discovers the main influential factors towards e-commerce diffusion in Malaysian SMEs. The findings discover that country is suffering from knowledge gap and the supposed "relative advantage, perceive compatibility, e-commerce knowledge, management attitudes toward e-commerce and external change agents" were affecting constituents of e-commerce adoption. However, perceived complexity and demands from business associates and contestants shows no influence in this regard. Supporting the similar idea, countries needs to fill the knowledge gap (Ahmad *et al.*, 2014; OECD, 2009).

Notably, business to consumer (B2C), one of the leading models of e-commerce, caught a good focus in the field of research. For instance, Khan *et al.*(2010), using SWOT analysis to explore diffusion of B2C e-commerce, shows an upward direction; however it highlights few challenging areas like; financial state, stumpy wage rates, limited internet range, unawareness and e-readiness, infrastructure, education and political stability. Similarly, studies have found that development of the e-commerce progression in SEMs in Australia will be directly proportional to the edification and awareness (Lawson *et al.*, 2002). Chong *et al.* (2000) framed an e-commerce model, derived from extensive literature, for Australian SMEs, helping them implementing e-commerce strategies in their businesses to get required results (Chong & Bauer, 2000). In the United Kingdom, influential determinants towards the diffusion of e-commerce SMEs were superior administration support, management perception of business profit, existence of IT skills and "prioritization" of e-commerce (Wilson *et al.*, 2008). A research based on SMEs in

Thailand tells that adopters, prospectors and laggards found behaving differently to the e-commerce adoption variables; while the findings seems to be constant with Rogers' diffusion of innovation model showing that the supposed distinctiveness of the innovation has a main role during the "persuasion stage" (Lertwongsatien *et al*., 2003). While SMEs' vendors in Brunei Darussalam remain unsuccessful to convince themselves towards e-commerce due to seeming turnover, be short of comprehension and skillfulness, untrustworthiness were notable barriers whereas; competitive force, official aid and infrastructure were found supportive to e-commerce (Looi, 2004; Khan *et al*., 2010). Due to possibility of decline in incompetency and boost in production, e-commerce may prove more productive (El Gawady, 2005).

2.1.2   E-Commerce in the Arab World

Studies reveal that most of the Arab states, including Sultanate of Oman, are found facing many challenges towards e-commerce like; unawareness towards internet benefits, lack of education, online security and privacy, lack of trust and technology readiness, poor payment method and courier service (Aladwani, 2003; AlGhamdi *et al*., 2012; Hamed *et al*., 2008; Baporikar & Shah, 2012; AlGhamdi *et al*., 2011; AlGhamdi *et al*., 2012; AlGhamdi *et al*., 2013; Halaweh, 2011; Ali *et al*., 2011; Kearney, 2012). It is studied that the Muslim world, including the Gulf Cooperation Council (GCC), is in need to uplift its economy and information technology (IT) through knowledge, industry, rules and regulations and education where higher education institutions can play a vital role (Ahmed & Al-Roubaie, 2013; Pons *et al*., 2003; Joseph *et al*., 2006; AlGhamdi *et al*., 2011; AlGhamdi *et al*., 2013; Hamed *et al*., 2008).

2.1.3 Islamic Perspective of E-commerce

Muhammad (2013) proposes that electronic business strategies should also guarantee "religio-centric" frame of mind to build a business trust relationship and to get Muslims consumers motivated and convinced in all aspects. It is also found that comparing to common websites; Muslim websites (for example, www.dar-us-salam.com) were widely trusted by Muslim consumers (Azam *et al*., 2013). Islam supports innovative businesses, while ensuring that the Islamic teachings, business rules and regulations are properly followed (Zainul *et al*., 2004; Dali *et al*., 2004). Not only electronic commerce, but Islam demands all businesses to be carried out in compliant with the Islamic commands (Muhammad *et al*., 2013). As a marketing strategy, it is also advised to explore consumers' "religiosity", their personal beliefs and its effect on adoption and diffusion processes of e-commerce (Rehman & Coughlan, 2012). Previously, Siala *et al*. (2004), investigated different attitude towards e-commerce in the buyers from different religions based in United Kingdom.

2.2 Diffusion of E-Commerce

Historically, diffusion research was performed by Ganriel Tarde, a French sociologist, who framed "S-shaped diffusion curve" (Rogers, 2003; Wejnert, 2002). Till today, most of the innovation researcher have been using "S-shaped rate of adoption", according to Rogers (1983). In 1940's, Bryce *et al*., published their influential "study of the diffusion of hybrid seed among Iowa farmers". The researchers divided the segment of Iowa farmers with respect to the time period it took them to accept the innovation, the hybrid corn seed. The farmers were categorized as "innovators, early adopters, early majority, late majority and laggards" (Rogers, 2003; Zimmerman *et al*., 2007; Sahin, 2006).

Keeping in view the broad spectrum of the subject of "innovation of diffusion", there are almost 4000 research papers have been published on the different subject matters, for instance agricultural practices (Fliegel, 1993), technologies (Burt, 1987; Coleman *et al*., 1966; Palmer *et al*., 1993), and fertility-control methods etc. (Rogers & Kincaid, 1981).

Studies of the particular sets of variables considered in these studies are linked with diverse concepts and processes, principles and determinants of diffusion. Due to the diverse nature of diffusion study, thousand of research papers have been published across the disciplines. Particularly with regards to B2C e-commerce, eighty percent of the people browsing for goods or services do not practically conduct any business online (Shim *et al*., 2001; Delafrooz *et al*., 2009). The following sections explore more on diffusion in terms of innovation, technology and e-commerce.

2.2.1 Diffusion of Innovation

Diffusion is a process by which an innovation or technology is communicated or transferred into a society via definite medium over certain period of time. Diffusion, as a multi-variety concept, research covers many disciplines including; communication studies, economics and marketing, education, sociology and technology transfer (Greenhalgh *et al*., 2004; Rogers, 1995; Rogers, 2003; Azam *et al*., 2011).

Innovation can be defined as "an idea, practice or object that is perceived as new by the individual or other unit of adoption" (P. 11). According to Diffusion of innovation process, to get it diffused, go through four stages namely; "innovation, communication channels, time and social system" (Rogers, 2003; Sahin, 2006; Wejnert, 2002; Demirci *et al*., 2008). Peres *et al*. (2010) emphasized that the definition of diffusion of innovation

must be expanded as "Innovation diffusion is the process of the market penetration of new products and services that is driven by social influences, which include all interdependencies among consumers that affect various market players with or without their explicit knowledge" (P. 91).

Barbara (2002) conceptually explored models of diffusion of innovation and divided diffusion constructs into three main groups: 1) uniqueness of innovations to deal with public versus private outcomes and benefits in opposition to costs 2) distinctiveness of innovators concerning "societal entity, familiarity with the innovation, status characteristics, socioeconomic characteristics, position in social networks and personal characteristics", 3) environmental context to address "geographical settings, societal culture, political conditions and global uniformity". Moreover, environment and ecology do affect technological (Ormrod, 1990; Wejnert, 2002). Similarly, a wide range of variables is studied in diffusion research including; "values, norms, language, religion and ideologies" (Wejnert, 2002). Whereas; according to Zimmerman *et al.* (2007), Demirci *et al.* (2008), and Atkinson (2007), Rogers' conceptual framework of diffusion of innovation is one of the most helpful platforms for researchers to investigate the influential dynamics those may or may not influence in the adoption of technology and innovations. The central theme in diffusion of innovation related research is to develop a comprehensive understanding of the respective society or culture along with the criterion opted towards accepting or rejecting new technology, idea or innovation; which can be identified by using the variable suggested by Rogers like; "relative advantage, compatibility, complexity, trialability, observability, rewards, technical support etc". By using the same variables, Haggman (2009) examined the attitude of different participants

towards technology attributes and the way they understand the process of adoption of new technologies.

While exploring worldwide models of diffusion, evaluation of the degree of cross-country, influences and finest global entry strategies, Peres *et al*. (2010), suggested future research in the areas of: "diffusion of innovations in the developing world, differences between western and emerging economies, effects of demographic changes on diffusion, the interaction between individual brand choice processes and diffusion and influence of competition on the distribution chain and the effect on diffusion" (P. 93). Furthermore, they explored disparities and dissimilarities in diffusion parameters in different countries and respective cultural and economic sources.

2.2.2 Diffusion of Technology

According to Rogers (2003), innovation synonymies technology and the technology is a "design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome" that consists of hardware and software i.e. the tool those represents the technology in the form of a "material or physical object and the information base for the tool respectively" (P. 138).

Technology has been a very part of us today, and it can be found diffusing in almost every aspect of our lives. Cain and Mittman (2002), explored ten critical dynamics, mostly discussed by Rogers (1995) in his book, of innovation diffusion including; "relative advantage, trialability, observability, communication channels, homophilous groups, pace of innovation or reinvention, norms, roles and social networks, opinion leaders, compatibility and infrastructure", while studying diffusion of technologies in the

field of health care. The same theory was employed by Roman (200) to study application of tele-centers addressing three prominent aspects; "the perceived attributes of innovations, the communication aspects of the diffusion process, and the consequences of innovation adoption" (P. 55) .

In different periods of time, research on the technology has been taking place in different perspectives with different outcomes. For instance, Maidique *et al*. (1984) and MacVaugh *et al*. (2010), empirically investigated explored the then U.S electronics industry in the community domain and examined the drivers of the technology and found that the successful (significantly positive) innovations were found: better matched with user needs, planned more successfully and competently, more efficiently developed, more actively marketed and sold, closer to the firm's areas of proficiency, launched in the market prior to the competition. Whereas; benefit and cost, internal coupling, management support and technological superiority were found ineffective in that regard. Taking individuals as potential respondents, Zeithmal's (1988) and MacVaugh *et al*. (2010) conducted an exploratory study on the technology to understand consumers' perceptions of quality and value in relation to product price. The study concludes that the consumer perceptions towards products' quality and value are more compound than industry standards and purchase price. To ease the innovation researchers, Davis (1989) created a valid to measure individuals' approach towards the latest technologies and empirically proved that the user adoption/utility could be correctly measured by supposed usefulness and evident user-friendliness (Davis, 1989). The same idea was enhanced by Moore and Benbasat (1991), who upheld an empirical study to develop a technique to measure perceptions of technology before adoption. The study resulted that the new

technology utility can be evaluated by locating user perceptions via a seven-category scale.

Understanding association between consumer perception and knowledge is quite essential. An empirical study was upheld to understand association between consumer perception and knowledge base which resulted that the knowledge in the base domain might have a negative impact on priority for discontinuous innovations (Moreau *et al*., 2001; MacVaugh & Schiavone, 2010). Governments play a central role in the diffusing processes; governments' rules and regulations regarding innovations, according to Taylor *et al*. (2003), have emerged as more motivational and supportive as compare to the government sponsored research. Similarly, arranging network theories to enlighten policy decision making, past studies explored that consumer anticipations and souk competition had resulted in decrease in the number of network technologies over the period of time. Also, there was a necessary exchange between private and social drivers of adoption (Gandal, 2002; MacVaugh & Schiavone, 2010).

Souder and Sherman (1993) considered community, market and industry domains and looked into steps involved in new product development procedure from the perspective of the innovating organization. Targeting the same domain (community, market and industry), Montoya *et al*. (1994) performed a meta-analysis of new product development success drivers which highlighted that research to date had supplied an wide-ranging but not yet definite set of success dynamics for new product development. Chong and Bauer (2000) analyzed the resistance towards innovations and explored the aspects like; "perspectives of the innovator, resistant and observer and potential objects and

determinants of new technology resistance". Henard and Szymanski (2001) endorsed the previous study by Montoya *et al*. (1994) performed. Venkatesh *et al*. (2003), to formulate a Unified model of I.T adoption, conducted an empirical study providing a model of interrelationships between determinants of information technology use by an individual including; performance and effort anticipation, social pressure, conditions, demographics and knowledge. Furthermore, Klloppiing and McKiinneyy (2004), used technology acceptance model (TAM) addressing five dimensions i.e. "perceived usefulness, perceived ease of use, intention to use, actual use and task-technology fit" (p. 40) to foresee e-commerce (B2C) consumers' online shopping activity including; "the intention to shop online and actual purchases" (p. 35). All the hypotheses were accepted except "the perceived ease of use-intention to use path", partially significant. However, on the other hand, a study conducted by Dishaw and Strong (1999), unexpectedly showed insignificant relationship between "task-technology fit (TTF) and perceived usefulness" (p. 9) (Dishaw & Strong, 1999; Klloppiing & McKiinneyy, 2004).

2.2.3   Diffusion of E-commerce

E-commerce is one of the most noteworthy developments in business in recent years (Al-Taie & Kadhim, 2013) that bears a multidimensional and multidirectional impact, in almost every field possible. A huge amount of research has been performed on the subject of diffusion of electronic commerce as shown in Table 2.1. Dinlersoz and Pereira (2007), by following "technology adoption race framework", analyzed retailers' motivations and incentives adopting electronic commerce, highlighting the effect of technology, preferences, customer inertia, and market development on opening decisions

and post entrance dynamics of cost. Their results provide a plain categorization of market situations contributing to the adoption of e-commerce by new vs. well-known organizations and the practical adoption models can be explained by equilibrium resulting from the replica under dissimilar constraint configurations. The study further suggests internal development in diffusion of internet access among clients by "making the diffusion of the internet among consumers a function of firms' adoption and pricing decisions". Today, e-commerce entrepreneurship is further divided into "internet entrepreneurship" and "netpreneurs" (Gundry & Kickul, 2001). The aforementioned discussion has been briefly described in the Table 2.1, given below.

Table 2.1

Diffusion of E-commerce

Author(s)	Research scope, findings and Recommendations
MacVaugh *et al*., 2010	– Explores the existing theoretical details for innovation diffusion across the faculties of sociology, marketing, innovation research. Study reveals that the diffusion of innovation is influenced by social, technological and learning "conditions" while operating in the contextual "domain of the individual, community or market/industry" – Suggests the need for intellectuals to investigate technology adoption through a multidisciplinary approach
Hamed *et al*., 2008	– Among four main actors of e-commerce namely; "government, technologically advanced, companies and e-commerce users", the contribution of last actor (the users) shapes the consequence of the other three actors' actions towards economic system
Fruhling and Digman (2000)	– The impact of electronic commerce on business-level strategies – Electronic commerce perspectives "intra-business, business-to-business, business-to consumer and value/supply chain management" – At all levels, businesses need of keep their e-commerce systems updated and upgraded including; operations, functionalities, competing capabilities, business related strategies

Table 2.1 (continued)

Author(s)	Research scope, findings and Recommendations
Qin *et al.*, 2013	– Five common modes of production and education from E-Commerce perspective in higher vocational colleges in China – As successfully experienced in China, the education sector, in collaboration with industries can educate students' practical e-commerce experience during student life – Further study is required in building and management mechanism of teaching staff in "double-teacher structure", quality assessment system of practice and training, and long-standing system of school-enterprise cooperation
Gibbs *et al.*, 2003	– A cross country comparison on environment and policy factors shaping global electronic commerce diffusion – In support of the importance of local and national factors towards e-commerce diffusion, a detailed study on ten leading e-commerce states like; "Brazil, China, Denmark, France, Germany, Mexico, Japan, Singapore, Taiwan and United States" found out that B2C e-commerce diffusion seemed to be more influenced by countrywide factors and local environment, such as customer likings, sell formation, and home language and cultural factors including security and privacy issues, whereas the global forces seemed less influential in this regard – Study suggests that the digital divide global wide may restrict the potential value of business to business e-commerce more so than business to consumer – Future studies of e-commerce might use the variables and framework in different country panels, while focusing on modeling and quantitative, empirical testing of the relationships
Lindskog *et al.*, 2002 Kim *et al.*, 2007	– Studies have found that the "public sector" e-commerce had helped creating awareness resulting in policy launch, making of rules and regulation diffusing e-commerce at levels; national, regional and global; A synopsis on the effect of social influence in E-commerce decision making to offer direction to researcher scholars and organizations those have an interest in related issues – For the greatest impact of social influence in E-commerce, further areas to be studied are: computerization of social communications in electronic commerce websites; combination of social influence data into user preferences, social pressure on customers' purchase decision making

Table 2.1 (continued)

Author(s)	Research scope, findings and Recommendations
Hwang *et al.* (2006)	– A comparative study discovering economic, infrastructural and cultural aspects, of the consumers' online shopping preferences among Korean, American and Turkish consumers – There were noteworthy cross-national dissimilarities in online shopping preferences, particularly towards: accuracy of data, security and price evaluation, and explored those disparities in terms of "economic, infrastructural and cultural factors"
Dinlersoz *et al.*, 2007	– Following "technology adoption race framework", analyzes retailers' motivations and incentives adopting electronic commerce, highlighting the effect of technology, preferences, customer inertia, and market development on opening decisions and post entrance dynamics of cost – The results provide a plain categorization of market situations contributing to the adoption of e-commerce by new versus well-known firms and the practical adoption models can be explained by equilibrium resulting from the replica under different parameter configurations – In future perspective, it would be appealing to internally develop the diffusion of internet access among clients by "making the diffusion of the internet among consumers a function of firms' adoption and pricing decisions"

Another study, conducted by MacVaugh and Schiavone (2010) explored the existing theoretical details for innovation diffusion across the faculties of sociology, marketing, innovation research. Furthermore, diffusion of innovation is influenced by social, technological and learning "conditions" while operating in the contextual "domain" of the individual, community or market/industry. The diffusion of innovation, indeed, is a multi-step process. A renowned scholar in the area of innovations, E.M. Rogers has explained that the opinion leaders and communities strongly influence technology adoption (Rogers, 2003).

E-commerce consumers, among the main actors of e-commerce namely; government, technologically advanced and companies, shapes the result of the other three actors' actions on the economy (Hamed *et al*., 2008). Keeping in consideration the nature of e-commerce, Fruhling and Digman (2000) suggested that the businesses were in need of keeping their e-commerce systems updated and upgraded including; operations, functionalities, competing capabilities, business related strategies. While studying five common modes of production and education from the field of e-Commerce in higher vocational colleges in China, it is suggested that the education sector, in collaboration with industries can educate students' practical e-commerce experience during student life (Qin *et al*., 2013). For example, an e-commerce (consumer-to-consumer) model, produced by Shi 2009, offers a wider business space for college students. Almost every business can be benefitted by e-commerce, as it realized that the leather industry needed to adopt e-commerce strategies to comply with the latest market trends and demands.

In support of the importance of local and national factors towards e-commerce diffusion, a detailed study on ten leading e-commerce states (Brazil, China, Denmark, France, Germany, Mexico, Japan, Singapore, Taiwan, United States), found out that B2C e-commerce diffusion seemed to be more influenced by countrywide factors and local environment, such as customer likings, sell formation, and home language and cultural factors including security and privacy issues, whereas the global forces seemed less influential in this regard. Furthermore, study suggests that the digital divide global wide may restrict the potential value of business to business e-commerce more so than business to consumer and future studies of e-commerce might use the variables and

framework in different country panels, while focusing on modeling and quantitative, empirical testing of the relationships (Gibbs *et al.*, 2003).

Studies have found that the "public sector" e-commerce had helped creating awareness resulting in policy launch, making of rules and regulation diffusing e-commerce at levels; national, regional and global (Lindskog & Wennberg, 2002). It was also found that the e-commerce adoption was significantly influenced by social influence, hence feedback from trusted people proved more important instead of product makers or recommendation methods (Kim & Srivastava, 2007). Hwang *et al*. (2006), conducted a comparative study discovering economic, infrastructural and cultural aspects, of the consumers' online shopping preferences among Korean, American and Turkish consumers, which concluded that there were significant cross-national differences in online shopping preferences, particularly towards: accuracy of data, security and price evaluation, and discussed those differences in terms of economic, infrastructural and cultural factors.

2.2.4   Measurement of Diffusion

Depending on different types of research being undertaken and objectives to achieve, diffusion has been measured in different ways as shown in Table 2.2 in detail. Few examples in this regard are discussed below. Abu-Dalbouh (2013) employed a quantitative approach using technology acceptance model (TAM) to assess the appropriateness of a mobile tracking on patient development application for health care industry its aims and objectives of the design. Furthermore, the researcher used an adapted and modified version measuring four dimensions namely; "perceived of usefulness, perceived ease of use and user satisfaction and attribute of usability". By

using the same model, and Perceived Web Security, as an additional variable, Cheng *et al*. (2006) empirically tested its capability in foreseeing customers' behavioral intention towards adopting internet banking. Furthermore in their work, with the help of structured equation modeling (SEM), correlation ship was evaluated among the variables namely; perceived ease of use and perceived web security as independent variables, "perceived usefulness and attitude as intervening variables, and intention to use as the dependent variable", resulting in providing useful information for banking sectors. The study suggests more in-depth longitudinal study, particularly at initials phase of service launching, or at a pilot test phase in order to examine buyers' conduct towards the adoption of the new internet banking service.

Zarrad *et al*. (2012), statistically explored customers' adoption and rejection behaviors towards online shopping on the basis on five dimensions: attitude to online shopping, perceived usefulness, perceived ease of use, experience and online purchasing intention. Out of these, three dimensions, "perceived ease of use, perceived usefulness and previous experience" proved decisive features those showed that internet is used for business purposes. Along with this, relationships between general experience with internet usage and perceived ease of use, males' approach towards online shopping and females' response on this and internet supposed usefulness positively influence online purchasing intention were calculated as not significant.

Table 2.2
Measurement of Diffusion

Author(s)	Research scope, findings and Recommendations
Abu-Dalbouh (2013)	– Employed a quantitative approach using technology acceptance model (TAM) to assess the appropriateness of a mobile tracking on patient development application for health care industry its aims and objectives of the design – Study used an adapted and modified version measuring four dimensions namely; "perceived of usefulness, perceived ease of use and user satisfaction and attribute of usability" – Using the same questionnaire design, evaluation of a mobile tracking solution to monitor patient after implementation
Cheng *et al*. (2006)	– Cross-sectional study. Using TAM model, and Perceived Web Security, as an additional variable, the study empirically tested its capability in foreseeing customers' behavioral intention towards adopting internet banking – Furthermore in their work, with the help of structured equation modeling (SEM), correlation ship was evaluated among the variables namely; "perceived ease of use and perceived web security as independent variables, perceived usefulness and attitude as intervening variables, and intention to use as the dependent variable" – provides useful information for banking sectors
Celik and Yılmaz (2011)	– Supported the previous findings related to classical TAM model – Added five new factors to the model including; "two belief factors (perceived trust and perceived enjoyment), and three e-quality-related factors (perceived information quality, perceived service quality and perceived system quality)" Results support the earlier results related to classical TAM model; though, external factors in the recent time are also effectual in supporting the acceptance of e-shopping

Table 2.2 (continued)

Author(s)	Research scope, findings and Recommendations
Brown and Jayakody (2008)	– In the perspective of South African online consumers – Empirically tested seven inter-related dimensions of B2C e-commerce success namely "service quality, system quality, information quality, trust, perceived usefulness, and user satisfaction and continuance intentions". – Insignificant relationship was found between the variables namely; loyalty incentives and continuance intention, trust and user satisfaction, trust and continuance intention, system quality and perceived usefulness, system quality and user satisfaction, information quality and user satisfaction, information quality and continuance intention, service quality and continuance intention, service quality and perceived usefulness – By further examination and refinement of the project objectives measurement model and its application in diverse information system project case settings, the future research may focus on the enhancement of generalizability of the study
Author(s)	**Research scope, findings and Recommendations**
Delafrooz *et al.*, (2009)	– In support of B2C e-commerce, development of a tool to investigate and explore customers' online buying approaches and factors those may influence their attitude towards online buying and online shopping plans – In this regard, eight dimensions: "utilitarian online shopping orientation, hedonic online shopping orientation, fun, convenience, customer service, homepage, wider selection and price", have been duly addressed – Future may apply this instrument to alternative university of non-university consumer groups
Zarrad and Debabi (2012)	– Statistically investigated customers' adoption and rejection behaviors towards online shopping on the basis on five dimensions: attitude to online shopping, perceived usefulness, perceived ease of use, experience and online purchasing intention. – Out of these, three dimensions, "perceived ease of use, perceived usefulness and previous experience" proved decisive features those showed that internet is used for business purposes.

Table 2.2 (continued)

Author(s)	Research scope, findings and Recommendations
Bhattacherjee (2000)	– Theorizes a model of "e-commerce service acceptance", successfully adopted a adapted theory of planned behavior (TPB) and tested it using e-brokerage users' survey.
	– Via both the external and interpersonal influences, it is found that individuals' norms were important predictors of e-commerce acceptance, behavioral control having minimal impact on e-commerce acceptance along with and the external influence, as a significant determinant of subjective norms. Variable used are: "usefulness, ease of use, interpersonal influence, external, self, facilitating conditions, attitude, subjective norm, behavioral control and intention", adopted from different studies
	– Future research may work on theories building to come up with more complete explanation of e-commerce acceptance
Green & Pearson, 2011	– Investigates the functions of website usability in business to consumer (B2C) e-commerce environment by employing structural equation modeling (SEM) to analyze the association between several website usability and e-commerce variables namely; "design credibility, content, interactivity, navigability, responsiveness, download delay, perceived usefulness, perceived ease of use, satisfaction with design and trust, perceived risk, and intention to transact"
	– Reveals that the usability of website does affect numerous results that are important for businesses to catch customers' attention of and to retain them
	– Future studies may investigate further related constructs to better forecast electronic commerce recognition, demanding a more comprehensive model of e-commerce adoption. Further. the relationship demographic variables (age, gender, income and others) on the website usability e-commerce acceptance model by applying the model across various cultural groups
Chew *et al*. (2004)	– Employs diffusion of innovation to investigate internet usage by medical doctors
	– Dimensions used: relative advantage, compatibility, complexity, observability and trialability
	– Prospect studies may investigate other facets of the theory of diffusion of innovations, while looking into communications, the social system, and the time

Bhattacherjee (2000) theorized a model of e-commerce service acceptance, successfully adopted a customized theory of planned behavior (TPB) and tested it using e-brokerage users' survey. By using both external and interpersonal influences, the study found that individuals' norms were important predictors of e-commerce acceptance, behavioral control having minimal impact on e-commerce acceptance along with and the external influence, as a significant determinant of subjective norms. Furthermore, the used variables of the study were: "usefulness, ease of use, interpersonal influence, external, self, facilitating conditions, attitude, subjective norm, behavioral control and intention", adopted from different studies. Another study to investigate the functions of website usability in business to consumer (B2C) e-commerce environment, structural equation modeling (SEM) was employed to analyze the association between several website usability and e-commerce variables namely; "design credibility, content, interactivity, navigability, responsiveness, download delay, perceived usefulness, perceived ease of use, satisfaction with design and trust, perceived risk, and intention to transact". The study also suggests that the future studies may investigate further related constructs to better forecast electronic commerce recognition, demanding a broader model of e-commerce adoption. Further the relationship demographic variables like "age, gender, income and others" on the website usability e-commerce acceptance model by applying the model across various cultural groups could also be explored (Green & Pearson, 2011).

Chew, Grant and Tote (2004) used theory of diffusion of innovation to understand internet usage by medical doctors in a mid-sized Northeastern metropolitan area in the United States. Using the dimensions; "relative advantage, compatibility, complexity,

observability and trialability", the study calculated four regression equations, calculating "internet use, relative advantage, trialability, observability, and compatibility". First time, regression predicting internet use produced two significant variables; relative advantage and trialability. Second time, observability and compatibility appeared as significant predictors of relative advantage. Third time, regression predicting compatibility, complexity showed a noteworthy variance. A study conducted by Celik and Yılmaz (2011) supported the previous findings related to classical TAM; however they added five new factors to the model including; "two belief factors (perceived trust and perceived enjoyment), and three e-quality-related factors (perceived information quality, perceived service quality and perceived system quality)".

Depending on the nature of research, relationships vary from highly significant to extremely insignificant. For instance, various studies calculated insignificant relationship between "perceived ease of use", attitudes and intentions (Hassanein & Head, 2006; Gefen & Straub, 2004). Brown and Jayakody (2008) empirically tested seven inter-related dimensions of B2C e-commerce success those are: "service quality, system quality, information quality, trust, perceived usefulness, and user satisfaction and continuance intentions". Out of total 18, half of those hypothesis, for instance, relationships between the variables: loyalty incentives and continuance intention, trust and user satisfaction, trust and continuance intention, system quality and perceived usefulness, system quality and user satisfaction, information quality and user satisfaction, information quality and continuance intention, service quality and continuance intention, service quality and perceived usefulness, were measures as insignificant.

In support of B2C e-commerce, Delafrooz *et al*. (2009) developed a tool to investigate and explore customers' online buying approaches and factors those may influence their attitude towards online buying and online shopping plans. In this regard, eight dimensions: "utilitarian online shopping orientation, hedonic online shopping orientation, fun, convenience, customer service, homepage, wider selection and price", have been duly addressed. As discussed previously, the focus streams of study are: technology readiness, trust, religiosity and diffusion of e-commerce. The following discussion explores technology readiness followed by the sub-topics.

2.3   Technology Readiness

McOmber (1999) defined technology as, "a form of human cultural activity that applies the principles of science and mechanics to the solution of problems. It includes the resources, tools, processes, personnel, and systems developed to perform tasks and create immediate particular, and personal and/or competitive advantages in a given ecological, economic, and social context". Technology readiness (TR)   shows the inclination of consumers towards accepting and using the innovations or latest technologies to fulfill their ambitions. It has for dimensions namely; "optimism, innovativeness, discomfort, and insecurity" (Parasuraman, 2000; Demirci & Ersoy, 2008). Massey *et al*. (2007) and Demirci *et al*. (2008) explored that technology readiness (TR), whilst includes innovativeness, included more than the grade to which an individual was comparatively aforementioned towards adopting new technologies. The Table 2.3, put light on the previous researches performed in the area of technology readiness.

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Table 2.3
Technology Readiness

Author(s)	Research scope, findings and Recommendations
Lin and Hsieh (2007)	– Explores the "influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies" – Believing that technology readiness has influence on contentment and behavioral intentions towards self-service technologies (SST), study highlights three findings on the customers' behavior when using self service technologies. First, the customers' satisfaction level of self service technologies (SSTs) depend upon their respective level of technology readiness. Second, the more intensity of technology readiness shows creates positivity in customers' behaviors. Third, consumers are expected to pass recommendations within their community if they have gained more satisfaction themselves – Incorporating additional constructs and their interactions, future research should focus on developing a richer model and see their place in the hypothesized model
Spinelli *et al*., 2013	– Study, conceptually and empirically explores the application of the concept of information technology readiness in the perspective of small firms – Information technology readiness concept proves valid with the appearance of three variables namely; "strategic vision, project management capability, and IT application infrastructure" – Future direction: incorporating actual business performance into the testing of the proposed framework
Esen & Erdogmus, 2014	– In the perspective of Turkey, study investigates the effects of technology readiness on technology acceptance in the field of e-HRM – shows positive relation of technology readiness on technology acceptance in the field of e-HRM – The same framework needs to be applied to the other countries to measure the difference, if any
Walczuch *et al*., 2007	– Combining the technology readiness index (TRI) and TAM, the study measures the relationship between "TRIs personality trait dimensions (optimism, innovativeness, discomfort, and insecurity) and the cognitive dimensions of TAM". Research respondents are employees of a multi-site financial service provider – Research reveals that personality traits had the anticipated impact on user perceptions; whereas; innovativeness had negative relation to usefulness

According to Ogrean *et al.* (2010), technological readiness, a key to efficiency-driven economy in the second stage of development, falls at ninth level in the list of pillars of national competitiveness. To help communities and taking steps towards diffusion of e-commerce, Asia-Pacific Economic Cooperation (APEC) investigated six broad indicators of readiness namely; fundamental technology and infrastructure, admittance to obligatory services, contemporary internet conditions, back-up actions, skillfulness and human capital, positioning for the digital economy (APEC, 2000).

Importance of technology readiness cannot be denied, as the relationship between "people, process and technology" is evident and the same are the supporters of e-readiness (Lou & Goulding, 2010). Also, equally important, an educated and well qualified manpower improves technological readiness of a country, hence the area needs full attention from the officials along with the other two dimensions of technology namely; "ICT infrastructure and Technology innovation" , to catch the totality of the whole concept i.e. technological success (Venkatesh *et al.*, 2007). Customers' level of technology readiness and acquaintance with new technologies play a vital role in the progress of businesses (Demirci & Ersoy, 2008). For example, marketing inspection/ analysis influences customers' selection towards "self-service technologies" (Parasuraman, 2000; Demirci & Ersoy, 2008). At organizational level, it's not the investment but the strategic idea and project management competence that decide on the organizational information technology readiness (Spinelli *et al.*, 2013).

Believing that technology readiness has influence on "satisfaction and behavioral intentions towards self-service technologies", Lin and Hsieh (2007) highlighted three

findings on the customers' behavior when using self service technologies. First, the customers' satisfaction level of self service technologies (SSTs) depend upon their respective level of technology readiness. Second, the more intensity of technology readiness shows creates positivity in customers' behaviors. Third, consumers are expected to pass recommendations within their community if they have gained more satisfaction themselves. Studies are also found showing positive relation of technology readiness on technology acceptance in the field of e-HRM (Esen & Erdogmus, 2014).

E-readiness, another form of readiness, generally deals with states' nationwide policies, integration in technology and rule and regulation related to it. It reflects the preparedness of a state in terms of upholding electronics based businesses (Dada, 2006; Luyt, 2006; Hosseinpour *et al*., 2013; Parasuraman, 2000). Economist Intelligence Unit has organized e-readiness, bearing different weight scale, into six major classes namely; access and technological infrastructure, business situation, social and cultural atmosphere, legal milieu, government policy and vision, customer and company adoption (IBM, 2009). Moreover, it is worthy to note that individuals' personalities bear different attitude towards innovation acceptance (Walczuch *et al*., 2007).

2.3.1   Role of T-readiness in Diffusion of Innovation

Consumers' different level of technology readiness and the fast growing attitude of "e" marketplaces demand all the businesses to keep themselves updated and upgraded to survive better (Dada, 2006; Luyt, 2006; Hosseinpour *et al*., 2013; Bui *et al*., 2003). An empirical study in this regard was conducted; two student communities, from different countries, were observed using technology readiness index (Parasuraman, 2000) to

calculate their level of readiness and willingness to use latest technologies. The Chinese

fellows were found suffering from higher level of discomfort and insecurity and lower

level of optimism and innovativeness as compare to their American mates (Elliott *et al.*,

2008) as shown in Table 2.4.

Table 2.4
Technology Readiness in Diffusion of E-commerce

Author (s)	Research scope, findings and Recommendations
Elliott *et al.*, 2008	– An empirical study in this regard was conducted; two student communities (American & Chinese) were observed using technology readiness index (TRI) to calculate their level of readiness and willingness to use latest technologies – The Chinese fellows were found suffering from higher level of "discomfort and insecurity" and lower level of "optimism and innovativeness" as compare to their American mates – The scale uniqueness "dimensionality, internal consistency" may vary from culture to culture; for instance; western and eastern cultures. Future research is required to evaluate the suitability and appropriateness of TRI scale in different cultures' perspectives – Another possibility for upcoming study involves a formal examination of cultural characteristics and technology readiness
Shih *et al.*, 2005	– Addressing rule of law and the international diffusion of e-commerce – An empirical study on e-commerce activity showing a direct relationship to technological readiness and to rule of law, while other posited factors such as; "financial resources, experience with direct marketing, and availability of payment facilitators are not significantly related". – "Rule of law" as a moderator, has a significant interaction effects with several of the variables, including market capitalization, direct marketing revenue, Internet users, and credit card use – Important suggestions for business managers and for government policymakers
Tan & Ouyang, 2004	– In China, e-commerce diffusion has suffered having lower technology acceptance level due to the environmental hurdles including online security issues, pitiable legal safeguard, low trustworthiness of sellers and customers and poor logistics – Concludes that e-commerce diffusion official policies should be used toward passing various laws and regulations

Table 2.4 (continued)

Author (s)	Research scope, findings and Recommendations
Abu-Assi *et al.* (2014)	– In the perspective of Jordan – Investigating the determinants of internet banking adoption in the perspective of Jordan, three frameworks namely; "technology acceptance model (TAM), diffusion of innovations (DoI) and technology readiness index" were studied – Study found out that "compatibility, perceived ease of use, security and perceived usefulness" had a significant positive influence on the internet banking adoption – Demographic constructs had an impact on the internet banking adoption – Possibly, there will be supplementary factors those can affect adoption of internet banking. Future studies may focus on empirical research to investigate other factors like; culture, internet connection type and self-efficiency
Ferreira *et al.*, (2014)	– In the perspective of Latin America (Brazil) – Study suggests and checks an extensive model for customer adoption of high technology items by integrating concepts of "consumer acceptance of technology model (Kulviwat *et al.*, 2007) and the technology readiness construct (Parasuraman, 2000)" – An interesting finding reveals that customers' cognitive and sentimental assessments on the latest technologies are influenced by the level of technology readiness – Results may reflect specific characteristics of Brazilian (and other Latin American) consumers, who are usually more emotive than those of more rational cultures – Future research may also explore other scales for the variables and dimensions used in the CART model or constructs those are conceptually alike, to compare with the results obtained. It would be appealing to examine possible moderating effects of demographic variables in this regard
Lee, 2001	– Perspective of the East Asian region – By focusing on the education plans, study talks about the actions in building suitable human abilities for the adaptation of up-to-the-minute technologies in the developing states – Emphasizes on the role of human capital as an absorption capacity for new technologies in developing countries – It's not only the investment in the field of information and communication (ICT) but the citizens' ability and accessibility toward the technology that seems the main barrier towards e-commerce. Hence the developing states need to educate their citizens to enable them to catch the fast pace of e-commerce

Table 2.4 (continued)

Author (s)	Research scope, findings and Recommendations
Aladwani (2003)	– In the perspective of Arab countries – Study focuses on particular internet technology characteristics and e-commerce issues in the region to highlight "diffusion of the internet and its applications in Arab countries" to make the policy makers realize – Most Arab countries are lagging behind and to them, there is long way to realize the benefits of the use of Internet technology – suggests more research on the Arab consumers' awareness and attitude towards e-commerce
Ali & Al-Jabri, 2011	– Explores payment mechanism in Oman and its fulfillment to international standards and practices – A comparative study on the experience of payment systems approaches in developed countries like; "USA, UK and Australia and regional Gulf Cooperation Council (GCC) countries". – Highlights gaps in Oman's payment systems with international standards and practices. Omani banking payment system needs to seek more maturity and improvement towards e-commerce development – It suggests stronger "financial infrastructure, particularly in payment systems" whereas; the "current issues in the Oman's payment systems may be an obstruction and against best practices"
Lai (2008)	– In the perspective of Malaysia – Investigates the status of technology readiness (using TRI by Parasuraman, 2000) of professional accounting students to examine their levels of internet self-efficacy, computing experience and satisfaction with the professional training being persuaded to improve technological skills – qualified accountants, categorized as; explorers, pioneers, skeptics, paranoids, and technology laggards, were found neutral towards "techno-ready" and "techno-resistant" towards new technologies
Berndt et al., 2010	– In the perspective of South Africa – In the perspective of South Africa, consumers were found reluctant using machine banking as compare to the consumers in the USA, Which means that consumers are not as ready to adopt technology, which is required by banks to develop their products and to invest their resources to enhance customers' satisfaction

In China, e-commerce diffusion has suffered having lower technology acceptance level due to the environmental hurdles including online security issues, pitiable legal safeguard, low trustworthiness of sellers and customers and poor logistics (Shih *et al*., 2005; Tan & Ouyang, 2004). A research by Lai (2008), found that qualified accountants, categorized as; explorers, pioneers, skeptics, paranoids, and technology laggards, were found neutral towards "techno-ready" and "techno-resistant" towards new technologies. In the perspective of South Africa, consumers were found reluctant using machine banking as compare to the consumers in the USA (Berndt *et al*., 2010).

Investigating the determinants of internet banking adoption in the perspective of Jordan, three frameworks namely; "technology acceptance model (TAM), diffusion of innovations (DOI) and technology readiness index (TRI) were studied. Their findings concluded that "compatibility, perceived ease of use, security and perceived usefulness" had a significant positive influence on the internet banking adoption (Abu-Assi *et al*., 2014).

An interesting finding reveals that customers' cognitive and sentimental assessments on the latest technologies are influenced by the level of technology readiness (Ferreira, Rocha, & da Silva, 2014). Along with the technological readiness and trust, religiosity measure of consumers is expected to have very fruitful results in the perspective of diffusion of e-commerce. It's not only the investment in the field of information and communication (ICT) but the citizens' ability and accessibility toward the technology that seems the main barrier towards e-commerce. Hence the developing states need to educate their citizens to enable them to catch the fast pace of commerce in the present era

(Lee, 2001). Aladwani (2003) suggested more research and investigation on Arab consumers' awareness and attitude towards e-commerce. As shown in Table 2.4, Omani banking payment system needs to seek more maturity and improvement towards e-commerce development (Ali *et al*., 2011).

2.3.2 Dimensions and Measurement of Technology Readiness

According to Parasuraman (2000) technology readiness has the following dimensions: Optimism: An optimistic approach towards technology including; flexible options, efficient results and the accuracy it offers.

Innovativeness: A propensity of being pioneers using latest technology. Innovativeness calculates the degree to which users think they are at the front position in trying out innovative technology and are entitled as "opinion leaders" on technology related matters.

Discomfort: A superficial lack of grip over the innovation (latest technology) and a sense of being besieged by it. That shows the extent to which a common consumer suffers from suspicion. Due to the reason, a common consumer may think that innovations are manufactured for him/her use, or a technical help provider for the new technology may get any undue advantage etc.

Insecurity: Mistrust of technology and doubts about its ability to work properly; this dimension focuses on specific aspects of technology-based transactions, rather than on a lack of comfort with technology in general.

As mentioned earlier, technology readiness has been studied in different perspectives. There are few relevant studies as briefly mentioned in Table 2.5. Burba *et al.* (2012) studied technology perception and use of social media by the perception of agents owing autonomous insurance offices in Illinois, USA. The measurement scale, used by them, was adapted from previous studies by Parasuraman and Colby (2001). In the perspective of Turkey, Demirci *et al.* (2008) produced an updated version of Parasuraman's extensive work on the technology readiness index (TRI) to discover the potential dissimilarities between the number of aspects and the organization of factor regarding the technology readiness (TR) of prospective customers. Customers are expected to have both optimistic and pessimistic approaches towards new technologies offering products and services. Previous studies showed that technology idealists and innovators faced nervousness like less motivated technology customers. With regards to the gender variable, found by the researchers, innovativeness was witnessed significantly unlike comparing to the other variables (age, income, education) and the values of male participants were assessed higher than those of females. With respect to "age", "insecurity and discomfort" were found to be significantly different from the variables: "gender, income and education". Whereas in another study, according to the variables (educational level and average income), none of the factors (optimism, innovativeness, discomfort, insecurity) were statistically found different (Schumacher *et al.*, 2001).

Table 2.5
Dimension and Measurements of Technology Readiness

Author (s)	Research scope, findings and Recommendations
Burba *et al.* (2012)	– In the perspective of Midwest Illinois, USA – Studied technology perception and use of social media by the perception of agents owing autonomous insurance offices in Illinois, USA. The measurement scale, used by them, was adapted from previous studies by Parasuraman and Colby (2001). Investigates behaviors and view concerning the use of social media by independent insurance agents – Goal of this study is to get a grasp on the insurance agents' current use of social media in support of the agency and how the benefits of doing this are perceived. Findings of the research generally: technology readiness is not the main difference in using Facebook as a tool for supporting the agency among a mostly older, male group of independent agents in Illinois
Demirci and Ersoy (2008)	– In the perspective of Turkey, research produced an updated version of Parasuraman's extensive work on the technology readiness index (TRI) to discover the potential dissimilarities between the number of aspects and the organization of factor regarding the technology readiness (TR) of prospective customers. Customers are expected to have both optimistic and pessimistic approaches towards new technologies offering products and services – Previous studies showed that technology idealists and innovators faced nervousness like less motivated technology customers – Study reveals that the "cultural differences may affect the technology readiness of people in a society". Hence, this might have been performed in diverse cultures having key dissimilarities from the culture of the USA. In this way, an comprehensive degree could be developed to cover more "statements to better measure the effect of cultural factors in technology readiness"
Schumacher *et al.*, 2001	– According to the variables (educational level and average income), none of the factors (optimism, innovativeness, discomfort, insecurity) were statistically found different – Research, by and large, supports that females have less general "experience with computers and are more likely to have negative attitudes towards computers comparing to males". Males were found more experienced and highly skilled with the internet comparing to females, with the exception of e-mail. Future study is suggested with respect to more miscellaneous populations.

Table 2.5 (continued)

Author (s)	Research scope, findings and Recommendations
Meuter *et al.*, 2003	– Investigates the handling patterns and benefits of using self-service technologies based on a sample of 823 consumers – Evaluates the influence of individual characteristics, specifically technology anxiety and nervousness, in particular demographics, self-service technologies usage patterns and levels of satisfaction – Shows that respondents with higher levels of technology anxiety use fewer self-service technologies and that technology anxiety is a better, more consistent predictor of self-service technologies usage than are demographic variables. Technology anxiety was found to "influence overall levels of satisfaction, intentions to use the SST again and the likelihood of participating in positive word-of mouth for those consumers who had an initially satisfying experience" – In addition, it may also be fruitful to explore the technology anxiety of "retail employees who are expected to use new technologies in their daily interactions with customers" – consumers were found willing to adopt self-service, if it seems suitable, competent, or pleasant to them
Parasuraman & Colby (2001)	– Combining two models (technology readiness index and technology acceptance model), the study measured the relationship between the TRI personality attribute dimensions (optimism, innovativeness, discomfort, and insecurity) and the cognitive dimensions of the TAM model – Findings shows that persona traits had the estimated impact on user perceptions, however unexpectedly relationship between innovativeness and usefulness was found insignificant – Out of the four categories namely; optimism, innovativeness, discomfort and insecurity, consumers inclinations based on stronger traits and usage of latest technology products and services
Walczuch *et al.*, 2007	– Combining the technology readiness index (TRI) and TAM, the study measures "the relation between TRIs personality trait dimensions (optimism, innovativeness, discomfort, and insecurity) and the cognitive dimensions of TAM model" – Research respondents are employees of a multi-site financial service provider – Research reveals that personality traits had the anticipated impact on user perceptions; whereas; innovativeness had negative relation to usefulness – Individuals' personalities bear different attitude towards innovation acceptance

Table 2.5 (continued)

Author (s)	Research scope, findings and Recommendations
Summak *et al.*, 2010	– In the perspective of Turkey, study investigates level of technology readiness of the primary school teachers
	– Taking Turkish teachers as respondents, their role player in information and communication (ICT) integration, study analyses four dimensions (optimism, perceived usefulness and innovativeness) of technology readiness
	– With significant disparities between males and females in scores (mean value, t-readiness), results found significant differences between two dimensions (optimism and innovativeness) and on the whole technology readiness index (TRI); however, no significant differences were found towards "discomfort and insecurity"
	– In terms of demographic variable, "age and subject area, there was no significant difference between technology readiness of the participants and the demographics"
Son & Han, 2011	– In the perspective of Korea
	– Highlights the "post-adoption behavior and investigates how TR affects the continued use intention of new technology, specifically the research study categorizes usage behavior into the usage rate of basic functions, the usage rate of innovative functions, and the diversity of use of innovative functions"
	– customers' pulse on the technology needs to be keen diagnosed at all times (pre-adoption and post-adoption)
	– Results revels that each dimension of technology readiness (optimism, innovativeness, discomfort and insecurity) possess a significant dissimilar impact on treatment patterns

In the study conducted by Lin and Hsieh (2007), technology readiness assessment showed no influence on the "customer satisfaction and behavioral intention" with regards to self-service technologies (SSTs). Whereas; Lin and Hsieh (2007) and Parasuraman (2000) found that customers' perceived attraction towards services based on technology were significantly different across three T.R. segments for all the services. Furthermore, consumers were found willing to adopt self-service, if it seems suitable, competent, or pleasant to them (Meuter *et al.*, 2003).

By combining two models (technology readiness index and technology acceptance model), Parasuraman & Colby (2001) and Walczuch *et al*. (2007) measured the relationship between the TRI personality attribute dimensions i.e. "optimism, innovativeness, discomfort, and insecurity", and the cognitive dimensions of the TAM model. The research findings showed that persona traits had the estimated impact on user perceptions, however unexpectedly relationship between innovativeness and usefulness was found insignificant. Out of the four categories namely; optimism, innovativeness, discomfort and insecurity, consumers inclinations based on stronger traits and usage of latest technology products and services.

Previous empirical studies have established that the relationship between "perceived ease of use" and "perceived usefulness" is positively significant (Venkatesh & Davis, 2000a; Venkatesh & Morris, 2000b). Whereas; the analysis done by Walczuch *et al*. (2007), relationship between "optimism" and "perceived usefulness" of the technology was found a significantly positive, however the study showed a significantly negative relationship between "innovativeness" and "perceived usefulness". Taking Turkish teachers as respondents, their role player in information and communication (ICT) integration, was observed to analyze four above mentioned dimensions technology readiness. With noteworthy disparities between males and females in scores (mean value, t-readiness), the study found significant differences between two dimensions (optimism and innovativeness) and on the whole technology readiness index (TRI); however, no significant differences were found towards "discomfort and insecurity" (Summak *et al*., 2010). Today, the increased use of technological devices and services have not only been benefiting the consumers, but also causing nuisance over unproductive outcomes.

Regarding this, customers' pulse on the technology needs to be keen diagnosed at all times (pre-adoption and post-adoption). Looking at the repurchase behaviors of Korean customers, the study found that each dimension of technology readiness (optimism, innovativeness, discomfort and insecurity) possess a significant dissimilar impact on treatment patterns (Son & Han, 2011).It is also established that cultural diversities may or may not influence technology readiness level in a particular society. Hence, an empirical study addressing a different culture is highly suggested as a future recommendation (Demirci & Ersoy, 2008).

2.4   Trust in E-Commerce (B2C)

According to the gurus, trust bears multi-meanings in it and researchers are advised to focus on the particular component instead of taking it as a generalized one (Robert Kaplan). Focusing on this study, it can be defined as self-assurance or anticipation where merchants' statement can be trusted and customers are assured of not being deprived of their rights (Gefen, 2000; Corbitt *et al*., 2003; McKnight *et al*., 2002; Kim *et al*., 2008). Trust is also defined trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the agility to monitor or control that other party" (Mayer *et al*., 1995; Ratnasingham, 1998; Hosmer, 1995). As a significant predecessor of customers' readiness to employ them in e-Commerce (Gefen, 2000; Jarvenpaa & Tractinsky, 1999), trust is the estimate of probability of upcoming support and is a defining aspect of virtual assistance. There are three forms, mutually linked to each other, of trust namely; "knowledge-based trust, identification-based trust and deterrence-based trust" (Ratnasingham, 1998). The following section highlights more on trust in the

perspective of B2C e-commerce. The following sections explain about trust with respect to business to commerce electronic commerce.

2.4.1 Trust in B2C E-Commerce

In B2C e-commerce, trust is a vital factor (Slyke *et al*., 2004) that offers customers buoyancy to deal with an unknown seller (Bryant & Colledge, 2002). It persuades buyers to use and rely on the business technologies resulting in improvement in all sectors of the businesses for all stakeholders (Pittayachawan, 2007). However, it is difficult for the parties to build trust due to the nature of business i.e. e-commerce (Ba & Pavlou, 2002; Alqahtani *et al*., 2012). As an alternate solution, trust replaces rules and cultural feelings when requires. Similarly, e-trust is a combination of values with varying significance depending on their relevancy to the anticipated conclusions (Gefen & Straub, 2004). Likewise, distrust, like trust, is equally imperative (Slyke *et al*., 2004; Leitch *et al*., 2000) in online business for all the stake holders involved is found to have more emphasis on truster's objectives (Moody *et al*., 2014). Choi *et al*. (2014) and Liu *et al*. (2005) built agent-based simulation replica to learn the inference of different vendor actions to counter different conditions of trust infringement, developed an "agent-based" model. Table 2.6 briefly explain s the past researchers upheld exploring business to consumer electronic commerce.

Table 2.6
Trust in B2C E-Commerce

Author (s)	Research scope, findings and Recommendations
Alqahtani *et al.*, 2012	– In the perspective of Saudi Arabia – Using grounded theory, study investigates the key role playing factors in the adoption of electronic commerce from a customer's perceptive. – Frames a framework to conceptualize the important factors i.e. enablers and disablers of electronic commerce in Saudi Arabia – Findings suggest that the most influential factors are: "security, fraud and hacking, trust, cyber-law, awareness and perceived usefulness, postal services, government e-readiness, resistance to change, the presence of commercial electronic websites, cost, tangibility, warranty, trial and experience"
Choi and Nazareth (2014)	– Adopting a procedural view of trust violation and repair, study examines the process of trust violation and rebuilding in the security in the context of electronic commerce; further it uses the view that trust between a customer and vendor in an e-commerce situation is of the same kind to that of interpersonal relationships – First, study seeks to describe the trust violation and repair process to better understand the vendor and customer actions in the case of trust violation, drawing from the interpersonal trust domain. Second, the study assumes a design science research perspective, instead of the social science research method – The possible outcome of this research contains a better understanding of the trust rebuilding – Builds agent-based simulation replica to learn the inference of different vendor actions to counter different conditions of trust violation developed an "agent-based" model
Liu *et al*. (2005)	– In the perspective of the USA – Proposes and tests a "theoretical model that considers an individual's perceptions of privacy and how it relates to his or her behavioral intention to make an online transaction" – Study sample focuses on American perceptions while electronic commerce is a international phenomenon and "privacy has a strong influence on whether an individual trusts an electronic commerce". Consecutively, this will affect consumers' behavioral intentions towards online business

Table 2.6 (continued)

Author (s)	Research scope, findings and Recommendations
Patton & Josang, 2004	– Plans substitute methods for the assessment, communication and establishment of trust – Broader ranges of disciplines "human-computer interaction, usability, marketing, information technology, mathematics, linguistics and law" are exemplified. Likewise, trust building plans from the industry, self-regulatory and administration plans and confidence in e-commerce are addressed – Trust, having an immense effect on security and privacy, is crucial factors in e-commerce
Kong & Hung, 2006	– Provides a "theoretical framework to examine customers' formation of initial trust and repeat trust simultaneously. The framework classifies motivation and ability to assess online vendor's characteristics as the key drivers to the formation of online trust attitude" – Since, "perceived risk is assessed based on factors outside the relationship of the customer and e-vendor, risk perceptions are frequently reassessed with each subsequent transaction" – In online businesses, transactions take place more uncongenial, nameless, and computerized and the "proposed model will provide a more complete framework to better explain the dynamics between initial and repeat online trust. It offers contributions to both practitioners and researchers"
Jarvenpaa & Tractinsky, 1999	– Providing a tentative support for the generalizability of the model, study investigates "on a cross-cultural validation of an Internet consumer trust model", while examining "both antecedents and consequences of consumer trust" in an online trade – Consumers' trust in B2C e-commerce may also be affected by culture, i.e. consumers from different culture could possibly have different levels of expectation from the e-vendor to get them satisfied

Trust, having an immense effect on security and privacy, is crucial factors in e-commerce (Patton & Josang, 2004), also in online businesses, transactions take place more uncongenial, nameless, and computerized (Cyr *et al*., 2004; Kong *et al*., 2006), and, moreover trustworthiness cannot be judged by gestures and overall business environment (Gefen, 2002b; Kong & Hung, 2006). Importantly, consumers' trust in B2C e-commerce

may also be affected by culture, i.e. consumers from different culture could possibly have different levels of expectation from the e-vendor to get them satisfied (Jarvenpaa & Tractinsky, 1999).

2.4.2 Role of Trust in Diffusion of e-commerce

Innovation researchers have been exploring the role of trust in the diffusion of electronic commerce, as shown in Table 2.7. Due to the presence of trust, customers feel optimistic and attracted towards B2C e-commerce (Slyke *et al*., 2004). Instead of having privacy policies implemented, 64 percent of the online customers were found dubious toward online businesses (Pastore, 2000). It is believed that the four dynamics (security, privacy, non deception and reliability) are observed as the most convincing to the customer, increasing their satisfaction and trust levels in e-commerce (Nardal & Sahin, 2011).

Table   2.7
Role of Trust in Diffusion of E-Commerce

Author (s)	Research scope, findings and Recommendations
Nardal & Sahin, 2011	– In the perspective of Turkey (Izmir, Manisa, Mersin) – Using "consumers' perceptions regarding to ethics of online retailers" measurement scale, study evaluates ethical issue of online retailing – Find out that four aforesaid factors are "strongly predictive of online consumers' satisfaction" – Four factors namely; "security, privacy, non deception and reliability" are found the most convincing to the customer increasing their satisfaction and level of in e-commerce – Study will help online retailers in developing their activities with regards to online retailing – The study could be applied in the perspective of different countries to have a comparison
Palvia (2009)	– Further than intention including key relational concepts like; satisfaction, value, loyalty, etc. the study develops a unified model to assess the role of trust in e-commerce relational exchange – Suggested further research by combining "technology and trust".

Table 2.7 (continued)

Author (s)	Research scope, findings and Recommendations
Slyke *et al*. (2004)	– A study analyzing the impact of trust and influential factors in adoption of web-based shopping – Conducted an empirical study, looking into the impact of trust in B2C e-commerce; which revealed that trust positively affected online shopping. – Moreover perceptions of "relative advantage, complexity, compatibility, and image" indicated a major relationship with "use intentions" – Framework applying to other cultures may reveal different results, hence future studies suggested in different cultures
Muhammad *et al*. (2013)	– Keeping in consideration a huge Muslim consumers' market, it is very relevant to understand the concept of trust in the light of Shari'ah – It is further needed to look deeply into Islamic perspective – Highlights that to promote B2C e-commerce, particularly in Muslims society, it is essential to follow the Islamic rules and regulations. – Study proposes replica of "Shari'ah-compliant e-commerce for online trust" shows the role of Islamic laws to ensure a trustworthy environment in the field of e-commerce, which may play a vital role e-commerce trust building for all parties dealing in e-commerce

Trust, due to its effect on individuals' mind-set, gave an impression to have twofold effects in business parties' mutual relationships and as an elementary condition in ascertaining parties' relations in e-commerce, is the most imperative restraint. Towards keeping the relationship trustworthy in e-commerce, findings of the study conducted by Palvia (2009) suggested further research by combining "technology and trust". Comprehension of trust in online transaction; incorporating individuals personal experience, "socio-psychological and "socio-cultural" etc., will extensively help intelligentsia in taking steps to keep the business updated and upgraded.

It is believed that in business to consumer (B2C) e-commerce, "trust" has been paid a huge attention from the consumers and mistrust is seen as one of the main hurdles in this regard (Zhuang & Lederer, 2006; Hoffman *et al*., 1999; Egger, 2000).For successful B2C e-commerce, not only enough security (Krishnamurthy, 2006; Nardal & Sahin, 2011),but trust building measures need to be maintained for the potential consumers (Babin *et al*., 2004; Nardal & Sahin, 2011). Slyke *et al*. (2004) conducted an empirical study, looking into the impact of trust in B2C e-commerce; which revealed that trust positively affected online shopping. Moreover perceptions of "relative advantage, complexity, compatibility, and image" indicated a major relationship with "use intentions". Besides, a proposed replica of "Shari'ah-compliant e-commerce for online trust" by Muhammad *et al*. (2013) shows the role of Islamic laws to ensure a trustworthy environment in the field of e-commerce, which may play a vital role e-commerce trust building for all parties dealing in e-commerce.

2.4.3   E-Commerce (B2C) Trust in the Developing States

Like developed countries, the developing states have been paying attention towards the growth of electronic commerce (as shown in Table 2.8). In Libya, B2C e-commerce has been suffering due to expensive telecommunications, poor logistics, cultural barriers and lack of trust (Hunaiti *et al*., 2009). Previous studies showed that the online business trust level of both the Israeli and Australian consumers (B2C e-commerce) is dissimilar (Jarvenpaa & Tractinsky, 1999). In Bangladesh, one of the developing states in South Asian region, trust in B2C e-commerce have been facing big challenges at all levels and in all aspects (Dey *et al*., 2009). In the perspective of Iran, Mostafaeipour, Tabatabaeiaghda and Yazdi (2011) found out that it was not only the internet access,

availability of computer, sufficient skills and the English language, but lack of trust towards e-vendors, was the major blockades of B2C e-commerce. Research scholars argue that mistrust is one of the main hurdles towards B2C e-commerce and potentially not only the price that may come up as attractive tool towards overseas customers, but the trust could prove itself as a universal qualifier (Hoffman *et al*., 1999). In KSA, about forty percent of the participants are reluctant towards e-commerce due to the lack of trust (Alqahtani *et al*., 2012). Arab states have the same origin in respect of their "culture, religion, language and history" (Al Hosni *et al*., 2010). Notwithstanding, the Middle East, a region of an ancient culture and deep-rooted social norms (Hu *et al*., 2010; Al Hosni *et al*., 2010), follows USA and Canada in the terms of telecommunication acceptance, it stands far behind in practicing e-commerce (Al-Mamari, 2007; Petermeijer *et al*., 2015).

Table   2.8
Role E-Commerce Trust in Developing State

Author (s)	Research scope, findings and Recommendations
Hunaiti *et al*., 2009	– In the perspective of Libya
	– Business to consumer e-commerce has been suffering due to expensive telecommunications, poor logistics, cultural barriers and lack of trust, while highlighting that "design and implementation of a national framework would be beneficial to the growth of e-commerce" in Libya
Dey *et al*., 2009	– In Bangladesh, one of the developing states in South Asian region, trust in B2C e-commerce have been facing big challenges at all levels and in all aspects
	– Research propose an "electronic commerce enabled model for protected electronic fund transfer, and discuss ways to lessen challenges in building trust in business to consumers"
	– Using a survey on consumers' perception on trust in e-commerce in developing states, study argues that the security requirements in e-commerce usually go beyond the more traditional requirements like; network security etc.

Table 2.8 (continued)

Author (s)	Research scope, findings and Recommendations
Mostafaeipour *et al.* (2011)	– In the perspective of Iran (Yazd) – An exploratory study to investigate the barriers towards implementing e-commerce – Reveals that it is not only the internet access, availability of computer, sufficient skills and the English language, but lack of trust towards e-vendors, was the major blockades of B2C e-commerce – For future studies, method of e-commerce (B2C) in the perspective of developing countries
Al-Dwairi (2013)	– Following an innovative approach, the study illustrates an empirical study to identify key factors for trusted e-commerce web sites – Investigates main trust factors by addressing issues like; privacy, design and content of e-commerce websites, that will assist electronic customers in conducting their businesses confidently. – Further research is advised addressing covering demographic factors
Eid (2011)	– In the perspective of Kingdom of Saudi Arabia, using a structured self-administered questionnaire – Buyers' trustworthiness is strongly affected by customer contentment but weakly influenced by customer trust in B2C e-commerce – E-commerce acceptance level was higher among aged, well educated and rich respondents – Future research suggests an investigation on "the impact of the above suggested factors (customer value, purchasing culture, and government support and/or legislation for the protection of online customers, and customer support before and after the online purchase) on trust, satisfaction, and loyalty across cultures in the Arabian Gulf offers opportunities for enhancing the online shopping in the Arabian Gulf region in general"
Al Rawabdeh *et al.*, 2012	– In the perspective of Arab World addressing trust and security issues in electronic commerce adoption – Reliable security and trust will increase B2C e-commerce in the Arab world, a region with increased use of internet – Future research will examine "the impact of these factors suggested confidence, satisfaction and loyalty in different cultures in the Arab countries offers opportunities to improve e-commerce in the Arab world, in general"

Table 2.8 (continued)

Author (s)	Research scope, findings and Recommendations
Kennedy *et al.*, 2001	– In the perspective of the USA. Study proposes an affirmative model of consumers' trust of salesperson and that provides suggesting improvements in relationships and buyers and sellers mutual trust – The findings signify that "trust results from salesperson competence, low pressure selling tactics, service quality, manufacturer ethical concern, and a general tendency to trust others" – The findings signify that trust results from salesperson competence, low pressure selling tactics, service quality, manufacturer ethical concern, and a general tendency to trust others – Following the pattern, future study is suggested in cross cultures
Teo & Liu, 2007	– In the perspective of the "United States, Singapore and China"; examines the antecedents and consequences of consumer trust, whereas an "interesting finding of this study is that similar results were obtained across three cultures aforementioned" – Trust is being studied for last about fifty years, with major research on the English speaking & recently industrialized states, for example, the USA. The results show that "reputation and system assurance of an Internet vendor and consumers' propensity to trust are positively related to consumer trust. Consumers' trust has a positive relationship with attitude and a negative relationship with perceived risk" – Prospect studies can look at the proposal that "culture does not make a difference on trust among educated people from various cultures"
Al Hosni *et al.*, 2010	– Investigates "the current literature in order to assess the mobile commerce adoption in Arab countries within Middle East and identify the key success factors in mobile commerce adoption in them". Middle Eastern inhabitants are found resistant toward learning and welcoming new technologies. – To attract Arab world towards B2C e-commerce, religious beliefs including user-friendly language options would be considered. A quantitative study is highly recommended seeing that a very few studies are found on the subject of B2c e-commerce barriers in the Arab world including; social, educational and cultural aspects, lack of trust and user unfriendliness. Further in this regard "quantitative analysis and pilot studies to further validate these factors is highly recommended"

Studies confirm that "Arabized Web Content" ranks lower and that Arab consumers require being paid lot of attention by all stakeholders in the field of e-commerce (Aladwani, 2003). An empirical study by Al-Dwairi (2013) investigates main trust factors by addressing issues like; privacy, design and content of e-commerce websites, that will assist electronic customers in conducting their businesses confidently. However, further research is advised covering demographic dynamics. It is interesting to know that the rank of country development is not noteworthy with regards to online consumers' perception towards e-commerce. In the same way, buyers' trustworthiness is strongly affected by customer contentment but weakly influenced by customer trust in B2C e-commerce in KSA, where e-commerce acceptance level was higher among aged, well educated and rich respondents (Eid, 2011). It is found out that reliable security and trust will increase B2C e-commerce in the Arab world, a region with increased use of internet (Al Rawabdeh *et al*., 2012).

Trust is being studied for last about fifty years, with major research on the English speaking & recently industrialized states, for example, the USA (Kennedy *et al*., 2001; Teo & Liu, 2007), Australia and Israel (Jarvenpaa & Tractinsky, 1999; Teo & Liu, 2007). As a matter of fact, that amount of research that investigate only one or two cultures would have limited scope comparing the studies uphold in multi-cultures. Most of the research on trust subject addresses two cultures; it is the need of the day to discover other cultures to get a thorough a deeper understanding on the subject (Sekaran, 1983; Teo & Liu, 2007). Since, approach and understanding towards trust differ from culture to culture, it will be a valuable contribution to study trust across different societies, in

particular consumers' trust in e-commerce (Jarvenpaa & Tractinsky, 1999; Gefen, 2002b; Chellappa, 2008).

Generally, Middle Eastern inhabitants are found resistant toward learning and welcoming new technologies. They discuss about the change but are found unresponsive and unenthusiastic to take actions and the same behavior might be expected with regards to the new technologies including B2C e-commerce as they prefer face to face business deals instead. To attract Arab world towards B2C e-commerce, religious beliefs including user-friendly language options would be considered. Regarding the B2c e-commerce barriers in the Arab world including; social, educational and cultural aspects, lack of trust, user unfriendliness, a quantitative study is highly recommended seeing that a very few studies are found on this subject (Al Hosni *et al*., 2010).

2.4.4   Islamic Perspective of Trust

Islam provides a clearer picture (as shown in Table 2.9) of trust in e-commerce and demands all businesses to carry a business in compliance with the Islamic commandment to deal with business structure, contracts and subject matter (Muhammad, Muhammad, & Khalil, 2013). To support B2C e-commerce, it is advised to investigate customers' personal characters and the reasons of unwillingness or changing mind etc. It is believed to be helpful to explore consumers' "religiosity", a personal belief, level and its effect on adoption of e-commerce (Rehman & Shabbir, 2010). Keeping in view the prime importance of trust in B2C e-commerce demands more research is required to find out trust's relations with other relevant dynamics including different cultural, technological and multilingual aspects (Patton & Josang, 2004). A study on the role of religiosity,

upheld by Siala, O'Keefe and Hone (2004), shows that consumers from different religions based in the UK bear different attitude toward online businesses. Further studies in purely Muslim state are advised in this regard to validate the results.

Table 2.9
Islamic Perspective of Trust

Author (s)	Research scope, findings and Recommendations
Muhammad *et al*., (2013)	– Islam provides a clearer picture of trust in e-commerce and demands all businesses to carry a business in compliance with the Islamic commandment to deal with business structure, contracts and subject matter – Keeping in consideration a huge Muslim consumers' market, it is very relevant to understand the concept of trust in the light of Shari'ah – It is further required to look deeply into Islamic perspective – Study proposes replica of "Shari'ah-compliant e-commerce for online trust" shows the role of Islamic laws to ensure a trustworthy environment in the field of e-commerce, which may play a vital role e-commerce trust building for all parties dealing in e-commerce
Siala *et al*. (2004)	– In the context of the United Kingdom; "Christian, Muslim and other faiths were asked to interact with online bookstores identified as Christian, Muslim or Neutral" – Explores the "impact of religious affiliation on trust in the context of electronic commerce; investigates the role of cultural variables as antecedents of trust with the main emphasis being on religious affiliation" – Muslim community "expressed significantly more trust in the Muslim site compared to the Christian site; they expressed significantly more positive attitudes towards the Muslim online bookstore" for instance; www.dar-us-salam.com, than the other two sites i.e. www.christianbooks.com and www.bol.com – Future work may try to look into gender effects and it may also be appealing to plainly examine the role of gender and diverse culture in this context is the case. Further studies in purely Muslim state are advised in this regard to validate the results

2.4.5 Dimensions of Trust

With regards to electronic commerce, trust has been widely discussed, as mentioned in Table 2.10. It is found that better recognition level of trust in e-commerce and finer practices of web use promote customers buying online. Boost in trust level depends upon marketplace direction, web-site feature, technological reliability, and consumers' personal experience of using internet. Along with outstanding assurance to the online customer and businesses' well-known recognition, better experience on web, gains better confidence and trust in electronic commerce from consumers to convince them participate practically (Corbitt *et al*., 2003). Not only customers' understanding on trust leads their intentions to practice B2C e-commerce, but the awareness of "relative advantage, complexity, compatibility, and image" also plays a vital role (Slyke *et al*., 2004). Similarly, Customers those are well informed about the online seller, buying progression and having trust proves genuine buyers (Gefen, 2000).

Table 2.10
Dimensions of Trust

Author (s)	Research scope, findings and Recommendations
Corbitt *et al*., 2003	– Employs three dimensions (Competence, Predictability and Goodwill) to measure consumers' trust towards B2C commerce; an empirical study explored that consumers' perception in terms of "trust" towards business to consumer (B2C) electronic commerce.
	– Findings shows varied results: customers' perceived market orientation was greatly influenced by the degree of trust, relationship between market orientation and e-commerce practice was found insignificant, relationship between trust and technical reliability was found significant, customers' trust in technology was found partly negative towards perceived risk
	– Moreover, relationship between customers' internet experience and e-commerce involvement was found significantly positive; however users' internet experience may not lead towards lower level of perceived risk

Table 2.10 (continued)

Author (s)	Research scope, findings and Recommendations
Slyke *et al.* (2004)	– A study analyzing the impact of trust and influential factors in adoption of web-based shopping – Conducted an empirical study, looking into the impact of trust in B2C e-commerce; which revealed that trust positively affected online shopping. – Moreover perceptions of "relative advantage, complexity, compatibility, and image" indicated a major relationship with "use intentions" – Framework applying to other cultures may reveal different results, hence future studies suggested in different cultures – Not only customers' understanding on trust leads their intentions to practice B2C e-commerce, but the awareness of "relative advantage, complexity, compatibility, and image" also plays a vital role
(Gefen, 2000)	– The role of familiarity and trust in the context of electronic commerce – This study examines this "intriguing idea in the context of the E-commerce involved in inquiring" – Findings show that "both familiarity with an Internet vendor and its processes and trust in the vendor influenced the respondents' intentions to inquire about books and their intentions to purchase them". Additionally, the data show that while "familiarity indeed builds trust, it is primarily people's disposition to trust that affects their trust in the vendor" – Customers those are well informed about the online seller, buying progression and having trust proves genuine buyers
Liao and Wang (2010)	– Developed a framework addressing trust building factors and processes. The framework factors consist of: "ability, integrity and benevolence" – Ability refers to e-sellers' skillfulness, proficiencies and resources that would enable them to perform the planning; whereas integrity shows that if the e-sellers stick to a set of trustable for the visitors; followed by benevolence give you an idea about e-sellers' affirmative plans with no revenue drive – Future research should explore initial trust building issues more detail in special B2C domain

Table 2.10 (continued)

Author (s)	Research scope, findings and Recommendations
Eid (2011)	– In the perspective of Kingdom of Saudi Arabia, using a structured self-administered questionnaire
	– Buyers' trustworthiness is strongly affected by customer contentment but weakly influenced by customer trust in B2C e-commerce
	– E-commerce acceptance level was higher among aged, well educated and rich respondents
	– both "personal and impersonal" foundations of information influence individuals in different ways; the basic level of trust may vary across all the nations
	– Future research suggests to investigate the influence of the above recommended factors "customer value, purchasing culture, and government support and/or legislation for the protection of online customers, and customer support before and after the online purchase" on "trust, satisfaction, and loyalty across cultures in the Arabian Gulf offers opportunities for enhancing the online shopping in the Arabian Gulf region in general"
Azam et al. (2013)	– In the perspective of China
	– Study explores, by using consumer-religio-centrism (CRC) scale, that Muslim overseas students studying in Chinese universities were found more inclined towards Muslims websites (for example, www.dar-us-salam.com) comparing to the neutral ones
	– This indicates that religious commitments affirmatively influence initial trust
	– Due to the higher importance in online businesses, trust based on religious or cultural affiliations and focusing on different nationalities and bigger sample size should be further investigated
Gefen, D. (2002b)	– The outcome of the study show that "trustworthiness and trust should not be regarded as a single construct with a single effect and that different beliefs influence different consumer activity intentions"
	– Due to the higher importance in online businesses, trust based on religious or cultural affiliations and focusing on different nationalities and bigger sample size should be further investigated.
	– In traditional commerce, "customer loyalty" is mainly the "product of superior service quality and the trust" that such "service involves".

Table 2.10 (continued)

Author (s)	Research scope, findings and Recommendations
Gefen *et al*., 2003	– Shows two sets of distinct usage predecessor by customers: "customer trust in the e-vendor and, customer assessments of the IT itself, specifically the perceived usefulness and perceived ease-of-use of the website as depicted in the technology acceptance model (TAM)" – This study explores a "free-simulation experiment that compares the degree and relative importance of customer trust in an e-vendor vis-à-vis TAM constructs of the website, between potential (i.e., new) customers and repeat (i.e., experienced) ones" – In B2C e-commerce, significance of consumers' buying intentions including trust and perceived information technology usefulness differs between future customers and reiterate ones – Study hypothesize that "actual e-vendor trustworthiness will moderate the relationship between familiarity and trust in the sense that familiarity with e-vendor and its website, can either increase or decrease trust in an e-vendor, depending on whether the e-vendor is indeed trustworthy" – Exploring the "relationships and the relative importance of the study constructs across sites that vary in their trustworthiness would be a fruitful direction for future research"
Chellappa, R. K. (2008)	– Shows that consumers exhibit inconsistency in their perceptions of "privacy, security and trust between online and offline transactions" even if business is performed with the same business – Develops and validates "measures of consumers' perceived privacy and perceived security of their online transactions which are then theorized to influence their trust in e-commerce transactions" – Conducts two "distinct empirical studies and through successive refinement and analysis using the Partial Least Squares technique" – Study confirms that perceived security straightforwardly affects B2C e-commerce transactions, where it influences perceived privacy as a mediator – Future studies can look into "gender and other demographic variables as technology use and possibly perceptions of security and privacy can be subject to gender biases, global and cultural biases, and user expertise"

Table 2.10 (continued)

Author (s)	Research scope, findings and Recommendations
Thaw & Mahmood, 2009	– Addresses the role of "security, privacy and risk opinions of consumers to shop online in order to establish a consensus among them; provides descriptive frequencies for the research variables and for each of the study's research" variables – Suggests that perceived privacy of online business on trust is mediated by perceived security, and consumers' trust in online transaction is considerably related with the trustworthiness of Web vendors – Consumers' trust is found negatively allied with perceived risks in online transactions – There was a weaker correlation found between perceived security and perceived privacy with consumers' trust, while investigating factors those may influence the consumers' trust on e-commerce. There is "no significant impact from perceived security and perceived privacy to trust in online transactions is observed" – Future studies can also connect other "demographic variables of consumers as well as web vendors' reputation, site's usefulness and ease of use"
Lin (2011)	– Study employs "innovation diffusion theory and knowledge-based trust literature, this study develops a research model to examine the effect of innovation attributes (perceived relative advantage, ease of use and compatibility) and knowledge-based trust (perceived competence, benevolence and integrity) on attitude and behavioral intention about adopting (or continuing to use) mobile banking across potential and repeat customers" – The results indicate that "perceived relative advantage, ease of use, compatibility, competence and integrity significantly influence attitude, which in turn lead to behavioral intention to adopt (or continue-to-use) mobile banking" – It found that the "antecedents of attitude toward mobile banking differ between potential and repeat customers". Also, that "perceived relative advantage, ease of use, compatibility, competence and integrity" significantly affect consumers approach and both the repeat customers and the potential customers were found behaving differently with regards to online banking

Based on trust literature, Liao and Wang (2010) developed a framework addressing trust building factors and processes. The framework factors consist of: "ability, integrity and benevolence". Ability refers to e-sellers' skillfulness, proficiencies and resources that would enable them to perform the planning; whereas integrity shows that if the e-sellers stick to a set of trustable for the visitors; followed by benevolence give you an idea about e-sellers' affirmative plans with no revenue drive. Since, both "personal and impersonal" foundations of information influence individuals in different ways; the basic level of trust may vary across all the nations (Eid M. , 2011). Using consumer-religio-centrism (CRC) scale, Azam *et al*. (2013) explored that Muslim overseas students studying in Chinese universities were found more inclined towards Muslims websites (for example, www.dar-us-salam.com) comparing to the neutral ones. This indicates that religious commitments affirmatively influence initial trust. Due to the higher importance in online businesses, trust based on religious or cultural affiliations and focusing on different nationalities and bigger sample size should be further investigated. According to previous research, it will be very relevant, huge contribution and valuable to look into consumers' faith, nervousness, worries, perceived risks and anticipations towards B2C e-commerce (Gefen, 2002b). While investigating customers' loyalty in e-commerce, Gefen (2002a) measured on the basis of five dimensions namely; tangibles, empathy, responsiveness, reliability and assurance and found out that a collective measurement of the last three dimensions was found playing important roles in building customers' trust in online businesses. Whereas; Corbitt *et al*. (2003), studied three dimensions (Competence, Predictability and Goodwill) measuring consumers' trust towards B2C commerce.

In B2C e-commerce, significance of consumers' buying intentions including trust and perceived information technology usefulness differs between future customers and reiterate ones (Gefen *et al.*, 2003). Chellappa's (2008) study confirms that perceived security straightforwardly affects B2C e-commerce transactions, where it influences perceived privacy as a mediator. There was a weaker correlation found between perceived security and perceived privacy with consumers' trust, while investigating factors those may influence the consumers' trust on e-commerce (Thaw & Mahmood, 2009).

An empirical study conducted by Corbitt *et al.* (2003) explored consumers' perception in terms of "trust" towards business to consumer (B2C) electronic commerce. Their finding showed varied results: customers' perceived market orientation was greatly influenced by the degree of trust, relationship between market orientation and e-commerce practice was found insignificant, relationship between trust and technical reliability was found significant, customers' trust in technology was found partly negative towards perceived risk. Moreover, relationship between customers' internet experience and e-commerce involvement was found significantly positive; however users' internet experience may not lead towards lower level of perceived risk, although a positive relationship between perceived risk and trust was found.

In traditional business, customer trustworthiness is principally the result of better-quality service and the trust that such service involve in. The study by Gefen (2002) investigated whether or not the same happened with the online business, where customers interact with machines and not the human beings. He employed five service quality dimensions

suggested by Parasuraman *et al*. (1985). The results showed that responsiveness, reliability, and assurance (the service quality dimensions) positively influenced customer trust, however online customers' perceived risk of doing business was not found influential in declining customer loyalty. Illustrating technology acceptance model (TAM), Gefen *et al*. (2003) statistically proved that the potential customers and repeat customers behave differently towards B2C e-commerce. For instance; repeat customers showed more trust towards online sellers, found websites more handy and user friendly with more inclination to buy online. Whereas; would-be were found not influenced by apparent usefulness, but only by their trust in the online business.

Lin (2011) found out that "perceived relative advantage, ease of use, compatibility, competence and integrity" significantly affect consumers approach and both the repeat customers and the potential customers were found behaving differently with regards to online banking. Whether or not the "trust" and "risk" affect consumers' electronic commerce (B2C) buying decision, a study was undertaken by Kim, Ferrin and Rao (2008); where risk was seen having strong positive effect on online customers' buying intentions, whereas; the relationship between trust and risk was found extreme insignificant. An overall idea can be beautifully summarized that one's conviction in one's own talent to complete his/her jobs and to attain goals positively affects trust in web seller and results in better online sales' opportunities (Kim & Kim, 2005).

2.5   Review of Literature on Religiosity

All the disciplines have been widely using the notion of "religiosity" in their own perspective; example can be seen in Table 2.11 given below. Although, the words or

phrases like; religiousness, orthodoxy, faith, belief, piousness, devotion, and holiness are used to synonymy religiosity; however none of those are alike "religiosity" (Holdcroft, 2006). Studies reveal that religiosity has been playing a vital role across the religions in all aspects of life inluding; customers buying approach, quality perception, impetuous shopping and price notice etc (Reitsma *et al*., 2006; Mokhlis, 2008; Yousaf & Malik, 2012; Rehman *et al*., 2010; Khraim, 2010). It contours individuals' set of mind, edification, and way of life and is expected to be one of the main "socio-cultural" decisive factors towards hi-tech innovations (Coccia, 2014; Fam *et al*., 2002; Sohaib & Kang, 2014; Eid *et al*., 2015; Mokhlis, 2009; Khraim, 2010).

Table 2.11
Religiosity

Author (s)	Research scope, findings and Recommendations
Reitsma *et al*., 2006; Mokhlis, 2008; Yousaf & Malik, 2012; Rehman *et al*., 2010; Khraim, 2010	– Studies reveal that religiosity has been playing a vital role across the religions in all aspects of life including; customers buying approach, quality perception, impetuous shopping and price notice etc
Coccia, 2014; Fam *et al*., 2002; Sohaib & Kang, 2014; Eid & El-Gohary, 2015; Mokhlis, 2009; Khraim, 2010	– Religiosity contours individuals' set of mind, learning, and way of life and is expected to be one of the main "socio-cultural" decisive factors towards hi-tech innovations
Reitsma *et al*., 2006)	– Study found that people those who bear strong religious affiliations, irrespective of the religion class, are found more involved in charity work
Mcintosh *et al*., 1990; Williams *et al*., 2007; Salleh, 2012)	– Study found that people having strong religious affiliations, irrespective of the religion class, are found with better health conditions
Stavrova *et al*., 2013	– Study found that people having strong religious affiliations, irrespective of the religion class, are found satisfied and happier
Momtaz *et al*. (2011)	– Reveals that aged individuals with high level of religiosity seem happier than those with lower levels

Religion has been a widely influential phenomenon in our lives. It is found that people with strong religious affiliations, irrespecive of the religion class, are found more invloved in charity work (Reitsma *et al*. 2006) with better health conditions (Mcintosh & Spilka, 1990; Williams *et al*., 2007; Salleh, 2012) satisfied and happier (Stavrova *et al*., 2013). Findings by Momtaz *et al*. (2011) reveal that aged individuals with high level of religiosity seem happier than those with lower levels.

2.5.1   Role of Religiosity

According to Hanzaee *et al*. (2011), Max Weber (1905) was the first to explore the significance of religion in daily life; other examples are briefly mentioned in Table 2.12. While studying the role of Islamic religiosity on the relationship between perceived value and tourist satisfaction, it has been empirically confirmed that religiosity influenced the relationship between consumers' values and contentment. It moderately influences Islamic value traits on Muslim customer satisfaction (Eid *et al*., 2015; Mokhlis, 2009).Similarly, a study on the moderating effect of Islamic work ethics between the relationship of organizational dedication and turnover objective in the perspective of public sectors of Pakistan revealed that Islamic Work Ethics (IWE) positively moderate the relationship between organizational dedication and earnings intent (Sadozai *et al*., 2013).

Unlike the previous study, Ajmal *et al.* (2014) while studying understanding the moderating role of Islamic work ethics between job stress and work outcome, statistically established that there was a noteworthy negative link of job stress with job satisfaction and momentous positive relation with turnover intention. An interesting piece of work by Bachleda *et al*. (2014), on the impact of religiosity on Moroccan Muslim women's

clothing choice shows that the religiosity level of women cannot be judged by the outfits, education and demographics measures.

Table 2.12
Role of Religiosity

Author (s)	Research scope, findings and Recommendations
Eid *et al*., 2015	– Religiosity is one of "the most important cultural forces that influence; Islamic religiosity has an impact on the relationship between customer value and satisfaction; dimensions of Muslim customer perceived value positively affects Muslim consumer satisfaction; religiosity moderates the effect of Islamic value attributes on Muslim customer satisfaction". – Future studies may focus the present thoughtful of the effect of Islamic religiosity in businesses other than tourism, such as banking and insurance – Studies may "choose to focus on one or more of the Islamic attributes so as to generate an in-depth knowledge which would inform both theoretical and practical applications; also Muslim consumer loyalty should be analyzed"
Mokhlis, 2009	– Examines the influence of religiosity on shopping orientation as one aspect of consumer behavior – Suggests that: "noteworthy differences exist in shopping orientation among consumers with different levels of religiosity; both dimensions of religiosity (intrapersonal and interpersonal) may be significant in predicting certain features of shopping orientation; three shopping orientation factors, namely price conscious, quality conscious and impulsive shopping, were found in the present study to be consistently related to religiosity". – Highly religious individuals are most likely price conscious; quality concern and less likely to make spontaneous purchase decision; provides empirical evidence concerning religion's influence on consumer behavior in a non-Western culture – The findings reveal that "three shopping orientation factors, namely quality consciousness, impulsive shopping and price consciousness were related to religiosity. It is suggested that religiosity should be included as a possible determinant of shopping orientations in consumer behavior models"

Table 2.12 (continued)

Author (s)	Research scope, findings and Recommendations
Sadozai *et al*., 2013	– In the perspective of Pakistan – Investigates moderating effect of Islamic work ethics between the relationship of organizational dedication and turnover objective in the perspective of public sectors of Pakistan – Reveals that Islamic Work Ethics (IWE) positively moderate the relationship between organizational dedication and earnings intent – Using the theme and using sampling techniques other than snow ball, future study should be conducted in the perspective of other countries – The moderating effect of Islamic work ethics may also be examined with other variables such as, job satisfaction, organizational culture, organizational politics, favoritism etc.
Ajmal *et al*., (2014)	– In the perspective of Pakistan – Explores the moderating role of Islamic work ethics between job stress and work outcome – Statistically established that there was a noteworthy negative link of job stress with job satisfaction and momentous positive relation with turnover intention – For future perspective, bigger sample and geographical size and maximum time should be used along with other elements like; performance at job, organizational commitment etc.
Bachleda *et al*. (2014)	– In the perspective of Moroccan Muslim women, study explore whether or not religiosity impacts the clothing style – Conducted under the Theory of planned behavior; data were collected by administered questionnaire – Religiosity level of women cannot be judged by the outfits, education and demographics measures
Yousaf *et al*., (2012)	– Explores the connection between the degree of religiosity and the product involvement level in determining the various constructs of consumer behavior – Consumer behavior varies with the level of involvement and the degree of religiosity – Buyers' conduct varies towards the degree of participation and level of religiosity. – Consumers with higher level of religiosity were found less spontaneous, less motivated by the commercial ads in shopping, unlike less religious consumers

Table 2.12 (continued)

Author (s)	Research scope, findings and Recommendations
Mukhtar & Butt, 2012	– Investigates the role of Muslim attitude towards Halal products, their subjective norms and religiosity in predicting intention to choose Halal products – shows a positive relationship between the three dimensions (subjective norms, attitude towards religiously approved products and intra personal religiosity) and attitude towards religiously approved products; whereas, the "subjective norm" scored to be the strongest among all the selected predictors – for Muslims, individual customs, mind-set towards religiously allows products and intra personal religiosity significantly positively influence approach towards Halal products – Future research can investigate the impact of different products categories, social classes, gender and Halal certification on consumer attitude towards Halal products
Alam *et al*. ,(2011)	– Examining the effect of religiosity on Muslim consumer behavior and on purchasing decision (in Malaysia , Shah Alam and Bangi) – Indicates that religious Muslims spend moderately, as commanded by Allah in the Quran – This exploratory study "confirms that religiosity acts as a full mediating role in the relationship between relative and contextual variables, and purchase behavior of Muslim consumers" – Future research may conduct empirical cross-cultural and cross-country studies. Moreover "a cross-cultural study investigating differences between Muslim and non-Muslims could provide additional insights in terms of consumer behavior and purchase decisions; where potential correlations between some of the independent variables (e.g. gender, race, education, and income level) are other implications that could also be revealed from future researches"
Ansari (2014)	– Investigates "the relationship between religiosity and new product adoption (NPA) among Muslim consumers" – Shows "strong relationship between the religiosity and new product adoption"; religiosity influences "new product adoption among Muslim consumers; their beliefs affect what products they adopt". – Particularly within Muslims community, religion plays a vital role in accepting innovations

Levels of religiosity and product concern highly affect different aspects of consumers' approaches. Buyers' conduct varies towards the degree of participation and level of religiosity. Two categories namely; "high involvement product and low involvement product" were focused. Dealing with the first category, religiosity was found to be less entertaining, fashion mindful, spontaneous and socially influenced in their shopping attitude. While the second class found religiosity having negative impact on the brand perception of customers. Moreover, the consumers with higher level of religiosity were found less spontaneous, less motivated by the commercial ads in shopping, unlike less religious consumers (Yousaf & Malik, 2012).

According to the theory of reasoned actions, people's conduct is greatly influenced by their "belief, attitudes, and intentions" (Ajzen & Fishbein, 1980; Ansari, 2014; Mukhtar & Butt, 2012). For example, for Muslims, individual customs, mind-set towards religiously allowed products and intra personal religiosity significantly positively influence approach towards Halal products (Mukhtar & Butt, 2012). Similarly, it is empirically proved that Muslims, in two suburbs of the capital city area, spend reasonably and the factor of religiosity perform as a significant mediator in correlation between "relative and contextual variables, and purchase behavior of Muslim consumers" (Alam, Mohd, & Hisham, 2011). Unlike fashion, religion is a long term commitment and not easy to dismiss (Delener, 1994; Ansari, 2014; Khraim, 2010). Particularly within Muslims community, religion plays a vital role towards acceptance of new products, services or innovations (Ansari, 2014). Not only this, the immense role and relation of religiosity and health have been widely studied (Plante & Sherman, 2001; Zwingmann *et*

al., 2011). Also, the religion may guide one to build up an opinion towards any issue (Delener, 1990; Khraim, 2010).

2.5.2 Dimensions of Religiosity

Five dimensions of religiosity namely; "experiential, ritualistic, ideological, intellectual, and consequential", provided by Stark and Glock (1968) have been highly used across the religions. Those five dimensions deal with: the individuals' faith know-how, the worship practice experience, the religious prospects to assure certain beliefs, the anticipations of individuals' doctrines their faith and sanctified scriptures, respectively (Holdcroft, 2006; McAndrew & Voas, 2011; Ansari, 2014; Azam *et al*., 2011; Hanzaee *et al*., 2011; El-Menouar, 2014). The scale, initially produced by Stark and Glock (1968) was further adapted and modified from 1966 onward by different scholars in different perspectives (Stark & Glock, 1968; Azam *et al*., 2011; Rehman & Shabbir, 2010; Ansari, 2014). Muhammad (2012) provided a graphical representation showing the main thinking of the conventional measurements of religiosity. The graph shows that the measurement scale of religiosity was founded by Lenski in1963, with four dimensions: associational, communal, doctrinal orthodoxy and devotionalism. In advancement, King (1967) framed a scale with ten facets namely; "creedal assent and personal commitment, participation in congregational activities, personal religious experience, personal ties in the congregation, commitment to intellectual search despite doubt, openness to religious growth, dogmatism, extrinsic orientation, financial behavior and financial attitude and talking and reading". Table 2.13 highlights the dimensions of religiosity used in numerous past studies.

Table 2.13
Dimensions of Religiosity

Author (s)	Research scope, findings and Recommendations
Huber and Huber (2012)	– Explored that centrality of religiosity scale (CRS) is used to measure the significance of religion in individuals' lives – Five core dimensions of religion namely; public and private practice, religious occurrence, philosophy, and the intellectual perspective
Holdcroft, (2006)	– investigates religiosity with four dimensions; cognitive, cultic, creedal, and devotional
Tiliouine and Belgoumidi (2009)	– Explores "the associations between religiosity, meaning in life and subjective wellbeing" – Four broad dimensions namely; "religious belief, religious practice, religious altruism, and enrichment of religious experience"
Lenski (1963)	– Claims that a person can be truly judged by his/her attendance and one may be found having lot of religious knowledge with no practice on it
Guiso *et al*. (2003)	– Explores that: 1) people practicing religion proved more traditionalists towards the women's part in society, 2) the study provided different results in different countries depending on the popular religion of the state and 3) the relationships differed depending on different religions
Rehman *et al*. (2010) and Ansari, (2014)	– Believing that consumers conduct toward latest products or innovations differs with respect to the financial, educational and demographical positions, studies discover "a significant relationship between religiosity and new product adoption"

Religiosity deals with mind-set, actions and ethics, whereas; religious affiliation tells more about background, family concerns, something that for most is cultural tradition instead of a personal choice. Moreover, its measurement, having not clearer aspects, deals with: faith, practice, recognized association, unofficial membership, custom commencement, doctrinal acquaintance, and decent intellect and nucleus values (McAndrew & Voas, 2011).

Huber and Huber (2012) explored that centrality of religiosity scale (CRS) is used to measure the significance of religion in individuals' lives. It covers five core dimensions

of religion namely; public and private practice, religious occurrence, philosophy, and the intellectual perspective. While Fukuyama (1961) and Holdcroft (2006), investigated religiosity with four dimensions; cognitive, cultic, creedal, and devotional. Tiliouine and Belgoumidi (2009) developed a comprehensive measure of Islamic religiosity scale covering four broad dimensions namely; "religious belief, religious practice, religious altruism, and enrichment of religious experience" to explore the associations between religiosity, meaning in life and subjective wellbeing. Abou-Youssef *et al*. (2011) adapted a scale Islamic behavioral religiosity scale (IBRS) including; "belief, worship, legislation, morality and behavior measurement". In religiosity; the cognitive dimension is concerned with the individuals' personal knowledge, the cultic dimension deals with the religious practices, while the creedal dimension is concerned with personal religious belief, followed by devotional which refers to individuals' religious way of thinking and experiences (Cardwell, 1980; Holdcroft, 2006).

Partially following religiosity dimensions introduced by Stark and Glock (1968), Baig and Baig (2013) measured religiosity on the basis of five dimensions namely; "sacramental, rational, ideological, consequential, and Practical". Ideological perspectives possess of wide-ranging principles connected with the religion, for example, faith in Allah and His Prophet (Peace be upon Him). The sacramental dimensions own the religious practices like; prayer, pilgrimage etc. Whereas; the rational dimensions refer to an individual's understanding about religion followed by the consequential and practical dimensions those describe the pragmatism of a religion.

Two fundamental dimensions of religiousness, "extrinsic and intrinsic" were classified by Allport and Ross in1967. Extrinsic doctrine explores self-seeking and practical outlook of the religion, whereas; intrinsic religiosity highlights the believers' nature by learning or unconscious assimilation (Allport & Ross, 1967; Holdcroft, 2006). Lenski (1963), however, pointed out that a person can be truly judged by his/her attendance and one may be found having lot of religious knowledge with no practice on it. Many research scholars focused on different aspects of religiosity addressing "subjective, cognitive, behavioral, social, and cultural dimensions (Chumbler, 1996; Ellison, 1991; Ellison *et al*., 1989; Holdcroft, 2006).

A general consensus is found that religiosity differs from country to country, nation to nation and is positively allied with the growth in economy. A study by Guiso *et al*. (2003) shows three outcomes: 1) people practicing religion proved more traditionalists towards the women's part in society, 2) the study provided different results in different countries depending on the popular religion of the state and 3) the relationships differed depending on different religions. While believing that consumers conduct differs, depending on financial, educational and demographical positions, toward latest products or innovations, Rehman *et al*. (2010) and Ansari (2014) discovered a significant relationship between religiosity and new product adoption.

2.5.3   Technology Readiness, Trust and Religiosity

Islam is complete code of life (Abdullah & Suhaib, 2011). According Gummi (2013), concept of Islamic Welfare State in Islam state is exclusive in philosophy beliefs and values, greater in operations, extraordinary in policy and all daily life matters. The

society is to ensure human welfare both spiritually and materially and an absolute

amalgamation of economic, social, political and cultural spheres of life in this world and

for the hereafter. The Table 2.14 briefly reflects previous studies in regards to technology

readiness, trust and religiosity.

Table 2.14

Technology Readiness, Trust and Religiosity

Author (s)	Research scope, findings and Recommendations
Daniels *et al*. (2010)	– In the perspective of the USA – Employs General Social Survey (GSS) data spanning 25 years to test the relationship between trust and religious participation and affiliation – explores that religious traditions are significant contribution – Results show that Pentecostals, fundamentalists, black Protestants, and Catholics are less likely to trust others, while members of liberal denominations are more likely to trust others
Sohaib and Kang (2014)	– Shows the connection between the degree of religiosity and interpersonal trust (cognitive and affect-based trust) in Business to-Consumer (B2C) e-commerce – Data analysis by using Partial Least Square (PLS) approach – For future studies, study suggests "religiosity" to be further studied as a variable in the perspective of B2C e-commerce trust
Azam *et al*., 2013	– In the perspective of foreign Muslim students in China – Develop, test and argue in support of the parsimonious, yet explanatory, collectivistic religion affiliated trust model in e-commerce – Frames up an integrated model by using consumer religio-centrism and religious commitment – In B2C e-commerce, opening trust in the online seller is impacted by culture and religion association and that the Muslim respondents seemed significantly different as compared to other respondents in buying online – Further work might organize for religion employing concept of individualism rather than assume collectivism from religious affiliation. Also, future studies should seek larger sample sizes to perform more complex model testing
Wejnert, B. (2002)	– Religiousness form cultures those influence communal values that ultimately affect adoption of innovation or latest technologies; if the innovation is in accordance with the cultural system, it gets diffused in the society quicker

Keeping in view the significant role of the religion and prominent number of Muslims consumers in B2C e-commerce, it is essential to recognize the importance of trust in Islam. It is found that religious traditions are significant contribution (Daniels & Ruhr, 2010; Muhammad & Muhammad, 2013) increasing generosity resulting in optimistic approach for buyers and seller (Barnes, 2009; Siala *et al*., 2004; Muhammad *et al*., 2013). Keeping in view the above facts, Muhammad and Muhammad (2013) highlighted that to promote B2C e-commerce, particularly in Muslims society, it is essential to follow the Islamic rules and regulations. Sohaib and Kang (2014) suggested "religiosity" to be further studied as a variable in the perspective of B2C e-commerce trust. The study revealed that interpersonal trust related to religiosity in B2C e-commerce is found influenced by the cultural and religious aspects. In B2C e-commerce, opening trust in the online seller is impacted by culture and religion association and that the Muslim respondents seemed significantly different as compared to other respondents in buying online (Azam *et al*., 2013).

According to Islamic teachings, an Islamic Welfare States is responsible to provide its citizens prosperity in both the domains; material and spiritual. That includes all facilities including; freedom of worship, best education facilities, good governance, health facilities, safety, security, food and infrastructure (Gummi, 2013). To show the real place of innovativeness in Islam, it is the need of the day to explore the religious diversity and to enlighten Muslim voices on the ongoing issues (Amanullah, 2012). Religiousness form cultures those influence communal values that ultimately affect adoption of innovation or latest technologies; if the innovation is in accordance with the cultural system, it gets diffused in the society quicker (Wejnert, 2002). According to Aladwani (2003),

inadequate amount of research has been upheld investigating an overall attitude of Arab inhabitants' towards e-commerce; hence the area of research needs to be explored better.

2.5.4   Measurement of Religiosity

The measurement of Islamic religiosity, found less in the literature, is multifaceted like traditional or conservative ones (Idris *et al*., 2012). Few examples are discussed in the Table 2.15 given below. Hirschman upheld many studies, on religiosity and consumers' approach, exploring that consumers from Jewish community were more innovative and their loyalty towards brand or marketplace is not as good as other communities (Hirschman, 1981; Mokhlis, 2009). Renowned scholars, Hirschman (1983), Khraim (2010) and Mokhlis (2009), also argued that individuals' affiliation with the religion had influenced, "personality structure, fertility and sexual mores, political views and socio-economic status". Whereas; Christian Catholics were found more impacted by cost, locality and shipping. Correspondingly, Jewish and Christian Catholic and Protestant customers approach with diverse valuation criterion towards amusement, suburban, transport, and favorite choices etc. Bailey and Sood (1993) in his performed study on six different communities namely; Buddhism, Hinduism, Islam, Judaism and Christians (Catholics and Protestants) and found out significant differences in terms of their religiousness and approach as consumers. Findings by Tiliouine and Belgoumidi (2009) showed that the religious belief and religious altruism notably contribute in providing subject matter with meaning in life. However, hierarchical regression analyses resulted that religious faith showed significant involvement in both "satisfaction with life scale and personal wellbeing index". Demographically, males' response very much differed from female ones while addressing religious altruism unlike satisfaction with life scale.

Moreover, science students ranked better in the sections like; belief, practice, presence of meaning in life, and satisfaction with life scale as compare to fellows from arts discipline. Findings by Hanzaee *et al*. (2011) in the perspective of Irani Muslims, on the other hand, could not Figure out any approach difference in both the genders, male and female, toward new product adoption. Furthermore, there was no affirmation found between the religiosity and new product adoption. It is advised to explore the affect of religiosity choosing different product and different nationalities.

Table   2.15
Measurement of Religiosity

Author (s)	Research scope, findings and Recommendations
Hirschman, E. C. (1981)	– Explores that consumers from Jewish community were more innovative and their loyalty towards brand or marketplace is not as good as other communities
Hirschman (1983), Khraim (2010) and Mokhlis (2009)	– Argues that individuals' attachment with the religion influences "personality structure, fertility and sexual mores, political views and socio-economic status"
Bailey and Sood (1993)	– Study on six different communities namely; Buddhism, Hinduism, Islam, Judaism and Christians (Catholics and Protestants) and found out significant differences in terms of their religiousness and approach as consumers
Tiliouine and Belgoumidi (2009)	– In the perspective of Algeria; explores "the relationships between religiosity, meaning in life and subjective wellbeing (SWB) in a sample of 495 Muslim students" – Develops an inclusive measure of Islamic religiosity; shows that the "religious belief and religious altruism" notably contribute in providing subject matter with meaning in life. – Moreover, science students ranked better in the sections like; belief, practice, presence of meaning in life, and satisfaction with life scale as compare to fellows from arts discipline
Hanzaee *et al*.. (2011)	– In the perspective of Irani Muslims – Finds out no approach difference in both the genders i.e. male and female, toward new product adoption – No affirmation found between the religiosity and new product adoption Further research to explore the affect of religiosity choosing different product and different nationalities

Table 2.15 (continued)

Author (s)	Research scope, findings and Recommendations
Abou-Youssef *et al.* (2011)	– Adopts Islamic behavioral religiosity scale (IBRS) including; belief, worship, legislation, morality and behavior measurement – Measures an Islamic-driven buyer behavioral implications using to propose market-minded religiosity scale – Looking at the behavioral perspective of buyers, the modified Islamic behavioral religiosity scale (IBRS) was twice with different results – Insignificant dissimilarities between demographic variables and religiosity variables, and noteworthy dissimilarity between gender and intrinsic religiousness showing more inclination towards men as compare to women, whereas; a noteworthy dissimilarities between gender and intrinsic and extrinsic religiousness influences
Sood and Yukio (1995)	– Exploratory study, in the perspective of Japan and America – Find out no difference between the religious and unreligious Japanese consumers shopping behavior and religion was not found an imperative part of the Japanese culture; whereas, American Protestants consumers behaved differently depending on their levels of religiosity – Future research may employ the same objective in cross-cultural research; for example, to investigate religiosity, nationality and behavioral pattern altogether
Hirschman (1983)	– Highlights three causes of inadequate research on the religiosity and consumers' behavior – Firstly, there is a probability that researchers' might be unaware of the prime significance of the relation between religiosity and consumers – Secondly, researchers' perceived bigotry about the religiousness – Thirdly, religion might be unnoticed as it is present in every aspect of lives. For the reasons, religiosity is an area still under-researched in the perspective of its influence on the consumers' thinking

Looking at the behavioral perspective of buyers, Abou-Youssef *et al.* (2011) run the test twice with different results; insignificant dissimilarities between demographic variables and religiosity variables, and noteworthy dissimilarity between gender and intrinsic religiousness showing more inclination towards men as compare to women, whereas; a

noteworthy dissimilarities between gender and intrinsic and extrinsic religiousness influences.

It is an ongoing discussion that religiosity is extremely personal matter and it immensely influences the approach of consumers, as found by Wilkes *et al*. (1986). Mokhlis (2009) and Kharim (2010) have quoted findings of McDaniel and Burnett (1990), stating that both the aspects of religiosity cognitive and behavioral were found playing significant role in the consumers' choice. Moreover, comparing to the customers having lower cognitive religiousness , customers with higher level of cognitive religiosity are witnessed as more concerned with staff's dealings and product quality in selecting stores. An interesting finding by Sood and Yukio (1995) explored no difference between the religious and unreligious Japanese consumers shopping behavior and religion was not found an imperative part of the Japanese culture; whereas, American Protestants consumers behaved differently depending on their levels of religiosity. In measuring religiosity within Muslim community, Khraim (2010) mentioned few challenges like; multidimensional perspective, sensitive to many respondents, current issues in the community data collection etc. About three decades back, Hirschman (1983) mentioned three causes of inadequate research on the religiosity and consumers' behavior. Firstly, there is a probability that researchers' might be unaware of the prime significance of the relation between religiosity and consumers. Secondly, researchers' perceived bigotry about the religiousness. Thirdly, religion might be unnoticed as it is present in every aspect of lives. For the reasons, religiosity is an area still under-researched in the perspective of its influence on the consumers' thinking. However, an attempt to clarify the phenomenon can be witnessed in this regards since 1960's onwards. Moreover,

multidimensional aspects of religiosity demand more research in this area of very importance.

2.6 Underlying Theories

This section discusses the underlying theories namely; theory of diffusion of innovation (DoI), technology readiness index (TRI) and the theory of reasoned action (TRA), duly employed in this research. Furthermore, theory of DoI supports theoretical background of diffusion of electronic commerce (dependent variable) and technology readiness index supporting technology readiness (an independent variable) and theory of reasoned action supports trust and religiosity (the independent variable and the moderating variable respectively), followed by technology readiness index supporting technology readiness, an independent variable.

2.6.1 Diffusion of Innovation (DoI)

Rogers' theory of diffusion of innovation (1995) has been widely posited in the studies related to information technologies (Slyke *et al*., 2004; Prescott & Conger, 1995). Keeping in view, the significance of the technological drivers, in particular B2C e-commerce development, Ho, Kauffman and Liang (2007) articulated the basic supposition and scheme of the diffusion theory. While exploring the impact of national environment and policy global in with regards to global e-Commerce, Kraemer *et al*. (2006) made use of multiple theories, including diffusion of innovation (DoI), regarding technological innovations. Under the framework, they further examined relationship between use of innovation and performance impact, believing that use of technologies

influences cultures in different ways. The Table 2.16 puts light on the studies employing

the theory of diffusion of innovation.

Table: 2.16
Diffusion of Innovation

Author (s)	Research scope, findings and Recommendations
Ho *et al*. ,(2007)	– In the perspective of Europe i.e. "17 European countries over a five-year period from 2000 to 2004"; suggests "alternative approaches to model e-commerce growth in a country" – Keeping in view, the significance of the technological drivers, in particular B2C e-commerce development, the researchers (2007) articulated the basic supposition and scheme of the diffusion theory
Kraemer *et al*. (2006)	– While exploring the impact of national environment and policy global in with regards to global e-Commerce, study use of multiple theories, including diffusion of innovation (DoI), regarding technological innovations – Under the framework, they further examined relationship between use of innovation and performance impact, believing that use of technologies influences cultures in different ways – believes that to get comprehensive results, an integrated and multidisciplinary approach, based on diverse theories and models will enrich the supposition of the diffusion of innovation
Rogers (2003)	– The DoI theory helps exploring five distinguished features of innovation (relative advantage, compatibility, complexity, observability and trialability) to establish an overall perception toward the latest technologies; while believing that the perception motivates customers and not the experts' prophecy
Ash *et al*., 2004	– Employing diffusion of innovation theory, studies explored the use of internet by the medical doctors – Analyzing different characteristics of the "internet technology", diffusion of innovations theory helps exploring the way medical doctors and physicians admit and recommend latest medicines and other duties like, placing drugs orders etc.

Table 2.16 (continued)

Author (s)	Research scope, findings and Recommendations
Lin, 2011; AlGhamdi *et al*., 2011; Abu-Assi *et al*., 2014	– Based on the innovation theory, studies are found examining the influence of innovations' characteristics, "perceived relative advantage, ease of use and compatibility and knowledge base trust attributes", on the mind-set and behavioral intent towards mobile banking use by prospective and repeat customers
Chong & Bauer, 2000; Chan & Swatman, 1999; AlGhamdi *et al*., 2011	– DoI theory reveals that apparent features of technologies influence consumers' usage of an innovation – Looking into e-commerce growth perspectives, diffusion of innovation theory has been used as: 1) it deals with the new technologies, ideas or objects in the society, 2) It is argued that the theory better covers e-commerce technical perspectives

The theory helps exploring five distinguished features of innovation (relative advantage, compatibility, complexity, observability and trialability) to establish an overall perception toward the latest technologies; while believing that the perception motivates customers and not the experts' prophecy (Rogers, 1995; Rogers, 2003). Generally, three technological features (relative advantage and compatibility and complexity) were said to be more dominant among all others (Tornatzky *et al*., 2006; Slyke *et al*., 2004). Whereas; among internet based technologies, attributes like; "relative advantage, ease of use, and compatibility" are found more impactful factors (Liao *et al*., 1999; Papies & Clement, 2008; Vijayasarathy, 2004). Diffusion of innovation has been widely studied across the disciplines. For instance, Chew *et al*. (2004), employing diffusion of innovation theory, studied the use of internet by the medical doctors. By analyzing different characteristics of the "internet technology", diffusion of innovations theory helped exploring the way medical doctors and physicians admit and recommend latest medicines and other duties like, placing drugs orders etc. (Ash *et al*., 2001; Chew *et al*., 2004). Moreover, previous

research studies on use of internet in the USA generally appeared as consistent with the DoI Rogers' characterization of innovators (Rogers, 1995).

According to diffusion theorists, "relative advantage" – one of the features of innovations – helps in persuading the potential users towards new technology. The theory recommends that the universal adoption of innovations also relies on users' technological skills and knowledge (Rogers, 2003; Selwyn, 2003). This study aims to measure the technological readiness level of the potential customers to relate it to the diffusion of e-commerce within the Sultanate of Oman. According to the theory, diffusion of innovation is the "the process by which an innovation is communicated through certain channels over time among members of a social system" (Rogers, 2003).

Many studies (Agarwal *et al*., 1997; Moore & Benbasat, 1991; Papies & Clement, 2008; Teo & Liu, 2007; Lin, 2011) have been found exploring perceived attributes (relative advantage, compatibility, complexity, observability and trialability) of the new technologies or innovation. Based on the innovation theory, researchers (Lin, 2011; AlGhamdi *et al*., 2011; Abu-Assi *et al*., 2014) conducted their studies to examine the influence of innovations' characteristics, "perceived relative advantage, ease of use and compatibility and knowledge base trust attributes", on the mind-set and behavioral intent towards mobile banking use by prospective and repeat customers.

According to the diffusion of innovation (DoI) theory, apparent features of technologies influence consumers' usage of an innovation. While looking into e-commerce growth perspectives, diffusion of innovation theory has been used as: 1) it deals with the new technologies, ideas or objects in the society, 2) It is argued that the theory better covers e-

commerce technical perspectives (Chong et al., 2000; Chan et al., 1999; AlGhamdi et al.,

2011), 3) The theory model enormously helps exploring different influential aspects like;

"attributes of innovations, type of innovation-decision, communication channel, nature of

the social system, and extent of change agent's promotion efforts" , 4) It deals with

innovations at all levels including; into account adoption rate, decision and information

types, communication channels along with the classification of exceedingly explicit

features of technologies those may affect diffusion processes (Alkhateeb et al., 2009;

AlGhamdi et al., 2011). Additionally, according to Moore and Benbasat (1991), other

influential factors were: "image, result demonstrability, visibility, and voluntariness".

However, the researcher believed that to get comprehensive results, an integrated and

multidisciplinary approach, based on diverse theories and models will enrich the

supposition of the diffusion of innovation (Kraemer et al., 2006)

2.6.2   Technology Readiness Index: Technology Readiness

According to Parasuraman (2000), technology readiness is a valuable tool to recognize or

to be familiar with the consumers having innovative attitudes and behaviors. Technology

readiness (TR) deals with people's tendency towards the acceptance and adoption of new

technologies or innovation. Today, due to the unproductive use of technology, the

consumers are seen not only being benefitted but frustrated with the propagation of

technology-based products and services (Parasuraman, 2000; Son & Han, 2011; Caison et

al., 2008). The Table 2.17 given below highlights the studies those employs technology

readiness index (TRI). Technology Readiness Index (TRI) by Parasuraman (2000)

discovered four dimensions of the technology namely; "optimism, innovativeness,

discomfort and insecurity", believing that they were impactful towards consumers' level

of technological readiness. Accordingly, those dimensions (two drivers and two inhibitors) explore: 1) consumers' optimistic view about the technology including; people's increased control, flexibility and effectiveness, 2) a propensity of technology leader and pioneer, 3) a supposed lack of control towards innovations and a sense of being overwhelmed by the technology, and 4) lack f trust towards technology and doubt on its efficiency (Parasuraman, 2000; Abu-Assi *et al*., 2014; Demirci *et al*., 2008; Tsikriktsis, 2004; Massey *et al*., 2007). It (TR) can be taken as a general mental state as an outcome of composition of mental enablers and inhibitors that jointly decide a person's tendency with regards to the latest technologies (Lin *et al*., 2007; Demirci *et al*., 2008).

Table 2.17
Technology Readiness Index

Author (s)	Research scope, findings and Recommendations
Son and Han (2011)	– Explores four dimensions i.e. "optimism, innovativeness, discomfort and insecurity" of technology readiness index (TRI), post-adoption attitude of consumers and the effect of technology readiness (TR) towards continued use intention of latest technology
Abu-Assi *et al*. (2014)	– Explores the influential factors in the electronic banking (e-banking), considering it as an innovation in the country, in Jordan by developing theoretical framework based on diffusion of innovation, technology acceptance model and technology readiness index (TRI)
	– People have diverse traits, their viewpoint about the technology also varies; whereas, the potency of every feature shows individuals' candidness and approval of technology
Parasuraman (2000)	– Find out self-service technologies (SSTs) features those meet the terms of technology recognition or the services resulting in communicating through the technology
Lin *et al*. (2007)	– Suggests that SST enabled organizations, should concentrate on the technology readiness (TR) considering that higher level of technology readiness would result in better customers' satisfaction
	– Pursuing self-service technologies, they employed technology readiness (TR) to examine the impact of technology readiness

Technology readiness, an effective model to study consumers' tendency to adopt innovations or new technologies (Caison *et al*., 2008; Son & Han, 2011) has become a multi-disciplinary field of study. It has been widely studied to explore mobile services, e-education, online insurance, e-commerce (Summak *et al*., 2010; Massey *et al*., 2007). Son and Han (2011) studied, by using four dimensions i.e. "optimism, innovativeness, discomfort and insecurity" of technology readiness index (TRI), post-adoption attitude of consumers and the effect of technology readiness (TR) towards continued use intention of latest technology. Similarly, Ferreira *et al*. (2014) studied impacts of technology readiness on emotions and cognition in Brazil, while implementing the TRI framework and dimension. Tan and Ouyang (2004) suggested a considerable progress to achieve technology readiness in China to get the e-commerce diffused.

Abu-Assi *et al*. (2014) explored the influential factors in the electronic banking (e-banking), considering it as an innovation in the country, in Jordan by developing theoretical framework based on diffusion of innovation, technology acceptance model and technology readiness index (TRI). In view of the fact that people have diverse traits, their viewpoint about the technology also varies; whereas, the potency of every feature shows individuals' candidness and approval of technology. The TRI framework helped the researchers to explore customers' technological confidence, while not showing their ability itself (Rogers, 2003; Parasuraman, 2000).

Demirci *et al*. (2008) in extension to Parasuraman's (2000) technology readiness index (TRI), uphold a study on technology readiness to investigate customers' perception and adoption of the innovations or new technologies technology. Studying self-service

technologies (SSTs), Parasuraman (2000) found out self-service technologies (SSTs) features those meet the terms of technology recognition or the services resulting in communicating through the technology. In support to that, Lin *et al*. (2007) suggested that SST enabled organizations, should concentrate on the technology readiness (TR) considering that higher level of technology readiness would result in better customers' satisfaction. Further, in pursuing self-service technologies, they employed technology readiness (TR) to examine the impact of technology readiness on both contentment and intentions toward SSTs.

2.6.3 Theory of Reasoned Action (TRA): Trust & Religiosity

Trust and religiosity are discussed under the light of theory of reasoned action (TRA), as under:

2.6.3.1 Trust

Theory of reasoned action (TRA) reveals that individuals make balanced judgment caused by the information available; whereas, the finest instant determinant of a person's conduct is intention - a cognitive symbol of readiness to execute a known behavior (Ajzen & Fishbein, 1980; Mukhtar & Butt, 2012). In B2C e-commerce, consumers receive a huge impression from the website appearance and if the information is found trustworthy and truthful, it results in gaining customers' trust and satisfaction and ultimately customers' loyalty towards online business (Eid, 2011; Liao *et al*., 2010).

A proposed e-commerce trust model revealed that trust beliefs, for instance; observations of particular online business features lead to conviction intentions, influencing trust-related actions (McKnight *et al*., 2002; Eid, 2011). Jarvenpaa *et al*. (2000) with the help

of TRA framework, investigated whether or not customers' views about an online business reputation and volume influence their trust in the e-store. Many scholars have posited TRA model to explore the consequences of trust on consumers' mind-set, intents, and behaviors, what ultimately results in diffusion of e-commerce (Jarvenpaa *et al*., 1999; Jarvenpaa *et al*., 2000; Teo & Liu, 2007). Adapting the framework of TRA, exploring about the effect of transaction trust on e-commerce relationships between travel agencies, Wu and Chang (2006) empirically examined the way trust beliefs, mind-sets and transaction intents affect each other. They further analyzed the transaction trust categories those affect wholesaler opinion of vendor intentions, and establish the responsibility and significance of "party trust" and "control trust" throughout the whole transaction progression, with the purpose of producing helpful suggestions for seller. Integrating other diffusion theories too, Alomari *et al*. (2010) posited theory of reasoned action (TRA) to establish their research to measure social factors in e-government adoption in Jordan. Theory of reasoned action (TRA) suggests that consumers' intention and aim to opt a product or idea depends upon the two basic facets i.e. the private in nature and the indication of social impact. Personal or private elements, also known as approach towards the behavior, reflect either optimistic or pessimistic assessment of a certain behavior. The second aspect in the theory of reasoned action (TRA) is consumers' personal judgment about the social influence, resulting in either acceptance or rejection (Ajzen & Fishbein, 1980; Lada *et al*., 2009).

Following the theory of reasoned action (TRA) as applied to a technology-driven atmosphere, Pavlou (2003) studied consumers' recognition of e-commerce by suggesting key drivers to employ consumers in electronic transactions. Further, under the guidance

of TRA, supplementary key drivers of e-commerce acceptance, such as "trust and perceived risk" were integrated into the proposed model. According to TRA, trust causes optimistic approach towards online vendors, which ultimately results in vendors' satisfaction about the respective online business infrastructure. From consumers' point of view, trust positively influences their attitude toward B2c e-commerce. On the subject, a consensus is found that trust relates to positive approach (Jarvenpaa *et al*., 1999; Jarvenpaa *et al*., 2000; Song & Zahedi, 2002).

2.6.3.2 Religiosity

Family unit of all theories, the theory of reasoned action (TRA), founded by Ajzen & Fishbein (1975) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), proposes that the people's conduct is administered by their faith, mind-set, and intentions towards conducting that behavior. Indeed, the religion of individuals shapes and directs the belief of individuals. Significance and influence of the religion on the consumers attitude and a smaller amount of research upheld on the topic, demand more research on the subject (Ansari, 2014). Theory of reasoned action defined attitude as a negative or a positive evaluation of behavior and a determining factor of intention (Ajzen & Fishbein, 1980; Davis, 1989; Zarrad *et al*., 2012; Chatterjee *et al*., 2014; Sumarto *et al*., 2012).

Cutler (1991) and Ansari (2014) found out that only five articles were published in the academic marketing literature including; eighty percent were written in 1980s and only six of those addressed the area of consumer behavior. While a number of studies have recommended that individuals' attitude might not be as imperative in foreseeing behavioral intentions (Venkatesh *et al*., 2003) theory of reasoned action (TRA) is planned

to explain almost every human behavior (Davis, 1989). Several researchers have found positive relationship between consumers' use of websites and adoption of B2C e-commerce and consumers' intention (Jeong & Lambert, 2001; Van, 2003; Shih, 2004; Pavlou *et al*., 2006; Pavlou *et al*., 2002; Kim *et al*., 2008).

Since, the Western cultures have been the main focus of technology diffusion research so far, other cultures need to be researched on (Venkatesh *et al*., 2007). Through their study on "intention to choose Halal products: the role of religiosity", Mukhtar and Butt (2012) validated the theory of reasoned action (TRA). The findings showed a positive relationship between the three dimensions (subjective norms, attitude towards religiously approved products and intra personal religiosity) and attitude towards religiously approved products; whereas, the "subjective norm" scored to be the strongest among all the selected predictors. Theory of reasoned action (TRA) has been widely used in the study of consumer behavior and intent to select a broad range of goods and services, including; food items, environment welcoming products, electronic commerce (B2C) and religiously allowed products (Bhattacherjee, 2000; Kalafatis *et al*., 1999; Lada *et al*., 2009; Sparks & Shepherd, 1992).

2.7 Summary of the Chapter

The chapter begins with the review of literature on e-commerce, its diffusion the developing states and in the Arab World, followed by the Islamic perspective of e-commerce. Discussion of diffusion of e-commerce is followed by literature review on technology readiness including definitions, its role in diffusion of innovation in general and diffusion of e-commerce in particular. In addition, it contains literature review on

dimensions and measurement of technology readiness. In the subsequent section a detailed review of trust in e-commerce is presented. Then the immense role of religiosity with reference to literature has been highlighted and explained. In the last section, the underlying theories that guide this study are discussed. The next chapter entails discussion with reference to development of conceptual framework, hypotheses and the research methodology for the study.

CHAPTER THREE
RESEARCH FRAMEWORK, HYPOTHESES DEVELOPMENT AND METHODOLOGY

3.0 Introduction

This chapter starts with the presentation of research framework and development of hypothesis in the section 3.1. The chapter continues further with the description of the research methodology used in upholding the study. The section 3.2 of the chapter comprises of discussion about research design followed by research objective, time frame of study, research method and the unit of analysis. Subsequently, discussion on sampling method is given in the section 3.3, whereas; issues related to data collection and a description regarding questionnaire design and administration have been provided in the section 3.4. The sections 3.5 and 3.6 comprise of data analysis techniques and the summary of the chapter respectively.

3.1   Research Framework and Development of Hypotheses

A research framework was developed on the basis of extensive literature review. The relationships shown in the framework have been successfully derived from the literature, discussed earlier in chapter two. Technology readiness is an important tool to get familiarity with the consumers possessing with innovative and pioneering mind-sets. It focuses on individuals' inclination towards new technologies (Parasuraman, 2000; Son & Han, 2011; Caison *et al*., 2008).

Four dimensions, two drivers and two inhibitors, of the technology readiness (optimism, innovativeness, discomfort and insecurity) are believed to be productive and fruitful

measuring consumers' technology readiness levels including; consumers' positive views about the technology, their improved control over them, flexibility, usefulness, tendency of technology pioneers, perceived lack of control and trust towards latest technologies (Parasuraman, 2000; Summak *et al*., 2010; Abu-Assi *et al*., 2014; Demirci & Ersoy, 2008; Tsikriktsis, 2004; Massey *et al*., 2007). As an efficient model to study consumers' tendency and propensity towards innovations (Caison *et al*., 2008; Son & Han, 2011; Abu-Assi *et al*., 2014), technology readiness phenomenon has been widely employed in the studies of e-commerce, online insurance, e-education, mobile services and so on (Summak *et al*., 2010; Massey *et al*., 2007).

Trust, a significant antecedent of customers' readiness to employ themselves in e-Commerce, (Gefen, 2000; Jarvenpaa *et al*., 1999) is defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the agility to monitor or control that other party" (Mayer *et al*., 1995; Ratnasingham, 1998; Hosmer, 1995). In B2C e-commerce, trust is a central factor (Slyke *et al*., 2004; Lumsden & MacKay, 2006) that offers customers resilience to deal with an unfamiliar and anonymous vendor (Bryant & Colledge, 2002; Kamari *et al*., 2012). It convinces customers to exercise business technologies to help improving all sectors of the businesses (Pittayachawan, 2007). Whereas; it is not easy for the parties to build trust, due to the nature of electronic commerce (Ba & Pavlou, 2002; Alqahtani *et al*., 2012). To maintain trustworthiness in e-commerce, more research combining technology and trust are advised (Palvia, 2009). It is assumed that in e-commerce, "trust" has gained more

consideration from the buyers and the distrust is observed as one of the main obstacles in this regard (Zhuang & Lederer, 2006; Hoffman *et al*., 1999).

Theory of reasoned action (TRA) suggests that the individuals' manners are controlled by their belief, state of mind, and intents towards accomplishing that behavior (Ajzen & Fishbein, 1980). Religion outlines and manages the beliefs of individuals (Ansari, 2014). Theory of reasoned action defines attitude as a negative or a positive evaluation of behavior and a determining factor of intention (Ajzen & Fishbein, 1980; Davis, 1989; Zarrad & Debabi, 2012; Chatterjee & Ghosal, 2014; Sumarto *et al*., 2012). It is empirically established that religiosity influences the relationships between consumers' values and satisfaction. It moderately influences Islamic value traits of Muslim customer satisfaction (Eid *et al*., 2015).

Rogers' theory of diffusion of innovation indicates the enhancement of novel thoughts and notions, scientific information, and real carry out within a society, where the increase embodies flow or movement from source to an adopter, normally via communication system. It comprises of four basic elements namely; innovation, communication channels, time, and social system. In general, diffusion of innovation theory explores five phases of diffusion of innovation: "knowledge, persuasion, decision, implementation, and confirmation" (Rogers, 1995; Rogers, 2003). Based on the theories and literature discussed earlier, following research framework, given in Figure 3.1, has been duly proposed for the study.
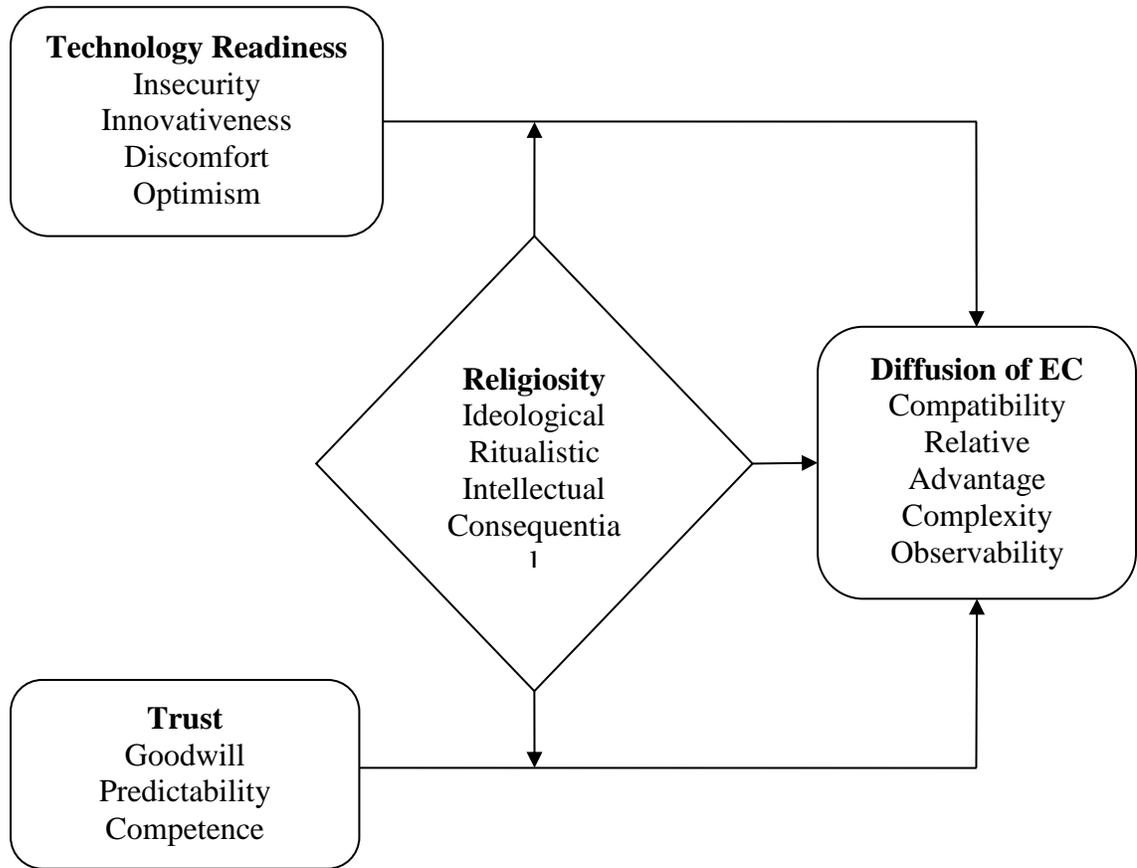
Figure 3.1
Research Framework

The literature suggests that the role of technology readiness is found catalytic in enhancing diffusion of innovation in general, and diffusion of e-commerce, in particular. Past studies, on one hand, reveal that the technology readiness has been playing a vital role in diffusing the new technologies or novel ideas within particular social system (Durbhakula & Kim, 2011; Massey *et al*., 2007; Demirci *et al*., 2008; Elliott *et al*., 2008; Lai, 2008; Abu-Assi *et al*., 2014; Parasuraman, 2000; Meuter *et al*., 2003). Thus these studies indicate a positive relationship between the technology readiness and diffusion of innovations. On the other hand, many studies reveal an insignificant or negative

relationship between the technology readiness and diffusion of innovations (Berndt *et al*., 2007; Walczuch *et al*., 2007; Summak *et al*., 2010). Although there is a divide among results of previous studies with respect to direction of relationship between the technology readiness and diffusion of innovations, yet the majority of the studies have found that there is a positive relationship between the technology readiness and diffusion of innovations. Hence, the study hypothesized the following:

H1: There is a positive relationship between the technology readiness and diffusion of electronic commerce.

It is believed that the "trust" has gained more attention from the potential consumers and the mistrust is seen as one of the main hindrance in the field of e-commerce (Zhuang *et al*., 2006; Hoffman *et al*., 1999). In B2C e-commerce, trust is one of the fundamental dynamics (Slyke *et al*., 2004; Lumsden *et al*., 2006) that offers customers elasticity to deal with an unknown, nameless, remote and unidentified seller (Bryant *et al*., 2002; Kamari *et al*., 2012).

A thorough literature review exposes that there are two dissimilar viewpoints found with regards to the relationship between trust and diffusion of innovation or new technologies. At one hand, studies (Al-Rawabdeh *et al*., 2012; Azam *et al*., 2013; Corbitt *et al*., 2003; Gefen, 2003; Gefen, 2002b) shows significant and positive relationship between trust and diffusion of innovation or new technologies. On the other hand, studies found insignificant relationship between trust and diffusion of innovation or new technologies is observed (Eid, 2011; Corbitt *et al*., 2003; Gefen, 2002b; Gefen, 2003).

Keeping in consideration the above discussion, the study hypothesized that:

H2: There is a positive relationship between trust and diffusion of electronic commerce.

Theory of reasoned action (TRA) reveals that the individuals' attitude is controlled by their beliefs, frame of mind, and intents towards accomplishing that behavior. Religiosity has been observed as playing an efficient role across the religions (Reitsma *et al*., 2006). Correspondingly, religiosity greatly influences consumers' actions both intra-personally and inter-personally. Muhammad (2013) suggestd that electronic business approach should guarantee "religio-centric" frame of mind to build a business trust relationship and to get Muslims consumers fully motivated. A study found that Muslim websites (for example, www.dar-us-salam.com) were widely trusted by Muslim consumers (Azam *et al*., 2013) comparing to common websites. In the broader spectrum, Islam supports innovatives ideas, provided the Islamic teachings, business rules and regulations have been well followed (Zainul *et al*., 2004; Dali *et al*., 2004). Moreover, not only electronic commerce, but Islam demands all businesses to be carried out in compliant with the Islamic commands (Muhammad *et al*., 2013). As a marketing strategy, it is also advised to explore consumers' "religiosity", their personal beliefs and its effect on adoption and diffusion processes of e-commerce (Rehman & Coughlan, 2012). Hence, this study hypothesis that:

H3: There is a positive relationship between religiosity and diffusion of e-commerce.

In the case where the relationships between the independent and dependent variables are not fully established as significant, insignificant, consistent or inconsistent, Baron and Kenny (1986) recommends to apply moderator variable to assess its effect on the

relationships. Keeping in view the abovementioned discussion, the study posits the following hypotheses.

H4: The relationship between technology readiness and diffusion of electronic commerce is moderated by religiosity.

H5: The relationship between trust and diffusion of electronic commerce is moderated by religiosity.

3.2   Research Design

This study employed quantitative research design. Research design, a guideline and instruction for the researcher, helps in finding out the method for conducting specific research. It thoroughly directs the research in selecting the proper sampling technique, data collection instrument, management of instrument and an analysis of the data collected. A wide-ranging literature has been reviewed in creating the research design for this study to successfully find concepts, research gaps and deficiencies in the past studies. The literature review has also provided useful and in-depth understanding regarding the methodologies, research instruments, measurement of variables and data analysis techniques exercised in the studies conducted on the broader subject of technological diffusion.

3.2.1   Purpose of the Research

The study specifically aimed to examine the relationships between the technology readiness, trust and diffusion of (B2C) electronic commerce in the perspective of a Muslim majority country – Sultanate of Oman. Further, two variables: technology readiness and trust, are taken as independent variables; whereas, diffusion of e-commerce

is studied as dependent variable. The study employed religiosity as a moderator to examine its moderating effect on the relationships between the predictors (technology readiness and trust) and the criterion (diffusion of e-commerce) variable. Being illustrating the issues technology readiness and trust towards diffusion of e-commerce, descriptive in nature, this study can be termed as correlational study, examining the relationship between the aforesaid variables.

3.2.2 Time Frame of the Study

In order to uphold research studies with respect to time frame, there are two existing alternatives namely; longitudinal and cross sectional study. In case of longitudinal studies, data is collected over an extended period of time, possibly over a period of days, weeks or months, in order to answer a research question (Sekaran, 2006; Cooper & Schindler, 2006). Whereas, the cross sectional studies refer to an accomplishments of a research and the presentation of issues at once in a specific point of time (Bryman & Bell, 2003). In the field of technological diffusion, plenty of cross sectional studies are found following cross sectional pattern (Bhattacherjee, 2000; Cheng *et al*., 2006; Çelik *et al*., 2011; Eid, 2011; Slyke *et al*., 2004; Al-Hudhaif *et al*., 2011; Azam *et al*., 2013; Ansari, 2014; Rodríguez-Ardura *et al*., 2010; Khalifa *et al*., 2008) with respect to time frame. This is a cross sectional study in nature.

3.2.3 Research Method

This study employed survey method. According to Zikmund (1994) survey method is useful in elaborating a phenomenon and in looking for the reasons and ground of any specific action. As discussed by Neuman (1997), survey method is quite valuable and

practical as it facilitates the researchers to gather data comprising on a large number of respondents in order to measure multiple variables and to testify multiple hypotheses. The method is popular and is quite frequently employed for conducting quantitative research in the field of management sciences (Hair *et al*., 2003). Few of the advantages of survey method include: access to large number of respondents, less costly to manage, and free from interviewer prejudice (Bryman *et al*., 2003; Sekaran & Bougie, 2010). Thus, it was appropriate to employ the survey method in conducting the present study.

3.2.4   Unit of Analysis

According to Neuman (1997), unit of analysis is what is being studied for measurement of variable. Unit of analysis can be individual, group or organization (McDougall *et al*., 2000), depending upon the nature and context of study. For this study, data was collected from Omani citizens teaching faculties of public sector colleges and universities of Sultanate of Oman; hence, the teaching faculties were the unit of analysis. As respondents, eligible Omani academicians from public sector universities were contacted in order to gather data on technology readiness and trust, religiosity and diffusion of e-commerce. For this study, the aforementioned section of society has been considered as the most appropriate and eligible respondents. As mentioned by Rogers, opinion leaders and change agents play a vital role in boosting up the diffusion of innovation processes. Generally, they are found: 1) well aware of external communication 2) more cosmopolite 3) better status in the society and 4) more innovative. One of the most important characteristics of opinion leaders is their existence at the heart of interpersonal communication networks. They, within a social system, use their unique influence (Rogers, 2003). For instance, Carlson (1965) analyzed the function of opinion leaders in

the diffusion networks for the innovation of modern math among school superintendents. Also, Lamar (1966) studied the innovation-decision process among 262 academicians in 20 Californian schools. Tarde (1903) reveals that people those are closest the source of the innovative idea are the one who adopt the idea first, which then travels from elite class to lower-status individuals. Hence, in the light of above mentioned phenomenon, the study aimed to target public sector academician in the Sultanate of Oman, as potential respondents.

3.3   Sampling Method

Sampling process initiates by identifying the target population that comprises of the entire group of individuals or organization that come under the scope of study being conducted by the researcher (Sekaran, 2006). Omani citizens teaching faculties of public sector colleges and universities of Sultanate of Oman had been the target population for this study. According to the data collected from the websites of the higher education institutions of Oman, the total population size was calculated as 733, whereas the maximum possible number of respondents were collected keeping in view the recommendations of Iacobucci (2009), who highlighted that with respect to the sample size as "bigger is always better". It is widely believed that that the larger sample size enhances the power and reduces the estimation error (VanVoorhis & Morgan, 2007). It is also advised that "a markedly larger sample size is needed despite the inclusion of highly reliable indicators in the model", in case of partial lease square (PLS), an adequate sample size is suggested to achieve power in PLS based approximations in order to ensure power in complex modeling (Marcoulides *et al*., 2006; Akter *et al*., 2011). GPower 3.1, a latest tool available, was used to obtain the right sample size (Green,

1991). According to the result obtained from GPower statistics, the appropriate sample size of 330 was calculated with power (1-β err prob. = 0.999) (See Appendix − E). Furthermore, Sekaran (2006) quoted Roscoe (1975) saying that the sample size ideally would be in between 30 to 500. In the light of above mentioned phenomenon, the research managed to get 348 responses while the survey was self-administered.

With regards to the sampling techniques for an appropriate sample size, along with other factors, it is important to take a note of heterogeneity of sample, number of variables used in the study and intended statistical tool to be used for the data analysis (Neuman, 1997; Hussey *et al*., 1997). This study employed proportionate stratified random sampling to select the sample. As the proportionate sampling is suitable as when it is "easier, simpler, and less expensive" to assemble data from one or more strata than from others (Sekaran, 2006). The sample was randomly selected according to the population size in each strata i.e. higher education institution (HEIs) of Sultanate of Oman. There are fifteen public sector education institutions in Sultanate of Oman namely; Sultan Qaboos university (SQU, 2015), college of applied banking and financial studies (CBFS, 2015), six colleges of applied sciences located in the main regional cities of the Sultanate − at Nizwa, Ibri, Sur, Sohar, Rustaq, and Salalah (MoHE, 2015; Manpower, 2015a). There are seven regional colleges of technology, located in Musanna, Nizwa, Ibra, Salalah, Shinas, Ibri and Muscat organized by the ministry of manpower (Manpower, 2015b). Accordingly, the sample was collected as shown in the Table 3.1.

Table: 3.1
Higher education institutions in Sultanate of Oman

Name of Institutions	Total population	Sample obtained
Sultan Qaboos University	369	174
College of Banking and Financial Studies	10	05
Ibri College of Applied Sciences	07	03
Sur College of Applied Sciences	08	03
Rustaq College of Applied Sciences	19	10
Salalah College of Applied Sciences	12	06
Sohar College of Applied Sciences	17	07
Nizwa College of Applied Sciences	30	15
Higher College of Technology, Muscat	109	50
Al Musanna College of Technology	47	23
Nizwa College of Technology	40	20
Salalah College of Technology	09	05
Shinas College of Technology	12	05
Ibra College of Technology	18	10
Ibri College of Technology	26	12
Total	733	348

Source: Manpower, 2015a; Manpower, 2015b

This study used survey as a primary method to collect data, as survey method is considered highly reliable (Babbie, 1989). Questionnaires are a well-organized data and proficient collection method, whilst the researchers understand exact requirement and the way to measure the variables of significance. Furthermore, questionnaires can be self-administered, through mailed, or electronically distributed. Personal administration of data is the most suitable, when the survey is confined to locality where potential respondents can be gathered. Hence, in this study, questionnaires were administered personally (Sekaran, 2006).

An appropriate administration of questionnaires demands measures to be taken to enhance the rate of response. It is fairly essential to get hold of a higher response rate; because lower response can possibly lead to prejudiced and complicated findings in terms of generalization. Response rate refers to the proportion of respondents those who return

the questionnaires successfully, whereas; the quality of response refers to the fullness and effectiveness of the data collected (Babbie, 1989; Wiersma, 1993).

Before handing over the questionnaire to the respondents, the basic concepts were briefly described for respondents to get those better understood, as the variable were subjective in nature and respondents' "beliefs, perceptions, and attitudes were to be measured (Sekaran, 2006). Regarding the design of questionnaire it is essential to take care of three main areas; wording of the questions, planning regarding variables categorization, scale, and coding after the collection of data, and the general appearance of the questionnaire. Questionnaires should look fairly attractive, accurate and professional, while focusing on scope and objectives of the study. Complex wording and lengthy sentences would be avoided. The number of the questionnaires to be distributed would be larger than sample size because of any possibility of errors made by respondents (Sekaran, 2006). The research has duly taken care of the aforementioned criteria.

3.4   Questionnaire Design

In designing the questionnaire for this study, several measures have been taken into account. The following procedures have been taken up to develop measurement of constructs and dimensions.

a.   A comprehensive and systematic literature review was conducted, in order to gain a broader understanding of each construct to be used in the study.

b.   Questionnaires was sent to the scholars of relevant academic area and Arabic speaking scholars in order to acquire an insight about the relevance, valuation of the

content and any ambiguity or haziness that may result in non-response or difficulty for the respondents.

c. The questionnaire was then finally translated and proof-read by the language experts from the school of education and modern languages, University Utara Malaysia (Appendix-F).

d. Through conducting pilot study, it was confirmed that the questionnaire is meeting all the requirements discussed earlier.

The questionnaire discusses the following: firstly, the questions relates to technology readiness. Following section relates to questions measuring consumers' trust in e-commerce, and the third section measures the religiosity construct. Lastly, there are questions measuring electronic commerce diffusion. Equally important, few questions have been added on respondents' demographics. The measurement details of each of the variables are given below:

3.4.1 Technology Readiness: Operationalization and Measurement

Technology readiness, in regards to the diffusion of innovations, is commonly employed to investigate or to measure consumers' inclination towards the innovative idea, practice or object. Keeping in view the level of technology readiness of particular potential consumers, more suitable strategies can be adopted. In this way, necessary steps can be taken either on the side of consumers or the technology providers. The phenomenon is immensely important in the case of electronic commerce. Thus the scope of technology readiness is believed as broader and significant.

There is no denial to the significance of technology readiness in the perspective of diffusion of innovation or latest technology. Studies done in the recent past reveal that the technology readiness model has been a successful model to study consumers' propensity to accept latest technologies (Caison *et al*., 2008; Son *et al*., 2011; Abu-Assi

et al., 2014; Demirci *et al*., 2008). It has been widely studied in the fields of: telecommunication sector, remote or electronic education, e-insurance and all models of electronic commerce (Summak *et al*., 2010; Massey *et al*., 2007).

Studies, performed by Son *et al*. (2011), Silva (2014), Demirci *et al*. (2008), Parasuraman (2000) and Lin *et al*. (2007), were conducted covering the topics of: post-adoption attitude of consumers and the effect of technology readiness (TR) towards continued use intention of latest technology, impacts of technology readiness on emotions and cognition in Brazil, technology readiness to investigate customers' perception and adoption of the innovations or new technologies technology, self-service technologies (SSTs), SST enabled organizations and the impact of technology readiness on both contentment and intentions toward SSTs, respectively. While Tan 2006, Abu-Assi *et al*. (2014) conducted their studies on and impacts of the internet and electronic commerce in China and determinants of internet banking adoption in Jordan.

Technology readiness measurement scale was developed by Parasuraman (2000). It has four dimensions namely; "optimism, innovativeness, discomfort and insecurity" as mentioned in Table 3.1 in detail. The four dimension of the technology readiness have been employed at various levels to study various topics of very importance like; "the influence of technology readiness on satisfaction and behavioral intentions toward self-

service technologies", technology readiness for innovative high-tech products and the way consumers perceive and adopt new technologies, a technology readiness based taxonomy of customers, technology readiness of primary school teachers in turkey, readiness for banking technologies in developing countries, the influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies, student technology readiness and its impact on cultural competency and the effect of service employees technology readiness on technology acceptance (Parasuraman, 2000; Lin *et al*., 2007; Demirci *et al*., 2008; Tsikriktsis, 2004; Summak *et al*., 2010; Berndt *et al*., 2010; Elliott *et al*., 2008; Walczuch *et al*., 2007).

Demirci *et al*. (2008) performed a study on the technology readiness to find out the possible differences between the number of features and the organization of aspects regarding the technology readiness, where customers are expected to have mixed attitude towards innovations. According to the studies undertaken by Demirci *et al*. (2008) and Schumacher *et al*. (2001), not only the innovativeness was calculated as different comparing to other demographics variables, but the participation was observed as different within genders (male and female). Parasuraman (2000) developed a technology readiness index (TRI) on the basis of a broad research on customers' reactions to the technology. In the scale, he incorporated the construct of technology readiness of people and its conceptualization. He further illustrated a research program that was commenced to operationalize these construct, development and refinement of multiple-item scale to measure it. In the field of technology management, many studies (Parasuraman, 2000; Berndt *et al*., 2010; Elliott *et al*., 2008) have used the technology readiness index (TRI) developed by Parasuraman (2000), as shown in the Table 3.2.

Table 3.2
Questions on Technology Readiness (Adapted and modified from Parasuraman (2000)

Optimism
- Technology gives me more control of my daily life
- E-commerce products and services that use the newest technologies are much more convenient to use
- I like the idea of doing business/buying via computers because I am not limited to regular business hours
- I prefer the use of the most advanced technology available
- I like computer programs that allow me to shape things, suitable to my needs
- Technology makes me more efficient in my job
- I find new technologies to be mentally stimulating/motivating/ interesting
- Technology gives me the freedom to move
- Learning about technology can be as rewarding as the technology itself
- I feel confident that machines will do what you tell them to do

Innovativeness
- Other people come to me for advice on new technologies
- It seems my friends are learning more about the newest technologies than I am
- In my circle, generally I am among the first ones adopting the new technology
- Usually, I can Figure out new high-tech products and services without any help from others
- I keep up with the latest technological developments in my areas of interest
- I enjoy the challenges of figuring out how high-tech devices work
- Comparing to others, I find fewer problems in making the technology work for me

Discomfort
- Technical support/help lines are not helpful because they do not explain things in the way, I can understand
- Sometimes, I think that technology systems are not designed for use by ordinary people
- There is no such thing as a manual for a high-tech product or service that is written in plain language
- When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do
- If I buy a high-tech product or service, I prefer to have the basic model rather than one with a lot of extra features
- It is embarrassing when I have trouble with a high-tech device while people are watching
- There should be caution in replacing important people-tasks with technology because new technology can break down or get disconnected
- Many new technologies have health or safety risks that are not discovered until after people have used them

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Table 3.2 (continued)

- New technology makes it too easy for governments and companies to spy on people
- Technology always seems to fail at the worst possible time

Insecurity

- The human touch is very important when doing business with a company
- When I call a business, I prefer to talk to a person rather than a machine
- If I provide information to a machine or over the Internet, I can never be sure it really gets to the right place
- I do not consider it safe giving out a credit card number over a computer
- I do not consider it safe to do any kind of financial business online
- I worry that information I send over the Internet will be seen by other people.
- I do not feel confident doing business with a place that can only be reached online
- Any business transaction I do electronically should be confirmed later with something in writing
- Whenever something gets automated, I need to check carefully that the machine or computer is not making mistakes

Source: Adapted from Parasuraman (2000)

3.4.2   Trust: Operationalization and Measurement

Trust in the context of innovations or latest technologies refer to the consumers trust in dealing with the technology. Notwithstanding the technological developments have been enormously benefitting customer, an increasing frustration towards dealing with the technology is also established. There is no denial to the significance of trust in the perspective of diffusion of innovations or the latest technology. Trust is one of the main issues in e-commerce (Cheskin, 1999; Patton *et al*., 2004) in the business, transactions take place more namelessly and anonymously (Cyr *et al*., 2004). Previous studies proved that the trust has been widely studied across the discipline including; diffusion of innovations or latest technologies. For instance, Palvia (2009) investigated the fundamental role of trust in building relations in e-commerce. Her research explored

effect of trustworthiness on consumers' approach and its overall impact of business relations (Palvia, 2009). Beldad *et al*. (2010) emphasized that it is equally essential to understand trust for all the stakeholders. His research accentuate the religious aspects of the potential online buyers would be of great help.

Commonly used dimensions of trust in the field of e-commerce have been noted as: "competence, integrity, and benevolence" (McKnight *et al*., 2002; Liao *et al*., 2010), "belief that the e-Vendor is trustworthy" (Gefen, 2000; Gefen, 2002b; Pavlou, 2003), "ability, integrity and benevolence" (Jarvenpaa *et al*., 1999; Jarvenpaa & Todd, 1996), and "competence, predictability, goodwill" (Corbitt *et al*., 2003). McKnight *et al*. (2002), empirically confirmed the diversity among the measurements (competence, benevolence and integrity) and proved that consumers were found inclined towards definite dimensions and not the broader scales. Significance of consumers' online buying intentions including; trust and perceived information technology usefulness varies from future customers to the repeat ones (Gefen, 2002b). While investigating customers' trustworthiness in e-commerce, Gefen (2002) employed five dimensions (tangibles, empathy, responsiveness, reliability and assurance). Trust building factors and processes framework, developed by Liao *et al*. (2010), consist of "ability, integrity and benevolence". A prominent research, empirically investigating customers' trust in (business to consumer) electronic commerce, was conducted by Corbitt *et al*. (2003) that employed three dimensions to measure trust namely: "competence, predictability and goodwill. Keeping in view the relevance and the subject matter, this study has measured trust employing the three well known dimensions as discussed in the Table 3.3.

Table 3.3

Questions on Trust (Adapted and modified from Corbitt et al. (2003)

Competence
- I believe that most e-commerce websites have the necessary skills and ability to carry out the on-line transaction
- I believe that most e-commerce web sites have the necessary technology knowledge to carry out the on-line transaction
- Technology obstacles should not be a major concern when conducting on-line transactions
- The chance of having a technical failure in an on-line transaction is quite small

Predictability
- I can always predict performance of most e-commerce web sites from their past experience with the web sites
- My Past and future behaviors are positively related on most e-commerce web sites
- I tend to relax when I am dealing with the e-commerce web sites that I have had a pleasant experience with

Goodwill
- Most e-commerce websites exhibit care, concern, honesty and goodwill to their customers, thus providing a basis to advance the customer relationship
- I believe most e-commerce web sites will perform to the outmost of the customers' benefit
- Most e-commerce web sites do demonstrate their belief in ''the Customer is always right"

Source: Adapted from Corbitt *et al*., (2003)

3.4.3   Religiosity: Operationalization and Measurement

According to Holdcroft (2006), studies across the board have been using the terms like; religiousness, orthodoxy, faith, belief, piousness, devotion, and holiness to synonymies religiosity; however none of those are alike "religiosity". As quoted by the renowned scholar Delener in 1994, the religion may guide one to build up an opinion towards any issue (Delener, 1990; Khraim, 2010). Generally, religiosity refers to the level of religiousness found within individuals. It shapes and outlines the mind-set, learning, and manners of life. In the field of science and technology, it is projected to be one of the most important "socio-cultural" decisive factors towards innovations or the novel

technologies (Coccia, 2014; Fam *et al*., 2002; Sohaib *et al*., 2014; Eid *et al*., 2015; Mokhlis, 2009; Khraim, 2010). Yousaf and Malik (2012) disclosed that consumers' religiosity and product interest levels exceedingly influence different aspects of consumers' attitude. It is found, particularly in Muslim consumers, that religion plays an immense role towards diffusion of innovations i.e. novel idea or technology (Ansari, 2014). While, focusing on marketing strategies in Muslim majority consumers, Rehman *et al*. (2010), Ansari (2014) and Hanzaee *et al*. (2011) discovered that there was a significant relationship between religiosity and new product adoption by using Stark and Glock (1968) scale for religiosity measurement. While; Baig *et al*. (2013) measured the same with five dimensions: "sacramental, rational, ideological, consequential, and Practical".

Logically, the same idea employs towards adopting latest technologies. Gerhard, in his study "measuring religiosity using survey", utilized four dimensions: doctrinal orthodoxy and 'devotionalism', and associational religiosity for inside the worship place, whereas; communal religiosity outside worship place (Lenski G. , 1961; McAndrew *et al*., 2011). Five core dimensions of religion namely; "public and private practice, religious occurrence, philosophy, and the intellectual perspective" were explored by Huber and Huber (2012) to study centrality of religiosity scale. Likewise; Fukuyama (1960) and explored religiosity using four dimensions; cognitive, cultic, creedal, and devotional to study major dimension of church membership (Fukuyama, 1961; Holdcroft, 2006). To measure the associations between religiosity, meaning in life and subjective wellbeing, Tiliouine *et al*. (2009) developed a comprehensive measure of Islamic religiosity scale covering four broad dimensions namely; "religious belief, religious practice, religious

altruism, and enrichment of religious experience" .Whereas, Abou-Youssef *et al*., 2011 adapted Islamic behavioral religiosity scale which comprises of five dimensions: "belief, worship, legislation, morality and behavior measurement". According to Cardwell (1980), in religiosity, the cognitive dimension deals with personal knowledge and cultic dimension concerns about with the religious practices, Whereas; the creedal is concerned with personal religious belief followed by devotional that refers to individuals' religious way of thinking and experiences. This study has used a well known scale on religiosity introduced by Stark and Glock (1968), shown in Table 3.4. The scale has been widely used to measure consumers' religiosity levels while studying innovations, new product adoption and technology diffusion etc. (Holdcroft, 2006; Glock, 1962; McAndrew & Voas, 2011; Ansari, 2014; Rehman *et al*., 2010; Azam *et al*., 2011; Hanzaee *et al*., 2014).

Table 3.4
Questions on Religiosity (Adapted from Stark & Glock, 1968)

Ideological
- I have firm belief in all basic ideological dimensions of Islam
- Muhammad (Peace Be Upon Him) is His last Prophet
- I believe there is only one Allah

Ritualistic
- I regularly offer prayer five times a day
- I fast regularly during Ramadan
- I regularly recite the Holy Quran
- I believe that I am obliged to perform Hajj if I meet the prescribed criteria

Intellectual
- I always keep myself away from earning through Haram (prohibited) means
- I always try to avoid minor and major sin
- I know the basic and necessary knowledge about my religion
- I always try to follow Islamic junctions in all matters of my life

Consequential
- It is my duty to give respect to others and give them their rights according to Islamic injunctions
- I try to avoid any activity, which hurt others
- I always try to help those who need my help

Table (3.4) continued
• I try to be honest and fair with others
• I always avoid humiliating others because Islam does not allow doing so
Experimential
• I feel sorrow and dissatisfaction when I do something against my faith
• I have feeling of being tempted by devil
• I have feeling of being afraid of Allah
• I have feeling of being punished by Allah for something doing wrong
• I feel pleasure by seeing others following Islamic teaching

Source: Adapted from Stark & Glock, 1968

3.4.4   Diffusion of E-Commerce: Operationalization and Measurement

Diffusion is a notion being thoroughly employed across the studies like; communication, economics, marketing, education, sociology and technology etc. (Greenhalgh *et al*., 2004). According to Rogers (2003) diffusion of innovation, "an idea, practice or object that is perceived as new by the individual or other unit of adoption" (P. 11). It can be defined as a process by which an innovation or new technology is communicated or transferred into a social setup within certain period of time (Rogers, 2003; Nutley *et al*., 2002). Since decades, studies have been widely using the theories related to diffusion concept, where the same has happened in the field of technology. In the field of health care, many studies employed significant dimensions like; "relative advantage, trialability, observability, communication channels, homophilous groups, pace of innovation" or "reinvention, norms, roles and social networks, opinion leaders, compatibility and infrastructure" to study diffusion of technologies (Rogers, 2003; Cain *et al*., 2002; Nutley *et al*., 2007; Atkinson, 2007; Abu-Assi *et al*., 2014). Another study explored applications of telecenters while using diffusion theory, three prominent aspects; "the perceived

attributes of innovations, the communication aspects of the diffusion process, and the consequences of innovation adoption" were utilized (Roman, 2003).

Maidique *et al*. (1984) and MacVaugh *et al*. (2010), conducted a quantitative study to explore the characteristics of technologies, whereas their work offers huge assistance to both the manufacturers and the customers. As quoted by Jason (2010), Moore and Benbasat (1991) upheld an empirical study to develop a technique for measuring perceptions of technology before adoption. Further in the field of technological innovations, an empirical study was conducted by Moreau *et al*. (2001) to recognize association between consumer perception and knowledge base. The study explored that the knowledge in the base domain might have a negative impact on preference for irregular innovations. Similarly, there are others studies undertook by Gandal's (2002), Taylor *et al*. (2003), Henard *et al*. (2001) on the subjects of: consumer expectation and marketplace competition, the influence of government actions on technological innovation and a comparative study between different latest technological products respectively. By applying different study frameworks and by employing different dimensions. Klloppiing and McKiinneyy (2004) studied five dimensions namely; "perceived usefulness, perceived ease of use, intention to use, actual use and task-technology fit", to anticipate e-commerce (B2C) consumers' online shopping activities. To facilitate health care industry and e-banking sector, Abu-Dalbouh (2013) and Cheng, Lam and Yeung (2006) quantified the suitability of mobile tracking system and adoption of internet banking respectively and measured the diffusion level on the basis of "perceived of usefulness, perceived ease of use and user satisfaction and attribute of usability".

As discussed earlier, Rogers' (1995) diffusion of innovation model comprises of five main dimensions: "relative advantage, compatibility, complexity, trialability and observability". Slyke *et al*. (2004) empirically investigated the influential factors towards online or B2C electronic commerce. Following studies by Al-Majali (2013), Al-Jabri *et al*. (2012)on the internet trading services and adoption mobile banking, this study has duly adapted and modified the questionnaires used by Moore & Benbasat, 1991, Nor & Pearson, 2007, Poon, 2007 and Roberts *et al*., 1997.

Table 3.5
Questions on diffusion of B2C e-commerce

Relative Advantage
E-commerce enhances my efficiency in purchasing products or services
E-commerce makes it easier to purchase products or services
E-commerce gives me better control over my purchasing products or services
Compatibility
E-commerce fits well with the way I like to purchase products or services
E-commerce fits into my purchasing style
E-commerce to purchase products or services is compatible with how I like to do things
Complexity
Learning to practice e-commerce for purchasing products or services is easy for me
I believe that it is easy to practice e-commerce to do what I want it to do
Practice of e-commerce to purchase products or services is clear and understandable
Overall, I believe that practice of e-commerce to purchase products or services is easy
Trialability
Before practicing e-commerce, I want to be able to properly try it out
Before practicing e-commerce, I want to be able to use it on a trial basis to see what it can do
Before practicing e-commerce, I want to be able to experiment with it as necessary
Before practicing e-commerce, I want its services to be available for a test run
E-commerce services are sufficiently available for a trial to see what those can do
Observability
E-commerce can be practiced anytime and from anywhere in Sultanate of Oman
E-commerce offers on the basis of first come first serve
E-commerce can be performed while abroad
I can see the effect of e-commerce transaction immediately

Sources: adapted from Moore & Benbasat, 1991, Nor & Pearson, 2007, Poon, 2007 and Roberts & Fain, 1997

3.4.5 Measurement Scales

Selection of an appropriate measurement scale is immensely important, since it has potential to affect reliability of the measure. Dawes (2007) reported that 5-point or 7-point likert scales are equally good and comparable when data has to be used for regression analysis, confirmatory factor analysis or structural equation modeling. In this regard 5-point scale, originally developed in 1932 by Likert, 1932 to measure attitudes, was considered as more appropriate for the present study, hence used. Babbie (1990) believes that likert scale has higher adaptability, more reliability and applicability and that it is easier to develop. In the field of technology innovation research, numerous studies have used likert scales. For instance, 5-Likert scale was opted to measure technology diffusion in different fields, like; mobile tracking on patient progress applications (Abu-Dalbouh, 2013), diffusion of internet within medical doctors' community (Chew *et al*., 2004) and consumers' adoption and behavior toward of B2C e-commerce (Çelik *et al*., 2011; Zarrad *et al*., 2012; Klloppiing *et al*., 2004; Eid, 2011; Delafrooz *et al*., 2009; Al-Hudhaif *et al*., 2011; Seitz *et al*., 2005). As reflecting the questionnaire (Appendix-A&B), this study utilized 5-point Likert type numeric scale for all the questions with the aim of keeping consistency; where "1" refers to absolute disagreement to the opinion on the left of the numeric scale and "5" corresponds to complete agreement to the opinion on the right of the numeric scale, while "3" represents neutrality or indifference.

3.4.6 Reliability and Validity of the Instrument

Reliability and validity of the instrument used to collect data is essential. Moreover, reliability of findings of study depends upon the validity of instrument; which means that

the use of a valid and reliable instrument is a must. Reliability is defined as the phenomenon, where the repetitive studies would produce similar findings and results. This study used the confirmatory factor analysis technique to indicate the significant observed items connected to each of the latent variables. One of the major advantages of employing the confirmatory factor analysis is that it has a capability to measure the construct validity of the estimated measurement model. Construct validity consists of convergent validity i.e. "factor loadings, average variance extracted (AVE) and composite reliability (CR)" and the discriminant validity. The criteria for the abovementioned measures have been discussed in detail in the coming parts of this section as well as in chapter four.

Validity of the instrument refers to what the instrument in reality measures. If the instrument actually measure what it is assigned to measure, then it is believed to be valid instrument. The questions, to be responded by the respondents, were duly obtained from the past well established research studies and the tool has also been appropriately adapted and modified for the required questionnaire. Since the questions were taken from past studies of a good reputation, it pointed out the face validity, which meant that the questions successfully measured the concepts those were initially developed for (Sekaran, 2006). Furthermore, the instrument guarantees contents' validity to ensure that measures were suitable and representative of the model to be measured (Babbie, 1990; Sekaran, 2006).

3.4.7 Pilot Study

Pilot study is quite essential, in order to remove any doubts and to improve the quality of questionnaire (Neuman, 1997). It can also be very useful in identifying any design and instrumentation deficits. With regards to content validity, the instrument was sent to panel of experts (lecturers in the relevant academic field and scholars from the Arabic background) in order to get their scholarly advice. Pilot study was conducted to verify the language and comprehension; afterwards the questionnaires were sent to the language experts in department of modern language of the University of Utara Malaysia for translation and proof-read (Appendix-F) to ensure the quality. To follow up the same, questionnaires was sent to 50 students and scholars having purely Arabic backgrounds, from the University Utara Malaysia (UUM). In total, 31 responses were received; whereas the Cronbach Alpha was found as 0.928 with 86 (Tables 3.1, 3.2, 3.3 and 3.4) item showing the validity and reliability. As the suggested range of pilot test is from twenty five to seventy five, the total sample size of thirty one satisfied the recommended pilot test range (Babbie, 1990; Converse *et al*., 1986; Miller *et al*., 2007). Pilot study helped in recognizing the misconstrued items and unclear terms. Keeping in view the results of pilot study, the survey instrument was redrafted, ambiguous terms were rephrased.

3.5   Data Analysis Techniques

According to Sekaran (2000), there are several steps such as; coding, screening of data and selection of strategy and tool for data analyses must to be completed prior to data analysis. The data collected from the respondents must be entered properly and carefully to avoid any inconvenience at later stages. In addition data was screened to detect data

related mistakes or errors by performing descriptive statistics of the variables. Further details in this regard are provided in chapter four.

This research employed the PLS structural equation modeling (SEM) technique, considered to be very useful in the context of behavioral and social sciences researches, where several unobservable constructs might also be used (Sharma, 1996). The SEM technique also allows researcher to investigate uni-dimensionality, reliability, validity and the measurement of both reflective and formative measures. Moreover, researchers can perform a general test of model fit and each parameter estimate tests simultaneously (Hair *et al*., 2005). It is worthy to note that this research employs reflective mode of measures model.

Recently, PLS SEM has been frequently used as a common statistical tool for academic researches (Anderson *et al*., 1988; Kline, 2005; Hair *et al*., 1998). Likewise, the literature validates that SEM is the one of the outstanding methods of multivariate data analysis (Hershberger, 2003). To test the hypothesized relationships between factors, analysts or researchers can come across with an absolute investigation of all hypothesized relationships concurrently together with relationships among multiple dependent constructs by applying the SEM (Byrne, 2001). Further details can be found in chapter four.

3.5.1   Data Coding

After data collection, coding was performed to get the data stored systematically (Zikmund, 2003). It is very essential to code the data accordingly and to arrange it

consistently in the required numerical pattern that is believed to be more suitable for statistical analysis. Here researchers are supposed to look into the questions using reverse coding; whereas in the current study none of the questions was asked as reverse. Moreover, the questionnaire was duly appropriately and truly translated in Arabic language to get respondents easily understand. While using SPSS (Statistical Package for the Social Sciences), all the collected 348 questionnaires were duly coded and entered into the SPSS, prior to the initial data screening.

3.5.2   Descriptive Statistics

Descriptive statistics deals with the transformation of raw data into an easier to understandable form to interpret correctly (Suzaki *et al*., 2001). This analysis presented a comprehensible meaning of the data while providing with frequency distribution, means and standard deviation. The core descriptive statistics of the respondents employed in this study comprised of mean and standard deviation.

3.5.3   Data Screening

Data screening technique deals with numerous steps to ensure the effect of distinctiveness of data might not adversely affect the results. The importance of data screening can be seen in the following steps of analysis. Hair *et al*. (2007) mentioned that the initial data screening is very essential in figuring out any of the possible violations of the key assumptions with respect to the application of multivariate techniques used for data analysis. Also, the primary data screening approach helped to get better hold of the data for added analysis. After data coding and entry, the following preliminary data analyses

were carried out: 1) missing value analysis, 2) assessment of outliers, 3) normality test, and 4) multicollinearity test (Hair *et al*., 2010; Tabachnick *et al*., 2007), using the SPSS.

3.5.4 Missing Value Analysis

So far, there is no certain agreeable criterion of the missing values in a data set for making a valid statistical inference (Tabachnick *et al*., 2007). In this study, out of the total 28,724 data points, 98 (0.34% of the total data set) were found haphazardly missing. In general, researchers have a consensus that missing rate of 5% or less is non-significant. Additionally, if 5% or less data is found missing in a dataset, mean substitution is suggested as the easiest way of to replace missing values (Tabachnick *et al*., 2007). The same has been followed in the research, as mentioned in chapter four.

3.5.5 Assessment of Outliers

Outliers can be described as "observations or subsets of observations which appear to be inconsistent with the remainder of the data" (Barnett & Lewis, 1994). Regression-based analysis deals outliers seriously as the existence of outliers in the data set can badly affect the estimates of regression coefficients that lead to unreliable outcomes (Verardi & Croux, 2008). More details are provided in chapter four.

3.5.6 Data Analysis using Structural Equation Modeling (SEM)

As mentioned earlier, SEM technique was employed to analyze the data, collected by conducting a self-administered survey from the public sector academician in Sultanate of Oman. According to Byrne (2010), structural equation modeling (SEM), as a powerful multivariate analysis technique also helps in modeling the causal relationship between

constructs those contributes in a study. SEM takes on a confirmatory approach that involves hypotheses testing, incase most multivariate analysis is performed for descriptive or exploratory research. For the current study, the direct relationship of two independent variables (technology readiness and trust) with the dependent variable (diffusion), and the moderating effect of religiosity on the above mentioned relationships simultaneously have been assessed. Using SEM terminology, the variables are termed in a different way. For example, independent and the moderating variables are known as exogenous and the dependent variable is called endogenous variables as mentioned in the following table.

Table: 3.6
SEM terminology for the studies variables

Variable	Variable Measured	Dimension/ Latent constructs
DV *endogenous*	Diffusion	- Relative Advantage - Compatibility - Complexity - Trialability - Observability
IV *exogenous*	Technology Readiness	- Optimism - Innovativeness - Discomfort - Insecurity
IV *exogenous*	Trust	- Competence - Predictability - Goodwill
MV *exogenous*	Religiosity	- Ideological - Ritualistic - Intellectual - Consequential - Experimental

3.5.6.1 Construct validity

This study employed the confirmatory factor analysis technique to specify the significant observed items associated to each of the latent variables. This relationship has been explained through factor loadings. The factor loading value, derived from the validity coefficient from confirmatory factor analysis, presents information the latent variables measures. The major benefit of employing the measures of confirmatory factor analysis is a capability to measure the construct validity of the projected measurement model. Construct validity consists of convergent validity i.e. "factor loadings, average variance extracted (AVE) and composite reliability (CR)", and the discriminant validity. The criteria are found in the Table 3.7 given below.

Table: 3.7
Acceptable Level for Structural Equation Modeling Analyses

Analyses	Acceptable Level	Source(s)
Average Variance Extracted (AVE)	More than 0.5 for adequate convergent validity	Bagozzi *et al*. (1988); Fornell and Larcker (1981); Barclay *et al*. (1995); Hulland (1999); Wong (2013)
Composite Reliability (CR)	More than 0.7 to point out satisfactory convergence or internal consistency	Bagozzi *et al*. (1988); Wong (2013); Gefen (2000); Nunnally *et al*. (1978); Chin (1998); Hair *et al*. (2011)
Discriminant Validity	Square root of the average variance extracted (AVE) that surpass the inter-correlations of the construct with the other constructs in the framework to guarantee discriminant validity	Chin (2010); Chin (1998); Fornell and Larcker (1981)

3.5.6.2 Moderation Analysis using SEM

According to Hair *et al.* (2014) the construct may directly influence the relationship between the exogenous and endogenous latent variables while assessing the moderation. With regards to moderating effect, there could be a situation where the moderator (an independent variable or construct) changes the potency or the even the direction of a relationship between two variables in the model. For instance, the present study intends to observe religiosity as an independent variable to explore the direct relationship with the diffusion (dependent variable) and as a moderator, its affect on the relationships between technology readiness, trust and the diffusion. Furthermore, according to Holmbeck (1997), the moderating variable bears the potential to affect the relationship between two variables in the way its nature of impact of the predictor on the measure varies according to the value or level of the moderator. Following the recommendations of Chin *et al.* (2003) and Henseler (2010), this study employed PLS-SEM to discover and estimate the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion.

3.6   Summary of the Chapter

Chapter three elaborates the research methodology adopted in the current research. This is a correlational study employs self administered questionnaire based survey method for data collection. Population for the study comprised on the academicians from public sector higher education institutions of Sultanate of Oman. By following the recommendations of Iacobucci (2009); Marcoulides *et al.* (2006); Akter *et al.* (2011) and Sekaran (2006), the study approached the highest possible numbers (348) of respondents

out of the total population (733). Proportionate stratified random sampling method was used to select the sample. For analysis purposes, SPSS and SmartPLS 2.0 M3 were used to test the study hypotheses. The following chapter enlightens the discussion about data analysis and the findings of the study.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.0 Introduction

This chapter explains the findings and the discussions of the study. The introductory section 4.0 is followed by section 4.1 exploring the response rate. Section 4.2 explains about data screening and preliminary analysis (missing value analysis, assessment of outliers, normality test and multicollinearity test). Sections 4.3, 4.4, 4.5 and 4.6 explore non-response bias, common method variance test, demographic profile of the respondents and confirmatory factor analysis respectively. The last section 4.7 provides detailed evaluations of models (assessment of measurement model, assessment of structure model) that includes detailed results of convergent validity, discriminant validity, assessment of hypothesis, assessment of variance explained in the endogenous latent variable, assessment of effect size (f2), measurement of predictive relevance followed by evaluation and strenght of moderating variable.

4.1   Response Rate

The study uses survey method, a highly reliable approach (Babbie, 1989) and the questionnaires were administered face-to-face. Since, the potential respondents were easily approachable, personal administration of data fits at its best (Sekaran, 2006). The target respondents were officially approached, as data collection permission was granted by the concerned higher authorities i.e. Ministry of Manpower and the Ministry of Higher Education of Sultanate of Oman. The response rate i.e. 96 percent is in-line with the

studies conducted by AlShihi (2006) and Al-Harthy (2011) in the perspective of Sultanate of Oman.

4.2   Data Screening and Preliminary Analysis

In multivariate analysis, according to Hair *et al.* (2007) the initial data screening is very essential as it facilitates researchers in identifying any of the possible violations of the key assumptions with regards to the application of multivariate techniques for data analysis. Furthermore, the primary data screening approach assists researchers to get better understanding of the data for added analysis.

All the collected 348 questionnaires were duly coded and entered into the SPSS (Statistical Package for the Social Sciences), prior to the initial data screening. After data coding and entry, the following preliminary data analyses were carried out: 1) missing value analysis, 2) assessment of outliers, 3) normality test, and 4) multicollinearity test (Hair *et al.*, 2010; Tabachnick *et al.*, 2007). The above mentioned tests are discussed below.

4.2.1   Missing Value Analysis

Out of the total 28,724 data points input in the SPSS, 98 were found randomly missing, that makes 0.34% of the total data set.   In general, researchers hold a consensus that missing rate of 5% or less is non-significant, as there is no certain agreeable criterion of the missing values in a data set for making a valid statistical inference (Schafer, 1999; Tabachnick *et al.*, 2007). Further in this regard, if the total percentage of missing data is 5% or less, researchers are suggested mean substitution as the easiest way of replacing

missing values (Little *et al.*, 1989; Raymond, 1986; Tabachnick *et al.*, 2007), (Appendix-C).

Table: 4.1
Total and Percentage of Missing Values

Latent Variables	Number of Missing Values
Technology Readiness	33
Trust	14
Religiosity	17
Diffusion of E-Commerce	34

Total 98 out of 28,724 data points
Percentage 0.34%

Note: Percentage of missing values is obtained by dividing the total number of randomly missing values (98) for the entire data set by total number of data points (28,724) multiplied by 100.

4.2.2 Assessment of Outliers

Outliers, as described by Barnett and Lewis (1994), are the "observations or subsets of observations which appear to be inconsistent with the remainder of the data". Regression-based analysis deals outliers seriously as the existence of outliers in the data set can badly affect the estimates of regression coefficients those lead to unreliable outcomes (Verardi & Croux, 2008). The following steps were taken in this regard.

First of all, frequency was tabularized for all variables, by using minimum and maximum statistics, in order to detect any observation which appears to be outside the SPSS value labels as a result of wrong data entry. As per the initial analysis of frequency statistics, none of the values were found out of the defined range.

Secondly, the data was assessed for univariate outliers while applying the standardized values with a cut-off of ±3.29 ($p < .001$) as suggested by (Tabachnick *et al.*, 2007). While

applying the standards set by Tabachnick and Fidell's (2007), none of the case was found using standardized values as potential univariate outliers.

Multivariate outliers were also spotted by using Mahalanobis distance (D^2), in conjunction with the standardized values to distinguish univariate outliers. Tabachnick and Fidell (2007) described Mahalanobis distance (D^2) as "the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables" (p. 74). Based on 86 observed variables of the study, the recommended threshold of chi-square is 132.277 (p = 0.001) (Netherwood, 2015). Mahalanobis values those went over this threshold were duly removed for the dataset. In this way, by following the criterion, fourteen multivariate outliers (33, 138, 156, 25, 190, 12, 26, 86, 231, 232, 155, 161, 229 and 185) were identified and accordingly removed from the dataset for the reason that they could affect the accuracy of the data analysis technique. Thus, after removing fourteen multivariate outliers, the final dataset in this study was 334.

4.2.3 Normality Test

Regarding normality, many the researchers (e.g., Cassel *et al.* (1999); Reinartz *et al.* (2009); Wetzels *et al.* (2009)), believe that extremely non-normal data can be run using PLS-SEM to get an accurate model estimations, the supposition may not be fully agreed upon. On the other hand, contemporary researchers, e.g., Hair *et al.,* 2012 recommends normality test on the data. Furthermore, highly skewed or kurtotic data may potentially inflate the bootstrapped standard error estimates Chernick (2008), ending up in

underestimation of the statistical significance of the path coefficients (Dijkstra, 1983; Ringle *et al.*, 2012).

In contrast to the background, this study used a graphical technique to check for the normality of the collected data (Tabachnick *et al.*, 2007). In a large sample of 200 or more, as suggested by Field (2009), it is more essential and helpful looking at the shape of the distribution graphically, as compare with the value of the skewness and kurtosis statistics. Further, Field (2009) suggested that a large amount of sample decreases the standard errors that inflate the value of the skewness and kurtosis statistics. For the aforementioned reason, graphical method of normality test is justified rather than the statistical methods.

As per the suggestions of Field's (2009), this study examined a histogram and normal probability plots to guarantee the normality assumptions. Figure 4.1 shows that the collected data for the study follows normal pattern seeing as all the bars on the histogram sits close to a normal curve, indicating that normality assumptions are appropriately ensured.
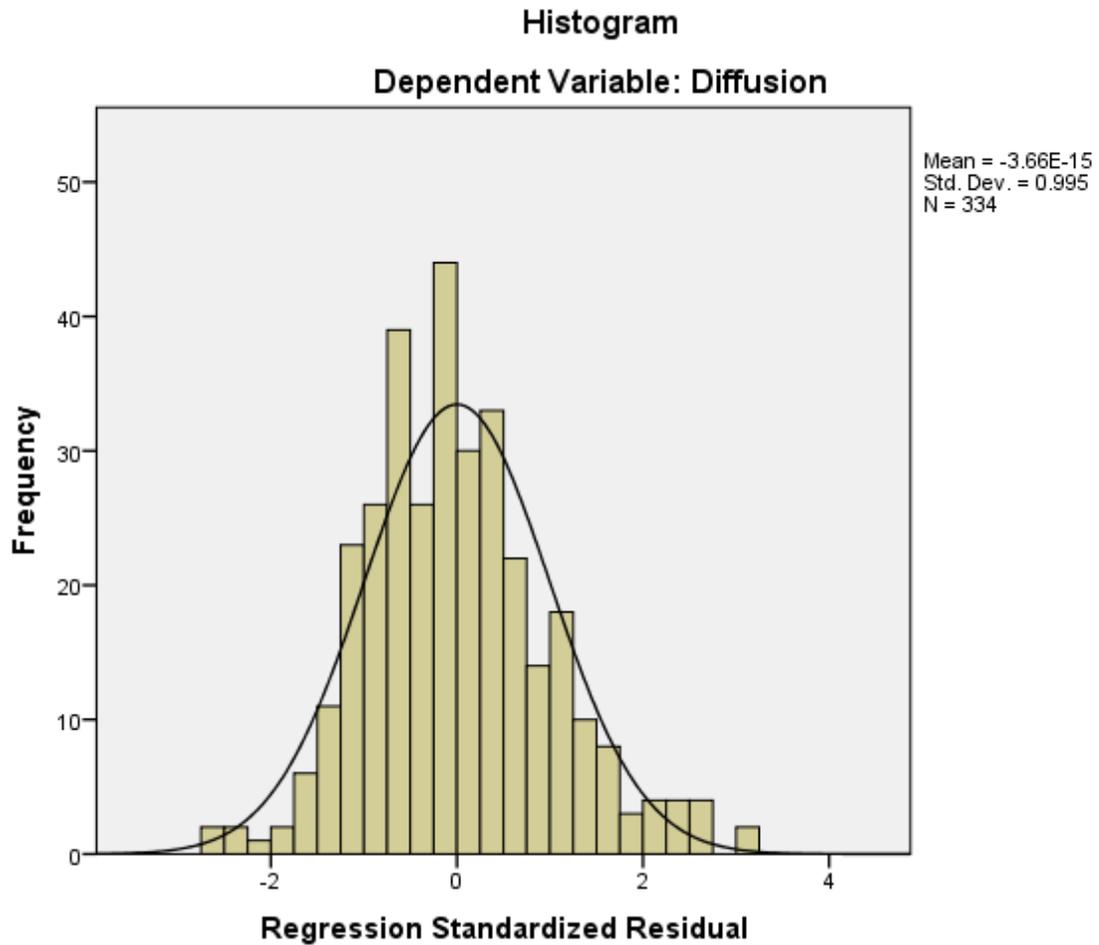
Figure 4.1
Histogram and Normal Probability Plots

4.2.4 Multicollinearity Test

Multicollinearity refers to a condition where one or more exogenous latent constructs highly correlate. The existence of multicollinearity among the exogenous latent constructs can significantly distort the estimates of regression coefficients and the statistical significance tests (Chatterjee *et al.*, 1992; Hair *et al.*, 2006). Particularly, multicollinearity adds to the standard errors of the coefficients, which results the coefficients statistically non-significant (Tabachnick *et al.*, 2007).

Two different approaches were employed to figure out multicollinearity (Chatterjee *et al.*, 1992; Peng *et al.*, 2012). Firstly, the correlation matrix of the exogenous latent constructs was investigated. According to Hair *et al.* (2010) a correlation coefficient of 0.90 and above points out multicollinearity between exogenous latent constructs. Table 4.2 shows the correlation matrix of all exogenous latent constructs.

Table 4.2
Correlation Matrix of the Exogenous Latent Constructs

No. Latent constructs	1	2	3
1 Religiosity	1		
2 Trust	.142**	1	
3 Technology Readiness	.161**	.472**	1

Note *. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

As shown in the Table given above, the correlations between the exogenous latent constructs were found satisfactorily below than the suggested threshold values of .90 or more; which suggests that the exogenous latent constructs were independent and not highly correlated.

Secondly, the assessment of correlation matrix for the exogenous latent constructs, tolerance value, and variance inflated factor (VIF) and condition index were explored to identify multicollinearity problem. Hair *et al.* (2011) recommends that the multicollinearity is said to be an apprehension if VIF value is greater than 5, tolerance value is less than 0.20, and condition index is greater than 30. Table 4.3 shows the tolerance values, VIF values, and condition indices for the exogenous latent constructs.

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Table 4.3
Tolerance and Variance Inflation Factors (VIF)

Variables	Colinearity Statistics		Condition Index
	Tolerance	**VIF**	
Technology Readiness	0.766	1.306	17.957
Trust	0.769	1.300	26.162
Religiosity	0.970	1.031	24.884

From the Table 4.3, it is evident that all VIF values were less than 5, tolerance values are above 0.20, and condition indices were below 30, as suggested by Hair *et al.* (2011). Thus, the present study successfully went through the multicollinearity checks.

4.3 Non-Response Bias

Non-response bias is defined as "the differences in the answers between non-respondents and respondents" (Lambert *et al.*, 1990). Armstrong and Overton (1977) recommend a "time-trend extrapolation" approach to approximate the likelihood of non- response bias that involves the comparison of the responses of the early and late respondents. The perception of late respondents sharing the similar characteristics with non-respondents is also disagreed.

Further in this regard, it is suggested that a minimum response rate of 50% should be achieved (Lindner *et al.*, 2002). This study has separated the respondents into two main groups; the early respondents and the late respondents. Those who responded within 3 days were categorized as early respondents, and those who took two weeks to respond,

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were classified as late respondents (Vink *et al.*, 2008). Out of the total 334 respondents, 142 (42.5 %) replied within 3 days and 192 (57.5%) responded within a week time as shown in Table 4.4.

All the variables namely; consequential, compatibility, complexity, discomfort, experimential, goodwill, ideological, innovativeness, insecurity, intellectual, observability, optimism, predictability, relative advantage, ritualistic, trialability and competence; went through an independent samples t-test to figure out possible non-response bias as mentioned in the Table 4.4 given below.

Table: 4.4
Non-response bias

Non-Response Bias					
				Levene's Test for Equality of Variances	
Construct	**Response Mode**	**N**	**Mean**	**F**	**Sig.**
Diffusion	Early Response	142	3.6875	.010	.921
	Late Response	192	3.6905		
Tech. Readiness	Early Response	142	3.7338	1.105	.294
	Late Response	192	3.6451		
Trust	Early Response	142	3.5486	3.072	.081
	Late Response	192	3.5026		
Religiosity	Early Response	142	4.5667	.063	.802
	Late Response	192	4.5794		

While employing Levene's test for equality of variances as recommended by Pallant (2010) and Field (2009), the independent-samples t-test, as presented in Table 4.4, shows the equal variance significance values of all the main constructs (diffusion, technology

readiness, trust and religiosity) of study variables, appearing higher than the significance level of 0.05. The outcome reflects that the criterion of equal variances between early and late respondents has been duly achieved. The response got from the respondents is found free of non-response bias. Moreover, the data collection was self-administrated and a good response rate (96 %) was achieved; the fact supports the aforementioned idea as suggested by Lindner *et al.* (2002).

4.4 Common Method Variance Test

Common method variance (CMV) is defined as "variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff *et al.*, 2003). In case of self-report surveys, CMV has been a major concern for researchers, in general (Lindell *et al.*, 2001; Podsakoff *et al.*, 2003; Spector, 2006). Supporting the aforesaid apprehension, Conway *et al.* (2010) also declared that "common method bias inflates relationships between variables measured by self-reports". While reviewing 55 studies, produced on attitudinal and dispositional predictors of OCB, Organ and Ryan (1995) highlighted that self report surveys were found highly correlated due to common method variance that focused on the sensitivity and importance of CMV, also known to as mono-method bias.

To lessen the effects of CMV, this study applied numerous measures (MacKenzie *et al.*, 2012; Podsakoff *et al.*, 2003; Podsakof *et al.*, 2012; Podsakoff *et al.*, 1986; Viswanathan *et al.*, 2012). For instance, respondents were fully given freedom of choice and freedom of expression assuring that the responses will be kept highly confidential and for the study purposes only. As mentioned earlier, the official approvals helped boosting up the

confidence levels of the respondents. To improve it further the questionnaires were truly and appropriately translated by native Arabic scholars, related to the technology field, at the initial stage. After conducting pilot study, at later stage, the questionnaires were again sent to the department of modern language of the University of Utara Malaysia for an official translation and proof-read (see the certificate attached). Moreover, the simplest and easiest language was duly used throughout in the tool used to make it easily understandable and reader friendly.

This study examined common method variance by applying Harman's single factor test as suggested by Podsakoff *et al.* (1986). Conventionally, all variables of interest were found subject to exploratory factor analysis, followed by examination of outcomes of the un-rotated factor solution to establish the number of factors, obligatory to account for the variance in the variables (Podsakoff *et al.*, 1986).

According to Harman's single factor test, if common method variance is substantially found, it could be because of a single factor or due to one general factor that might have particularly resulted in covariance in the independent variable (predictor) and the criterion variables (Podsakoff *et al.*, 1986).

Table: 4.5
Common Method Variance Test

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.676	12.414	12.414	10.676	12.414	12.414

All the items went through a principal components factor analysis, as per suggestions of Podsakoff *et al.* (1986). As shown in Table 4.5, six factors were calculated that provided a cumulative of 12.414 % of the variance; followed by the first (largest) factor showing 12.414 % of the total variance, which evidently is less than 50% (Kim, Kumar, & Kumar, 2012).

According to the results, none of the factors was found comprising the mainstream of covariance in both kinds of constructs i.e. the predictors and the criterion variables (Podsakof *et al.*, 2012). It is therefore concluded that the outcomes of Harman's single factor test clarified all the concerns regarding the common method bias that seems highly unlikely to inflate the relations between of the research.

4.5 Demographic Profile of the Respondents

The section illustrates the demographic summary of the respondents of the questionnaires used in the research. The demography includes gender, age, degree, nationality and income level of the respondents. Table 4.6 reveals that the majority of the respondents i.e. 169 (50.5%) were females while 165 (49.5%) were males out of the total 334. While looking at the age categories of the respondents, the outcome reveal that majority of the respondents (60.2 %, 201) belong to the age group of 31-40 years followed by the age group of 18-30 years that makes 29.3% of the total number of participants. Age group of 41-50 years accounted for 9.9% and two responses were received from those aged above 61 years; none of the respondents has been found from the age group of 51-60 years as shown in Table 4.6. The respondents were given all the possible options (Diploma, Bachelors, Masters, Doctorates and others) to choose with to describe their education

level. As shown in Table 4.6, out of the total 334, 154 (46.1%) were found master degree

holders, 90 (26.9%) reported as bachelors level education followed by PhDs (40, 12.0%)

and diploma holders (34, 10.2%). There were 16 respondents found from "others"

category. Nationality-wise, all the respondents were reported as Omani nationals.

Table: 4.6
Demographics

	Frequency	Percent
AGE		
18 to 30 years	98	29.3
31 to 40 years	201	60.2
41 to 50 years	33	09.9
61 years and above	02	00.6
EDUCATION		
Diploma	34	10.2
Bachelors	90	26.9
Masters	154	46.1
Doctorate	40	12.0
Others	16	04.8
GENDER		
Male	165	49.4
Female	169	50.6
INCOME		
Below 500 OMR	09	02.7
500 to 1000 OMR	124	37.1
1001 to 1500 OMR	86	25.7
1501 to 2000 OMR	69	20.7
Above 2000 OMR	46	13.8

Describing monthly income levels of the respondents, Figure Table 4.6 shows that 124

(37.1%) were earning between 500-1000 Omani Rials (OMR) followed by 86 (25.7%)

those who were making 1001-1500 OMR. There are 69 (20.7%) with earnings from

1501-2000 OMR a month followed by 46 (13.8%) and 9 (2.7%) respondents having income levels of above 2000 OMR and below 500 OMR respectively.

4.6 Confirmatory Factor Analysis (CFA)

Principal component analysis technique was employed to obtain confirmatory factor analysis results for the study. As mentioned earlier (in sections 3.4.1, 3.4.2, 3.4.3 and 3.4.4), all the items/questions were duly adapted from a well established research studies therefore this study only carried out the confirmatory factor analysis. To deal with the CFA, there is an inbuilt feature found in SmartPLS 2.0 M3, one of the leading analysis tools (Ringle *et al.*, 2005).

This study used the confirmatory factor analysis (CFA) technique to figure out the significance of observed items associated with the latent variables. This relationship is explained through factor loadings. The factor loading value, derived from the validity coefficient from confirmatory factor analysis, presents information on the latent variables. One of the leading advantages of using the measures of the CFA is its potential to measure the construct validity of the projected measurement model. Construct validity consists of convergent validity (factor loadings, Average variance extracted and composite reliability) and the discriminant validity, explained in Tables 4.6, 4.7 and 4.8.

4.7 Models Evaluation

This section describes both the model used i.e. the measurement model and the structural model. The section A discusses about the measurement model including all the required components, followed by structural model and its components.

4.7.1 Partial Least Squares Structural Equation Modelling (PLS-SEM)

According to Wold (1982), partial least squares structural equation modelling (PLS-SEM) technique is also known as the second generation structural equation modelling. The technique, comparatively new, appropriately integrates with the structural equation models that comprise the latent variables and a sequence of cause-and-effect relationships (Gustafsson & Johnson, 2004). PLS-SEM technique is equally good in building statistical models and for forecasting purposes (Ringle *et al.*, 2005). Particularly, this study employed PLS technique for the following motives.

Firstly, PLS path modeling is observed as more appropriate and useful for real time applications and for complex models (Fornell *et al.*, 1982; Hulland, 1999). Soft modeling assumptions, one of the features offered by the PLS, enables researchers to fittingly develop and authenticate complex models; hence presents estimations for multifaceted or complex models (Akter *et al.*, 2011). Present study examined relationships between four constructs (technology readiness, trust, religiosity and diffusion), having multiple dimensions, along with the moderating effect on the relationships within the measurement and structural models. It (PLS SEM) is therefore employed for more reliable forecast.

Secondly, PLS not only measures the error model but also permits analysts to use multiple outcome variables as well as predictors in one model at one time. Additionally, PLS-SEM enables researchers to directly incorporate and compute the moderator effects into the model (Kiani, 2014).

Thirdly, PLS path modelling allows assessment of non-normal data (Chin, 1998), is one of the issues social science research come across (Osborne, 2010). Therefore, PLS path modelling was employed to the study to deal with the normality issues, if any. Fourthly, PLS SEM presents more significant and convincing results, comparing to software package used for statistical analysis (SPSS) that require numerous calculations while offering less authentic outcomes (Bollen, 1989). Supporting the statement, Tabachnick and Fidel (2007) affirm that for the analysis of social and behavioral sciences, structural equation modeling, one of the most trustworthy statistical tools, enables users to examine a number of relationships at the same time.

To uphold this research, SmartPLS path modelling was employed to frame the measurement and the structural models. Measurement model evaluates reliability and validity of the study constructs or variables. Whereas; structural model investigates the bivariate correlation analysis and simultaneous regressions analyses to found correlations, and relationship effects among the variables or construct. Furthermore, the moderating effect of religiosity (moderating variable) was investigated by using PLS algorithm mechanism and the bootstrapping instrument was used to calculate the effects on the relationships between technology readiness (independent variable) and diffusion and that of trust (independent variable) and diffusion, the dependent variable.

4.7.1.1 Assessment of Measurement Model

This study ensures the validity and reliability of the of the measurement model, shown below Figure 4.2. This was affirmed by investigating three values namely; outer loading, average variance extracted (AVE) and the composite reliability. As suggested by Fornell

and Larcker (1981); Barclay *et al.* (1995); Hulland (1999) and Wong (2013) the value of AVE and outer loadings should be greater than 0.5 which means that at least 50% of measurement variance is captured by the latent variables. Further values for composite reliability (CR) should be greater than 0.7 (Bagozzi *et al.*, 1988; Wong *et al.*, 2013; Nunnally *et al.*, 1976; Chin, 1998; Hair *et al.*, 2011). Items with loading value of 0.7 or above are believed to be significant, whilst Hulland (1999) recommended that items with loadings values less than 0.4 should be removed. Moreover questions with loading values between 0.4 and 0.7 should be either reviewed or deleted if not found contributing to composite reliability. Notwithstanding composite reliability (CR) is thought to be alike Cronbach alpha, it is more robust than the measures of internal consistency offered by Cronbach's Alpha because it employs the item loadings acquired within the theoretical model (Fornell & Larcker, 1981). Under the light of above discussion, all the items having outer loading values below than 0.5 were removed while starting from the lowest in the framework to improve quality of data, as suggested by Hair, Sarstedt and Ringle (2012).

According to Anderson *et al.* (1988), a two-step modeling techniques help in determining the quality of items those are used for measurement and also in estimating the relationship between models. The approaches are also named as measurement model and structural model (Hair *et al.*, 2012). Given that several relationship effects are drawn in this study, the partial least squares (PLS) approach has been employed as recommended by Chin *et al.* (2003). The study uses SmartPLS 2.0 M3 to investigate measurement model, reliability and validity and to assess the structural model (Ringle *et al.*, 2005).
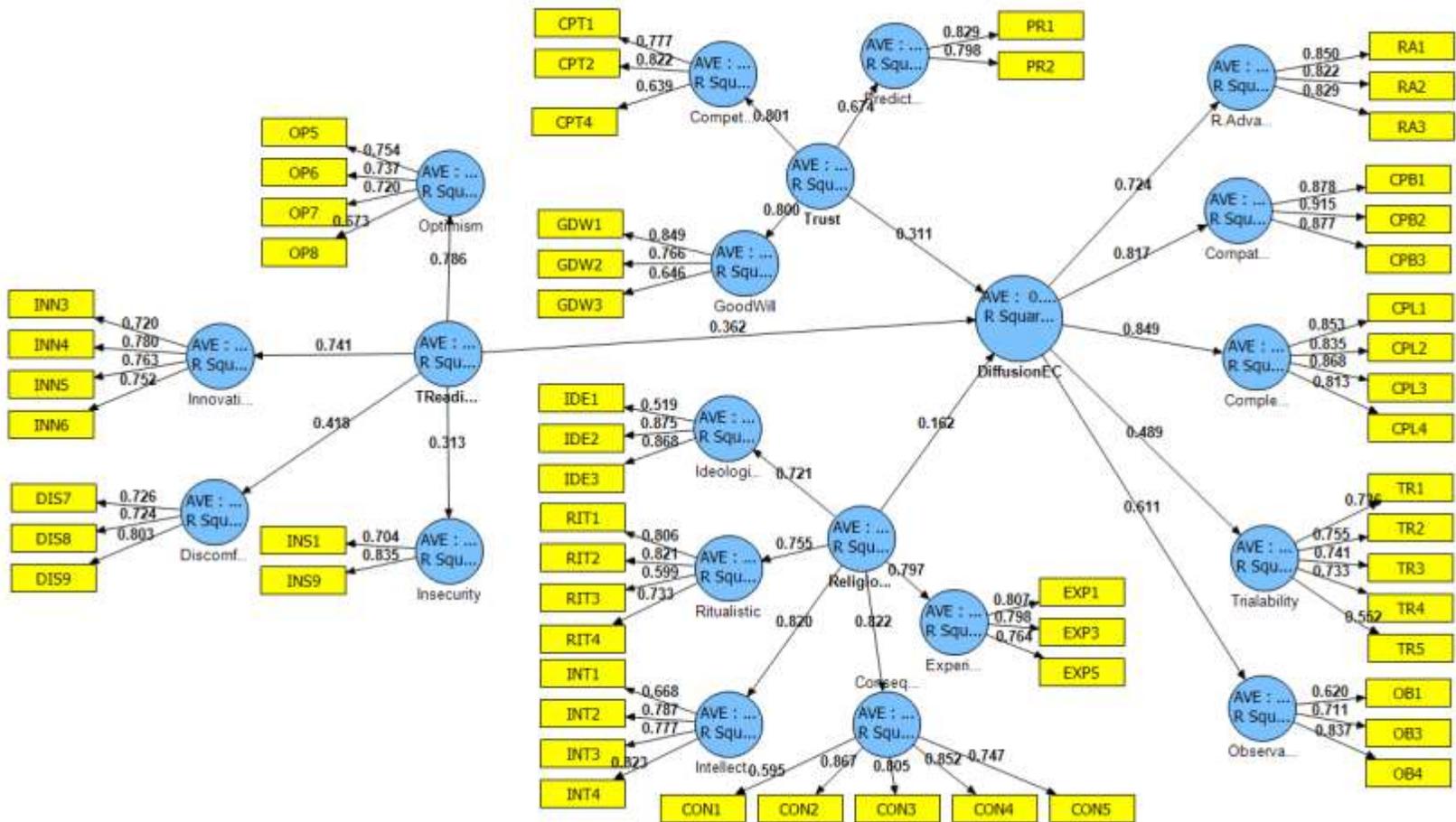
Figure 4.2
Measurement Model

Construct validity can be sub-categorized into two groups namely; convergence validity and the discriminant validity. It finds out the conformity between a theory and the tool being used for the measurement; it exclusively checks out if the measurement scales represent and act in accordance with the attributes (Tore, 2005). Along the lines of Hair *et al.* (2010), the factor loadings (FL), composite reliability (CR) and average variance extracted (AVE) help to examine the convergence validity (CV).

4.7.1.2 Convergent validity

Convergent Validity (CV) tells about the internal consistency. According to Hair, Ringle and Sarstedt (2011), the CV can be established by calculating loading values, composite reliability values and the average variance extracted (AVE) of the latent variables. Table 4.8 shows outer loading values, average variance extracted (AVE) and the composite reliability (CR). While meeting all the requirements mentioned above for loadings, AVE and CR, the outer loading values of all the 58 qualified items range from 0.519223 to 0.915276 i.e. above 0.5; the average variance extracted (AVE) values of all the 17 constructs fall between 0.500599 and 0.792824; whereas the composite reliability (CR) values range between 0.746008 and 0.919846, as shown the Table 4.7.

Table 4.7
Convergent Validity

Construct	Items	Loadings	AVE	CR
Consequential	CON1	0.595303	0.60759	0.883971
	CON2	0.866923		
	CON3	0.804651		
	CON4	0.852377		
	CON5	0.746994		
Compatibility	CPB1	0.878174	0.792824	0.919846
	CPB2	0.915276		
	CPB3	0.877242		
Complexity	CPL1	0.853401	0.709981	0.907289
	CPL2	0.835189		
	CPL3	0.868267		
	CPL4	0.812527		
Competence	CPT1	0.77697	0.562706	0.792472
	CPT2	0.822344		
	CPT4	0.638896		
Discomfort	DIS7	0.725937	0.562706	0.792472
	DIS8	0.723768		
	DIS9	0.80262		
Experimential	EXP1	0.806508	0.623725	0.832499
	EXP3	0.798498		
	EXP5	0.763622		

Table 4.7 (continued)

Construct	Items	Loadings	AVE	CR
Goodwill	GDW1	0.849043	0.574997	0.800389
	GDW2	0.766032		
	GDW3	0.645997		
Ideological	IDE1	0.519223	0.59592	0.80842
	IDE2	0.874897		
	IDE3	0.867595		
Innovativeness	INN3	0.720083	0.568472	0.840382
	INN4	0.780253		
	INN5	0.762611		
	INN6	0.751664		
Insecurity	INS1	0.704392	0.596632	0.746008
	INS9	0.834922		
Intellectual	INT1	0.667902	0.586815	0.849587
	INT2	0.787202		
	INT3	0.777142		
	INT4	0.823122		
Observability	OB1	0.619621	0.529875	0.769095
	OB3	0.711154		
	OB4	0.836633		
Optimism	OP5	0.753701	0.520947	0.812812
	OP6	0.737275		
	OP7	0.72049		
	OP8	0.673086		

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Table 4.7 (continued)

Construct	Items	Loadings	AVE	CR
Predictability	PR1	0.8287	0.662116	0.796659
	PR2	0.798428		
Relative Advantage	RA1	0.850231	0.694855	0.872285
	RA2	0.821674		
	RA3	0.828569		
Relitualistic	RIT1	0.806064	0.555025	0.831074
	RIT2	0.821381		
	RIT3	0.598957		
	RIT4	0.732765		
Trialability	TR1	0.736371	0.500599	0.83204
	TR2	0.754867		
	TR3	0.740908		
	TR4	0.73325		
	TR5	0.55166		

4.7.1.3 Discriminant Validity

Discriminant validity specifies the degree to which a certain construct is different from the other constructs (Hulland, 1999). According to Chin (1998), it can be assessed by analyzing the cross-loadings by following the canon that "items should have a higher correlation with the latent variable that they are supposed to measure than with any other latent variable in the model". As suggested by Fornell and Larcker (1981), the square root of the AVE for each variable can be utilized to check the discriminant validity. The

square roots of AVE coefficients should then be presented in the correlation matrix by the side of the diagonal. If the squared AVE is found greater than squared correlation estimates, the findings are said to be an excellent confirmation of the discriminant validity. Furthermore to double check the discriminant validity, "the diagonal coefficients or elements must be greater than the off-diagonal coefficients or elements in the corresponding rows and columns" (Hair *et al.*, 2006; Chin, 2010; Chin, 1998). The Table 4.8 provides all the values calculated with regards to the confirmation of discriminant validity meeting the entire criterion mentioned above.

Results show that the measures of all the dimensions such as; compatibility (CPB), competence (CPT), complexity (CPL), consequential (CON), discomfort (DIS), experimential (EXP), goodwill (GDW), ideological (IDE), innovativeness (INN), insecurity (INS), intellectual (INT), observability (OB), optimism (OP), predictability (PR), relative advantage (RA), ritualistic (RIT) and trialability (TR) represent the true measures of their respective variables namely; technology readiness, trust, religiosity and diffusion. The assessment of loadings and cross-loadings (shown in Tables 4.8 and 4.9) helps out in picking up the issues with the items used. It is indeed a pre-requisite and ensures the discriminant.

Table: 4.8
Latent Variable Correlations

Constructs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Compatibility	**0.89041**																
Competence	0.28369	**0.75014**															
Complexity	0.64838	0.25418	**0.84260**														
Consequential	0.07271	0.07410	0.08024	**0.77948**													
Discomfort	0.06159	0.08653	0.05166	0.15613	**0.75167**												
Experimential	0.04645	0.07312	0.08435	0.64244	0.14280	**0.78976**											
Goodwill	0.40959	0.41674	0.33251	-0.05452	0.08729	0.00033	**0.75829**										
Ideological	0.01632	0.02986	0.05305	0.43264	0.11979	0.47798	0.01402	**0.77196**									
Innovativeness	0.48244	0.21914	0.43197	-0.03691	0.07832	-0.00573	0.32204	-0.07009	**0.75397**								
Insecurity	0.00413	0.08653	0.06136	0.14882	0.26465	0.08789	-0.03199	0.13046	0.03678	**0.77242**							
Intellectual	0.11473	0.11504	0.11411	0.56435	0.12233	0.55122	0.04786	0.51238	0.04075	0.08554	**0.76604**						
Observability	0.33335	0.28133	0.41871	0.19060	0.12162	0.19891	0.23881	0.13272	0.17832	0.11915	0.11885	**0.72793**					
Optimism	0.28862	0.23260	0.31945	0.12981	0.17874	0.11223	0.17442	0.11674	0.30875	0.14932	0.13717	0.25697	**0.72177**				
Predictability	0.21980	0.35951	0.30984	0.02589	0.16968	0.00002	0.33361	0.06151	0.14572	0.15436	0.00708	0.24515	0.24162	**0.81371**			
Relative Advantage	0.51930	0.19615	0.45676	0.23599	-0.00726	0.15480	0.18633	0.12175	0.20478	0.08064	0.14664	0.32341	0.28029	0.26220	**0.83358**		
Ritualistic	0.06171	0.07587	0.13146	0.42365	0.07341	0.48617	0.03631	0.56665	-0.01427	0.09561	0.55742	0.20641	0.06267	0.03615	0.13189	**0.74500**	
Trialability	0.18337	0.15142	0.22549	0.22879	0.19835	0.22370	0.09777	0.27804	0.03872	0.21150	0.21387	0.36432	0.22786	0.20977	0.28277	0.20892	**0.70753**

Table 4.9 *Cross-loadings*

	Consequential	Compatibility	Complexity	Competence	Discomfort	Experimential	Goodwill	Ideological	Innovativeness	Insecurity	Intellectual	Observability	Optimism	Predictability	Relative Advantage	Ritualistic	Trialability
CON1	**0.5953**	0.0597	0.0624	-0.0146	0.0773	0.3908	-0.0983	0.2964	-0.1169	0.1801	0.4217	0.0868	0.0840	-0.0455	0.1824	0.3129	0.2001
CON2	**0.8669**	0.0734	0.0728	0.0604	0.1151	0.5050	0.0492	0.3129	0.0131	0.1125	0.4562	0.1882	0.1141	0.0098	0.1699	0.3415	0.1849
CON3	**0.8047**	0.0876	0.1053	0.0914	0.0765	0.4769	-0.0352	0.2714	-0.0541	0.1082	0.3886	0.1832	0.0575	0.0555	0.1954	0.2735	0.1988
CON4	**0.8524**	0.0370	0.0325	0.0890	0.1472	0.5647	0.0142	0.4128	0.0129	0.1241	0.4252	0.1772	0.1506	0.0884	0.1955	0.3511	0.1968
CON5	**0.7470**	0.0305	0.0456	0.0508	0.1790	0.5435	-0.0567	0.3779	-0.0210	0.0678	0.5026	0.0986	0.0909	-0.0191	0.1785	0.3647	0.1184
CPB1	0.0892	**0.8782**	0.6179	0.2346	0.0469	0.0512	0.3108	0.0348	0.3915	0.0281	0.1369	0.3339	0.3032	0.1996	0.5262	0.0820	0.1448
CPB2	0.1110	**0.9153**	0.5766	0.2772	0.0582	0.0893	0.3802	0.0157	0.4929	-0.0204	0.1442	0.2889	0.2572	0.1806	0.4552	0.0879	0.1800
CPB3	-0.0122	**0.8772**	0.5330	0.2461	0.0600	-0.0212	0.4078	-0.0092	0.4038	0.0025	0.0183	0.2642	0.2054	0.2077	0.3993	-0.0105	0.1659
CPL1	0.0077	0.5623	**0.8534**	0.2222	0.0706	0.0573	0.2994	-0.0637	0.3686	0.0045	0.0232	0.3678	0.2579	0.2893	0.4338	0.0989	0.2219
CPL2	0.0461	0.5807	**0.8352**	0.2016	0.0575	0.0401	0.2686	-0.0133	0.3272	0.0297	0.0870	0.3214	0.2671	0.2436	0.3908	0.0601	0.1840
CPL3	0.1270	0.5644	**0.8683**	0.2272	0.0194	0.1290	0.2857	0.0886	0.3640	0.0799	0.1657	0.3766	0.2830	0.2594	0.3628	0.1098	0.1835
CPL4	0.0932	0.4729	**0.8125**	0.2050	0.0247	0.0566	0.2658	0.0379	0.3994	0.0976	0.1119	0.3448	0.2696	0.2508	0.3487	0.1801	0.1682
CPT1	0.0715	0.2019	0.1857	**0.7770**	0.0414	0.0426	0.2759	0.0196	0.0901	0.0682	0.0854	0.2995	0.1406	0.2489	0.1621	0.0556	0.1620
CPT2	0.1352	0.2131	0.2240	**0.8223**	0.0281	0.1206	0.3426	0.0944	0.1369	0.0548	0.1661	0.2477	0.2608	0.2612	0.1559	0.1169	0.1298
CPT4	-0.0533	0.2241	0.1575	**0.6389**	0.1323	-0.0082	0.3170	-0.0579	0.2747	0.0732	-0.0050	0.0755	0.1106	0.3017	0.1214	-0.0111	0.0438
DIS7	0.1464	-0.0446	0.0499	0.0470	**0.7259**	0.1473	0.1117	0.0933	0.0694	0.2029	0.1209	0.0840	0.1248	0.1027	-0.0276	0.0729	0.1429
DIS8	0.0815	0.0571	0.0046	0.0449	**0.7238**	0.1194	0.0227	0.1225	-0.0022	0.2664	0.0778	0.0885	0.1140	0.0815	-0.0382	0.0081	0.1993
DIS9	0.1218	0.1284	0.0563	0.0966	**0.8026**	0.0652	0.0605	0.0630	0.0979	0.1452	0.0793	0.1009	0.1596	0.1856	0.0387	0.0773	0.1170

EXP1	0.5854	-0.0183	0.0760	0.1161	0.0897	**0.8065**	0.0245	0.4073	0.0818	-0.0799	0.4358	0.1518	0.0927	0.0212	0.1211	0.3935	0.1757
EXP3	0.4940	0.0259	0.0250	0.0003	0.1033	**0.7985**	0.0293	0.3418	0.0148	0.0297	0.4417	0.1109	0.1098	0.0674	0.0875	0.3503	0.1506
EXP5	0.4357	0.1083	0.0986	0.0518	0.1481	**0.7636**	0.0575	0.3814	0.0911	0.0982	0.4290	0.2101	0.0628	0.0449	0.1589	0.4081	0.2044
GDW1	-0.0147	0.2560	0.2229	0.3651	0.0830	0.0289	**0.8490**	0.0363	0.1962	-0.0248	0.0782	0.1939	0.1431	0.3022	0.1118	0.0393	0.0320
GDW2	0.0001	0.3497	0.2986	0.2962	0.0687	0.0140	**0.7660**	0.0447	0.2180	0.0307	0.0160	0.2619	0.1681	0.2720	0.2386	0.0150	0.1535
GDW3	0.1286	0.3459	0.2425	0.2817	0.0421	-0.0552	**0.6460**	-0.0650	0.3476	-0.0904	0.0047	0.0711	0.0779	0.1699	0.0678	0.0274	0.0377
IDE1	0.1634	-0.0063	0.0640	0.1330	0.0535	0.1964	0.1764	**0.5192**	0.1032	0.0318	0.2202	0.0195	0.1450	0.1370	0.0140	0.1429	0.0610
IDE2	0.4011	-0.0315	-0.0053	-0.0175	0.1327	0.4413	-0.0762	**0.8749**	0.0992	0.1402	0.4951	0.0988	0.0844	0.0091	0.0946	0.4733	0.2482
IDE3	0.3804	0.0672	0.0817	0.0165	0.0797	0.4149	0.0247	**0.8676**	-0.0861	0.1032	0.4181	0.1553	0.0807	0.0691	0.1401	0.5834	0.2743
INN3	0.0778	0.3327	0.2370	0.1478	0.0078	-0.0508	0.2704	-0.0657	**0.7201**	0.0065	0.0463	0.0027	0.1871	0.0809	0.0865	0.0165	-0.0312
INN4	-0.0145	0.4031	0.3511	0.1845	0.0667	-0.0114	0.3141	0.0674	**0.7803**	0.0135	0.0550	0.1554	0.2534	0.1405	0.1423	-0.0129	0.0083
INN5	0.0264	0.3652	0.3975	0.1536	0.0623	0.0331	0.1711	0.0319	**0.7626**	0.0712	0.0034	0.2254	0.2661	0.1087	0.1924	0.0487	0.1038
INN6	-0.0558	0.3501	0.3030	0.1737	0.0942	0.0049	0.2199	0.0485	**0.7517**	0.0155	0.0276	0.1386	0.2173	0.1050	0.1889	0.0079	0.0438
INS1	0.1036	-0.0192	0.0183	-0.0289	0.2111	0.0821	-0.0283	0.0824	0.0397	**0.7044**	0.0445	0.0548	0.1342	0.0635	0.0669	0.0104	0.0928
INS9	0.1252	0.0206	0.0705	0.1420	0.2018	0.0577	0.0223	0.1162	0.0816	**0.8349**	0.0836	0.1221	0.1022	0.1639	0.0595	0.1240	0.2201
INT1	0.3648	0.0450	0.0897	0.0384	0.0573	0.4079	0.0963	0.4232	-0.0180	0.0481	**0.6679**	0.0907	0.0878	0.0333	0.1260	0.5121	0.1818
INT2	0.3719	0.1660	0.1337	0.1391	0.1078	0.4209	0.1281	0.4082	0.1246	0.0475	**0.7872**	0.1221	0.0936	0.0022	0.1173	0.4175	0.1543
INT3	0.5006	0.0660	0.0610	0.0857	0.1132	0.4184	0.0434	0.3460	0.0532	0.0954	**0.7771**	0.0702	0.1449	0.0186	0.0817	0.3662	0.1366
INT4	0.4838	0.0750	0.0672	0.0881	0.0950	0.4390	0.0664	0.3932	-0.0316	0.0695	**0.8231**	0.0821	0.0933	0.0294	0.1241	0.4150	0.1818
OB1	0.0614	0.1857	0.2588	0.2952	0.0479	0.1113	0.1568	-0.0315	0.1523	0.0962	0.0955	**0.6196**	0.0778	0.1615	0.1231	0.1412	0.2453
OB3	0.2216	0.1744	0.2389	0.0985	0.1087	0.2429	0.1064	0.2320	0.0507	0.1012	0.1735	**0.7112**	0.2349	0.1800	0.2412	0.2017	0.3028
OB4	0.1331	0.3384	0.3939	0.2314	0.1033	0.0998	0.2406	0.0838	0.1779	0.0731	0.0200	**0.8366**	0.2296	0.1947	0.3125	0.1238	0.2600

OP5	0.1272	0.1661	0.2128	0.1284	0.2004	0.1467	0.0686	0.0998	0.2399	0.1919	0.1264	0.1439	**0.7537**	0.2061	0.1428	0.0518	0.1637
OP6	0.0875	0.1558	0.1806	0.1054	0.1434	0.0314	0.0888	0.1496	0.1340	0.1225	0.0711	0.1943	**0.7373**	0.1367	0.2385	0.0494	0.1918
OP7	0.0346	0.2324	0.2313	0.2742	0.0273	-0.0237	0.1459	0.0244	0.2177	-0.0353	0.0367	0.1820	**0.7205**	0.1432	0.2292	-0.0391	0.1625
OP8	0.1161	0.2793	0.2940	0.1724	0.1302	0.1497	0.2023	0.0606	0.2905	0.1319	0.1506	0.2238	**0.6731**	0.2027	0.2075	0.1090	0.1414
PR1	0.0120	0.1795	0.2105	0.3200	0.1283	0.0090	0.2790	0.0564	0.0879	0.1497	0.0312	0.1639	0.1813	**0.8287**	0.1703	0.0443	0.1576
PR2	0.0309	0.1784	0.2972	0.2632	0.1487	-0.0096	0.2637	0.0433	0.1517	0.0998	-0.0216	0.2380	0.2133	**0.7984**	0.2599	0.0134	0.1850
RA1	0.2047	0.4088	0.3802	0.1799	-0.0106	0.1158	0.1444	0.0866	0.1767	0.0592	0.1418	0.2308	0.2073	0.1881	**0.8502**	0.1276	0.2151
RA2	0.2622	0.3502	0.3489	0.1349	-0.0270	0.1943	0.0621	0.1522	0.0681	0.1339	0.1277	0.2451	0.2526	0.1896	**0.8217**	0.0799	0.2711
RA3	0.1328	0.5260	0.4086	0.1733	0.0161	0.0846	0.2457	0.0711	0.2538	0.0169	0.0998	0.3257	0.2410	0.2710	**0.8286**	0.1199	0.2237
RIT1	0.2872	0.0736	0.0845	0.0845	0.0244	0.3528	0.0458	0.4137	-0.0013	0.0539	0.4455	0.1888	0.0762	0.0327	0.0955	**0.8061**	0.1703
RIT2	0.3818	0.0551	0.1205	0.0419	0.1201	0.4092	-0.0269	0.5466	-0.0241	0.1374	0.4811	0.1606	0.0386	0.0607	0.0990	**0.8214**	0.2026
RIT3	0.2610	0.0265	0.0993	0.1386	0.0049	0.2661	0.1319	0.2416	0.1211	0.0018	0.3475	0.1176	0.0571	0.0441	0.0610	**0.5990**	0.0839
RIT4	0.3207	0.0239	0.0877	-0.0161	0.0496	0.4039	-0.0090	0.4398	0.1064	0.0678	0.3748	0.1435	0.0197	0.0306	-0.1323	**0.7328**	0.1468
TR1	0.2153	0.0880	0.1462	0.1205	0.1941	0.2073	0.0459	0.2580	-0.0252	0.1290	0.2155	0.2632	0.1359	0.1370	0.2444	0.2098	**0.7364**
TR2	0.1730	0.0777	0.0990	0.0428	0.2126	0.1572	-0.0130	0.2231	-0.0107	0.1959	0.1561	0.2089	0.1033	0.0850	0.1360	0.1313	**0.7549**
TR3	0.1912	0.1045	0.1024	0.0909	0.1518	0.2384	0.0322	0.2877	-0.0122	0.1790	0.2062	0.2114	0.1924	0.1444	0.1137	0.1717	**0.7409**
TR4	0.2059	0.1173	0.1193	-0.0153	0.1326	0.2158	0.0157	0.2294	0.0113	0.2063	0.1906	0.2199	0.2020	0.1038	0.1780	0.1422	**0.7333**
TR5	0.0431	0.2171	0.2703	0.2368	0.0327	0.0061	0.2063	0.0236	0.1350	0.0591	0.0146	0.3277	0.1564	0.2267	0.2690	0.0838	**0.5517**

4.7.2 Assessment of Structure Model

Structural model, according to Hair *et al.* (2006), illustrates about the reliance and dependence of relationships in the hypothesized model. In partial least squares (PLS), structural model takes before the directional relationships between the variables, their t-values and the path co-efficient. Regarding path coefficient, partial least squares (PLS) is entirely like the standardized beta (Std. Beta) coefficient in regression analysis (Agarwal & Karahanna, 2000). Importantly, the core objective here is to assess the hypothesized relationships among the constructs i.e. between technology readiness, trust, religiosity and diffusion of e-commerce. The study spotlighted the evaluation model and then the assessment of the hypothesis of regression and correlation of variables. In the perspective of hypotheses structuring, PLS-SEM supports "parsimonious" models those offer "as few parameters as possible for a given quality of model estimation results". Similarly, Hierarchical component model (HCM) "is a higher-order structure (usually second-order) that contains several layers of constructs and involves a higher level of abstraction". According to Hair et al., (2012), HCMs involve more abstract higher-order component (HOC), related to two or more lower-order components (LOCs) in a reflective or formative way. Also, there are numerous reasons behind the insertion of Hierarchical component model in PLS-SEM. For instance, it helps reducing "the number of relationships in the structural model, making the PLS path model more parsimonious and easier to grasp". The HCMs prove impressive if "the constructs are highly correlated; the estimations of the structural model relationships may be biased as a result of collinearity issues, and discriminant validity may not be established. In situations characterized by collinearity among constructs, a second-order construct can reduce such collinearity

issues and may solve discriminant validity problems". Furthermore, Hair et al. (2014) and Becker et al. (2012) suggested investigating the relationship of the constructs directly with dependent variable (s), rather than assessing the dependent variable with the high-order components directly. Following the above recommendations, this study has duly examined the relationships between technology readiness, trust and diffusion and the moderating effect of religiosity on the relationships between the predictor (s) and the criterion variable i.e. diffusion of e-commerce to fulfill the objective of the study mentioned earlier in detail in chapter one and chapter three.

4.7.2.1 Assessment of Hypothesis

The evaluation of the structural model (Figure 4.3) shows direct relationships. In total five hypotheses were tested and all were reported as "supported". Out of the total five, three posed a direct relationship and the two assessed for the moderating effects on the relationship between the predictors and the criterion variables. The direct path relationship, shown in Figure 4.3, reflects the direct effect of the latent variables on the dependent variable (diffusion).
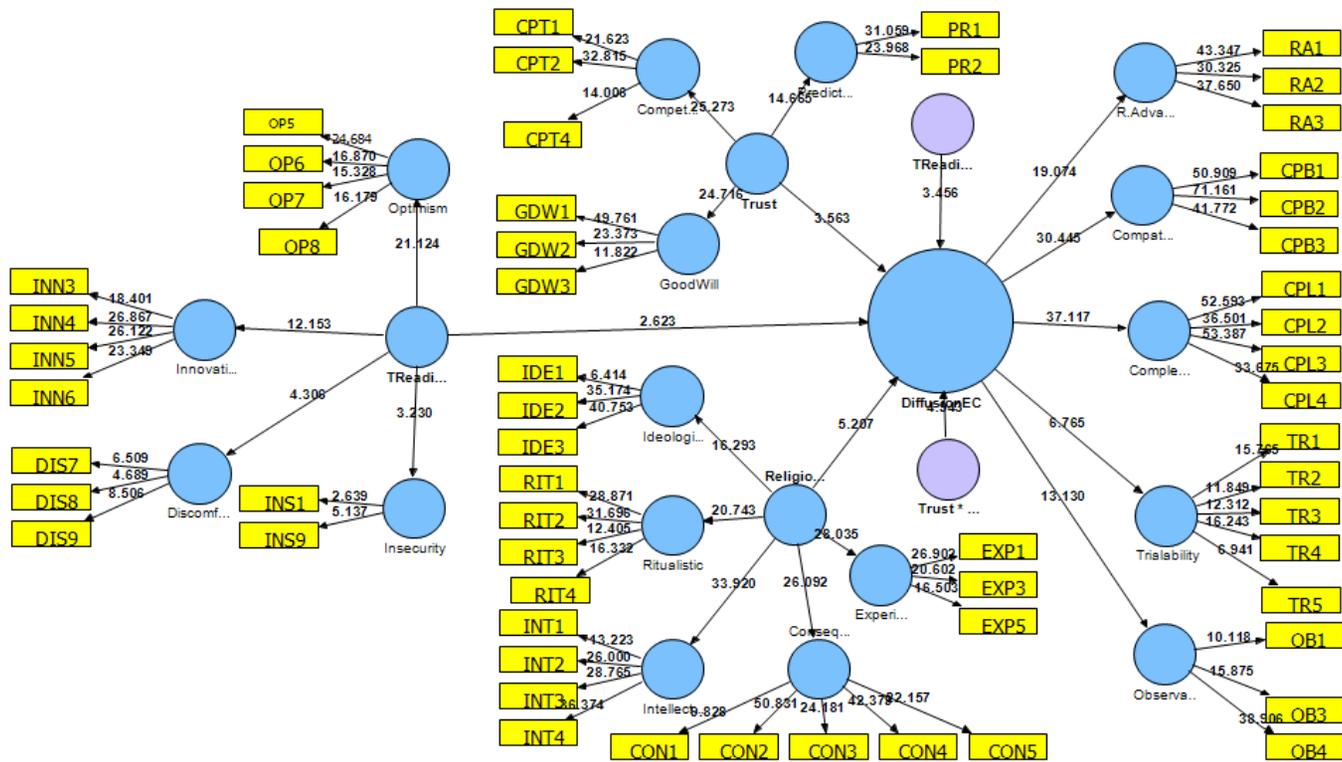
Figure 4.3
Structural Model

Figure 4.3 is further illustrated in Table 4.10, showing path co-efficient, t- values, and standard error and the decisions on either supported or not supported. The t-values in this study were calculated using 5000 re-sampling iterations in repetitive bootstrapping (Appendix – E). According to the recommendation of Hair *et al.* (2012), "the number of bootstrap samples should be high but must be at least equal to the number of valid observations in the data set". Further in the study 334 observations are taken.

Table: 4.10
Hypothesis Results

Hypothesis	Relationship	Std. Beta	Std. Error	t-Value	Decision
H1	Tech. Readiness -> Diffusion EC	-0.662079	0.252438	2.622736**	**Supported**
H2	Trust -> Diffusion EC	-0.773639	0.217123	3.563146**	**Supported**
H3	Religiosity -> Diffusion EC	-0.995316	0.191148	5.207045**	**Supported**
H4	Tech. Readiness * Religiosity -> Diffusion EC	1.185269	0.342985	3.455743**	**Supported**
H5	Trust * Religiosity -> Diffusion EC	1.310339	0.265093	4.94294**	**Supported**

**p<0.01, *Results are significant with 1 tail where:*

T values >2.33 (p values < 0.01)

Table 4.10 explains that all the hypotheses that were accepted possessing a t-value that is greater than or equal to 1.645.

4.7.2.2 Assessment of Variance Explained in the Endogenous Latent variable

PLS-SEM offers R-squared (R^2) value as an important criterion for the assessment of structural model, also known as the coefficient of determination (Hair *et al.*, 2011; Hair *et al.*, 2012; Henseler *et al.*, 2009). The R-squared value symbolizes the proportion

of variation in the criterion variable(s) that can be clarified by one or more predictor variable (Elliott *et al.*, 2008; Hair *et al.*, 2010; Hair *et al.*, 2006). Depending on the framework and the context of the research, the acceptance values of R-Square varies (Hair *et al.*, 2010). Falk *et al.* (1992), in the social Science context however, recommend that 0.10 is the lowest acceptable values of R-Square. According to Chin (1998), 0.67, 0.33 and 0.19 are classified as substantial, moderate and weak level of R-Square respectively.

Table: 4.11
Variance Explained in the Endogenous Latent variable

Latent Variable	Variance Explained (R^2)
Diffusion	43%

As shown in the Table 4.11, the R-Squared value of the endogenous latent variable (diffusion) is 43%, that falls between the substantial and moderate, as per the above mentioned criteria.

4.7.2.3   Assessment of Effect Size (f^2)

According to Chin (1998), effect size specifies the qualified effect of a particular exogenous latent variable on endogenous latent variable(s) by means of changes in the R-squared. It calculates as the boost in R-squared of the latent variable connected to the path, relative to the latent variable's proportion of unexplained variance. Thus the effect size could be expressed using the following formula (Cohen, 1988; Selya *et al*., 2012).

$$\text{Effect size: } f^2 = \frac{R^2_{\text{Included}} - R^2_{\text{Excluded}}}{1 - R^2_{\text{Included}}}$$

Table 4.11 significantly shows the R-Squared value of the endogenous latent variable (diffusion). Following the objectives of the research, it is important to find out individual contribution of all the Predictors (independent variables) to the criterion variable(s) by duly calculating the effect sizes of the independent variables. Table 4.12 reports the results of the effect size f^2 of three hypotheses those were empirically supported.

The practice of including and excluding of R^2 show the R-squares on the dependent variable while the independent variable is counted (R^2 included) or when it is withdrawn (R^2 excluded). Ultimately, it interprets the effect of the variance of every construct. The Table 4.12 that follows presents the effect sizes of the supported relationships with their respective t-values.

Table: 4.12
Effect Sizes of Latent variables on Cohen (1998) Recommendation

R-Square	Included	Excluded	f-Squared	Effect Size
Technology Readiness	0.368	0.28	0.1392	Small
Trust	0.368	0.271	0.1535	Medium
Religiosity	0.368	0.343	0.0396	Small

The Table 4.12 represents the values of effect size and their respective ratings. Statistically, all the three are shown supporting the hypotheses; one (1) possess a medium strength of f^2 and two signify a small strength f^2 while there is no effect size on one of the relationships. While highlighting the importance of f^2, Chin *et al.* (2003), emphasized that

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even the smallest strength of f^2 should be well thought-out because that can affect the criterion variable(s) in their own ways.

4.7.2.4 Assessment of Predictive Relevance

After determining the effect size f^2, the study further applies a test for predictive relevance of the model. Predictive relevance is represented by Q^2. As suggested by Hair *et al.* (2012), Q^2 perform dual functions; assessment of values built around the model and the evaluation of parameter estimates. Geisser (1975) used blindfolding technique to measure the Q^2; and then the outcomes were calculated through the variable scores; out of that the cross validated redundancy is extracted. According to Wold 1982 "The cross-validation test of Stone (1974) and Geisser (1975) fits soft modeling like hand in glove". The cross validated redundancy represents the ability of the model to forecast the endogenous variable(s) and for this reason displays the quality of the model. According to Chin (1998) and Henseler *et al.* (2009), the Q-Square for the Endogenous latent variable should be greater than zero.

Table: 4.13
Construct Cross-validated Redundancy

Total	SSO	SSE	1-SSE/SSO
Diffusion	6346.000000	5617.043700	0.114869

As shown in the Table 4.13 column 4, Q^2 shows an acceptably good relevance (0.114) for the criterion variable (diffusion), indicating that the model of this study has a predictive relevance. Following Hair *et al.* (2013) who suggested that if $Q^2 > 0$, the model has predictive relevance whilst if $Q^2 < 0$, the model has no predictive ability.

4.7.2.5 Testing Moderating Effect

Moderator, usually known as contingent variable, helps altering relationship between the two variables i.e. the predictor and the outcome. According to Holmbeck (1997), it influences the relationship between two constructs in the way its nature of impact of the predictor on the measure fluctuate according to the value or level of the moderator. Baron and Kenny (1986) explain moderator as,

> " a qualitative or quantitative variable that affects the direction and/or strength of a relation between independent or predictor and a dependent or criterion variable…..Moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable".

To examine the moderating effect of religiosity on the relationships between technology readiness, trust and diffusion, this study employed product indicator approach using PLS-SEM to discover and estimate the moderating effect of Religiosity on the relationship between technology readiness, trust and diffusion (Chin *et al.* 2003; Henseler *et al.*, 2010).

According to Hair *et al.* (2014), whilst assessing the moderation, the construct bears the potential to directly influence the relationship between the exogenous and endogenous latent variables. With regards to moderating effect, there could be a situation where the moderator (an independent variable or construct) may alter the potency or the direction of a relationship between two variables in the same model. For instance, in this study, religiosity is observed as an independent variable showing direct relationship with the diffusion (dependent variable) and as a moderating variable, it is affecting the

relationships between technology readiness, trust and the diffusion, as shown below in

Figures 4.7 and 4.8.
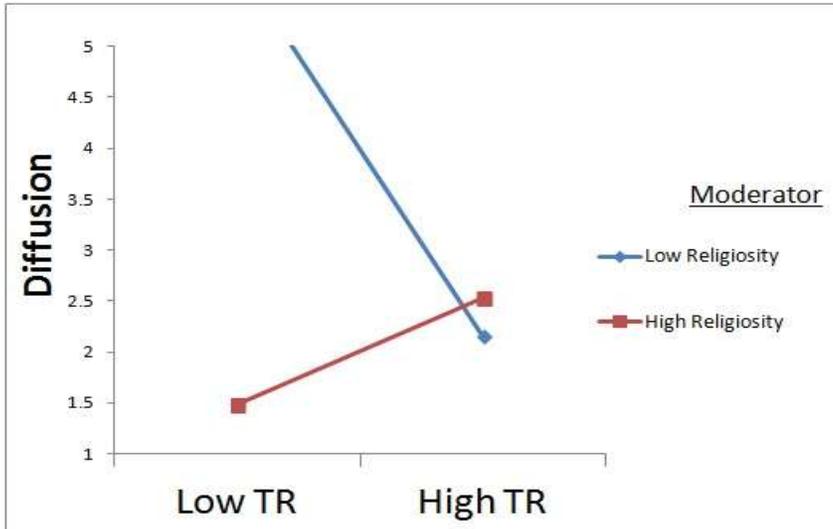
Figure 4.4
Moderating effect of religiosity on the relationship between technology readiness and diffusion; TR stands for Technology Readiness
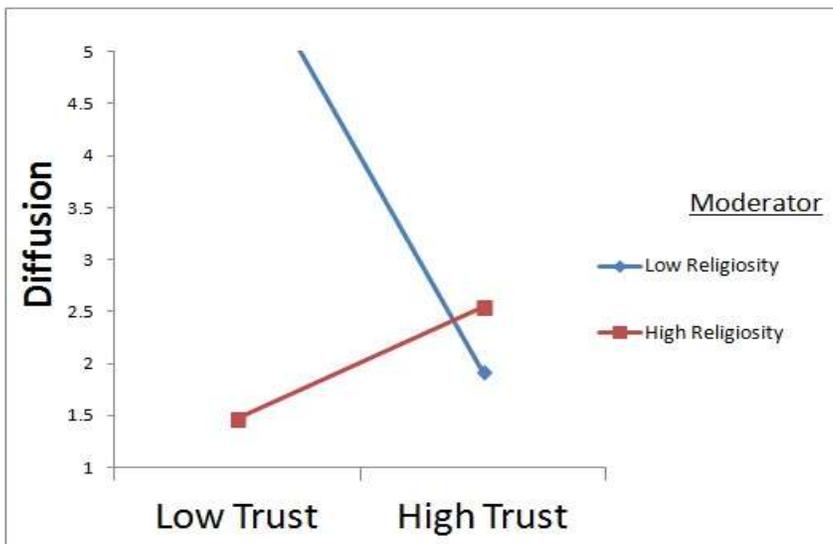
Figure 4.5
Moderating effect of religiosity on the relationship between Trust and diffusion

4.7.2.6 Determining the Strength of Moderating Variable

According to Cohen (1988), 0.02, 0.15, 0.35 are considered as weak, medium and strong effects respectively. While following the same scale Alverson *et al.* (1988) measured the Effect of booster blood transfusions on oxygen utilization in infants with bronchopulmonary dysplasia. Similarly, Thatcher *et al.* (2006) conducted an empirical research to examine influence of intrinsic motivation's on information technology workers' attitudes and their intentions.

Table 4.14
Strength of the Moderating Effects

Endogenous Latent Variable	R-Squared		f-Squared	Effect Size
	Included	Excluded		
Diffusion	0.439	0.368	0.1266	Weak
Technology Readiness	0.400	0.368	0.0650	Weak
Trust	0.387	0.368	0.0310	Weak

According to the guidelines mentioned by Cohen (1988) and Henseler *et al.* (2010), the results revealed the strength of the moderating effect was calculated as "small", as shown in Table 4.14, given above.

4.8 Summary of the Chapter

This chapter elaborates the results upholds the discussions of the study. Results includes: response rate, data screening and preliminary analysis including missing value analysis, assessment of outliers, normality test and multicollinearity test. It further explores non-response bias, common method variance test, demographic profile of the respondents and confirmatory factor analysis. The last section of the chapter presents a comprehensive

evaluations of measurement and structure models including convergent validity, discriminant validity, assessment of hypothesis, assessment of variance explained in the endogenous latent variable, assessment of effect size (f^2) and measurement of predictive relevance followed by evaluation and strenght of moderating variable.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.0   Introduction

This chapter aims to recapitulate the study, discuss the findings and highlights the contribution of the study in different perspectives. It also identifies the future path of the direction that might help policy makers of information technology in Sultanate of Oman and other developing countries to get electronic commerce developed. This chapter further leads to the limitations of the study and the future recommendations. In the final phase, the chapter comes down with the concluding remarks of the study.

5.1   Overview of the Study

Electronic commerce - an extensive and a well-organized use of computer networks to enhance organizational performance - has been intensely changing the global financial systems including; marketplaces, mechanized trade, products service and delivery methods, consumers' mind-set and employment markets (Watson *et al.*, 2008). Furthermore, it also extends an enormous impact on the international society, political affairs, way of life of a common man and their approach to the rest of the world (Drucker, 2002; Turban *et al.*, 2008). Keeping in view the prime importance of electronic commerce in today's world, all the developing states are keenly necessitated to build up their electronic commerce, to strengthen their social systems and to make their place in the global economic system in future (Wolley & Peters, 2014; OECD, 2013). E-commerce in Middle East and North African regions is believed to be almost five years

lagging behind to the USA (Fredriksson, 2013; eMarketer, 2014; Petermeijer *et al*., 2015).

Diffusion of B2C electronic commerce has been the main subject of the study. Developing states are severely in need of uplifting their electronic commerce practices, keeping in view its importance at the present time and in the future perspective. Global-wide, retail business of electronic commerce touched an amount of $820.5 billion in the year 2012; where the business has been improved (from 4.0% in 2008 to 6.5% in 2012). Sultanate of Oman, in spite of having fully equipped and sophisticated technological infrastructure and frequent use of internet (63%), according to PRNewswire (2014) and International (2011) and yStats.com (2014) has been going through at its premature stage in terms of electronic commerce practices.

Along with other factors, consumers' technological readiness level and lack of trust has been duly identified as two major barriers in the diffusion of e-commerce in Oman, as explored by Aladwani (2003), Al-Gharbi *et al.* (2006) and Baporikar *et al.* (2012).

Sultanate of Oman is a country where more than 90 percent of the population is Muslim (Lugo *et al*., 2009). Religion plays a vital role in consumers' actions. Religiosity bears significant impact on consumers' shopping approaches both interpersonally and intra-personally. It is explored as one of the main sources leading towards shopping dynamics like; quality consciousness, impulsive shopping and price consciousness (Mokhlis, 2008; Mokhlis, 2009; Mukhtar *et al*., 2012).

The scope of the study was confined to the B2C electronic commerce within Sultanate of Oman; whereas the academicians (Omani citizens) from the aforementioned sectors have

been taken as the qualified respondents. Academicians fulfill all the criteria to be known as true opinion leaders and change agents, in term of diffusion of innovations. According to Rogers's (2003) two segments of the society, the opinion leaders and change agents have been playing leading roles in improving the diffusion of innovation processes. Academicians are aware of external communication, more cosmopolite, innovative and possessing higher status in the society. They are closely related to interpersonal communication networks and own an exclusive influence in a society. Tarde (1903) explored that those who are closer to the source of the innovative idea, they accept the new ideas first, the ideas then travels from upper class of the society to lower-status individuals. Keeping in view the limitations of this study, it deals with the Omani academicians from higher education institutions (HEIs), as respondents. The respondents truly represent as the opinion leaders and changes agents of the whole community. The community is believed to accept any innovative ideas at the first level, comparing to other sections of the society (Tarde, 1903).

Based on the problem statement, research questions, research objectives and a comprehensive literature review reported in chapter 1 and chapter two, the present study aimed to achieve the following objectives; 1) to examine the relationship between technology readiness and diffusion of electronic commerce, 2) to examine the relationship between trust and diffusion of electronic commerce, 3) to examine the relationship between religiosity and diffusion of electronic commerce, 4) to examine the moderating effect of religiosity on the relationship between technology readiness and diffusion of e-commerce and 5) to examine the moderating effect of religiosity on the relationship between trust and diffusion of e-commerce.

The following section holds a detailed and philosophical discussion on the basis the findings of the results.

5.2 Discussion

The following sub-sections present the finding in the same order as the objectives of the study.

5.2.1 Positive Relationship between Technology Readiness and Diffusion of Electronic Commerce

The findings of this study come up with the significantly positive relationship between technology readiness and diffusion of e-commerce. As shown in the Table 4.10, the t-value appears as 2.622736; showing the relationship as significant where the t-value is greater than 1.645, with p-values less than 0.05.The findings are in line with the findings of past studies by Durbhakula *et al.* (2011); Massey *et al.* (2007); Demirci & Ersoy (2008); Elliott *et al.* (2008); Lai (2008); Abu-Assi *et al.* (2014); Parasuraman (2000); Meuter *et al.* (2003); Brett (2012); Parasuraman *et al.* (2001); Esen *et al.*, (2014); Guhr *et al.* (2013). Aforementioned studies explored a positive relationship between the technology readiness and diffusion of innovations. The literature further suggests that the role of technology readiness bears a vital and a catalytic role in boosting up diffusion of new technologies in general, and diffusion of electronic commerce, in particular. The findings of the study contradict with the studies upheld in the perspectives of the USA, Taiwan, Netherlands and Turkey, by Berndt *et al.* (2010); Lin *et al.* (2007); Walczuch *et al.* (2007); Summak *et al.* (2010). The potential reason of this would be different social,

economic, geo-political and religious systems of the countries; whereas the present study is conducted in the perspective of Sultanate of Oman, a purely Muslim state.

Technology readiness, adopted form Parasuraman (2000), had been operationalized by employing four dimensions to measure consumers' optimism, innovativeness, security and comfort level about the diffusion of electronic commerce. According to Parasuraman (2000), technology readiness refers to the consumers' tendency to adopt and to take advantage of the latest technologies. Within the area of technology; it deals with consumers' positive attitude, flexibility and competence, perceived deficiency of control over technology, sentiment of being overwhelmed, and sense of uncertainty towards technology. It refers to people's broader mindset and approach towards innovations (Ferreira *et al*., 2014). It is considered as one of the efficiency enhancers and a key for efficiency driven economies (Greenhill *et al.*, 2012). As an important factor in embracing the new technology, technology readiness can also be conceptualized as the "technology infrastructure and IT human resources" that refer to the current technologies and the skill to perform the required job (Kraemer, *et al*., 2006; Durbhakula & Kim, 2011). In the perspective of diffusion of innovation or latest technologies including e-commerce, there is no denial to the significance of technology readiness.

Consumers' approach towards electronic business certainly varies from person to person and place to place (Berndt *et al*., 2010). In the developing states, e-commerce has been widely suffering due to the lower level of technology readiness (Kraemer *et al*., 2006). At the same time, customers are expected to have mixed attitude (optimistic, pessimistic or neutral) towards ideas, innovations or services. It is worthy to note that technology readiness may or may not be influenced by the cultural diversities (Demirci & Ersoy, 2008; Venkatesh *et al*., 2007; Hu *et al*., 2010).

Islam, as a complete code of life (Al-Quran, Al-Quran, 16:89; Abdullah & Suhaib, 2011), is supporting the communities to accept the positive change, whereas the community seems uncomfortable to accept it practically because of the nature of the business of electronic commerce (Ahuja, 2000; Sembok, 2003) and its debatable and undecided status in Islamic law and Shariah (Azam et al., 2013; Siala et al., 2004; Muhammad et al., 2013; Al-Quran, 16:89; Abdullah & Suhaib, 2011). According Gummi (2013), concept of Islamic Welfare State in Islam state is exclusive in philosophy beliefs and values, greater in operations, extraordinary in policy and all daily life matters. The society is to ensure human welfare both spiritually and materially and an absolute amalgamation of economic, social, political and cultural spheres of life in this world and for the hereafter.

On the basis of results, it can be stated that the opinion leaders (academicians from HEIs) of the Omani community do have reasonable level of technology readiness. The Omani community, however, has failed to practice electronic commerce (Fredriksson, 2013; eMarketer, 2014; Petermeijer *et al*., 2015). As practicing Muslims, they are encouraged to accept any innovation or new idea, provided those are in accordance with Islamic law

and Shariah. Equally important, it is believed that consumers bear different level of technology readiness and that the fast growing attitude of "e" marketplaces demands all the businesses to be modernized and advanced in all aspects to survive better in today's the competitive market (Dada, 2006; Luyt, 2006; Hosseinpour et al., 2013; Bui et al., 2003). Today, due to the unproductive use of technology, the consumers are seen not only being benefitted but frustrated with the propagation of technology-based products and services (Parasuraman, 2000; Son & Han, 2011; Caison *et al.*, 2008).

Generally, consumers have been suffering from Western phobia, one of the challenges in case of electronic commerce (Al-Rawabdeh *et al.*, 2012; AlGhamdi *et al.*, 2011). Oman is a male dominated society, where female counterparts need encouragement to acquire education to contribute in boosting up the technology readiness level (Elnaggar, 2007). Global electronic commerce strategists and Islamic scholars can play a key role to clarify the true status of electronic commerce in Islam. A clearer verdict of Islamic scholars and an Islamic certificated status of e-commerce can be of big assistance in this regard. This effort by the Islamic scholars will be benefitting both the parties involved i.e. the Muslim world and the global e-commerce. By doing so, the completeness of Islam will come out, while showing opinion makers' optimistic and welcoming approach toward the electronic commerce. At the same time, the importance of religion practices will clearer to all stakeholders, showing that the practicing Muslims give huge importance to religious teachings. They are not seen motivated towards anything, even materialistically beneficial, if they are not sure of its legality status. Similarly, the global electronic commerce stakeholders are supposed to clarify e-business patterns, existence, nature and any information a customer might need to know for any reason. Keeping in view a well

known marketing rule that the customer is always right, the global e-commerce is keenly necessitated to revise it policies to satisfy the Muslim community by clarifying the ambiguities in the business of electronic commerce, if any. The revised and reviewed strategy of electronic commerce will help in bridging the gap between the West and the Muslim world to come closer to entertain mutual benefits out of the practice of electronic commerce. On one hand, under the rule of survival of the fittest (Darwin, 1869; Kowalczyk, 2014; Martin, 2014), the Muslim community is keenly necessitated to build up e-commerce, to strengthen their social systems and to make their place in the global economic system (OECD, 2013). On the other hand, global e-commerce must be benefitted by taking an enormous Muslim market onboard.

5.2.2 Positive Relationship between Trust and Diffusion of Electronic Commerce

The findings of this study reveal that there is a significantly positive relationship between trust and diffusion of e-commerce. As shown in the Table 4.10, the t-value appears as 3.563146; showing the relationship as significant where the t-value is greater than 1.645, with p-values less than 0.05. The findings are in line with the studies performed by Al-Rawabdeh *et al.* 2012); Azam *et al.* (2013); Corbitt *et al.* (2003); Gefen *et al.* (2003); Bart *et al.* (2005); Koo *et al.* (2010); Patton *et al.* (2004); Nardal *et al.* (2011) and Slyke *et al.* (2004) since the aforesaid findings indicate significant and positive relationship between trust and diffusion of latest technologies or the innovations. The findings of the study contradict with the study upheld in the perspectives of Australia, by Corbitt *et al.* (2003). The potential reason of this would be very different social, economic, geo-political and religious systems of the countries; whereas the present study targets

Sultanate of Oman, a purely Muslim state. Operationalization of trust has been adopted from Corbitt *et al.* (2003) by employing three dimensions: competence, predictability and goodwill.

In every business including B2C electronic commerce it is essential to maintain the trust because it is a fundamental principle of every business relationship and a confidence or hope that the merchants' proclamation can be relied upon and the seller will not take advantage of the consumer's helplessness (Gefen, 2000; McKnight *et al*., 2002; Corbitt *et al*., 2003; Ahuja, 2000; Sembok, 2003). Particularly, consumers buying online want to ensure a legal support because they are asked highly confidential personal information (Nagmetov, 2007). Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the agility to monitor or control that other party (Mayer *et al*., 1995; It is noteworthy that buyers, bearing different personal characteristics, behave differently when it comes to showing trust in e-commerce business (Lumsden & MacKay, 2006). Particularly in B2C e-commerce, trust is a vital factor (Slyke *et al*., 2004) that offers customers buoyancy to deal with an unknown seller (Bryant & Colledge, 2002). It persuades buyers to use and rely on the business technologies resulting in improvement in all sectors of the businesses for all stakeholders (Pittayachawan, 2007). Trust, having an immense effect on security and privacy, is a crucial factors in e-commerce (Patton & Josang, 2004), especially in online businesses where transactions take place more uncongenial, nameless, and computerized (Cyr *et al*., 2004; Kong *et al*., 2006), and, moreover trustworthiness cannot be judged by gestures and overall business environment (Gefen, 2002b; Kong & Hung, 2006).

The findings of the study are in line with the theory of reasoned action which reveals that individuals make balanced judgment caused by the information available; whereas, the finest instant determinant of a person's conduct is intention - a cognitive symbol of readiness to execute a known behavior (Ajzen & Fishbein, 1980; Mukhtar & Butt, 2012). On the basis of results obtained, it can be stated that the opinion leaders, most educated and more qulaified community i.e. academicians from higher education institutions (HEIs) possess optimistics attitude towards e-commerce practice. Whereas, electronic commerce practice in Sultanate of Oman ranks one of the lowest in the World, in spite of having an enormous electronic commerce market potential (Kearney 2013; Oman, 2014; Barrientos, 2014; International, 2011; PRNewswire,2014). Islam teach faith and hormony among humanbeigh and the practicing Muslims are found having optimistic approach towards the latest technologies. However, instead of possessing optimistics attitude, the consumers seems reluctant to practically buying online due to the unclear nature of the business providing limited information about the seller (Cyr *et al.*, 2004; Bryant & Colledge, 2002; Kamari *et al.*, 2012). As mentioned earlier lack of trust between the West and the Muslim community is also causing issues building up electronic commerce in the countries (Al-Rawabdeh *et al*., 2012; AlGhamdi *et al*., 2011). Furthermore, in B2C e-commerce, consumers receive a huge impression from the website appearance and if the information is found trustworthy and truthful, it results in gaining customers' trust and satisfaction and ultimately customers' loyalty towards online business (Eid, 2011; Liao *et al*., 2010).

Islam demands Islamic commandment to deal with business structure, contracts and subject matter (Muhammad, Muhammad, & Khalil, 2013). Arab world seems isolated

from global online trading and its inhabitants, although increasingly using internet, are found reluctant adopting e-commerce due to the lack of security leading to mistrust (Al-Rawabdeh et al., 2012). Natives of Middle East, a possessor of diverse cultural priority and a limited organizational integration, have been facing lack of technological knowledge that leads to lack of trust in e-commerce (Al Hosni et al., 2010). Arab states have the same origin in respect of their "culture, religion, language and history" (Al Hosni *et al*., 2010). Notwithstanding, the Middle East, a region of an ancient culture and deep-rooted social norms (Hu *et al*., 2010; Al Hosni *et al*., 2010), follows the USA and Canada in the terms of telecommunication adoptability, it stands far behind in practicing e-commerce (Al-Mamari, 2007; Petermeijer *et al*., 2015).

On the basis of obtained results, theoretical framework and literature, it can be stated that the opinion leaders of Oman (academicians) have trust is the latest ways of conducting businesses, however they, as a practicing Muslims are not sure on the legality of the electronic commerce business. The gap between the West and the Muslim developing states due to international political, social and moral reasons has equally affected electronic commerce. It is consumers' lack of trust on the sole owner and beneficiaries i.e. the West that is hindering the consumers in welcoming electronic commerce. All the stakeholders are equally responsible to work out together to gain the trust of each other. It will surely help in clearing up the doubts and to build up a trustworthy relation.

5.2.3 Positive Relationship between Religiosity and Diffusion of Electronic Commerce

The outcomes of this study show a significantly positive relationship between religiosity and diffusion of e-commerce. As shown in the Table 4.10, the t-value is 5.207045; according to the criteria the relationship will be significant if the t-value is greater than 1.645, with p-values less than 0.05. The findings of the present study are in line with Rehman *et al.* (2010); Ansari (2014); Azam *et al.* (2011); Hassan (2014); Shahijan *et al.* (2014); Mukhtar *et al.* (2012); Wejnert (2002) Whereas, the results obtained in the research contradict with the findings received by Daniels *et al.* (2010).

It is revealed in the Holy Quran that, "And WE (Allah Almighty) have certainly honored the children of Adam and carried them on the land and sea and provided for them of the good things and preferred them over much of what WE (Allah almighty) have created, with [definite] preference" (Al-Quran, 17:70). The Creator has blessed human beings with an inclusive and comprehensive dignity. Hence, they are asked to save and maintain all aspects of human life including religious, ethical, intellectual, physical, secular and scientific (Osman, 2001). Islamic teachings deal with all aspects including; sociology, economics and politics. Under the umbrella of Islamic law, Islamic states have to be welfare states for its people addressing both the spiritual and material aspects of life. Efforts made by the people in the fields like; economic, social, educational, scientific goals, is considered spiritual provided it comply with the teachings of Islam. Islamic Welfare States is liable to provide material and spiritual prosperity to the citizens, to ensure freedom of worship, good schooling facilities, health, safety, security, food and infrastructure (Gummi, 2013). According to the findings of this study, religiosity appears

possessing positive impact on the individual to ensures positive developments in our lives. It supports all the good changes, provided those are in accordance with Islamic teachings. Islamic societies are required to ensure human welfare domain in the relevant aspects; economic, sociology, politics, health, communication, culture etc. (Gummi, 2013). Religiousness duly support the concept of innovativeness, as it is the need of the day (Amanullah, 2012). According to Barbara, if the proposed ideas, technologies or innovations are in agreement with the cultural values, those receive better and quicker response in the societies, as religiosity or religiousness outlines cultures, and the cultural values eventually influence adoption or diffusion processes (Wejnert, 2002). In spite of all the teachings, the electronic commerce ranks at its lowest levels in Sultanate of Oman. Notwithstanding, the practice of e-commerce is the future of global economies, the true status of e-commerce is still debatable according to the Islamic teachings. Furthermore, the global e-commerce has failed to take robust steps to get the Islamic certified status of electronic commerce. In this regard, all the stakeholders may join hands to get the e-commerce business certified and acceptable for all. It is not the new idea that is not whole heartedly welcomed, but the lack of trust on the sole owners of electronic commerce i.e. the West and the unclear status of electronic commerce itself. The consumers need to educate them to fully understand the way the business take place; whereas the global e-commerce stakeholders are expected to provide all the assistance to control consumer resistance to the innovation.

5.2.4 The Moderating Effect of Religiosity on the Relationship between Technology Readiness and Diffusion of E-Commerce

According to the results obtained, that religiosity is found significantly and positively possessing a moderating effect on the relationship between technology readiness and diffusion of electronic commerce, with the t-value is 3.455743; clearly meeting the criteria set for moderating effect i.e. the t-value is greater than 1.645, with p-values less than 0.05 (Table 4.10). The findings of the current research agree with the studies by Reitsma *et al.* (2006); Mokhlis (2008); Yousaf *et al.* (2012); Rehman *et al.* (2010); Khraim (2010); Coccia (2014); Fam *et al.* (2002); Sohaib *et al.* (2014); Eid *et al.* (2015); Mokhlis (2009); Khraim (2010); Reitsma *et al.* (2006); Mcintosh *et al.* (1990); Williams *et al.* (2007); Salleh (2012); Stavrova *et al.* (2013), Momtaz *et al.* (2011); Eid *et al.* (2015); Sadozai *et al.* (2013); Ajmal *et al.* (2014); Alam *et al.* (2011); Mukhtar *et al.* (2012); Ansari (2014); Momtaz *et al.* (2011), as the aforementioned researches highlights the moderating and influential role of religiosity in terms of accepting innovative and new ideas.

Religiosity has been operationalized using an established scale developed by Stark and Glock (1968) with five dimensions i.e. ideological, ritualistic, intellectual, and consequential. According to the results obtained, religiosity is found positively moderating relationship between technology readiness and diffusion of electronic commerce. While supporting the relationship, it can be stated that the practice of religion teaches to practically prove ourselves the best creature as Almighty Allah reveals that:

> *"And WE (Allah Almighty) have certainly honored the children of Adam and carried them on the land and sea and provided for them of the good things and*

preferred them over much of what WE (Allah almighty) have created, with [definite] preference" (Al-Quran, 17:70).

It practically proves an inclusive and comprehensive dignity of human being in all aspects of life including religion, ethics, intellect, sociology, economics, politics and scientific (Osman, 2001). Imam Muslim, one of the renowned Islamic scholars, related through Jarir Ibn Abdillah, that the Prophet Muhammad ﷺ said what means:

> *"The one, who innovates a good innovation in Islam, has its reward and a similar reward of those who practice it until the Day of Judgment, without lessening the rewards of those who practice it. The one, who innovates the innovation of misguidance, carries this sin and the sins of those who practice it until the Day of Judgment, without lessening the sins of those who practice it."*

The Hadith validates a foundation for proving the validity of the good innovations in Islam. Every innovation by the scholars that complies with the Book of Allah and the Sunnah of the Holy Prophet Muhammad ﷺ, is a good innovation.

Electronic commerce, according to the findings, seems in agreement with the cultural values, those receive better and quicker response in the societies, as religiosity or religiousness outlines cultures, and the cultural values eventually influence adoption or diffusion processes (Wejnert, 2002). Notwithstanding the findings confirm the concept of innovativeness in Islam by positively moderating the aforementioned relationship and optimistic opinion by the opinion leaders and change agents of the Omani society, the practice of electronic commerce is still lagging far behind compared to other parts of the world. It turns into the point where the Islamic acknowledgement of electronic commerce is highly needed and it could be one of the potential factors behind the slower diffusion

process of electronic commerce. Global stakeholders, by putting due effort, could duly solve it.

Generally, the study provides huge assistance at all many levels to all the stakeholders. Socially, the findings strengthen the Muslim society in terms of the level of religiosity it possesses towards their religion and their attitude towards innovations or the latest technologies. On one hand, it helps maintaining the prime status of religiosity and the innovativeness in Muslim society; on the other hand, it highlights the prime importance of electronic commerce in the lives of nations. Morally and religiously, the study underlines the priority of Muslim society, when it comes to any business that is not yet fully religiously certified, for instance the status of e-commerce. Keeping in view the Islamic teachings, all the Islamic scholars, global strategists and economists need to pay due attention to establish the true status of online business. Politically, the most advanced and developed states can play a vital role to bridge the gap between the developed, developing and the under-developed nations, by getting electronic commerce business fully acknowledged in all aspects, by all the communities across the world.

5.2.5 The Moderating Effect of Religiosity on the Relationship between Trust and Diffusion of Electronic Commerce

Results showed that the religiosity has a significant and positive moderating effect on the relationship between trust and diffusion of e-commerce, with the t-value is 4.94294; evidently meeting the criteria set for moderating effect i.e. the t-value is greater than 1.645, with p-values less than 0.05, as shown in Table 4.10. The findings are in line with

Muhammad *et al.* (2013); Siala *et al.* (2004); Azam *et al.* (2013); Zainul *et al.* (2004); Dali *et al.* (2004); Muhammad *et al.* (2013). Almighty Allah revealed in the Holy Quran:

> *"You are the best nation produced [as an example] for mankind. You enjoin what is right and forbid what is wrong and believe in Allah. If only the People of the Scripture had believed, it would have been better for them. Among them are believers, but most of them are defiantly disobedient". (Surah Aal Imran 3:110)"*

According to the findings, religiosity encourages the relationship between trust and diffusion of electronic commerce. However, the practical implication of eletronic commerce would be possible by making its status completely certified and acknowledged with the help of Islamic scholars and glbal e-commerce stakeholders. Moreover the nature of the business highly demands clarification and satifiscation of consumers (Ahuja, 2000; Sembok, 2003). West-phobia, another potential factor (Al-Rawabdeh *et al*., 2012; AlGhamdi *et al*., 2011), can be overcome by bridging the gap between Muslim consumers and the West.

To measure diffusion of B2C electronic commerce, this study used five dimensions by Rogers (1995); those are: "relative advantage, compatibility, complexity, trialability and observability". The study successfully developed a comprehensive understanding of Omani society with the criterion opted towards accepting or rejecting diffusion of electronic commerce. The phenomenon of technology readiness, trust and religiosity are found playing very positive role in the diffusion of innovation process.

5.3 Contribution of the Study

Many insights have been presented related to the technology readiness, trust and diffusion of electronic commerce, throughout this study. This is one of the pioneering researches, in the perspective of developing states, investigating the effects of technology readiness and consumers, trust on the diffusion of electronic commerce. Importantly, this study develops the boundaries of current literature by investigating the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of electronic commerce. While integrating three streams namely, technology readiness, trust and religiosity, the present study maintained a significant contribution in the fields of literature, policy making and technology management, as discussed in detail in the following sub-sections.

5.3.1 Theoretical Contribution

Keeping in view the framework of study and results of the analysis, the contribution of the study can be discussed with several dimensions. First, from the literature aspect, the study has successfully demonstrated the important role of religiosity in strengthening the relationships between technology readiness, trust and diffusion of electronic commerce. Moreover, the study contributed to the literature by investigating the relationships of both the technology readiness and trust with diffusion of electronic commerce, in the context of one of the developing countries. To the best of researcher knowledge, it is seen as the first study looking into the relationship between religiosity and diffusion of electronic commerce, especially in the practicing Muslims community, the Sultanate of Oman. The study has empirically established the relationship between Tech. Readiness, Trust, Religiosity and diffusion of B2C electronic commerce, whereas three underpinning

theories (diffusion of innovation, technology readiness index and technology theory of reasoned action are concurrently used in one framework.

Second, this study highlights the importance of technology readiness in boosting up the diffusion of electronic commerce in the developing states in general and in Sultanate of Oman in particular. Study of trust in general and in the context of Muslim developing countries in particular is in itself a notable contribution to the body of literature. Technology readiness model had been explored to investigate consumers' tendency towards innovations or latest technologies including; telecom sector, e-education and electronic insurance and e- commerce, in general perspective (Caison *et al.*, 2008; Son *et al.*, 2011; Abu-Assi *et al.*, 2014; Demirci *et al.*, 2008). Correspondingly, consumers' post-adoption mind-set, the influence of technology readiness on emotions, awareness level, the acceptance of technology and self-service technologies respectively, have been explored in different perspectives (Son *et al.*, 2011; Ferreira *et al.*, 2014; Demirci *et al.*, 2008; Parasuraman, 2000; Lin *et al.*, 2007; Lin *et al.*, 2007). Similarly, studies, undertaken by Tan 2006, Abu-Assi *et al.* (2014), explored influence of the internet and electronic commerce in China and "the determinants of internet banking adoption in Jordan". Majority of the studies are upheld in the perspective of the Western world (Venkatesh *et al.*, 2007; Hu *et al.*, 2010), hence this study has been proven as one of the leadings one conducting an empirical research exploring the relationship between technology readiness and diffusion of e-commerce in the perspective of Sultanate of Oman – a Muslim majority state.

Thirdly, the current study suitably focused on value of consumers' trust in the advancement of electronic commerce. A glimpse over the past studies in the field revealed that many researchers like; Palvia (2009), Beldad *et al.* (2010) explored the importance of trust towards consumers in e-commerce; whereas Corbitt *et al.* (2003) measured trust on the basis on "competence, predictability and goodwill" toward B2C e-commerce. Other trust studies focused on New Zealand, Uzbekistan, Bangladesh, Turkey (Corbitt *et al.*, 2003; Nagmetov, 2007; Dey *et al.*, 2009; Nardal *et al.*, 2011), the USA and Australia etc. (Gefen, 2000; Corbitt *et al.*, 2003) respectively. As a matter of fact, consumers' trust level differs person to person and place to place (Lumsden *et al.*, 2006). This would be the first study in its kind, in the perspective of Sultanate of Oman, investigating the impact of trust on diffusion of B2C e-commerce. Fourthly, by linking technology readiness and trust to support the diffusion process of electronic commerce in Sultanate of Oman has been an attempt to provide an empirical evidence to prove that the significance of religiosity in terms of its practice, marketing and benefit of common man. Generally, past studies revealed that religiousness notably contribute in B2C e-commerce trust building (Daniels *et al.*, 2010; Muhammad *et al.*, 2013), particularly in Muslims societies (Muhammad *et al.*, 2013; Azam *et al.*, 2013). Similarly, religiosity differs person to person and place to place and acquires diverse perspectives (Khraim, 2010; Lumsden *et al.*, 2006) and this area is lagging behind in terms of research (Idris *et al.*, 2012). The study has successfully established the concept of innovativeness in Islam (Amanullah, 2012) by integrating investigating the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of electronic commerce. The findings prove the claim which reveals that new ideas,

technologies or innovation, if projected in accordance with the religious values, receives better approval from the consumers (Wejnert, 2002). Although studies are found highlighting the comprehensiveness, completeness, freshness, applicability, universality and other traits of Islam (Abdullah *et al.*, 2011; Gummi, 2013), this will be the first study that explored not only the effect of religiosity on the diffusion but also investigated the moderating effect of religiosity on the relationship between technology readiness, trust and diffusion of electronic commerce, hence helping theologically by underlining more the religious perspective in all aspects of our lives.

Fifthly, the results show that religiosity is significantly and positively moderating the relationships between technology readiness and diffusion of electronic commerce and between trust and diffusion of electronic commerce, hence highlighting the importance and significance of Islamic teachings in our lives. While highlighting the practical implications of the teachings of Islam , the research has empirically proven the concept of innovativeness in Islam and the traits of the religion like; its applicability, universality, completeness, ever-freshness, richness, fullness and comprehensiveness to prove Islam - a complete code of life.

5.3.2   Practical Contribution

The practical contribution of this study is discussed in two different perspectives; policy making and managerial aspects.

Policy Contribution

The results of the study bear an important role and policy implications for the practitioners and policy makers to be considered. The officials and the electronic

commerce promoting bodies can take advantage to get the diffusion process enhance in developing countries in general and in Sultanate of Oman in particular. For instance "eOman" program, headed by the information technology authority (ITA) of Oman, has miserably failed to get noteworthy results. The findings of this research may extend a great help to the officials those who intends to create a helpful government-community-citizen infrastructure (Weening, 2011).

Further, this study provides the scholarly and practical insight knowledge on the importance of technology readiness and trust; and the significance of religiosity in strengthening the relationships between technology readiness, trust and the diffusion of innovation processes. While exploring the importance of all the three dimensions involved namely, technology readiness, trust and religiosity, findings of the research reveal that all the three key areas of the diffusion of electronic commerce are mutually and significantly integrated. From the policy perspective, all the aforementioned areas, along with other social, financial, legal and ethical factors, need to be focused on at priority level. Similarly, electronic commerce development and marketing policies needs to thoroughly reviewed and revised at global, regional and national levels.

Managerial Contribution

All the stakeholders involved in the diffusion process including; consumers, businesses, organization, academicians, religious scholars, officials and policy makers need to join hands in their own capacities to take benefit from the outcome of this research. Consumers are encouraged to focus on their technological readiness and trust levels, to practice electronic commerce, as Islam support all types of advancements in life those

which are in accordance with Islamic business laws and the Shariah compliance. In this way, businesses needs to invest on marketing themselves keeping in view market's technology readiness and trust levels while promoting their mottos under the light of Islamic teachings; for instance certification form Islamic organizations etc. Importantly, academicians and religious scholars can play a vital role by promoting the modern knowledge of science and technology and the Quranic teaching. By doing so, they can help bridging a strong link between the modern education and Quranic teachings. Out of the findings of the research, the intelligentsias may take all the measures to improve technology readiness level and trust level of the potentials consumers, by educating the masses. In the same way, officials and policy makers may also get influenced by the religiosity to utilize it as a progressive tool to promote electronic commerce in the world.

5.4   Limitation of the Study

The research pertaining to technology management, business and economic studies are usually come upon with numerous limitations for the evident reasons and the present study is no exclusion to the phenomenon. Limitations of the study are discussed below:
Firstly, this study is confined to the impacts of technology readiness and trust in the diffusing of B2C electronic commerce model that is believed to be one of most leading model as a retail provider and it claims the highest contribution global wide (Corbitt *et al.*, 2003; Kamari *et al.*, 2012; Laudon *et al.*, 2001; Wen *et al.*, 2001). Secondly, the research is performed in the perspective of Sultanate of Oman, one of the Gulf Cooperation Council countries. Thirdly, the study is cross-sectional in nature due to the constraints like; time and cost. Fourthly, academicians from the public sector higher

education institutions were the respondents for the current study, since they fall in the category of opinion leaders and change agents in the society and this segment of the society has been playing a leading role in developing the diffusion of innovation processes. Furthermore the academicians are fully aware of external communication; they are more innovative, cosmopolite while enjoying healthier status in the society. As opinion leaders and change agents, the target population exists at the heart of interpersonal communication networks i.e. nationwide institutions, with an exclusive influence within the social system of Sultanate of Oman. Academicians from higher education institutions, as a community possessing higher education in the society, are the most qualified people in terms of technological awareness and innovativeness. Tarde (1903) reveals that people those are closest the source of the innovative idea are the one who adopt the idea first, which then travels from elite class to lower-status individuals. The target population i.e. academicians from higher education institutions (HEIs) confines the generalizability of the finding of the study.

5.5   Recommendations on Future Research

This study focused on business to consumer (B2C) electronic commerce model which is thought as to be the most leading model as a retail provider and it claims the highest contribution global wide (Corbitt *et al.*, 2003; Kamari *et al.*, 2012; Laudon *et al.*, 2001; Wen *et al.*, 2001). The study recommends investigating other model of electronic commerce in the same perspective. The researchers are encouraged to conduct the research in other developing countries other than Sultanate of Oman in particular and the Gulf Cooperation Council in general.

Since this research has dealt with the Muslim community from Sultanate of Oman, future research may be conducted in the perspective of other communities like; Christians and Jews. A comparative study could also be conducted while taking the framework in the perspectives of both the developing nations and the developed to gauge the difference. This study, in nature, falls in the category of cross-sectional due to the constraints like; time and cost. While taking the same framework, the future work can be performed longitudinally. Analytically, all the constraints (technology readiness, trust, religiosity and diffusion) have been measured as reflective; the future research may be conducted with the formative measurements. In the same way, religiosity, a moderating variable, has been adapted from Glock and Stark (1968); the upcoming researcher may undertake a comparative study using other measurement scales of religiosity to scale the difference, if any. A valuable contribution can also be made while taking latent variables other than technology readiness and trust.

5.6 Concluding Remarks

Present study is a pioneering research work investigating the impact of technology readiness and trust on the diffusion of electronic commerce in the context of moderating role of religiosity. The study largely contributes to the existing body of literature on technology readiness, trust, religiosity and diffusion of electronic commerce, in the perspective developing states like Sultanate of Oman. The study duly suggests that the policymakers and the officials of Sultanate of Oman, in particular and global e-commerce in general, need to overhaul the innovation policy to develop the diffusion of electronic commerce. Since the world has been turned into a global village, the local bodies of e-

commerce in Oman like' "e-Oman" requires a huge attention on improving and sustaining their eminent image in the local and global market.

The present research expands previous researches on technology readiness, trust and diffusion of electronic commerce by incorporating the immense role of religiosity as a moderator. The study was upheld in the perspective of Sultanate of Oman, one of the developing states in the Gulf Cooperation Council region. The country, despite of an enlarged use of internet and reasonably good telecommunication infrastructure ranks poorer in the list of e-commerce practicing countries in the world. In term of contribution, the present study serves in two main folds. Firstly, it responds on the various queries accordingly. The study duly employed a moderator in the framework in order to resolve the inconsistencies those exist within the relationships of technology readiness, trust and diffusion of electronic commerce. Secondly, the research focuses on the importance of religiosity, while observing that religiosity offers immense support to all the stakeholders by showing moderating role of religiosity on the relationship between technology readiness, trust and diffusion of electronic commerce. Thus all the stakeholders have to offer a due importance and significance to the religiosity on theory own perspectives.

This study aimed Omani academicians from the public sector higher education institutions (HEIs) as the target population, believing that the academicians truly bear all the characteristics of opinion leaders and change agents. The community played a vital role in innovation diffusion processes (Rogers, 2003). Tarde (1903) explored that people closest the source of the innovative idea are the one who adopt the idea first, which then travels from elite class to lower-status individuals. Academicians are fully aware of

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external communication; they are more innovative, cosmopolite while enjoying healthier status in the society. The target population exists at the heart of interpersonal communication networks i.e. nationwide institutions, with an exclusive influence within the social system of Sultanate of Oman. Moreover, the academicians from HEIs, as a community possessing higher education in the society, are the most qualified people in terms of technological awareness and innovativeness. The target population i.e. academicians from higher education institutions (HEIs) confines the generalizability of the finding of this study.

While, extending enormous impact on the global society, politics, existence of common men and their approach to the rest of the world, the electronic commerce has been strongly revolutionizing the financial systems, marketplaces, manufacturing industries, merchandise service, delivery methods, consumers' attitude and job markets. All the developing states, keeping in consideration the impact of electronic commerce, are keenly in need of building their e-commerce arena to get themselves socially, politically and financially developed. The crux of the aforementioned discussion is that in today's world, moving with faster pace and exercising great competition, brighter future holds for the nations those would step forward to enhance their electronic commerce by adopting the strategies focusing on the majors areas of technology readiness and trust-building facilitated through the religiosity.

REFERENCES

Abdullah, M., & Suhaib, A. Q. (2011). The Impact of Zakat on Social life of Muslim Society. Pakistan Journal of Islamic Research, 8, 85-91.

Abou-Youssef, M., Kortam, W., Abou-Aish, E., & El-Bassiouny, N. (2011). Measuring Islamic-Driven Buyer Behavioral Implications: A Proposed Market-Minded Religiosity Scale. Journal of American Science, 7(8), 728-741.

Abu-Assi, H. A., Al-Dmour, H. H., & Al-Zu'bi, Z. M. (2014). Determinants of Internet Banking Adoption in Jordan. International Journal of Business and Management, 9(12), 169-196.

Abu-Dalbouh, H. M. (2013). A questionnaire approach based on the technology acceptance model for mobile tracking on patient progress applications. *Journal of Computer Science*, 763-770.

Agarwal, R., & Karahanna, E. (2000). Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage. *MIS Quarterly, 24*(4), 665-694. Retrieved from http://www.jstor.org/stable/3250951

Agarwal, R., & Prasad, J. (1997). The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. *Decision ciences, 28*(3), 557-582.

Ahmad, S. Z., Abu Bakar, A. R., Mohamed, T., & Zaki, K. A. (2014). An Empirical Study of Factors Affecting e-Commerce Adoption among Small-and Medium-Sized Enterprises in a Developing Country: Evidence from Malaysia. *Information Technology for Development ahead-of-print*, 1-18. Retrieved from http://dx.doi.org/10.1080/02681102.2014.899961

Ahmed, A., & Al-Roubaie, A. (2013). Building a knowledge-based economy in the Muslim world: The critical role of innovation and technological learning. *World Journal of Science, Technology and Sustainable Development, 9*(2), 76-98.

Ahuja, V. (2000). Building Trust in Electronic Commerce. *IT Professional, 2*(3), 61-63. doi:10.1109/6294.846215

Ajmal, M. B., & Irfan, S. (2014). Understanding the Moderating Role of Islamic Work Ethics between Job Stress and Work Outcomes. *IOSR Journal of Business and Management (IOSR-JBM), 16*(1), 62-67.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour.* Englewood Cliffs: Prentice-Hall.

220

Akter, S., D'Ambra, J., & Ray, P. (2011). An evaluation of PLS based complex models: The roles of power analysis, predictive relevance and GoF index. *Proceedings of the Seventeenth Americas Conference on Information Systems* (pp. 1-7). Detroit, Michigan : Association for Information Systems.

Aladwani, A. M. (2003). Key Internet characteristics and e-commerce issues in Arab countries. *Information Technology & People, 16*(1), 9-20. doi:10.1108/09593840310462998

Alam, S. S., Mohd, R., & Hisham, B. (2011). Is religiosity an important determinant on Muslim consumer behaviour in Malaysia? *Journal of Islamic Marketing, 2*(1), 83-96. doi:10.1108/17590831111115268

Al-Dwairi, R. M. (2013). E-Commerce Web Sites Trust Factors:An Empirical Approach. *Contemporary Engineering Sciences*, 1-7.

AlGhamdi, R., Drew, S., & Al-Ghaith, W. (2011). Factors Influencing E-Commerce Adoption By Retailers In Saudi Arabia: A Qualitative Analysis. *The Electronic Journal of Information Systems in Developing Countries (EJISDC)*, 1-23. Retrieved from http://www.ejisdc.org/ojs2/index.php/ejisdc/article/view/779

AlGhamdi, R., Nguyen, A., & Jones, V. (2013). A Study of Influential Factors in the Adoption and Diffusion of B2C E-Commerce. *International Journal of Advanced Computer Science and Applications - IJACSA, 4*(1), 89-94. Retrieved March Friday, 2014, from http://arxiv.org/ftp/arxiv/papers/1302/1302.0272.pdf

AlGhamdi, R., Nguyen, J., Nguyen, A., & Drew, S. (2012). Factors Influencing E-Commerce Adoption By Retailers In Saudi Arabia: A Quantitative Analysis. *International Journal of Electronic Commerce Studies, 3*(1), 83-100.

Al-Gharbi, K. N., Khalfan, A. M., & Al-Kindi, A. M. (2006). Problems of Electronic Commerce Applications in a Developing Country:A Descriptive Case Study ofthe Banking Industry ofOman. *IEEE*.

Al-Harthy, M. A. (2011). *Private Higher Education in the Sultanate of Oman: Rationales, Development and Challenges.* Kassel: University of Kassel.

Al-Hosni, N., Ali, S., & Ashrafi, R. (2010). The key success factors to mobile commerce for Arab countries in Middle East. *Proceedings of the 12th International Conference on Information Integration and Web-based Applications & Services* (pp. 787-790). Paris: ACM Digital Library. doi:10.1145/1967486.1967615

221

Al-Hudhaif, S., & Alkubeyyer, A. (2011). *International Journal of Business and Management, 6*(9), 122-133.

Ali, S., & Al-Jabri, A. (2011). Oman's National Payment Systems and their Compliance with International Standards and Practices. *Journal of Internet Banking and Commerce, 16*(3), 1-25. Retrieved from http://connection.ebscohost.com/c/articles/73746428/omans-national-payment-systems-their-compliance-international-standards-practices

Al-Ifan, B. M. (2013). Contract formation methods in E-commerce from Islamic perspective. *5th International Conference on Information and Communication Technology for the Muslim World* (pp. 1-3). IEEE.

Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research, 13*(4), 379-391.

Alkhateeb, F. M., Khanfar, N. M., & Loudon, D. (2009). Physicians' Adoption of Pharmaceutical E-Detailing: Application of Rogers' Innovation-Diffusion Model. *Services Marketing Quarterly, 31*(1), 116-132. doi:10.1080/15332960903408575

Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology, 5*(4), 432-443.

Al-Majali, M. (2013). No More Traditional Stock Market Exchange:A Study of Internet Trading Service (ITS) in Jordan. *Journal of Internet Banking and Commerce, 18*(1), 1-20.

Al-Mamari, M. (2007). *Mobile Commerce Development in Oman.* Sheffield: The University Of Sheffield.

Alomari, M. K., Sandhu, K., & Woods, P. (2010). Measuring Social Factors in E-government Adoption in the Hashemite Kingdom of Jordan. *International Journal of Digital Society (IJDS), 1*(2), 123-134.

Alqahtani, M. A., Al-Badi, A. H., & Mayhew, P. J. (2012). The Enablers and Disablers of E-commerce: Consumers' perspectives. *The Electronic Journal on Information Systems in Developing Countries*, 1-20.

Al-Quran. (16:89). In *Al-Quran.*

Al-Quran. (17:70). Surat Al-'Isrā'. In *Al-Quran.*

Al-Quran. (3:110). Surah Aal Imran. In *Al-Quran.*

Al-Rawabdeh, W., Zeglat, D., & Alzawahreh, A. (2012). The Importance of Trust and Security Issues in E-Commerce Adoption in the Arab World. *European Journal of Economics, Finance and Administrative Sciences*, 172-178. Retrieved from https://eis.hu.edu.jo/deanshipfiles/pub108994039.pdf

Al-Senaidi, S., Lin, L., & Poirot, J. (2009). Barriers to adopting technology for teaching and learning in Oman. *Computers & Education, 53*, 575–590. doi:10.1016/j.compedu.2009.03.015

AlShihi, H. (2006). *Critical Factors in the Adoption and Diffusion of E-government Initiatives in Oman.* Melbourne: Victoria University, Australia.

Al-Taie, M. Z., & Kadhim, A. M. (2013). Factors Disrupting a Successful Implementation of E-Commerce in Iraq. *In 4th Scientific Conference*, (pp. 1-14). Baghdad.

Alverson, D. C., Alverson, D. C., & Cohen, R. S. (1988). Effect of booster blood transfusions on oxygen utilization in infants with bronchopulmonary dysplasia. *The Journal of pediatrics, 113*(4), 722-726.

Amanullah, S. (2012). *Innovation for integration: Building a shared future – Islam Knowledge Innovation.* University of Cambridge, Centre of Islamic Studies. Cambridge: British council 2012 .

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423. doi:http://dx.doi.org/10.1037/0033-2909.103.3.411

Ansari, Z. A. (2014). The Relationship between Religiosity and New Product Adoption among Muslim Consumers. *International Journal of Management Sciences, 2*(6), 249-259. Retrieved April Friday, 2014, from http://www.rassweb.com/wp-content/uploads/PDF/IJMS/Vol-2/Issue-6/Paper%201.pdf

APEC. (2000). *APEC E-Commerce Readiness Assessment Guide.* APEC Telecommunications and Information Working Group (TELWG). APEC. Retrieved from http://publications.apec.org/publication-detail.php?pub_id=647

Araujo, I. (2005). Privacy mechanisms supporting the building of trust in e-commerce. *International Conference on Data Engineering* (p. 1193). Ottawa: IEEE Computer Society. doi:10.1109/ICDE.2005.263

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, 396-402. Retrieved from http://www.jstor.org/stable/3150783

Ash, J. S., Lyman, J., Carpenter, J., & Fourier, L. (2001). A diffusion of innovations model of physician order entry. *In Proceedings of the AMIA Symposium* (pp. 22-26). American Medical Informatics Association.

Atkinson, N. L. (2007). Developing a questionnaire to measure perceived attributes of eHealth innovations. *American Journal of Health Behavior, 31*(6), 612-621.

Azam, A., Qiang, F., Abbas, S. A., & Abdullah, M. I. (2013). Structural equation modeling (SEM) based trust analysis of Muslim consumers in the collective religion affiliation model in e-commerce. *Journal of Islamic Marketing, 4*(2), 134-149. doi:10.1108/17590831311329278

Azam, A., Qiang, Q. F., Abdullah, M. I., & Abbas, S. A. (2011). Impact of 5-D of Religiosity on Diffusion Rate of Innovation. *International Journal of Business and Social Science, 2*(17), 177-185. Retrieved from http://connection.ebscohost.com/c/articles/66502349/impact-5-d-religiosity-diffusion-rate-innovation

Ba, S., & Pavlou, P. A. (2002). Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior. *MIS quarterly*, 243-268.

Babbie, E. (1989). *The practice of social research.* California: Wadsworth Publishing Company.

Babbie, E. (1990). *Survey research methods.* California: Wadsworth Publishing .

Babin, B. J., Griffin, M., & Boles, J. S. (2004). Buyer reactions to ethical beliefs in the retail environment. *Journal of Business Research, 57*(10), 1155-1163.

Bachleda, C., Hamelin, N., & Benachour, O. (2014). Does religiosity impact Moroccan Muslim women's clothing choice? *Journal of Islamic Marketing, 5*(2), 210-226. doi:10.1108/JIMA-05-2013-0038

Bagozzi, R. R., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*(1), 74–94.

Baig, A. K., & Baig, U. K. (2013). The Effects of Religiosity on New Product Adoption. *International Journal of Research in Business and Social Science, 2*(2), 28-37. Retrieved December Monday, 2013, from http://www.ssbfnet.com/ojs/index.php/ijrbs/article/view/60

Bailey, J. M., & Sood, J. (1993). The Effects Of Religious Affiliation On Consumer Behavior: A Preliminary Investigation. *Journal of Managerial Issues, 5*(3), 328-352.

Baporikar, N., & Shah, I. A. (2012). Quality of higher education in 21st century - A Case of Oman. *Journal of Educational and Instructional Studies in the World, 2*(2), 9-18. Retrieved from http://www.wjeis.org/FileUpload/ds217232/File/02.baporikar.pdf

Barclay, D., Higgins, C., & Thompson, R. (1995). *The partial least squares (PLS) approach to causal modelling.* Technology Studies .

Barnes, S. J. (2009). Strength of religious faith, trusting beliefs and their role in technology acceptance. *International Journal of Innovation and Learning, 6*(1), 110-126.

Barnett, V., & Lewis, T. (1994). *Outliers in statistical data* (Vol. 3). New York: John Wiley & Sons, Chichester.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology, 51*(6), 1173-1182.

Barrientos, M. (2014, January Friday). Retrieved from Index Mundi: http://www.indexmundi.com/

Bart, Y., Shankar, V., Sultan, F., & Urban, G. L. (2005). Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers? A Large-Scale Exploratory Empirical Study. *Journal of Marketing, 69*, 133–152.

Becker, J.-M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models. *Long Range Planning, 45*(5), 359-394.

Beilock, R., & Dimitrova, D. V. (n.d.). An exploratory model of inter-country Internet diffusion. *Telecommunications Policy, 27*(3), 237-252.

Belanger, F., Hiller, J. S., & Smith, W. J. (2002). Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. *Journal of Strategic Information Systems, 11*(3–4), 245–270. doi:10.1016/S0963-8687(02)00018-5

Beldad, A., Jong, M. d., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behavior* , 857–869.

Berndt, A., Saunders, S., & Petzer, D. (2010). Readiness for banking technologies in developing countries. *Southern African Business Review Volume 14 Number 3 2010, 14*, 49-76.

Berthon, P., Pitt, L., Cyr, D., & Campbell, C. (2007). E-readiness and trust: macro and micro dualities for e-commerce in a global environment. *Emerald Group Publishing Limited*, 700-714. doi:10.1108/02651330810915592

Bhattacherjee, A. (2000). Acceptance of e-commerce services: the case of electronic brokerages. *Systems, Man and Cybernetics, Part A: Systems and Humans, 30*(4), 411-420.

Bilbao-Osorio, B., Dutta, S., & Lanvin, B. (2013). *The Global Information Technology Report 2013 Growth and Jobs in a Hyperconnected World.* New York: World Economic Forum.

Bollen, K. A. (1989). *Structural equation modeling with latent variables* . New York: Wiley.

Brown, I., & Jayakody, R. (2008). B2C e-commerce success: A test and validation of a revised conceptual model. *The Electronic Journal Information Systems Evaluation, 11*(3), 67-184.

Bryant, A., & Colledge, B. (2002). Trust in Electronic Commerce Business Relationships. *Journal of Electronic Commerce Research, 3*(2), 32-39.

Bryman, A., & Bell, E. (2003). *Business Research Methods.* New York: Oxford University Press Inc.

Bui, T. X., Sankaran, S., & Sebastian, I. M. (2003). A framework for measuring national e-readiness. *Int. J. Electronic Business, 1*(1), 3-22. Retrieved December Saturday, 2013, from http://ict4d.dk/uploads/general/A-Framework-for-Measuring-Natonal-E-Readiness.pdf

Burba, B., Crowley, S., Drobny, W., Janky, N., Mann, R., & Silva, N. (2012). A Study Exploring the Perception of Technology Readiness and Use of Social Media by Independent Insurance Agents in Illinois. *CPCU eJournal*, 1-24.

Burt, R. (1987). Social contagion and innovation: Cohesion versus structural equivalence. *American journal of Sociology*, 1287-1335.

Bush, C. L. (1981). *Taking hold of technology: Topic guide for 1981-1983.* Washington, DC.: American Association of University Women.

Byrne, B. M. (2001). *Structural equations modeling.* London: Lawrence Erlbaum Publishers.

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, USA: Routledge Academy.

Cain, M., & Mittman, R. (2002). *Diffusion of Innovation in Health Care.* iHealth Report.

Caison, A. L., Bulman, D., Pai, S., & Neville, D. (2008). Exploring the technology readiness of nursing and medical students at a Canadian University. *Journal of interprofessional care, 22*(3), 283-294. doi:10.1080/13561820802061809

Capital, A. (2014). *GCC Education Industry.* Alpen Capital, GCC Education Industry. Alpen Capital. Retrieved from http://www.alpencapital.com/downloads/GCC_Education_Industry_Report_July_2014.pdf

Cardwell, J. D. (1980). *The social context of religiosity.* Lanham: University Press of America.

Carlson, R. O. (1965). *Adoption of Educational Innovations.* University of Oregon: Center for the Advanced Study of Educational Administration.

Cassel, C., Hackl, P., & Westlund, A. H. (1999). Robustness of partial least-squares method for estimating latent variable quality structures. *Journal of Applied Statistics,, 26*(4), 435-446.

CBFS. (2015). *College of Banking and Financial Studies*. Retrieved from http://www.cbfs.edu.om/

Çelik, H. E., & Yılmaz, V. (2011). Extending the technology acceptance model for adoption of e-shopping by consumers in Turkey. *ournal of Electronic Commerce Research, 12*(2), 152-164.

Chan, C., & Swatman, P. M. (1999). *E-commerce implementation in Australia: A case study approach.* Burwood: Deakin University School of Management Information Systems.

Chang, M. K., & Cheung, W. (2005). Online Trust Production: Interactions among Trust Building Mechanisms. *Proceedings of the 38th Hawaii International Conference on System Sciences* (pp. 181c-181c). Hawaii: IEEE. doi:10.1109/HICSS.2005.471

Chatterjee, D., & Ghosal, I. (2014). E-Commerce In India Future And Its Perspective: A Study. *International Journal of Scientific Research and Engineering Studies (IJSRES), 1*(4), 25-31.

Chatterjee, S., & Yilmaz, M. (1992). A review of regression diagnostics for behavioral research. *Applied Psychological Measurement, 16*(3), 209-227.

Chellappa, R. K. (2008). Consumers' trust in electronic commerce transactions: The role of perceived privacy and perceived security. *under submission*. Retrieved from http://pdf.aminer.org/000/327/133/consumer_trust_and_online_information_privacy.pdf

Cheng, T. E., Lam, D. Y., & Yeung, A. C. (2006). Adoption of internet banking: an empirical study in Hong Kong. *Decision support systems, 42*(3), 1558-1572.

Chernick, M. R. (2008). *Bootstrap methods: A guide for practitioners and researchers* (2nd ed.). Hoboken, New Jersey, United States: Wiley.

Cheskin. (1999). *eCommerce Trust Report.* Cheskin Research.

Chew, F., Grant, W., & Tote, R. (2004). Doctors on-line: using diffusion of innovations theory to understand internet use. *Family Medicine, 36*(9), 645-650.

Chin, W. W. (1998). *The partial least squares approach to structural equation modelling.* Mahwah, New Jersey, USA, New Jersey, USA: Psychology Press.

Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In W. W. Chin, *Handbook of partial least squares: Concepts, methods and application* (pp. 645–689). New York: Springer.

Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a monte carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research, 14*(2), 189–217.

Choi, J., & Nazareth, D. L. (2014). Repairing trust in an e-commerce and security context: an agent-based modeling approach. *Information Management & Computer Security, 22*(5), 490-512.

Chong, S., & Bauer, C. (2000). A model of factor influences on Electronic Commerce adoption and diffusion in small-and medium-sized enterprises. *Pacific Asia Conference on Information Systems Proceedings* (pp. 290-301). Association for Information Systems AIS Electronic Library.

Choong, K. F., Ong, F. S., & Moschis, G. P. (2013). Materialism and well-being: the moderating effects of religiosity on young Malaysian consumers. *Journal of Beliefs & Values, 34*(2), 178-188. doi:10.1080/13617672.2013.801693

Chumbler, N. R. (1996). An empirical test of a theory of factors affecting life satisfaction: Understanding the role of religious experience. *Journal of Psychology and Theology, 24*(3), 220-232.

Coccia, M. (2014). Socio-cultural origins of the patterns of technological innovation: What is the likely interaction among religious culture, religious plurality and innovation? Towards a theory of socio-cultural drivers of the patterns of technological innovation. *Technology in Society, 36*, 13-25.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences.* New Jersey, USA: Lawrence Erlbaum Associates.

Coleman, J., Katz, E., & Menzel, H. (Coleman JS, 1966). *Medical Innovations: A Diffusion Study.* New York: Bobbs-Merrill.

Converse, J. M., & Presser, S. (1986). *Survey Questions: Handcrafting the Standardized Questionnaire.* Beverly Hills: Sage Publications.

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*(3), 325-334.

Cooper, D. R., & Schindler, P. S. (2006). *Business research methods* (9th ed.). Boston: McGraw Hill.

Corbitt, B. J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: a study of consumer perceptions. *Electronic Commerce Research and Applications, 2*(3), 203–215. doi:10.1016/S1567-4223(03)00024-3

Cutler, B. (1992). Religion and marketing: important research area or a footnote in the literature? *Journal of Professional Services Marketing, 8*(1), 153-164.

Cyr, D., Hassanein, K., Head, M., & Ivanov, A. (2004). The Role of Social Presence in Establishing Loyalty in e-Service Environments. *Interacting with Computers, 19*(1), 43-56.

Dada, D. (2006). E-Readiness for Developing Countries: Moving the Focus from the Environement to the Users. *The Electronic Journal of Information Systems in Developing Countries (EJISDC), 27*(6), 1-14. Retrieved March Sunday, 2014, from http://www.ejisdc.org/ojs2/index.php/ejisdc/article/viewFile/219/184

Dali, N. M., Harun, M. Z., Khalid, F. M., & Hamid, H. A. (2004). E-commerce in Islamic Perspectives: the theoretical framework, key success factor and challenges for Islamic e-commerce business. *Knowledge Management International Conference* (pp. 1-11). Pulau Pinang: Academia. Retrieved from https://www.academia.edu/2070580/E-Commerce_in_Islamic_Perspectives._The_Theoretical_Framework_Key_Success _Factor_And_Challenges_For_Islamic_E-Commerce_Business

Daniels, J. P., & Ruhr, M. v. (2010). Trust in Others: Does Religion Matter? *Review of Social Economy, 68*(2), 163-186.

Darwin, C. (1869). On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life. In C. Darwin, & J. v. Wyhe (Ed.), *This preservation of favourable variations, and the destruction of injurious variations, I call Natural Selection, or the Survival of the Fittest* (5th ed., pp. 91-92). London: Beagle Library. Retrieved August Friday, 2014, from http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=F387&pageseq=121

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

Dawes, J. (2007). Do data characteristics change according to the number of scale points used? *International Journal of Market Research, 50*(1), 61-77.

Dehkordi, L. F., Shahnazari, A., & Noroozi, A. (2011). A Study of the Factors that Influence the Acceptance of e-Commerce in Developing Countries:A Comparative Survey between Iran and United Arab Emirates. *Interdisciplinary Journal of Research in Business, 1*(6), 44-49.

Delafrooz, N., Paim, L. H., & Khatibi, A. (2009). Developing an instrument for measurement of attitude toward online shopping. *European Journal of Social Sciences – Volume 7, Number 3 (2009), 7*(3), 166-177.

Delener, N. (1990). The effects of religious factors on perceived risk in durable goods purchase decisions. *Journal of Consumer Marketing, 7*(3), 27-38.

Delener, N. (1994). Religious contrasts in consumer decision behaviour patterns: their dimensions and marketing implications. *European Journal of Marketing, 5*, 36-53.

Demirci, A. E., & Ersoy, N. F. (2008). Technology Readiness for Innovative High-Tech Products: How Consumers Perceive and Adopt New Technologies. *The Business Review (Cambridge), 11*(1).

Devitt, S., Ruud, A., Gober, D., Parkhill, J., Greenberger, K., Wiltamuth, M., . . . Wan, P. (2013). *eCommerce Disruption: A Global Theme Transforming Traditional Retail.* New York: Morgan Stanley.

Dey, S. K., Nabi, M. N., & Anwer, M. (2009). Challenges in Building Trust in B2C E-Commerce and Proposal to Mitigate Them: Developing Countries Perspective. *International Conference on Computer and Information Technology (ICCIT)* (pp. 581-586). Dhaka: IEEE Conference Publications. doi:10.1109/ICCIT.2009.5407304

Dijkstra, T. (1983). Some comments on maximum likelihood and partial least squares methods. *Journal of Econometrics, 22*(1), 67-90.

Dinlersoz, E. M., & Pereira, P. (2007). On the diffusion of electronic commerce. *International Journal of Industrial Organization*, 541–574.

Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task–technology fit constructs. *Information & Management, 36*(1), 9-21.

Drucker, P. F. (2002). *Managing in the Next Society* (1st ed.). New York, USA: Truman Talley Books. Retrieved from http://www.amazon.com/Managing-Next-Society-Peter-Drucker/dp/0750656247

Durbhakula, V. V., & Kim, D. J. (2011). E-business for Nations: A Study of National Level Ebusiness Adoption Factors Using Country Characteristics-Business-Technology-Government Framework. *Journal of Theoretical and Applied Electronic Commerce Research, 6*(3), 1-12. doi:DOI: 10.4067/S0718-18762011000300002

Efendioglu, A. M., Yip, V. F., & Murray, W. L. (2009). E-commerce in developing countries: issues and influences. *4th International Business and Economy Conference (IBEC 2005).* Hawai: Google searches for a home in China, BusinessWeek. Retrieved from http://userwww. sfsu. edu/~ ibec/papers/25. pdf

Egger, F. N. (2000). Trust me, I'm an online vendor: towards a model of trust for e-commerce system design. *CHI 2000 extended abstracts on Human factors in computing systems*, 101-102.

Eid, M. (2011). Determents of E-Commerce Customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research, 12*(1), 78-93.

Eid, R., & El-Gohary, H. (2015). The role of Islamic religiosity on the relationship between perceived value and tourist satisfaction. *Tourism Management, 46*, 477-488.

El Gawady, Z. M. (2005). The impact of e-commerce on developed and developing countries case study: egypt and united states. *In International conference of Globalization. Technology and Sustainable Development*, (pp. 1-28).

Elbeltagi, I. (2007). E-commerce and globalization: an exploratory study of Egypt. *Cross Cultural Management: An International Journal, 14*(3), 196-201.

Elliott, A. C., & Woodward, W. A. (2007). *Statistical analysis quick reference guidebook: With SPSS examples.* California, USA: Sage.

Elliott, K. M., Hall, M. C., & Meng, J. (2008). Student Technology Readiness And Its Impact On Cultural Competency. *College Teaching Methods & Styles Journal, 4*(6), 11-21.

Ellison, C. G. (1991). Religious involvement and subjective well-being. *Journal of health and social behavior* , 80-99.

Ellison, C. G., David, A. G., & Thomas, A. G. (1989). Does religious commitment contribute to individual life satisfaction? *Social Forces, 68*(1), 100-123.

El-Menouar, Y. (2014). he Five Dimensions of Muslim Religiosity. Results of an Empirical Study. *Methods, data, analyses, 8*(1), 53-78.

Elnaggar, A. (2007). The status of Omani women in the ICT sector. *International Journal of Education and Development using Information and Communication Technology, 3*(3), 4-15. Retrieved January Friday, 2014, from http://ijedict.dec.uwi.edu/viewarticle.php?id=320

eMarketer. (2014, October Tuesday). *eMarketer*. Retrieved 2014, from eMarketer: http://www.emarketer.com/Article/Global-B2C-Ecommerce-Sales-Hit-15-Trillion-This-Year-Driven-by-Growth-Emerging-Markets/1010575

Esen, M., & Erdogmus, N. (2014). Effects of Technology Readiness on Technology Acceptance in e-HRM: Mediating Role of Perceived Usefulness. *Knowledge Economy and Management Journal, 9*, 7-21.

Fain, D., & Roberts, M. L. (1997). Technology vs. consumer behavior: The battle for the financial services customer. *Journal of Interactive Marketing, 11*(1), 44-54.

Falk, F. R., & Miller, N. B. (1992). *A Primer for Soft Modeling.* Ohio: University of Akron Press.

Fam, K. S., Waller, D. S., & Erdogan, B. Z. (2002). The influence of Religion on attitudes towards the Advertising of Controversial products. *European Journal of Marketing, 38* (5/6), 537-555. doi:10.1108/03090560410529204

Ferreira, J. B., Rocha, A. d., & da Silva, J. F. (2014). Impacts of technology readiness on emotions and cognition in Brazil. *Journal of Business Research*, 865–873.

Field, A. (2009). *Discovering statistics using SPSS.* London: SAGE publications Ltd.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research.* Addison-Wesley: MA.

Fliegel, F. (1993). *Diffusion Research in Rural Sociology: The Record for the Future.* Westport,CT: Greenwood.

Fornell, C., & Bookstein, F. L. (1982). Two Structural Equation Models: LISREL and PLS Applied to Consumer Exit-Voice Theory. *Journal of Marketing Research, 4*(4), 440-452. Retrieved from http://www.jstor.org/stable/3151718

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50.

Frank, M. (1997). The realities of web-based electronic commerce. *Strategy & Leadership*, 31-35. doi:http://dx.doi.org/10.1108/eb054587

Fredriksson, T. (2013). *E-commerce and Development Key Trends and Issues.* Geneva: UNCTAD - United Nation Conference on Trade and Developement.

Fruhling, A. L., & Digman, L. A. (2000). The Impact of Electronic commerce on Business-level Strategies. *Journal of Electronic Commerce Research, 1*(1), 13-22.

Fukuyama, Y. (1961). The major dimensions of church membership. Review of Religious Research. *Review of Religious Research , 2*(4), 154-161.

Gandal, N. (2002). Compatibility, standardization, and network effects: Some policy implications. *Oxford Review of Economic Policy, 18*(1), 80-91.

Gefen, D. (2000). E-commerce: the role of familiarity and trust. *The International Journal of Management Science, 28*(13), 725-737. doi:10.1016/S0305-0483(00)00021-9

Gefen, D. (2002a). Customer loyalty in e-commerce. *Journal of the Association for Information Systems, 3*(1), 27-51.

Gefen, D. (2002b). Reflections on the dimensions of trust and trustworthiness among online consumers. *ACM Sigmis Database, 33*(3), 38-53.

Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services. *Omega, 32*(6), 407–424.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Inexperience and experience with online stores: The importance of TAM and trust. *Engineering Management, IEEE Transactions on, 50*(3), 307-321.

Geisser, S. (1975). The Predictive Sample Reuse Method with Applications. *Journal of the American Statistical Association, 70*(350), 320-328.

Gibbs, J., Kraemer, K. L., & Dedrick, J. (2003). Environment and policy factors shaping global e-commerce diffusion: A cross-country comparison. *The Information Society: An International Journal, 19* (1), 5-18. doi:http://dx.doi.org/10.1080/01972240309472

Glock, C. Y. (1962). On the Study of Religious Commitment. *Religion's Influence in Contemporary Society, Readings in the Sociology of Religion*, 38-56.

Green, D. T., & Pearson, J. M. (2011). Integrating website usability with the electronic commerce acceptance model. *Behaviour & Information Technology, 30*(2), 181-199. doi:http://dx.doi.org/10.1080/01449291003793785

Green, S. B. (1991). How Many Subjects Does It Take To Do A Regression Analysis. *Multivariate Behavioral Research, 26*(3), 499-510. doi:http://dx.doi.org/10.1207/s15327906mbr2603_7

Greenhalgh, T., Robert, G., & Bate, P. (2004). *How to Spread Good Ideas: A systematic review of the literature on diffusion, dissemination and sustainability of innovations in health service delivery and organisation.* London: National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO).

Greenhill, R., Blanke, J., Hanouz, M. D., Dusek, M., Miller, M., Khatib, S., & Crotti, R. (2012). *Arab World Competitiveness Report.* Geneva: OECD World Economic Forum.

Guhr, N., Loi, T., Wiegard, R., & Breitner, M. H. (2013). Technology Readiness in Customers' Perception and Acceptance of M(obile)-Payment: An Empirical Study in Finland, Germany, the USA and Japan. *International Conference on Wirtschaftsinformatik*, (pp. 119-133). Leipzig, Germany.

Guiso, L., Sapienza, P., & Zingales, L. (2003). People's opium? Religion and economic attitudes. *Journal of monetary economics, 50*(1), 225-282.

Gummi, U. M. (2013). The Islamic Welfare State: The Basic Imperatives Toward a Better Society. *Social Science Research Network*, 1-11. Retrieved March Sunday, 2014, from http://dx.doi.org/10.2139/ssrn.2393588

Gundry, L. K., & Kickul, J. (2001). *E-commerce entrepreneurship: emerging practices, key challenges and future directions.* Chicago: CEAE Coleman Foundation.

Gustafsson, A., & Johnson, M. D. (2004). Determining attribute importance in a service satisfaction model. *Journal of Service Research, 7*(2), 124-141.

Haggman, S. K. (2009). Functional actors and perceptions of innovation attributes: influence on innovation adoption. *European Journal of Innovation Management, 12*(3), 386-407. doi:10.1108/14601060910974246

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Mutilvariate data analysis.* Upper Saddle River, New Jersey, USA: Pearson Prentice Hall.

Hair, J. F., Hult, T. M., Ringle, C. M., & Sarstedt, M. (2014). *Partial Least Squares Structural Equation Modeling (PLS-SEM).* Los Angeles: Sage.

Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business.* Chichester, England: John Wiley & Sons.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-152. doi:http://dx.doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Sarstedt, M., & Ringle, C. M. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433. doi:DOI 10.1007/s11747-011-0261-6

Hair, J. F., Sarstedt, M., & Ringle, C. M. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433.

Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (1998). *Multivariate data analysis* (5th ed.). Englewood Cliffs, New Jersey, USA: Prentice-Hall.

Hair, J., Black, B., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis* . Upper Saddle River, NJ: Pearson Prentice Hall.

Hair, J., Bush, R., & Ortinau, D. (2003). *Marketing research: Within a changing information environment.* New York: McGraw-Hill Irwin.

Halaweh, M. (2011). Adoption Of E-Commerce In Jordan: Understanding the Security Challenge. *The Electronic Journal on Information Systems in Developing Countries, 47*(3), 1-13. Retrieved 2014, from http://www.ejisdc.org

Hamed, A., Ball, D., Berger, H., & Cleary, P. (2008). The threequarter moon: A new model for E-Commerce adoption. *Communications of the IBIMA, 4*, 90-95.

Hanzaee, K. H., Atar, M. M., & Alikhan, F. (2011). Investigating the Effect of Gender Role Attitude on the Relationship Between Dimensions of Religiosity and New Product Adoption. *World Applied Sciences Journal, 13*(6), 1527-1536.

Hassan, S. H. (2014). The role of Islamic values on green purchase intention. *Journal of Islamic, 5*(3), 379-395. doi:http://dx.doi.org/10.1108/JIMA-11-2013-0080

Hassanein, K., & Head, M. (2006). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. *International Journal of Human-Computer Studies, 65*(8), 689-708.

Head, M. M., & Hassanein, K. (2002). Trust in e-Commerce: Evaluating the Impact of Third-Party Seals. *Quarterly Journal of Electronic Commerce*, 307-325. Retrieved from http://www.khaledhassanein.ca/wp-content/uploads/2008/04/J3.pdf

Henard, D. H., & Szymanski, D. M. (2001). Why some new products are more successful than others. *Journal of marketing Research., 38*(3), 362-375.

Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In J. Henseler, & G. Fassott, *In Handbook of partial least squares* (pp. 713-735). Berlin: Springer Berlin Heidelberg.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing (AIM), 20*, 277-320.

Hershberger, S. L. (2003). The Growth of Structural Equation Modeling: 1994-2001. *Structural Equation Modeling: A Multidisciplinary Journal, 10*(1), 35-46. doi:10.1207/S15328007SEM1001_2

Hirschman, E. C. (1981). American Jewish ethnicity: Its relationship to some selected aspects of consumer behavior. *The Journal of Marketing*, 102-110.

Hirschman, E. C. (1983). Religious affiliation and consumption processes: An initial paradigm. *Research in marketing, 6*, 131-170.

Ho, S.-C., Kauffman, R. J., & Liang, T.-P. (2007). A growth theory perspective on B2C e-commerce growth in Europe: An exploratory study. *Electronic Commerce Research and Applications, 6*(3), 237-259.

Hoffman, D. L., Novak, T. P., & Peralta, M. (1999). Building consumer trust online. *Communications of the ACM, 42*(4), 80-85.

Holdcroft, B. B. (2006). What Is Religiosity? *Catholic Education: A Journal of inquiry and practice, 10*(1), 89-103. Retrieved from http://digitalcommons.lmu.edu/ce/

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610.

Hosmer, L. T. (1995). Trust: The connecting link between organizational theory and philosophical ethics. *Academy of management Review, 20*(2), 379-403. Retrieved from http://www.jstor.org/stable/258851

Hosseinpour, A., Hajizadeh, F., Karimi, M., & Shariati, S. M. (2013). E-readiness assessment and its models. *Arabian Journal of Business and Management Review (OMAN Chapter), 2*(12), 1-5. Retrieved from http://www.arabianjbmr.com/pdfs/OM_VOL_2_(12)/1.pdf

Hu, H.-f., Al-Gahtani, S. S., & Hu, P. J.-H. (2010). Examining the Moderating Role of Gender in Arabian Workers' Acceptance of Computer Technology. *Communications of the Association for Information Systems, 33*(1), 47-66.

Huber, S., & Huber, O. W. (2012). The Centrality of Religiosity Scale (CRS). *Religions, 3*(3), 710-724.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal, 20*, 195-204.

Hunaiti, Z., Masa'deh, R., Mansour, M., & Al-Nawafleh, A. (2009). Electronic commerce adoption barriers in small and medium-sized enterprises (SMEs) in developing countries: the case of Libya. *IBIMA Business Review, 2*(5), 37-45.

Hussey, J., & Hussey, R. (1997). *Business Research: A practical guide for undergraduate and postgraduate students.* New York: John Wiley & Sons Inc.

Hwang, W., Jung, H. S., & Salvendy, G. (2006). Internationalisation of e-commerce: a comparison of online shopping preferences among Korean, Turkish and US populations. *Behaviour & information technology, 25*(1), 3-18.

Iacobucci, D. (2010). Structural equations modeling: Fit Indices, sample size, and advanced topics. *Journal of Consumer Psychology, 20*(1), 90-98.

IBM. (2009). *E-readiness rankings 2009 The usage imperative.* London: Economist Intelligence Unit. Retrieved from www.ibm.com/iibv

Idris, K. M., Bidin, Z., & Saad, R. A. (2012). islamic religiosity measurement and its relationship with business income zakat compliance behavior. *Journal Pengurusan , 34*, 3-10. Retrieved February Monday, 2014, from http://ejournals.ukm.my/pengurusan/article/view/878

Intel. (2014, May Friday). *Intel Keynote Transcript*. Retrieved from Intel: http://www.intel.com/pressroom/archive/speeches/cn052499.htm

International, I. (2011). *Gulf Cooperation Council B2C e-Commerce Overview 2011.* Interactive Media in Retail Group. London: IMRWorld. Retrieved from http://www.intelligent-commerce.net/Gulf_Cooperation_Council_B2C_eCommerce_Overview.pdf

Jarvenpaa, S. L., & Todd, P. A. (1996). Consumer reactions to electronic shopping on the world wide web. *International Journal of Electronic Commerce*, 59-88.

Jarvenpaa, S. L., & Tractinsky, N. (1999). Consumer trust in an internet store: a cross-cultural validation. *Journal of Computer-Mediated Communication, 5*(2), 1-33.

Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (2000). Consumer trust in an Internet store. *Information Technology and Management, 1*, 45–71.

Jeong, M., & Lambert, C. U. (2001). Adaptation of an information quality framework to measure customers' behavioural intentions to use lodging Web sites. *International Journal of Hospitality Management, 20*, 129–146.

Joseph, P. M., & Lunt, B. M. (2006). IT in the Middle East: An Overview. *In Proceedings of the 7th conference on Information technology education* (pp. 25-30). Minnesota: ACM.

Kalafatis, S. P., Pollard, M., East, R., & Tsogas, M. (1999). Green marketing and Ajzen theory of planned behaviour: a cross-market examination. *Journal of consumer marketing, 16*(5), 441-460.

Kamari, F., & Kamari, S. (2012). Trust in Electronic Commerce: A New Model for Building Online Trust in B2C. *European Journal of Business and Management, 4*(10), 125-133. Retrieved from http://www.iiste.org/Journals/index.php/EJBM/article/view/2226

Kearney, A. (2012). *E-Commerce Is the Next Frontier in Global Expansion.* Korea: ATKearney. Retrieved March Satuday, 2014, from http://www.atkearney.com/documents/10192/348450/2012-E-Commerce-Index.pdf/83c81d46-fa4f-4421-850a-ef501d92afbd

Kennedy, M. S., Ferrell, L. K., & LeClair, D. T. (2001). Consumers' trust of salesperson and manufacturer: an empirical study. *Journal of Business Research, 51*(1), 73-86.

Kettani, H. (2010, June). Muslim Population in Asia: 1950 – 2020. (S. Baby, Ed.) *International Journal of Environmental Science and Development, 1*(2), 143-153. doi:10.7763/IJESD.2010.V1.28

Khalfan, A. M., & Alshawaf, A. (2004). Adoption and Implementation Problems of E-Banking: A Study of the Managerial Perspective of the Banking Industry in Oman. *Journal of Global Information Technology Management, 7*(1), 47-64. doi:10.1080/1097198X.2004.10856366

Khalifa, M., & Shen, K. N. (2008). Explaining the adoption of transactional B2C mobile commerce. *ournal of enterprise information management, 21*(2), 110-124. Retrieved from http://dx.doi.org/10.1108/17410390810851372

Khan, M. J., Dominic, P. D., & Khan, A. (2010). Opportunities and Challenges for E-Commerce in Malaysia: A Theoretical Approach. *2nd International Conference on Electronic Computer Technology-ICECT 2010* (pp. 189-192). Kuala Lumpur: IEEE. doi:10.1109/ICECTECH.2010.5479962

Khraim, H. (2010). Measuring Religiosity in Consumer Research From an Islamic Perspective. *Journal of Economic & Administrative Sciences, 26*(1), 52-78. Retrieved Novemebr Friday, 2019, from http://dx.doi.org/10.1108/10264116201000003

Khurana, H., Goel, M. K., Singh, H., & Bhutani, L. (2011). E-Commerce : Role of E-Commerce in Today's Business. *International Journal of Business & Management Research*, 454-461.

Kiani, I. (2014). *Mavenism, its antecedents and market helping behaviour.* Montreal: John Molson School of Business.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision support systems, 44*(22), 544-564.

Kim, D.-Y., Kumar, V., & Kumar, U. (2012). Relationship between quality management practices and innovation. *Journal of Operations Management, 30*(4), 295-315.

Kim, Y. A., & Srivastava, J. (2007). Impact of social influence in e-commerce decision making. *In Proceedings of the ninth international conference on Electronic commerce* (pp. 293-302). Minnesota: ACM.

Kim, Y. H., & Kim, D. J. (2005). A Study of Online Transaction Self-Efficacy, Consumer Trust, and Uncertainty Reduction in Electronic Commerce Transaction. *Proceedings of the 38th Annual Hawaii International Conference* (p. 170c). Hawaii: System Sciences.

King, M. (1967). Measuring the religious variable: Nine proposed dimensions. *Journal for the Scientific Study of Religion*, 173-190.

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York, USA: Guilford Press.

Klloppiing, I. M., & McKiinneyy, E. (2004). Extending the technology acceptance model and the task-technology fit model to consumer e-commerce. *Information technology learning and performance journal, 22*(1), 35-48.

Kong, W.-c., & Hung, Y.-T. C. (2006). Modeling Initial and Repeat Online Trust in B2C E-commerce. *Proceedings of the 39th Annual Hawaii International Conference on (Volume:6)* (p. 120b). Hawaii: System Sciences.

Koo, C., & Wati, Y. (2010). Toward an Understanding of the Mediating Role of "Trust" in Mobile Banking Service: An Empirical Test of Indonesia Case. *Journal of Universal Computer Science, 16*(13), 1801-1824.

Kowalczyk, D. (2014, August Saturday). *Education Portal*. Retrieved from http://education-portal.com/academy/lesson/survival-of-the-fittest-herbert-spencer-definition-examples-quiz.html

Kraemer, K. L., Dedrick, J., Melville, N., & Zhu, K. (2006). *Global E-Commerce:Impacts of National Environments and Policy.* Cambridge University Press.

Krauss, S. E., Hamzah, A. H., Suandi, T., Noah, S. M., Mastor, K. A., Juhari, R., . . . Manap, J. (2007). The Muslim Religiosity-Personality Measurement Inventory (MRPI)'s Religiosity Measrement Model. Towards filling the gaps in Religiosity Research on Muslims. *Pertanika Journal of Social Sciences & Humanities, 13*(2), 131-145. Retrieved October Sunday, 2013, from http://www.pertanika.upm.edu.my/Pertanika%20PAPERS/JSSH%20Vol.%2013%20(2)%20Sep.%202005/02%20JSSH%20Vol.13%20(2)%202005%20(Pg%20131-145).pdf

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educationl Psychological Measurement*, 607-610.

Krishnamurthy, S. (2006). Introducing E-Markplan: A practical methodology to plan e-marketing activities. *Business Horizons, 49(1),, 49*(1), 51-60.

Kshetri, N. (2007). Barriers to e-commerce and competitive business models in developing countries: A case study. *Electronic Commerce Research and Applications* , 443–452.

Lada, S., Tanakinjal, G. H., & Amin, H. (2009). Predicting intention to choose Halal products using theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management, 2*(1), 66-76.

Lai, M.-L. (2008). Technology readiness, internet self-efficacy and computing experience of professional accounting students. *Campus-Wide Information Systems, 25*(1), 18-29. doi:DOI 10.1108/10650740810849061

Lamar, R. V. (1966). *In-Service Education Needs Related to Diffusion of an Innovation.* Berkeley: University of California.

Lambert, D. M., & Harrington, T. C. (1990). Measuring nonresponse bias in customer service mail surveys. *Journal of Business Logistics, 11*(2), 5-25.

Laudon, K. C., & Guercio, C. (2001). *E-Commerce: Business, Technology, and Society 2009.* Person Prentice Hall.

Lawrence, J. E., & Tar, U. A. (2010, January). Barriers to ecommerce in developing countries. *Information, Society and Justice, 3*(1), 23-35. Retrieved from https://www.scribd.com/doc/239925772/Barriers-to-E-commerce-in-Developing-Countries

Lawson, R., Alcock, C., & Cooper, J. (2002). Diffusion of electronic commerce in small and medium entrerprises. *Australasian Journal of Information Systems, 9*(2), 123-134.

Lee, J.-W. (2001). Education for Technology Readiness: Prospects for Developing Countries. *Journal of Human Development, 1*.

Leitch, S., & Warren, M. (2000). Ethics and Electronic Commerce.

Lenski, G. (1961). *The Religious Factor* . New York.

Lenski, G. E. (1963). *he religious factor: A sociological study of religion's impact on politics, economics, and family life* (Vol. 337). Connecticut: Greenwood Press.

Lertwongsatien, C., & Wongpinunwatana, N. (2003). E-commerce adoption in Thailand: an empirical study of small and medium enterprises (SMEs). *Journal of Global Information Technology Management, 6*(3), 67-83. doi:10.1080/1097198X.2003.10856356

Liao, L., & Wang, K. (2010). Strategy For Building Initial Trust In B2C Electronic Commerce. *International Conference on Networking and Digital Society (ICNDS). 1*, pp. 282-285. Wenzhou: IEEE. doi:10.1109/ICNDS.2010.5479135

Liao, S., Shao, Y. P., Wang, H., & Chen, A. (1999). The adoption of virtual banking: an empirical study. *International journal of information management, 19*(1), 63-74.

Licht, G. (2009). How to better diffuse technologies in Europe. *Knowledge Economists Policy Brief*.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology, 22*(140), 55.

Lin, C.-H., Shih, H.-Y., & Sher, P. J. (2007). Integrating technology readiness into technology acceptance: The TRAM model. *The TRAM model. Psychology & Marketing, 24*(7), 641-657. doi:10.1002/mar.20177

Lin, H.-F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management, 31*(3), 252–260. doi:10.1016/j.ijinfomgt.2010.07.006

Lin, J.-S. C., & Hsieh, P.-L. (2007). The influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies. *Computers in Human Behavior, 23*(3), 1597-1615. Retrieved from www.elsevier.com/locate/comphumbeh

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of applied psychology, 86*(1), 114-121.

Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error in Journal of Extension Research in Brief articles. *Journal of Extension Research in Brief articles, 40*(6), 1-5.

Lindskog, H., & Wennberg, H. (2002). Learning from" Big Brother": Public Sector E-Commerce as a Role Model for Swedish Industry. *Quarterly Journal of Electronic Commerce, 3*, 211-222.

Little, R. J., & Rubin, D. D. (1989). The analysis of social science data with missing values. *Sociological Methods & Research, 18*(2-3), 292-326.

Liu, C., Marchewka, J. T., Lu, J., & Yu, C.-S. (2005). Beyond concern—a privacy-trust-behavioral intention model of electronic commerce. *Information & Management 42 (2005) , 42*, 289–304. doi:10.1016/j.im.2004.01.003

Looi, H.-C. (2004). A model of factors influencing electronic commerce adoption among small and medium enterprises in Brunei Darussalam. *International Journal of information technology, 10*(1), 72-87.

Lou, E., & Goulding, J. (2010). The pervasiveness of e-readiness in the global built environment arena. *Journal of Systems and Information Technology, 12*(3), 180 - 195. Retrieved from http://dx.doi.org/10.1108/13287261011070812

Lugo, L., Cooperman, A., Grim, B. J., Karim, M. S., Chaudhry, S., Hsu, B., . . . Read, O. (2009). *Mapping the global Muslim population: A Report on the Size and Distribution of the World's Muslim Population.* Pew Research Cente, Pew Research Center's Forum on Religion & Public Life. Washington: The Pew

FORUM on Religion & Public Life. Retrieved August Sunday, 2014, from http://www.pewforum.org/files/2009/10/Muslimpopulation.pdf

Lumsden, J., & MacKay, L. (2006). How Does Personality Affect Trust in B2C e-Commerce? *ICEC '06 Proceedings of the 8th international conference on Electronic commerce: The new e-commerce: innovations for conquering current barriers, obstacles and limitations to conducting successful business on the internet* (pp. 471 - 481). New York: ACM Digital library. doi:10.1145/1151454.1151526

Luqmani, M., Yavas, U., & Quraeshi, Z. (1987). Advertising in Saudi Arabia: content and regulation. *International Journal of Advertising, 6*(1), 59-71.

Luyt, B. (2006). Defining the digital divide: the role of e-readiness indicators. *Aslib Proceedings, 58*(4), 276 - 291. doi:10.1108/00012530610687669

MacKenzie, S. B., & M.v, P. P. (2012). Common method bias in marketing: causes, mechanisms, and procedural remedies. *Journal of Retailing, 88*(4), 542-555.

MacVaugh, J., & Schiavone, F. (2010). Limits to the diffusion of innovation: A literature review and integrative model. *European Journal of Innovation Management, 13*(2), 197-221.

Maidique, M. A., & Zirger, B. J. (1984). A study of success and failure in product innovation: the case of the US electronics industry. *IEEE Transactions on engineering management, 31*(4), 192-203.

Mann, C. L. (2000). Electronic Commerce In Developing Countries: Issues for Domestic Policy and WTO Negotiations. *Institute for International Economics*.

Manpower. (2015a). *Ministry Of Manpower Sultanate Of Oman*. Retrieved from http://www.hct.edu.om/about/the-college

Manpower. (2015b). *Ministry Of Manpower Sultanate Of Oman*. Retrieved from https://www.manpower.gov.om/

Marcoulides, G. A., & Saunders, C. (2006). PLS: A Silver Bullet? *MIS Quarterly, 30*(2), 3-9.

Martin, G. (2014, August Friday). *The Phrase Finder*. Retrieved from The meaning and origin of the expression: Survival of the fittest: http://www.phrases.org.uk/meanings/340400.html

Massey, A. P., Khatri, V., & Montoya-Weiss, M. M. (2007). Usability of Online Services: The Role of Technology Readiness and Context. *Decision Sciences, 38*(2), 277-308.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review, 20*(3), 709-734.

McAndrew, S., & Voas, D. (2011). Measuring Religiosity using Surveys. *Survey Question Bank: Topic Overview*.

McDougall, P. P., & Oviatt, B. M. (2000). International Entrepreneurship: The Intersection of Two Research Paths. *Academy of management Journal, 43*(5), 902-906.

McIntosh, D., & Spilka, B. (1990). Religion And Physical Health: The Role of Personal Faith And Control Beliefs. *Research Of the Social Scientific Study of Religion, 2*, 167-194. Retrieved from http://mysite.du.edu/~dmcintos/PDF/McIntosh,%20Spilka,%20religion%20and%20health,%20RSSSR,%201990.pdf

McKnight, D. H., Choudhury, V., & Kacmar, C. (2000). Trust in e-commerce vendors: a two-stage model. *In Proceedings of the twenty first international conference on Information systems* (pp. 532-536). Association for Information Systems.

McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and Validating Trust Measures for e-Commerce: An Integrative Typology. *Information Systems Research, 13*(3), 334-359. doi:10.1287/isre.13.3.334.81

McOmber, J. B. (1999). Technological autonomy and three definitions of technology. *Journal of communication, 49*(3), 137-153.

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, 899– 906. doi:10.1016/S0148-2963(01)00276-4

Michell, P., & Al-Mossawi, M. (1999). Religious commitment related to message contentiousness. *International Journal of Advertising, 18*, 27-43.

Miller, G. J., & Kaifeng, Y. (2007). *Handbook of research methods in public administration.* New York: CRC press.

Ming-xia, W., & Dan, J. (2007). The Design of Intermediary Mechanism in E-Commerce Trust-Building and Solutions to Its Realization Condition. *International*

Conference on Service Systems and Service Management (pp. 1-5). Chengdu: IEEE. doi:10.1109/ICSSSM.2007.4280228

Mohanna, S., Yaghoubi, N. M., Motlaq, S. V., & Motlaq, T. V. (2011). Limitations of E-commerce implementation in developing countries: Case study of Iran. *American Journal Of Scientific And Industrial Research*, 224-228. doi:10.5251

MoHE. (2015). *Ministry of Higher Education in the Sultanate of Oman*. Retrieved from http://mohe.gov.om/

Mokhlis, S. (2008). Consumer Religiosity and the Importance of Store Attributes. *The Journal of Human Resource and Adult Learning, 4*(2), 122-133. Retrieved from http://www.hraljournal.com/Page/13%20Safiek%20Mokhlis.pdf

Mokhlis, S. (2009). Relevancy and Measurement of Religiosity in Consumer Behavior Research. *International Business Research, 2*(3), 75-84. doi:DOI: 10.5539/ibr.v2n3p75

Molla, A. (2004). *The Impact of eReadiness on eCommerce Success in Developing Countries: Firm-Level Evidence.* Institute for Development Policy and Management. Manchester: Development Informatics Working Paper Series. Retrieved from http://www.sed.manchester.ac.uk/idpm/publications/wp/di/di_wp18.htm

Momtaz, Y. A., Hamid, T.-A., Ibrahim, R., Yahaya, N., & Chai, S. T. (2011). Moderating effect of religiosity on the relationship between social isolation and psychological well-being. *Mental Health, Religion & Culture, 14*(2), 141-156. doi:10.1080/13674676.2010.497963

Momtaz, Y. A., Hamid, T.-A., Ibrahim, R., Yahaya, N., & Chai, S. T. (2011). Moderating effect of religiosity on the relationship between social isolation and psychological well-being, Mental Health, Religion & Culture. *Mental Health, Religion & Culture, 14*(2), 141–156. doi:10.1080/13674676.2010.497963

Moody, G. D., Galletta, D. F., & Lowry, P. B. (2014). When trust and distrust collide online: The engenderment and role of consumer ambivalence in online consumer behavior. *Electronic Commerce Research and Applications*, 266–282.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research, 2*(3), 192-222.

Moreau, P. C., Lehmann, D. R., & Markman, A. B. (2001). Entrenched knowledge structures and consumer response to new products. *Journal of marketing research, 38(1), ., 38*(1), 14-29.

Mostafaeipour, A., Tabatabaeiaghda, A., & Yazdi, H. S. (2011). Barriers to Implementing B2C Method of E-Commerce for City of Yazd in Iran. *Proceedings Of The 2011 International Conference On E-Learning, E-Business, Enterprise Information Systems, & E-Government.* Las Vegas Nevada: CSREA Press. Retrieved from http://worldcomp-proceedings.com/proc/proc2011/eee/contents.pdf

Muhammad, M. R., & Muhammad, M. (2013). Building Trust in E-Commerce: A Proposed Shari'ah Compliant Model. *Journal of Internet Banking and Commerce, 18*(3), 1-13. Retrieved from http://www.arraydev.com/commerce/JIBC/2013-12/Muhammadv01.pdf

Muhammad, M., Muhammad, M. R., & Khalil, K. M. (2013). Towards Shari'ah Compliant E-Commerce Transactions: A Review of Amazon.com. *Middle-East Journal of Scientific Research, 15*(9), 1229-1236. doi:10.5829/idosi.mejsr.2013.15.9.11176

Mukhtar, A., & Butt, M. M. (2012). Intention to choose Halal products: the role of religiosity. *Journal of Islamic Marketing, 3*(2), 108-120. doi:10.1108/17590831211232519

Nafik, M., & Ratnasari, R. T. (n.d.). Measuring Islamic Compliance on The Moderating Effects of Islamic Knowledge Level and The Relationship Between Trust and Loyalty Intention. *The 2012 International Conference on Business and Management*, (pp. 283-298). Phuket.

Nagelvoort, B., Welie, R. v., Brink, P. d., Weening, A., & Abraham, J. (2014). *European B2C E-commerce Report 2014.* Ecommerce Europe. Brussels: Ecommerce Europe. Retrieved from www.ecommerce-europe.eu

Nagmetov, B. A. (2007). Trust, as a main barrier in adoption to B2C E-Commerce. *International Conference in Central Asia on Internet* (pp. 1-5). Tashkent: IEEE. doi:10.1109/CANET.2007.4401706

Nanehkaran, Y. A. (2013, April). An Introduction To Electronic Commerce. *International Journal of Scientific & Technology Research, 2*(4), 190-193. Retrieved February Sunday, 2014, from http://www.ijstr.org/final-print/apr2013/An-Introduction-To-Electronic-Commerce.pdf

Nardal, S., & Sahin, A. (2011). Ethical Issues in E-Commerce on the Basis of Online Retailing. *Journal of Social Sciences, 7*(2), 190-198. doi:10.3844/jssp.2011.190.198

Netherwood, G. (2015, May). *MiC Quality* . Retrieved from MiC Quality Online Learning: http://www.micquality.com/reference_tables/chisquare.htm

Neuman, W. L. (1997). *Social Research Methods: Qualitative and Quantitative Approaches* (3rd ed.). MA: Allyn & Bacon.

Nor, K. M., & Pearson, J. M. (2007). The Influence of Trust on Internet Banking Acceptance. *Journal of Internet Banking and Commerce, 12*(2).

Nunnally, J. C., & Bernstein, I. H. (1976). *Psychometric theory.* New York: McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1978). *Psychometric theory.* New York: McGraw-Hill.

Nutley, S., Davies, H., & Walter, I. (2002). *Conceptual synthesis 1: learning from the diffusion of innovations.* University of St Andrews, Department of Management. St Andrews: Research Unit for Research Utilisation.

OECD. (2009). *Programme on Institutional Management in Higher Education.* Paris: OECD.

OECD. (2013). *Electronic and Mobile Commerce.* Organisation for Economic Co-operation and Development -, Digital Economy. OECD Publishing. Retrieved from http://dx.doi.org/10.1787/5k437p2gxw6g-en

Ogrean, C., Herciu, M., & Belascu, L. (2010). From technological readiness to business sophistication through ICT applications. *Research in Business and Economics Journal-2*, 1-6.

Olatokun, W. M., & Opesade, O. A. (2008). An e-readiness assessment of Nigeria's Premier University. *International Journal of Education and Development using Information and Communication Technology, 4*(2), 16-46. Retrieved from http://connection.ebscohost.com/c/case-studies/67615190/e-readiness-assessment-nigerias-premier-university-part-1

Oman. (2014, July Thursday). *Oman's Constitution of 1996 with Amendments through 2011.* (C. C. Project, Ed.) Retrieved June 2014, from Constitute: https://www.constituteproject.org/constitution/Oman_2011.pdf

Onwuegbuzie, A. J., & Larry, G. D. (2002). Uses and misuses of the correlation co-efficient. *Research in the school, 9*, 73-90.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel psychology, 48*(4), 775-802.

Ormrod, R. K. (1990). Local context and innovation diffusion in a well-connected world. *Economic Geography*, 109-122.

Osborne, J. W. (2010). mproving your data transformations: Applying the box-cox transformation. *Practical Assessment, Research & Evaluation, 15*(12), 1-9.

Osman, M. F. (2001). Islam in a Modern State:Democracy and the Concept of Shura. In M. F. Osman, *Islam in a Modern State: Democracy and the Concept of Shura (Occasional papers series)* (pp. 3-23). Georgetown, USA: Center for Muslim-Christian Understanding: History and International Affairs, Edmund A. Walsh School of Foreign Service, Georgetown University. Retrieved April Monday, 2014, from http://www.usc.edu/schools/college/crcc/private/cmje/issues/more_issues/Islam_i n_a_Modern_State__Democracy_and_Shura.pdf

Pallant, J. (2010). *A step by step guide to data analysis using the SPSS program:SPSS survival manual* (4th ed.). Ligare Book Printer.

Palmer, D. A., Jennings, P. D., & Zhou, X. (1993). Late adoption of the multidivisional form by large US corporations: Institutional, political, and economic accounts. *Administrative science quarterly*, 100-131.

Palvia, P. (2009). The role of trust in e-commerce relational exchange: A unified model. *Information & Management*, 213–220.

Papies, D., & Clement, M. (2008). Adoption of new movie distribution services on the Internet. *Journal of Media Economics, 21*(3), 131-157.

Parasuraman, A. (2000). Technology Readiness Index (Tri): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies. *Journal of Service Research, 2*(4), 307-321. doi:DOI: 10.1177/109467050024001

Parasuraman, A., & Colby, C. L. (2001). *Techno-ready marketing: How and why your customers adopt technology.* New York: The Free Press.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing, 49*(4), 41-50. Retrieved from http://www.jstor.org/stable/1251430

Pastore, M. (2000, December). *Online Consumer Spending Growth Slowing*. Retrieved from ClickZ: http://www.clickz.com/clickz/news/1698637/online-consumer-spending-growth-slowing

Patton, M. A., & Josang, A. (2004). Technologies for Trust in Electronic Commerce. *Kluwer Academic Publisher*.

Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce:Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce, 7*(3), 101–134.

Pavlou, P. A., & Chai, L. (2002). What drives electronic commerce across cultures? A cross-cultural empirical investigation of the theory of planned behaviour. *Journal of Electronic Commerce Research, 3*(4), 240-253.

Pavlou, P. A., & Fygenson, M. (2006). Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior. *MIS Quarterly, 30*(1), 115-143.

Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management, 30*(6), 467-480.

Peres, R., Muller, E., & Mahajan, V. (2010). Innovation diffusion and new product growth models: A critical review and research directions. *International Journal of Research in Marketing, 27*(2), 91-106.

Petermeijer, P., Verdonk, M., Balsfoort, P. v., & Zwart, F. d. (2015, January). *E-commerce facts*. Retrieved from http://e-commercefacts.com/news/2011/09/e-commerce-in-the-middle-/

Phan, D. D. (2003). e-business development for competitive advantages: a case study. *Information & Management, 40*(6), 581–590. doi:10.1016/S0378-7206(02)00089-7

Pittayachawan, S. (2007). Fostering consumer trust and purchase intention in B2C e-commerce.

Plante, T. G., & Sherman, A. C. (2001). *Faith and health: Psychological perspectives.* New York: Guilford Press.

Podsakof, P. M., MacKenzie, S. B., & Podsakof, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology, 63*, 539-569.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management, 12*(4), 531-544.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology, 88*(5), 879–903.

Pons, A., Aljifri, H., & Fourati, K. (2003). E-commerce and Arab intra-trade. *Information Technology & People, 16*, 34-48. Retrieved September Sunday, 2014, from http://dx.doi.org/10.1108/09593840310463014

Poon, W.-C. (2007). Users' adoption of e-banking services: the Malaysian perspective. *Journal of Business & Industrial Marketing, 23*(1), 59 - 69.

Prescott, M. B., & Conger, S. A. (1995). Information technology innovations: a classification by IT locus of impact and research approach. *ACM SIGMIS Database, 26*(2-3), 20-41.

PRNewswire. (2014, June 25). *Middle East B2C E-Commerce Report 2014*. Retrieved from PRNewswire LONDON: http://www.prnewswire.com/news-releases/middle-east-b2c-e-commerce-report-2014-264591211.html

Qin, F. M., Fangxia, L., & Guihua, Z. (2013). Study and practice on five joint modes of production and education based on e-commerce major of higher vocational colleges. *2nd International Symposium on Instrumentation and Measurement, Sensor Network and Automation (lMSNA)* (pp. 89-94). Chongqing: IEEE.

Ratnasingham, P. (1998). The importance of trust in electronic commerce. *Electronic Networking Applications and Policy*, 313–321.

Raymond, M. R. (1986). Missing data in evaluation research. *Evaluation & the health professions, 9*(4), 395-420.

Rayport, J. F., & Jaworski, B. J. (2002). *Introduction to e-Commerce.* New York: McGraw-Hill.

Reddy, N. A., & Divekar, B. R. (2014). A Study Of Challenges Faced By E-Commerce Companies In India And Methods Employed To Overcome Them. *Procedia Economics and Finance*, 553–560.

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Rehman, A. -u., & Shabbir, M. S. (2010). The relationship between religiosity and new product adoption. *Journal of Islamic Marketing, 1*(1), 63-69. doi:10.1108/17590831011026231

Rehman, S. u., & Coughlan, J. (2012). Building trust for online shopping and their adoption of e-commerce. *International Conference on Information Society (i-Society 2012)* (pp. 456-460). IEEE.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of research in Marketing, 26*(4), 332-344.

Reitsma, J., Scheepers, P., & Grotenhuis, M. T. (2006). Dimensions of Individual Religiosity and Charity: Cross-National Effect Differences in European Countries? *Review of Religious Research, 47*(4), 347-362. Retrieved from http://www.jstor.org/stable/20058103

Riffai, M. A., Grant, K., & Edgar, D. (2012). Big TAM in Oman: Exploring the promise of on-line banking, its adoption by customers and the challenges of banking in Oman. *International Journal of Information Management , 32* , 239–250. doi:10.1016/j.ijinfomgt.2011.11.007

Ringle, C. M., Sarstedt, M., & Straub, D. (2012). A critical look at the use of PLS-SEM in MIS Quarterly. *MIS Quarterly (MISQ), 36*(1), iii-xiv.

Ringle, C. M., Wende, S., & Will, A. (2005). *SmartPLS release: 2.0 (beta).* Retrieved Feb Sunday, 2015, from SmartPLS: http://www. smartpls. de

Roberts, K. A., & Yamane, D. (2002). Implications of One's Definition of Religion for Conducting for Research. *Religion in Sociological Perspective*. SAGE Publication.

Rodríguez-Ardura, I., & Meseguer-Artola, A. (2010). Toward a longitudinal model of e-commerce: Environmental, Technological, and Organizational Drivers of B2C Adoption. *The Information Society, 26*(3), 209-227.

Rogers, E. M. (1995). *Diffusion of Innovations.* New York: Free Press.

Rogers, E. M. (2003). *Diffusion of innovations* (3rd ed.). New York, USA: Free Press. Retrieved March Friday, 2014, from http://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf

Rogers, E. M., & Kincaid, D. L. (1981). *Communication networks: Toward a new paradigm for research.*

Roman, R. (2003). Diffusion of innovations as a theoretical framework for telecenters. *Information Technologies & International Development, 1*(2), 53-66.

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences* (2nd ed.). New York: Holt, Rinehart and Winston.

Sadozai, A. M., Marri, M. K., Zaman, H. F., Yousufzai, M. I., & Nas, Z. (2013). Moderating role of Islamic Work Ethics between the relationship of Organizational Commitment and Turnover Intentions: A Study of Public Sector of Pakistan. *Mediterranean Journal of Social Sciences, 4*(2), 767-775.

Sahin, I. (2006). Detailed Review Of Rogers' Diffusion Of Innovations Theory And Educational Technology-Related Studies Based On Rogers' Theory. *The Turkish Online Journal of Educational Technology*, 14-23.

Said, M., Hassan, F., Musa, R., & Rahman, N. A. (2014). Assessing Consumers' Perception, Knowledge and Religiosity on Malaysia's Halal Food Products. *Social and Behavioral Sciences, 130*, 120–128. doi:10.1016/j.sbspro.2014.04.015

Salleh, M. S. (2012). Religiosity in Development: A Theoretical Construct of an Islamic-Based Development. *International Journal of Humanities and Social Science*(2), 266-274. Retrieved from http://ijhssnet.com/journals/Vol_2_No_14_Special_Issue_July_2012/31.pdf

Schafer, J. L. (1999). Multiple imputation: a primer. *Statistical Methods in Medical Research, 8*, 3-15.

Schumacher, P., & Morahan-Martin, J. (2001). Gender, Internet and computer attitudes and experiences. *Computers in human behavior, 17*(1), 95-110.

Seitz, V., Razzouk, N., & Takaoka, H. (2005). Business-To-Consumer E-Commerce In Japan: Implications For Marketers. *International Business & Economics Research Journal, 4*(7), 41-47.

Sekaran, U. (1983). Methodological and theoretical issues and advancements in cross-cultural research. *Journal of International Business Studies, 14*(2), 61-73.

Sekaran, U. (2006). *Research methods for business: A skill building approach.* Illinois: John Wiley & Sons.

Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach.* New York: John Wiley & Sons Inc.

Selwyn, N. (2003). Apart from technology: understanding people's non-use of information and communication technologies in everyday life. *Technology in society, 25*(1), 99-116.

Selya, A. S., Rose, J. S., Dierker, L. C., Hedeker, D., & Mermelstein, R. J. (2012). A practical guide to calculating Cohen's f2, a measure of local effect size, from PROC MIXED. *Frontiers in psychology, 3*(111).

Sembok, T. M. (2003). *Ethics of Information Communication Technology (ICT).* Universiti Kebangsaan Malaysia, Regional Unit for Social & Human Sciences in Asia and the Pacific. Bangkok: UNESCO. Retrieved from http://www2.unescobkk.org/elib/publications/ethic_in_asia_pacific/239_325ETHI CS.PDF

Shahijan, M. K., Rezaei, S., Preece, C. N., & Ismail, W. K. (2014). Examining retailers' behaviour in managing critical points in Halal meat handling: a PLS analysis. *British Food Journal, 115*(8), 446 - 472. doi:http://dx.doi.org/10.1108/JIMA-10-2013-0070

Sharma, S. (1996). *Applied multivariate techniques.* New York: John Wiley and Sons, Inc.

Shi, H. (2009). Design of a E-Commerce Model in Higher Education District. In Management and Service Science. *MASS'09. International Conference* (pp. 1-4). IEEE.

Shih, C.-F., Dedrick, J., & Kraemer, K. L. (2005). Rule of law and the international diffusion of e-commerce. *Communications of the ACM, 48*(11), 57-62.

Shih, H.-P. (2004). An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management, 41*, 351–368.

Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions model: The role of intention to search. *Journal of Retailing, 77*(3), 397–416.

Siala, H., O'Keefe, R. M., & Hone, K. S. (2004). The impact of religious affiliation on trust in the context of electronic commerce. *Elsvier*, 1-31.

Siemer & Associates, L. (2013). *eCommerce Report.* CA, USA: Siemer & Associates. Retrieved August Friday, 2014, from http://www.siemer.com/wp-content/uploads/Siemer-Associates-eCommerce-Report_Spring-2013.pdf

Singh, J. P., & Gilchrist, S. M. (2002). Three layers of EC network: challenges for the developed & developing worlds. *Emerald Insight, 4*(2), 31-41. doi:10.1108/14636690210435785

Slyke, C. V., Belanger, F., & Comunale, C. L. (2004). Factors Influencing the Adoption of Web-Based Shopping: The Impact of Trust. *ACM*.

Sohaib, O., & Kang, K. (2014). The Impact Of Religiosity On Interpersonal Trust In B2c Context: A Cross-Culture Analysis. *18th Pacific Asia Conference on Information Systems (PACIS 2014)* (pp. 1-13). Chengdu: Association for Information Systems AIS Electronic Library (AISeL). Retrieved from http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1078&context=pacis2014

Son, M., & Han, K. (2011). Beyond the technology adoption: Technology readiness effects on post-adoption behavior. *Journal of Business Research, 64*, 1178-1182. doi:10.1016/j.jbusres.2011.06.019

Song, J., & Zahedi, F. M. (2002). A theoretical framework for the use of Web infomediaries. *Proceedings of the Eighth Americas Conference in Information Systems* (pp. 2250–2256). New York: ACM.

Sood, J., & Yukio, N. (1995). Religiosity and nationality: An exploratory study of their effect on consumer behavior in Japan and the United States. *Journal of Business Research, 34*(1), 1-9.

Sparks, P., & Shepherd, R. (1992). Self-identity and the theory of planned behavior: assessing the role of identification with green consumerism. *Social Psychology Quarterly, 55*, 388-99.

Spector, P. E. (2006). Method variance in organizational research truth or urban legend? *Organizational research methods, 9*(2), 221-232.

Spinelli, R., Dyerson, R., & Harindranath, G. (2013). IT readiness in small firms. *Journal of Small Business and Enterprise Development, 20*(4), 807-823. Retrieved from http://dx.doi.org/10.1108/JSBED-01-2012-0012

SQU. (2015). *Sultan Qaboos University*. Retrieved from http://www.squ.edu.om/

Stark, R., & Glock, C. Y. (1968). *American Piety: The Nature of Religious Commitment.* Berkeley: University of California Press.

Stavrova, O., Fetchenhauer, D., & Schlösser, T. (2013). Why are religious people happy? The effect of the social norm of religiosity across countries. *Social Science Research, 42*(1), 90–105. doi:10.1016/j.ssresearch.2012.07.002

Stavrova, O., Fetchenhauer, D., & Schlösser, T. (2013). Why are religious people happy? The effect of the social norm of religiosity across countries. *Social Science Research, 42*(1), 90-105.

Sumarto, P. H., Purwanto, E., & Khrisna, D. (2012). Antecedents of Trust and Its Impact on Loyalty: An Empirical Study on E-Commerce's Customer in Surabaya. *International Journal of Information and Communication Technology Research, 2*(2), 122-128.

Summak, M. S., Murat, B., & Mustafa, S. (2010). Technology readiness of primary school teachers:A case study in Turkey. *Procedia Social and Behavioral Sciences*, 2671–2675.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics.* Boston: Pearson Education Inc. .

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Boston: Pearson Publisher.

Tan, Z. A., & Ouyang, W. (2004). Diffusion and Impacts of the Internet and E-Commerce in China. *Electronic Markets, 14*(1), 25-35.

Tanenbaum. (2011). *Global Muslim Population.* Center for Interreligious Understanding. New York: Tanenbaum Center for Interreligious Understanding. Retrieved from https://www.tanenbaum.org/sites/default/files/PNB%20-%20Global%20Muslim%20Population.pdf

Tarde, G. (1903). *The Laws of Imitation.* Chicago, USA: University of Chicago.

Tassabehji, R. (2000). *Applying E-Commerce in Business.* New Delhi: SAGE Publications London.

Taylor, M. R., Rubin, E. S., & Hounshell, D. A. (2003). Effect of government actions on technological innovation for SO2 control. *Environmental Science & Technology, 37*(20), 4527-4534.

Teo, T. S., & Liu, J. (2007). Consumer trust in e-commerce in the United States, Singapore and China. *Omega, The International Journal of Management Science, 35*(1), 22-38.

Thatcher, J. B., Liu, Y., Stepina, L. P., Goodman, J. M., & Treadway, D. C. (2006). IT worker turnover: an empirical examination of intrinsic motivation. *The Database for Advances in Information Systems, 37*(2 & 3), 133-146.

Thaw, Y. Y., & Mahmood, A. K. (2009). A Study on the Factors That Influence the Consumers Trust on Ecommerce Adoption. *(IJCSIS) International Journal of Computer Science and Information Security, 4*(2), 153-159.

Tiliouine, H., & Belgoumidi, A. (2009). An exploratory study of religiosity, meaning in life and subjective wellbeing in Muslim students from Algeria. *Applied Research in Quality of Life, 4*(1), 109-127.

Tore, D. (2005). An empirical investigation of the key factors for success in software process improvement. *IEEE Transactions on Software Engineering, 31*(5), 410-424.

Tornatzky, L. G., & Klein, K. (n.d.). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on engineering management*, EM-29.

Tsikriktsis, N. (2004). A Technology Readiness–Based Taxonomy of Customers: A Replication and Extension. *Journal of Service Research, 1*, 42-52.

Turban, E., King, D., McKay, J., Marshall, P., Lee, J., & Viehland, D. (2008). *Electronic Commerce 2008: A Managerial Perspective.* New York, USA: Prentice Hall. Retrieved from http://wps.pearsoncustom.com/wps/media/objects/6904/7070238/MIS415_Ch01.pdf

University, S. Q. (n.d.).

Uzoka, F.-M. E., & Seleka, G. G. (2007). Organizational, Environmental and Technological Determinants of E-Commerce Adoption in Botswana. *IRMA International Conference* (pp. 1421-1423). Idea Group Inc.

Van, H. (2003). Factors influencing the usage of websites: the case of a generic portal in The Netherlands. *Information & Management, 40*(6), 541–549.

VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology, 3*(2), 43-50.

Venkatesh, V., & Davis, F. D. (2000a). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science, 46*(2), 186-204. Retrieved from http://dx.doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., & Morris, M. G. (2000b). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS quarterly, 24*(1), 115-139.

Venkatesh, V., Davis, F. D., & Morris, M. G. (2007). Dead Or Alive? The Development, Trajectory And Future of Technology Adoption Research. *Journal of the association for information systems, 8*(4), 267-286.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly, 27*(3), 425–478.

Verardi, V., & Croux, C. (2008). *Robust regression in Stata.* Namur: Social Science Research Network.

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: the case for an augmented technology acceptance model. *Information & Management, 41*(6), 747-762.

Vink, J. M., & Boomsma, D. I. (2008). A comparison of early and late respondents in a twin–family survey study. *Twin Research and Human Genetics, 11*, 165-173.

Viswanathan, M., & Kayande, U. (2012). Commentary on "Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies". *Journal of Retailing, 88*(4), 556-562. doi:http://dx.doi.org/10.1016/j.jretai.2012.10.002

Vize, R., Coughlan, J., Kennedy, A., & Ellis-Chadwick, F. (2013). Technology readiness in a B2B online retail context: An examination of antecedents and outcomes. *Industrial Marketing Management,, 42*(6), 909-918.

Walczuch, R., Lemmink, J., & Streukens, S. (2007). The effect of service employees' technology readiness on technology acceptance. *Information & Management* , 206–215.

Wantang, J. (2009). E-Commerce Trust-Building under the involvement of Intermediary Mechanism. *International Forum on Computer Science-Technology and Applications* (pp. 388-391). Chongqing: IEEE. doi:10.1109/IFCSTA.2009.100

Watson, R. T., Berthon, P., Pitt, L. F., & Zinkhan, G. M. (2008). *Electronic Commerce: The Strategic Perspective* (Electronic edition ed.). (R. T. Watson, Ed.) Zurich, Switzerland: Creative Commons Attribution. Retrieved May Friday, 2014, from

http://florida.theorangegrove.org/og/file/29589c3c-8bcd-72c1-b2f2-
37789232eb3c/1/Electronic_Commerce.pdf

Weening, A. (2011). *MENAP B2C e-Commerce Overview.* IMRWorld. London: IORMA,
TEJURI & IMRG. Retrieved March Sunday, 2014, from
http://www.visamiddleeast.com/me/common/include/uploads/ecommerce_apr201
3.pdf

WEF. (2011-12). *The Global Competitiveness Report-Technological readiness.* World
Economic Forum.

Wejnert, B. (2002). Integrating models of diffusion of innovations: A conceptual
framework. *Annual review of sociology*, 297-326.
doi:10.1146/annurev.soc.28.110601.141051

Wen, H. J., Chen, H.-G., & Hwang, H.-G. (2001). E-commerce Web site design:
strategies and models. *Information Management & Computer Security, 9*(1), 5-12.

Wetzels, M., Odekerken-Schröder, G., & Oppen, C. V. (2009). Using PLS Path Modeling
for Assessing Hierarchical Construct Models: Guidelines and Empirical
Illustration. *MIS Quarterly, 33*(1), 177-195.

Wiersma, W. (1993). *Research methods in education: An introduction* (5th ed.). Boston:
Boston Allyn & Bacon.

Wilkes, R. E., Burnett, J. J., & Howell, R. D. (1986). On the meaning and measurement
of religiosity in consumer research. *Journal of the Academy of Marketing Science,
14*, 47-56.

William, D. B., & Feldman, S. (1985). *Multiple regression in practice.* Newbury Park,
CA: Sage Publication.

Williams, D. R., & Sternthal, M. J. (2007). Spirituality, religion and health: evidence and
research directions. *Medical Journal of Australia*, 47-50. Retrieved from
http://scholar.harvard.edu/files/davidrwilliams/files/2007-
spirituality_religion_and-williams.pdf

Williams, D. R., & Sternthal, M. J. (2007). Spirituality, religion and health: evidence and
research directions. *Medical journal of Australia-MJA, 186*(10), S47-S50.

Wilson, H., Daniel, E., & Davies, I. A. (2008). The diffusion of e-commerce in UK
SMEs. *Journal of Marketing Management, 24*, 489–516.
doi:10.1362/026725708X325968

Wold, H. (1982). *Soft modelling: the basic design and some extensions* (Vol. II). (S. u. observation, Ed.) Amsterdam: North-Holland Publishing Company.

Wolley, J., & Peters, G. (2014, October Friday). *John F. Kennedy*. Retrieved from The American Presidency Project: http://www.presidency.ucsb.edu/ws/?pid=9303

Wong, K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin, 24*(1), 1-32.

Wong, P.-K. (2003). Global and National Factors Affecting E-Commerce Diffusion in Singapore. *The Information Society: An International Journal, 19:1*, 19-32. doi:10.1080/01972240309471

Wong, P.-K., & Yuen-Ping, H. (2004a). *E-Commerce in Singapore: Impetus and Impact of Globalization.* Center for Research on Information Technology and Organizations. Irvine: Center for Research on Information Technology and Organizations. Retrieved from https://escholarship.org/uc/item/7p13f3gd#

Wong, X., Yen, D. C., & Fang, X. (2004b). E-Commerce Development in China and its Implication for Business. *Asia Pacific Journal of Marketing and Logistics, 16*(3), 68-83.

WorldBank. (2014). Retrieved from http://www.worldbank.org/

Wu, J.-J., & Chang, Y.-S. (2006). Effect of transaction trust on e-commerce relationships between travel agencies. *Tourism Management, 27*, 1253–1261.

Yamamoto, G. T., Bayramoglu, E. E., Yilmaz, B., & Şekeroğlu, Ö. (n.d.). E-Commerce Entrepreneurship And E-Marketing In Leather Industry.

Yousaf, S., & Malik, M. S. (2012). Evaluating the influences of religiosity and product involvement level on the consumers. *Journal of Islamic Marketing, 4*(2), 163-186. doi:10.1108/17590831311329296

yStats.com. (2014). *MENA B2C E-Commerce report 2014.* Research on International Markets. Hamburg: yStats.com. Retrieved July Satuday, 2014, from http://www.ystats.com/uploads/report_abstracts/1060.pdf

Zainul, N., Osman, F., & Mazlan, S. H. (2004). E-Commerce from an Islamic perspective. *Electronic Commerce Research and Applications, 3*(3), 280–293. doi:10.1016/j.elerap.2004.01.002

Zarrad, H., & Debabi, M. (2012). Online Purchasing Intention: Factors and Effects. *International Business and Management, 4*(1), 37-47.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *The Journal of marketing*, 2-22.

Zhou, Z., Ding, Q., & Huang, B. (2012). Online Trust Building Mechanism in E-Commerce. *IEEE Symposium on Robotics and Applications*, 335-338.

Zhuang, Y., & Lederer, A. L. (2006). A resource-based view of electronic commerce. *Information & Management, 43*(2), 251-261.

Zikmund, W. G. (1994). *Exploring Marketing Research.* Texas: The Dryden Press.

Zikmund, W. G. (2003). *Business research methods* (7th ed.). Ohio, USA: Thompson South-Western.

Zimmerman, D., Yohon, T., & Stapel, L. (2007). Using Theory to Enhance Technology Transfer and Diffusion of Innovations. *In Professional Communication Conference, 2007. IPCC 2007* (pp. 1-5). IEEE International.

Zwingmann, C., Klein, C., & Büssing, A. (2011). Measuring religiosity/spirituality: Theoretical differentiations and categorization of instruments. *Religions, 2*(3), 345-357.

APPENDICES

APPENDIX-A
Research Questionnaire – English Version

Dear Respondents,

I am s PhD student at University Utara Malaysia (UUM). I am conducting a study on Moderating Effect of Religiosity on the Relationship between Technology Readiness, Trust and Diffusion of Electronic Commerce (B2C) in Sultanate of Oman.

I would appreciate if you could spare some time and thought in completing the survey questionnaire. I hope that you would cooperate in completing the questionnaire with the best of your ability. This questionnaire consists of two parts. First part comprises of questions related to your demographic information. Second part consists of questions about the factors that influence the diffusion of electronic commerce in Sultanate of Oman. Your response will be treated as highly confidential and will only be used for research purposes. Thank you for your willingness to participate in this study.

PART I
Demographics
Please tick (√) one option as appropriate

Particulars	Response	
Gender	① Male	② Female
Age	①18-30 years	② 31-40 years
	③ 41-50 years	④ 51-60 years
	⑤Above 60	
Degree	① Diploma	② Bachelors
	③ Master	
	④Doctorate	⑤Others
Nationality	①Omani	② Others
	① Below 500 OMR	②500- 1000 OMR
	③1001- 1500 OMR	④ 1501-2000 OMR
Monthly Income	⑤ Above 2000 OMR	

Basic Definitions: Technology Readiness refers to the consumers' tendency to adopt and to take advantage of the latest technologies. Please think how inclined are you

towards the use to technology in general, and Electronic Commerce in particular.

Trust, a fundamental principle of every business relationship, is a confidence or hope that the merchants' proclamation can be relied upon and the seller will not take benefit of the consumer's defenselessness. Please how you perceive about business to consumer E-commerce.

Religiosity refers to the level of faith in your religion

Diffusion of E-commerce refers to an overall perception toward E-commerce's characteristics, for example, relative advantage, compatibility, complexity, trialability and observability.

<div align="center">

PART II
TECHNOLOGY READINESS

</div>

Optimism	
OP1	Technology gives me more control of my daily life
OP2	E-commerce products and services that use the newest technologies are much more convenient to use
OP3	I like the idea of doing business/buying via computers because I am not limited to regular business hours
OP4	I prefer the use of the most advanced technology available
OP5	I like computer programs that allow me to shape things, suitable to my needs
OP6	Technology makes me more efficient in my job
OP7	I find new technologies to be mentally stimulating/motivating/ interesting
OP8	Technology gives me the freedom to move
OP9	Learning about technology can be as rewarding as the technology itself
OP10	I feel confident that machines will do what you tell them to do
Innovativeness	
INN1	Other people come to me for advice on new technologies
INN2	It seems my friends are learning more about the newest technologies than I am
INN3	In my circle of friends , generally i am among the first one to adopt new technology
INN4	Usually, I can figure out new high-tech products and services without any help from others
INN5	I keep up with the latest technological developments in my areas of interest
INN6	I enjoy the challenges of figuring out how high-tech devices work
INN7	Compared to others, I find few problems in making the technology work for me

	Discomfort
DIS1	Technical support/help lines are not helpful because they do not explain things in the way I can understand
DIS2	Sometimes, I think that technology/systems are not designed for use by ordinary people
DIS3	There is no such thing as a manual for a high-tech product or service that is written in plain language
DIS4	When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do
DIS5	If I buy a high-tech product or service, I prefer to have the basic model rather than one with a lot of extra features
DIS6	It is embarrassing when I have trouble with a high-tech device while people are watching
DIS7	There should be caution in replacing important people-tasks with technology because new technology can break down or get disconnected
DIS8	Many new technologies have health or safety risks that are not discovered until after people have used them
DIS9	New technology makes it too easy for governments and companies to spy on people
DIS10	Technology always seems to fail at the moment it is most required
	Insecurity
INS1	Human touch is very important when doing business with a company
INS2	When I call a business, I prefer to talk to a person rather than a machine
INS3	If I provide information to a machine or over the Internet, I can never be sure it really gets to the right place
INS4	I do not consider it safe giving out a credit card number over a internet
INS5	I do not consider it safe to do any kind of financial business online
INS6	I worry that information I send over the Internet will be seen by other people
INS7	I do not feel confident doing business with a place that can only be reached online
INS8	Any business transaction I do electronically should be confirmed later with something in writing
INS9	Whenever something gets automated, I need to check carefully that the machine or computer is not making mistakes

TRUST

	Competence
	Competence
CPT1	I believe that most e-commerce websites have the necessary skills and ability to carry out the on-line transaction
CPT2	I believe that most e-commerce web sites have the necessary technology to carry out the on-line transaction
CPT3	Issues in Technology should not be a major concern when conducting on-line transactions
CPT4	The chance of having a technical failure in an on-line transaction is quite small
	Predictability
PR1	Customers can always predict performance of most e-commerce web sites from their past experience with the websites
PR2	Past and future behaviors are positively related on most e-commerce websites
PR3	I tend to relax when I am dealing with the e-commerce websites that I have had a pleasant experience before
	Goodwill
GDW1	Most e-commerce websites exhibit care, concern, honesty and goodwill to their customers, thus providing a basis to advance the customer relationship
GDW2	I believe most e-commerce web sites will perform to the outmost of the customers' benefit
GDW3	Most e-commerce web sites do demonstrate their belief in ''the Customer is always right''

RELIGIOSITY

	Ideological
	Ideological
IDE1	I have firm belief in all basic ideological dimensions of Islam
IDE2	Muhammad (Peace Be Upon Him) is the last Prophet
IDE3	I believe that Allah SWT is the one and only God
	Ritualistic
RIT1	I regularly offer prayer five times a day
RIT2	I fast regularly during Ramadan
RIT3	I regularly recite the Holy Quran
RIT4	I believe that I am obliged to perform Hajj if I meet the prescribed criteria

Intellectual	
INT1	I always keep myself away from earning through Haram (prohibited) means
INT2	I always try to avoid minor and major sin
INT3	I know the basic and necessary knowledge about my religion
INT4	I always try to follow Islamic junctions in all matters of my life
Consequential	
CON1	It is my duty to give respect to others and give them their rights according to Islamic teachings
CON2	I try to avoid any activity which hurt others
CON3	I always try to help those who need my help
CON4	I try to be honest and fair with others
CON5	I always avoid humiliating others because Islam does not allow doing so
Experimential	
EXP1	I grief and regret when I do something against my faith
EXP2	I feel that I am always being tempted by the Devil (Satan)
EXP3	I have feeling of being afraid of Allah
EXP4	I have feeling of being punished by Allah for something doing wrong
EXP5	I feel contented when I see others following the Islamic teachings

DIFFUSION OF ELECTRONIC COMMERCE

Relative Advantage	
RA1	E-commerce enhances my efficiency in purchasing products or services
RA2	E-commerce makes it easier to purchase products or services
RA3	E-commerce gives me better control over my purchasing of products or services
Compatibility	
CPB1	E-commerce fits well with the way I like to purchase products or services
CPB2	E-commerce fits into my purchasing style
CPB3	Purchasing of products and services through E-commerce is compatible with how I like to do things
Complexity	
CPL1	Learning to practice e-commerce for purchasing products or services is easy for me
CPL2	I believe that it is easy to practice e-commerce to do what I want it to do
CPL3	Practice of e-commerce to purchase products or services is clear and understandable
CPL4	Overall, I believe that practice of e-commerce to purchase products or services is easy

	Trialability
TR1	Before actually adopting e-commerce, I want to be able to properly try it out first
TR2	Before actually adopting e-commerce, I want to be able to use it on a trial basis to see what it can do for me
TR3	Before actually adopting e-commerce, I want to be able to experiment with it as necessary
TR4	Before actually adopting e-commerce, I want the services to be available for a test run
TR5	E-commerce services are sufficiently available for a trial to see what it can do for its users
	Observability
OB1	E-commerce can be practiced anytime and anywhere in Sultanate of Oman
OB2	E-commerce offers on the basis of first come first serve
OB3	E-commerce can be performed while abroad
OB4	I can see the effect of e-commerce transaction immediately

أنا طالب دكتوراه في جامعة اوتارا الماليزية (UUM) وأجري دراسة على عامل تأثير التدين على العلاقة بين الجاهزية التقنية، والثقة وانتشار التجارة الإلكترونية (B2C) في سلطنة عمان. وسأكون ممتنا إذا خصصت جزءا من وقتك و مجهودك الذهني في استكمال هذا الاستبيان. آمل منك أن تتعاون في ملء الاستبيان بأفضل ما تستطيع . يتكون هذا الاستبيان من جزئين. الجزء الأول يتكون من الأسئلة المتعلقة المعلومات الديموغرافية الخاصة بك . ويتكون الجزء الثاني من أسئلة حول العوامل التي تؤثر على انتشار التجارة الإلكترونية في سلطنة عمان. سيتم التعامل مع بياناتكم بمنتهى الحرص و المحافظة على بياناتكم بمنتهى السرية ولن تستخدم إلا لأغراض البحث العلمي .
شكرا لك على استعدادكم للمشاركة في هذه الدراسة.
مع خالص التقدير،
بشارت علي
جامعة أوتارا الماليزية ، سنتوك ، ولاية قدح -البريد الشخصي: sahibasharatali@gmail.com

الجزء الأول

البيانات الديموغرافية

الرجاء عمل علامة (√) امام الإجابة المناسبة

التفاصيل	الإجابة		
الجنس	②أنثى		①ذكر
العمر	③ 41-50 سنة	②31-40 سنة	①18-30 سنة
		⑤ما فوق 60 سنة	③51-60 سنة
الدرجة العلمية	③ ماجستير	②بكالوريوس	①دبلوم
		⑤غير ذلك	④الدكتوراة
الجنسية	②جنسية أخرى (غير عماني)		①عماني
الدخل الشهري	②أقل من (500) ريال عماني	③(500-1000) ريال عماني	①(1000-1500) ريال عماني
	⑤أكثر من (2000) ريال عماني	④(1500-2000) ريال عماني	

تعاريف أساسية

الجاهزية التقنية تشير إلى ميل المستهلكين الى الاعتماد والاستفادة من أحدث التقنيات . يرجى التفكير كم هو ميلك نحو استخدام التكنولوجيا بشكل عام، والتجارة الالكترونية بشكل خاص.

الثقة مبدأ أساسي في كل العلاقات التجارية، هي الثقة أو الأمل في أن إعلان التجار يمكن الاعتماد عليه و لن يستفيد البائع من الوضع المسالم للمستهلك. لطفا اخبرنا عن تصورك للعلاقة بين المستهلك و الاعمال التجارية من زاوية التجارة الكترونية.

التدين هي مستوى التدين

انتشار التجارة الالكترونية يشير إلى التصور العام نحو خصائص التجارة الإلكترونية وعلى سبيل المثال: الميزة النسبية، والتوافقية، والتعقيد، والتجريب وقابلية الملاحظة.

الجزء الثاني

التفاؤل	
OP1	تمكنني التقنية من التحكم بشكل أكبر بالحياة اليومية
OP2	منتجات التجارة الإلكترونية والخدمات التي تستخدم أحدث التقنيات هي أكثر ملاءمة للاستخدام
OP3	شراء بواسطة أجهزة الكمبيوتر لأنني لا اقتصر على ساعات /أحب فكرة ممارسة الأعمال التجارية العمل العادية
OP4	أفضل استخدام أحدث التقنيات المتوفرة
OP5	أحب برامج الكومبوتر التي تسمح لي بتغيير الاشياء طبقا لإحتياجاتي المناسبة لي
OP6	التقنية تجعلني فعال في عملي
OP7	أجد في التقنيات الحديثة تحفيزا للعقل والاهتمام والبواعث الداخلية
OP8	التقنية تمنحني الحرية في التحرك
OP9	معرفة التقنية يمكنها أن تكون منحنة كالتقنية في حد ذاتها
OP10	اشعر بالارتياح في أن الأجهزة سوف تعمل حسب ما آمرها به

	الابتكار
INN1	يأتي الناس الآخرون للاستفسار حول شأن التكنولوجيات الجديدة
INN2	يبدوأن أصدقائي يتعلمون المزيد عن أحدث التقنيات أكثر مني
INN3	في دائرة منطقتي أو عملي، بشكل عام أنا من بين أول من تبنى التكنولوجيا الجديدة
INN4	يمكنني فهم المنتجات والخدمات عالية التقنية الجديدة من دون أي مساعدة من الآخرين عادةً
INN5	أواكب أحدث التطورات التكنولوجية في المجالات ذات الاهتمام الخاص بي
INN6	أنا أستمتع بالتحديات في فهم كيفية عمل الأجهزة ذات التقنية العالية
INN7	مقارنة مع الآخرين، أجد مشاكل أقل في استخدام التكنولوجيا
	المشقة أو الازعاج
DIS1	خطوط الدعم و المساعدة ليست مفيدة لأنها لا توضح الأشياء بالطريقة التي أفهمها
DIS2	في بعض الأحيان، أعتقد أن نظم تكنولوجياالمعلومات ليست مصممة للاستخدام من قبل الناس العاديين
DIS3	لا يوجد شيء مثل دليل لمنتج التكنولوجيا العالية أو لخدمة ما ومكتوب بلغة واضحة
DIS4	عندما أحصل على الدعم الفني من مزود لمنتج التكنولوجيا العالية أو للخدمة، أشعر أحيانا كما لو كنت مطية يستفاد منها لصالح الآخرين الذين يعرفون أكثر مني
DIS5	إذا اشتريت منتج تكنولوجيا عالية أو خدمة، وأفضل الحصول على النموذج الأساسي بدلا من أخرى لها الكثير من المميزات الاضافية
DIS6	من المحرج أن يكون لدي مشكلة مع جهاز فائق التكنولوجيا بينما يشاهدني الناس
DIS7	يجب أن يكون هناك الحذر في استبدال مهام الناس المهمة بالتكنولوجيا الجديدة لأن التكنولوجيا يمكن أن تنهار أو يحصل فيها انقطاع
DIS8	الكثيرمن التكنولجيات الجديدة لها مخاطر صحية أوعلى السلامة والتي لا يتم اكتشافها إلا بعد استخدم الناس لها
DIS9	التكنولوجيا الجديدة تجعل من السهل للغاية بالنسبة للحكومات والشركات التجسس على الناس
DIS10	تبدو التكنولوجيا فاشلةً دائما في الأوقات التي نحتاج إليها
	التفاؤل
DIS1	خطوط الدعم و المساعدة ليست مفيدة لأنها لا توضح الأشياء بالطريقة التي أفهمها
DIS2	في بعض الأحيان، أعتقد أن نظم تكنولوجياالمعلومات ليست مصممة للاستخدام من قبل الناس العاديين
DIS3	لا يوجد شيء مثل دليل لمنتج التكنولوجيا العالية أو لخدمة ما ومكتوب بلغة واضحة
DIS4	عندما أحصل على الدعم الفني من مزود لمنتج التكنولوجيا العالية أو للخدمة، أشعر أحيانا كما لو كنت مطية يستفاد منها لصالح الآخرين الذين يعرفون أكثر مني
DIS5	إذا اشتريت منتج تكنولوجيا عالية أو خدمة، وأفضل الحصول على النموذج الأساسي بدلا من أخرى لها الكثير من المميزات الاضافية
DIS6	من المحرج أن يكون لدي مشكلة مع جهاز فائق التكنولوجيا بينما يشاهدني الناس
DIS7	يجب أن يكون هناك الحذر في استبدال مهام الناس المهمة بالتكنولوجيا الجديدة لأن التكنولوجيا يمكن أن تنهار أو يحصل فيها انقطاع
DIS8	الكثيرمن التكنولجيات الجديدة لها مخاطر صحية أوعلى السلامة والتي لا يتم اكتشافها إلا بعد استخدم الناس لها
DIS9	التكنولوجيا الجديدة تجعل من السهل للغاية بالنسبة للحكومات والشركات التجسس على الناس
DIS10	تبدو التكنولوجيا فاشلةً دائما في الأوقات التي نحتاج إليها

	عدم الأمان
INS1	اللمسة البشرية مهمة جدا عند التعامل مع شركة
INS2	عندما أستدعي عملا من الأعمال التجارية ، أفضل أن أتحدث إلى شخص بدلا من آلة
INS3	إذا قدمت معلومات إلى جهاز أو عبر الإنترنت، و لا يمكنني أبدا التأكد من المعلومات تصل الى المكان الصحيح
INS4	أنا لا أعتبر أنه من الآمن إعطاء رقم بطاقة الائتمان عبر جهاز كمبيوتر
INS5	أنا لا أعتبر أنها آمنة للقيام بأي نوع من الأعمال المالية على الانترنت
INS6	أخشى من أن المعلومات التي أبعث بها عبر الإنترنت ستكشف من قبل أشخاص آخرين
INS7	أنا لا أشعر بالثقة في التعامل مع الشركة التي يمكن الوصول إليها عبر الانترنت فقط
INS8	أي معاملة تجارية أفعلها إلكترونيا ينبغي تأكيدها في وقت لاحق بشيء كتابي
INS9	حينما يتم أتمتة شيئ ما ، فإنني بحاجة إلى التحقق بعناية من أن هذا الجهاز أو الكمبيوتر لا يرتكب أخطاء

<p align="center">الثقة</p>

	الكفاءة
CPT1	أعتقد أن معظم مواقع التجارة الإلكترونية لديها المهارات اللازمة والقدرة على تنفيذ المعاملات عبر الانترنت
CPT2	أعتقد أن معظم مواقع التجارة الإلكترونية على شبكة الإنترنت لديها المعرفة والتكنولوجيا اللازمة لتنفيذ المعاملات عبر الانترنت
CPT3	العوائق التقنية يجب ألا تكون مصدر قلق كبير عند إجراء المعاملات على شبكة الإنترنت
CPT4	احتمال وجود عطل فني عند ابرام المعاملات عبر الانترنت صغيرجدا
	امكانية القدرة على التنبؤ
PR1	يمكن للعملاء التوقع دائما بأداء معظم مواقع التجارة الإلكترونية على شبكة الإنترنت من خلال تجاربهم السابقة مع المواقع الاخرى على شبكة الإنترنت
PR2	السلوكيات الماضية و المستقبلية ترتبط إيجابيا مع معظم مواقع التجارة الإلكترونية على شبكة الإنترنت
PR3	أنا أميل إلى الاسترخاء عندما أتعامل مع مواقع التجارة الإلكترونية التي كان لي تجربة ممتعة معها

	النوايا الحسنة
GDW1	معظم مواقع التجارة الإلكترونية تعرض الرعاية، والاهتمام، والاخلاص وحسن النية لعملائها، وبالتالي توفير أساس للمضي قدما في العلاقات مع العملاء
GDW2	أعتقد أن معظم مواقع التجارة الإلكترونية على شبكة الإنترنت سيكون أدائها في أعلى المستويات لمنفعة العملاء
GDW3	الزبون دائما على " معظم مواقع التجارة الإلكترونية على شبكة الإنترنت يعبروا عن اعتقادهم القائل حق"

التدين

	ألايديولوجي
IDE1	لدي اعتقاد راسخ في جميع الأبعاد الأيديولوجية الأساسية للإسلام
IDE2	محمد صلى الله عليه وسلم هو آخر الأنبياء
IDE3	أعتقد أنه لا يوجد أحد سوى الله
	الشعائري
RIT1	أؤدي الصلوات الخمس يوميا بانتظام
RIT2	أصوم بانتظام خلال شهر رمضان
RIT3	أقوم بتلاوة القرآن الكريم بانتظام
RIT4	أعتقد أني ملزما لأداء فريضة الحج إذا كنت مستوفيا للمعايير المنصوص عليها
	فكري أو عقلاني
INT1	أظل دائما بعيدا عن الكسب الحرم بالوسائل الغير مشروعة في الاسلام
INT2	أنا أحاول جاهدا تجنب الذ نوب الصغيرى و الكبيرة
INT3	أنا أعرف المبادئ الأساسية والضرورية عن ديني
INT4	أحاول دائما اتباع المبادئ الإسلامية في جميع أمور حياتي
	الترابط المنطقي
CON1	ومن واجبي أن أعطي الاحترام للآخرين ومنحهم حقوقهم وفقا لتعاليم الإسلام
CON2	أنا أحاول تجنب أي نشاط، يؤدي إلى إيذاء الآخرين
CON3	أحاول دائما مساعدة أولئك الذين يحتاجون مساعدتي
CON4	أحاول أن أكون صادقا وعادلا مع الآخرين
CON5	أنا أتجنب دائما إهانة الآخرين لأن الإسلام لا يسمح بذلك
	تجربة
EXP1	أشعر بالحزن وعدم الرضا عندما أفعل شيئا ضد إيماني (معتقدي)
EXP2	لدي الشعور بأنه قد تم إغوائي من قبل الشيطان
EXP3	لدي شعور بالخوف من الله
EXP4	لدي الشعور بأنني أعاقب من قبل الله من أجل أشياء سيئة عملتها
EXP5	أشعر بالسرور (السعادة) عندما أرى الآخرين ايتبعون التعاليم الاسلامية

انتشار التجارة الإلكترونية

	الميزة أو المنفعة النسبية
RA1	التجارة الإلكترونية تعزز من كفاءتي في شراء المنتجات أو الخدمات
RA2	التجارة الإلكترونية سهلت من عملية الشراء للمنتجات أو الخدمات
RA3	التجارة الإلكترونية تجعل لي ميزة التحكم الأفضل في عملية شراء المنتجات أو الخدمات

	التوافق
CPB1	التجارة الإلكترونية تناسب بشكل جيد مع الطريقة التي أحبها لشراء المنتجات أو الخدمات
CPB2	تتلائم التجارة الإلكترونية مع أسلوبي الشرائي
CPB3	التجارة الإلكترونية لشراء المنتجات أو الخدمات متوافق مع كيفية حبي لعمل الأشياء
	الصعوبة أو التعقيد
CPL1	يعتبر التعلم على ممارسة التجارة الإلكترونية لشراء المنتجات أو الخدمات سهلا بالنسبة لي
CPL2	أعتقد أنه من السهل ممارسة التجارة الإلكترونية لفعل ما أود أن أفعله
CPL3	ممارسة التجارة الإلكترونية لشراء المنتجات أو الخدمات يعتبر واضحا و مفهوما بالنسبة لي
CPL4	إجمالا ، أعتقد أن ممارسة التجارة الإلكترونية لشراء المنتجات أو الخدمات هو من السهل فعله
	لممارسة المحاكمة
TR1	قبل ممارسة التجارة الإلكترونية، أريد أن أكون قادرا على تجريبها بشكل مناسب
TR2	قبل ممارسة التجارة الإلكترونية، وأريد أن أكون قادرا على استخدامه على أساس تجريبي لمعرفة ما يمكنني القيام به
TR3	قبل ممارسة التجارة الإلكترونية، وأريد أن أكون قادرا على أخذ التجربة به عند الضرورة
TR4	قبل ممارسة التجارة الإلكترونية، أريد خدماتها لتكون متاحة للاختبار
TR5	التجارة الإلكترونية تتوفر خدماتها بشكل كافي لتجربتها و ذلك لمعرفة ما يمكنها القيام به
	قابلية الملاحظة
OB1	التجارة الإلكترونية يمكن أن تمارس في أي وقت ومن أي مكان في سلطنة عمان
OB2	تعرض التجارة الإلكترونية على أساس من يأتي أولا يخدم أولا
OB3	التجارة الإلكترونية يمكن أن تمارس حتى و أنت في خارج وطنك
OB4	أستطيع أن أرى تأثير التعاملات التجارة الإلكترونية فورا

Histogram

Dependent Variable: Diffusion

Mean = -3.66E-15
Std. Dev. = 0.995
N = 334
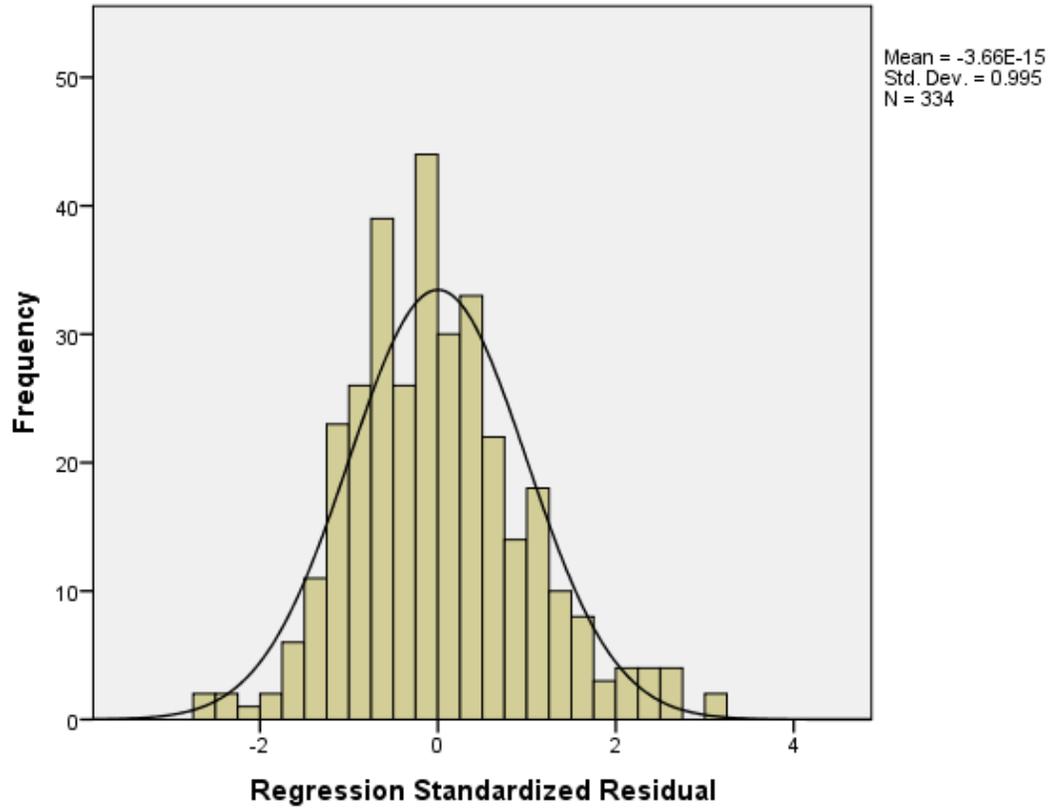
Coefficients								
		Unstandardized Coefficients		Standard-ized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.614	.312		1.971	.050		
	T.Readiness	.159	.063	.132	2.524	.012	.766	1.306
	Trust	.368	.047	.408	7.844	.000	.769	1.300
	Religiosity	.261	.058	.209	4.496	.000	.970	1.031
a. Dependent Variable: Diffusion								

Collinearity Diagnostics							
			Condition	Variance Proportions			
Model	Dimension	Eigenvalue	Index	(Constant)	T.R	Trust	Religiosity
1	1	3.979	1.000	.00	.00	.00	.00
	2	.012	17.957	.04	.00	.73	.10
	3	.006	26.162	.01	.88	.26	.17
	4	.003	24.884	.95	.12	.00	.73
a. Dependent Variable: Diffusion							

CMV						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.676	12.414	12.414	10.676	12.414	12.414

Group Statistics					
	CHECK	N	Mean	Std. Deviation	Std. Error Mean
Diffusion	Early Response	142	3.6875	.43125	.03619
	Late Response	192	3.6905	.43827	.03163
Religiosity	Early Response	142	4.5667	.37303	.03130
	Late Response	192	4.5794	.32711	.02361
Tech.Readiness	Early Response	142	3.7338	.36719	.03081
	Late Response	192	3.6451	.34346	.02479
Trust	Early Response	142	3.5486	.43690	.03666
	Late Response	192	3.5026	.51353	.03706

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
Independent Samples Test										
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Diffusion	Equal variances assumed	.010	.921	-.062	332	.951	-.00297	.04818	-.09775	.09181
	Equal variances not assumed			-.062	306.611	.951	-.00297	.04806	-.09755	.09161
Religiosity	Equal variances assumed	.063	.802	-.329	332	.743	-.01263	.03845	-.08826	.06300
	Equal variances not assumed			-.322	280.099	.748	-.01263	.03921	-.08981	.06455
Tech.Readiness	Equal variances assumed	1.105	.294	2.264	332	.024	.08865	.03915	.01164	.16567
	Equal variances not assumed			2.242	292.197	.026	.08865	.03955	.01082	.16649
Trust	Equal variances assumed	3.072	.081	.861	332	.390	.04599	.05340	-.05906	.15104
	Equal variances not assumed			.882	325.487	.378	.04599	.05213	-.05657	.14855

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 30 years	98	29.3	29.3	29.3
	31 to 40 years	201	60.2	60.2	89.5
	41 to 50 years	33	9.9	9.9	99.4
	61 years and above	2	.6	.6	100.0
	Total	334	100.0	100.0	

EDUCATION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	34	10.2	10.2	10.2
	Bachelors	90	26.9	26.9	37.1
	Masters	154	46.1	46.1	83.2
	Doctorate	40	12.0	12.0	95.2
	Others	16	4.8	4.8	100.0
	Total	334	100.0	100.0	

GENDER					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	165	49.4	49.4	49.4
	Female	169	50.6	50.6	100.0
	Total	334	100.0	100.0	

NATIONALITY					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Omani	334	100.0	100.0	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
INCOME					
Valid	Below 500 OMR	9	2.7	2.7	2.7
	500 to 1000 OMR	124	37.1	37.1	39.8
	1001 to 1500 OMR	86	25.7	25.7	65.6
	1501 to 2000 OMR	69	20.7	20.7	86.2
	Above 2000 OMR	46	13.8	13.8	100.0
	Total	334	100.0	100.0	

APPENDIX-D
Statistical Output (SmartPLS)

Measurement Model

Cross-loadings

	Consequential	Compatibility	Complexity	Competence	Discomfort	Experimential	Goodwill	Ideological	Innovativeness	Insecurity	Intellectual	Observability	Optimism	Predictability	Relative Advantage	Ritualistic	Trialability
CON1	**0.5953**	0.0597	0.0624	-0.0146	0.0773	0.3908	-0.0983	0.2964	-0.1169	0.1801	0.4217	0.0868	0.0840	-0.0455	0.1824	0.3129	0.2001
CON2	**0.8669**	0.0734	0.0728	0.0604	0.1151	0.5050	-0.0492	0.3129	0.0131	0.1125	0.4562	0.1882	0.1141	0.0098	0.1699	0.3415	0.1849
CON3	**0.8047**	0.0876	0.1053	0.0914	0.0765	0.4769	-0.0352	0.2714	-0.0541	0.1082	0.3886	0.1832	0.0575	0.0555	0.1954	0.2735	0.1988
CON4	**0.8524**	0.0370	0.0325	0.0890	0.1472	0.5647	0.0142	0.4128	0.0129	0.1241	0.4252	0.1772	0.1506	0.0884	0.1955	0.3511	0.1968
CON5	**0.7470**	0.0305	0.0456	0.0508	0.1790	0.5435	-0.0567	0.3779	-0.0210	0.0678	0.5026	0.0986	0.0909	-0.0191	0.1785	0.3647	0.1184
CPB1	0.0892	**0.8782**	0.6179	0.2346	0.0469	0.0512	0.3108	0.0348	0.3915	0.0281	0.1369	0.3339	0.3032	0.1996	0.5262	0.0820	0.1448
CPB2	0.1110	**0.9153**	0.5766	0.2772	0.0582	0.0893	0.3802	0.0157	0.4929	-0.0204	0.1442	0.2889	0.2572	0.1806	0.4552	0.0879	0.1800
CPB3	-0.0122	**0.8772**	0.5330	0.2461	0.0600	-0.0212	0.4078	-0.0092	0.4038	0.0025	0.0183	0.2642	0.2054	0.2077	0.3993	-0.0105	0.1659
CPL1	0.0077	0.5623	**0.8534**	0.2222	0.0706	0.0573	0.2994	0.0637	0.3686	0.0045	0.0232	0.3678	0.2579	0.2893	0.4338	0.0989	0.2219
CPL2	0.0461	0.5807	**0.8352**	0.2016	0.0575	0.0401	0.2686	-0.0133	0.3272	0.0297	0.0870	0.3214	0.2671	0.2436	0.3908	0.0601	0.1840
CPL3	0.1270	0.5644	**0.8683**	0.2272	0.0194	0.1290	0.2857	0.0886	0.3640	0.0799	0.1657	0.3766	0.2830	0.2594	0.3628	0.1098	0.1835
CPL4	0.0932	0.4729	**0.8125**	0.2050	0.0247	0.0566	0.2658	0.0379	0.3994	0.0976	0.1119	0.3448	0.2696	0.2508	0.3487	0.1801	0.1682
CPT1	0.0715	0.2019	0.1857	**0.7770**	0.0414	0.0426	0.2759	0.0196	0.0901	0.0682	0.0854	0.2995	0.1406	0.2489	0.1621	0.0556	0.1620
CPT2	0.1352	0.2131	0.2240	**0.8223**	0.0281	0.1206	0.3426	0.0944	0.1369	0.0548	0.1661	0.2477	0.2608	0.2612	0.1559	0.1169	0.1298
CPT4	-0.0533	0.2241	0.1575	**0.6389**	0.1323	-0.0082	0.3170	-0.0579	0.2747	0.0732	-0.0050	0.0755	0.1106	0.3017	0.1214	-0.0111	0.0438
DIS7	0.1464	0.0446	0.0499	0.0470	**0.7259**	0.1473	0.1117	0.0933	0.0694	0.2029	0.1209	0.0840	0.1248	0.1027	-0.0276	0.0729	0.1429
DIS8	0.0815	-0.0571	0.0046	0.0449	**0.7238**	0.1194	0.0227	0.1225	-0.0022	0.2664	0.0778	0.0885	0.1140	0.0815	-0.0382	0.0081	0.1993
DIS9	0.1218	0.1284	0.0563	0.0966	**0.8026**	0.0652	0.0605	0.0630	0.0979	0.1452	0.0793	0.1009	0.1596	0.1856	0.0387	0.0773	0.1170

EXP1	0.5854	-0.0183	0.0760	0.1161	0.0897	**0.8065**	-0.0245	0.4073	0.0818	0.0799	0.4358	0.1518	0.0927	0.0212	0.1211	0.3935	0.1757
EXP3	0.4940	0.0259	0.0250	0.0003	0.1033	**0.7985**	-0.0293	0.3418	-0.0148	0.0297	0.4417	0.1109	0.1098	-0.0674	0.0875	0.3503	0.1506
EXP5	0.4357	0.1083	0.0986	0.0518	0.1481	**0.7636**	0.0575	0.3814	0.0911	0.0982	0.4290	0.2101	0.0628	0.0449	0.1589	0.4081	0.2044
GDW1	-0.0147	0.2560	0.2229	0.3651	0.0830	0.0289	**0.8490**	0.0363	0.1962	-0.0248	0.0782	0.1939	0.1431	0.3022	0.1118	0.0393	0.0320
GDW2	0.0001	0.3497	0.2986	0.2962	0.0687	0.0140	**0.7660**	0.0447	0.2180	0.0307	0.0160	0.2619	0.1681	0.2720	0.2386	0.0150	0.1535
GDW3	-0.1286	0.3459	0.2425	0.2817	0.0421	-0.0552	**0.6460**	0.0650	-0.3476	-0.0904	0.0047	0.0711	0.0779	0.1699	0.0678	0.0274	0.0377
IDE1	0.1634	-0.0063	0.0640	0.1330	0.0535	0.1964	0.1764	**0.5192**	0.1032	0.0318	0.2202	0.0195	0.1450	0.1370	0.0140	0.1429	0.0610
IDE2	0.4011	-0.0315	-0.0053	-0.0175	0.1327	0.4413	-0.0762	**0.8749**	-0.0992	0.1402	0.4951	0.0988	0.0844	-0.0091	0.0946	0.4733	0.2482
IDE3	0.3804	0.0672	0.0817	0.0165	0.0797	0.4149	0.0247	**0.8676**	0.0861	0.1032	0.4181	0.1553	0.0807	0.0691	0.1401	0.5834	0.2743
INN3	-0.0778	0.3327	0.2370	0.1478	0.0078	-0.0508	0.2704	0.0657	**0.7201**	0.0065	0.0463	-0.0027	0.1871	0.0809	0.0865	0.0165	-0.0312
INN4	-0.0145	0.4031	0.3511	0.1845	0.0667	-0.0114	0.3141	-0.0674	**0.7803**	0.0135	0.0550	0.1554	0.2534	0.1405	0.1423	-0.0129	-0.0083
INN5	0.0264	0.3652	0.3975	0.1536	0.0623	0.0331	0.1711	-0.0319	**0.7626**	0.0712	-0.0034	0.2254	0.2661	0.1087	0.1924	-0.0487	0.1038
INN6	-0.0558	0.3501	0.3030	0.1737	0.0942	0.0049	0.2199	-0.0485	**0.7517**	0.0155	0.0276	0.1386	0.2173	0.1050	0.1889	0.0079	0.0438
INS1	0.1036	-0.0192	0.0183	0.0289	0.2111	0.0821	-0.0283	0.0824	0.0397	**0.7044**	0.0445	0.0548	0.1342	0.0635	0.0669	0.0104	0.0928
INS9	0.1252	0.0206	0.0705	0.1420	0.2018	0.0577	-0.0223	0.1162	0.0816	**0.8349**	0.0836	0.1221	0.1022	0.1639	0.0595	0.1240	0.2201
INT1	0.3648	0.0450	0.0897	0.0384	0.0573	0.4079	-0.0963	0.4232	-0.0180	0.0481	**0.6679**	0.0907	0.0878	0.0333	0.1260	0.5121	0.1818
INT2	0.3719	0.1660	0.1337	0.1391	0.1078	0.4209	0.1281	0.4082	0.1246	0.0475	**0.7872**	0.1221	0.0936	0.0022	0.1173	0.4175	0.1543
INT3	0.5006	0.0660	0.0610	0.0857	0.1132	0.4184	0.0434	0.3460	0.0532	0.0954	**0.7771**	0.0702	0.1449	0.0186	0.0817	0.3662	0.1366
INT4	0.4838	0.0750	0.0672	0.0881	0.0950	0.4390	0.0664	0.3932	-0.0316	0.0695	**0.8231**	0.0821	0.0933	-0.0294	0.1241	0.4150	0.1818
OB1	0.0614	0.1857	0.2588	0.2952	0.0479	0.1113	0.1568	-0.0315	0.1523	0.0962	0.0955	**0.6196**	0.0778	0.1615	0.1231	0.1412	0.2453
OB3	0.2216	0.1744	0.2389	0.0985	0.1087	0.2429	0.1064	0.2320	0.0507	0.1012	0.1735	**0.7112**	0.2349	0.1800	0.2412	0.2017	0.3028
OB4	0.1331	0.3384	0.3939	0.2314	0.1033	0.0998	0.2406	0.0838	0.1779	0.0731	0.0200	**0.8366**	0.2296	0.1947	0.3125	0.1238	0.2600

OP5	0.1272	0.1661	0.2128	0.1284	0.2004	0.1467	0.0686	0.0998	0.2399	0.1919	0.1264	0.1439	**0.7537**	0.2061	0.1428	0.0518	0.1637
OP6	0.0875	0.1558	0.1806	0.1054	0.1434	0.0314	0.0888	0.1496	0.1340	0.1225	0.0711	0.1943	**0.7373**	0.1367	0.2385	0.0494	0.1918
OP7	0.0346	0.2324	0.2313	0.2742	0.0273	-0.0237	0.1459	0.0244	0.2177	-0.0353	0.0367	0.1820	**0.7205**	0.1432	0.2292	-0.0391	0.1625
OP8	0.1161	0.2793	0.2940	0.1724	0.1302	0.1497	0.2023	0.0606	0.2905	0.1319	0.1506	0.2238	**0.6731**	0.2027	0.2075	0.1090	0.1414
PR1	0.0120	0.1795	0.2105	0.3200	0.1283	0.0090	0.2790	0.0564	0.0879	0.1497	0.0312	0.1639	0.1813	**0.8287**	0.1703	0.0443	0.1576
PR2	0.0309	0.1784	0.2972	0.2632	0.1487	-0.0096	0.2637	0.0433	0.1517	0.0998	-0.0216	0.2380	0.2133	**0.7984**	0.2599	0.0134	0.1850
RA1	0.2047	0.4088	0.3802	0.1799	-0.0106	0.1158	0.1444	0.0866	0.1767	0.0592	0.1418	0.2308	0.2073	0.1881	**0.8502**	0.1276	0.2151
RA2	0.2622	0.3502	0.3489	0.1349	-0.0270	0.1943	0.0621	0.1522	0.0681	0.1339	0.1277	0.2451	0.2526	0.1896	**0.8217**	0.0799	0.2711
RA3	0.1328	0.5260	0.4086	0.1733	0.0161	0.0846	0.2457	0.0711	0.2538	0.0169	0.0998	0.3257	0.2410	0.2710	**0.8286**	0.1199	0.2237
RIT1	0.2872	0.0736	0.0845	0.0845	0.0244	0.3528	0.0458	0.4137	-0.0013	0.0539	0.4455	0.1888	0.0762	0.0327	0.0955	**0.8061**	0.1703
RIT2	0.3818	0.0551	0.1205	0.0419	0.1201	0.4092	-0.0269	0.5466	-0.0241	0.1374	0.4811	0.1606	0.0386	0.0607	0.0990	**0.8214**	0.2026
RIT3	0.2610	0.0265	0.0993	0.1386	0.0049	0.2661	0.1319	0.2416	0.1211	0.0018	0.3475	0.1176	0.0571	0.0441	0.0610	**0.5990**	0.0839
RIT4	0.3207	0.0239	0.0877	-0.0161	0.0496	0.4039	-0.0090	0.4398	-0.1064	0.0678	0.3748	0.1435	0.0197	-0.0306	0.1323	**0.7328**	0.1468
TR1	0.2153	0.0880	0.1462	0.1205	0.1941	0.2073	0.0459	0.2580	-0.0252	0.1290	0.2155	0.2632	0.1359	0.1370	0.2444	0.2098	**0.7364**
TR2	0.1730	0.0777	0.0990	0.0428	0.2126	0.1572	-0.0130	0.2231	-0.0107	0.1959	0.1561	0.2089	0.1033	0.0850	0.1360	0.1313	**0.7549**
TR3	0.1912	0.1045	0.1024	0.0909	0.1518	0.2384	0.0322	0.2877	-0.0122	0.1790	0.2062	0.2114	0.1924	0.1444	0.1137	0.1717	**0.7409**
TR4	0.2059	0.1173	0.1193	-0.0153	0.1326	0.2158	0.0157	0.2294	0.0113	0.2063	0.1906	0.2199	0.2020	0.1038	0.1780	0.1422	**0.7333**
TR5	0.0431	0.2171	0.2703	0.2368	0.0327	0.0061	0.2063	0.0236	0.1350	0.0591	0.0146	0.3277	0.1564	0.2267	0.2690	0.0838	**0.5517**

Convergent Validity

Construct	Items	Loadings	AVE	CR
Consequential	CON1	0.595303	0.60759	0.883971
	CON2	0.866923		
	CON3	0.804651		
	CON4	0.852377		
	CON5	0.746994		
Compatibility	CPB1	0.878174	0.792824	0.919846
	CPB2	0.915276		
	CPB3	0.877242		
Complexity	CPL1	0.853401	0.709981	0.907289
	CPL2	0.835189		
	CPL3	0.868267		
	CPL4	0.812527		
Competence	CPT1	0.77697	0.562706	0.792472
	CPT2	0.822344		
	CPT4	0.638896		
Discomfort	DIS7	0.725937	0.562706	0.792472
	DIS8	0.723768		
	DIS9	0.80262		
Experimential	EXP1	0.806508	0.623725	0.832499
	EXP3	0.798498		
	EXP5	0.763622		
Goodwill	GDW1	0.849043	0.574997	0.800389
	GDW2	0.766032		

	GDW3	0.645997		
Ideological	IDE1	0.519223	0.59592	0.80842
	IDE2	0.874897		
	IDE3	0.867595		
Innovativeness	INN3	0.720083	0.568472	0.840382
	INN4	0.780253		
	INN5	0.762611		
	INN6	0.751664		
Insecurity	INS1	0.704392	0.596632	0.746008
	INS9	0.834922		
Intellectual	INT1	0.667902	0.586815	0.849587
	INT2	0.787202		
	INT3	0.777142		
	INT4	0.823122		
Observability	OB1	0.619621	0.529875	0.769095
	OB3	0.711154		
	OB4	0.836633		
Optimism	OP5	0.753701	0.520947	0.812812
	OP6	0.737275		
	OP7	0.72049		
	OP8	0.673086		
Predictability	PR1	0.8287	0.662116	0.796659
	PR2	0.798428		

Relative Advantage	RA1	0.850231	0.694855	0.872285
	RA2	0.821674		
	RA3	0.828569		
Relitualistic	RIT1	0.806064	0.555025	0.831074
	RIT2	0.821381		
	RIT3	0.598957		
	RIT4	0.732765		
Trialability	TR1	0.736371	0.500599	0.83204
	TR2	0.754867		
	TR3	0.740908		
	TR4	0.73325		
	TR5	0.55166		

Discriminant Validity

Constructs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Compatibility	**0.89041**																
Competence	0.28369	**0.75014**															
Complexity	0.64838	0.25418	**0.84260**														
Consequential	0.07271	0.07410	0.08024	**0.77948**													
Discomfort	0.06159	0.08653	0.05166	0.15613	**0.75167**												
Experimental	0.04645	0.07312	0.08435	0.64244	0.14280	**0.78976**											
Goodwill	0.40959	0.41674	0.33251	-0.05452	0.08729	0.00033	**0.75829**										
Ideological	0.01632	0.02986	0.05305	0.43264	0.11979	0.47798	0.01402	**0.77196**									
Innovativeness	0.48244	0.21914	0.43197	-0.03691	0.07832	-0.00573	0.32204	-0.07009	**0.75397**								
Insecurity	0.00413	0.08653	0.06136	0.14882	0.26465	0.08789	-0.03199	0.13046	0.03678	**0.77242**							
Intellectual	0.11473	0.11504	0.11411	0.56435	0.12233	0.55122	0.04786	0.51238	0.04075	0.08554	**0.76604**						
Observability	0.33335	0.28133	0.41871	0.19060	0.12162	0.19891	0.23881	0.13272	0.17832	0.11915	0.11885	**0.72793**					
Optimism	0.28862	0.23260	0.31945	0.12981	0.17874	0.11223	0.17442	0.11674	0.30875	0.14932	0.13717	0.25697	**0.72177**				
Predictability	0.21980	0.35951	0.30984	0.02589	0.16968	0.00002	0.33361	0.06151	0.14572	0.15436	0.00708	0.24515	0.24162	**0.81371**			
Relative Advantage	0.51930	0.19615	0.45676	0.23599	-0.00726	0.15480	0.18633	0.12175	0.20478	0.08064	0.14664	0.32341	0.28029	0.26220	**0.83358**		
Ritualistic	0.06171	0.07587	0.13146	0.42365	0.07341	0.48617	0.03631	0.56665	-0.01427	0.09561	0.55742	0.20641	0.06267	0.03615	0.13189	**0.74500**	
Trialability	0.18337	0.15142	0.22549	0.22879	0.19835	0.22370	0.09777	0.27804	0.03872	0.21150	0.21387	0.36432	0.22786	0.20977	0.28277	0.20892	**0.70753**

Structural Model

Hypothesis Results

Hypothesis	Relationship	Std. Beta	Std. Error	t-Value	Decision
H1	Tech. Readiness -> Diffusion EC	-0.662079	0.252438	2.622736**	**Supported**
H2	Trust -> Diffusion EC	-0.773639	0.217123	3.563146**	**Supported**
H3	Religiosity -> Diffusion EC	-0.995316	0.191148	5.207045**	**Supported**
H4	Tech. Readiness * Religiosity -> Diffusion EC	1.185269	0.342985	3.455743**	**Supported**
H5	Trust * Religiosity -> Diffusion EC	1.310339	0.265093	4.94294**	**Supported**

Variance Explained in the Endogenous Latent variable

Latent Variable	Variance Explained (R^2)
Diffusion	43%

Effect Sizes of Latent variables on Cohen (1998) Recommendation

R-Square	Included	Excluded	f-Squared	Effect Size
Technology Readiness	0.368	0.28	0.1392	Small
Trust	0.368	0.271	0.1535	Medium
Religiosity	0.368	0.343	0.0396	Small

Construct Cross-validated Redundancy

Total	SSO	SSE	1-SSE/SSO
Diffusion	6346.000000	5617.043700	0.114869

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Moderating effect of religiosity on the relationship between technology readiness and diffusion; TR stands for Technology Readiness
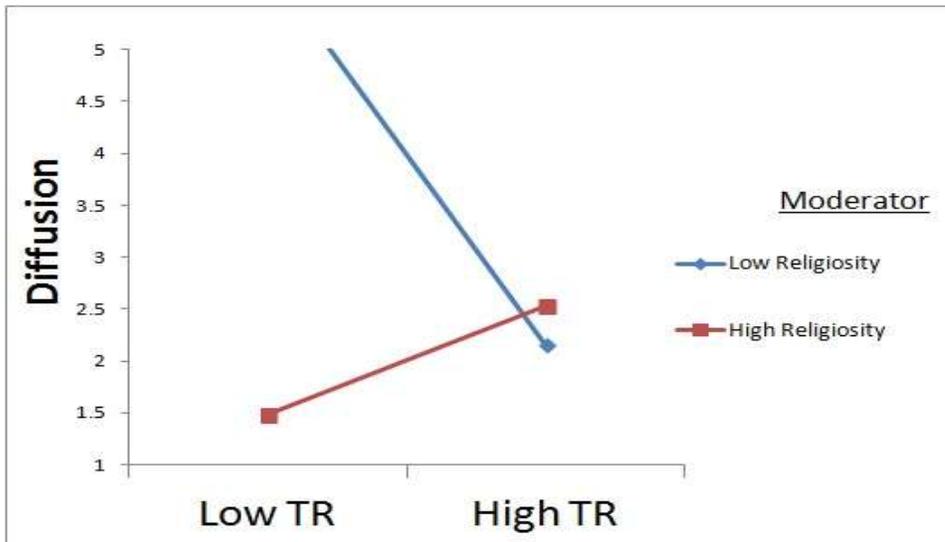
Moderating effect of religiosity on the relationship between Trust and diffusion
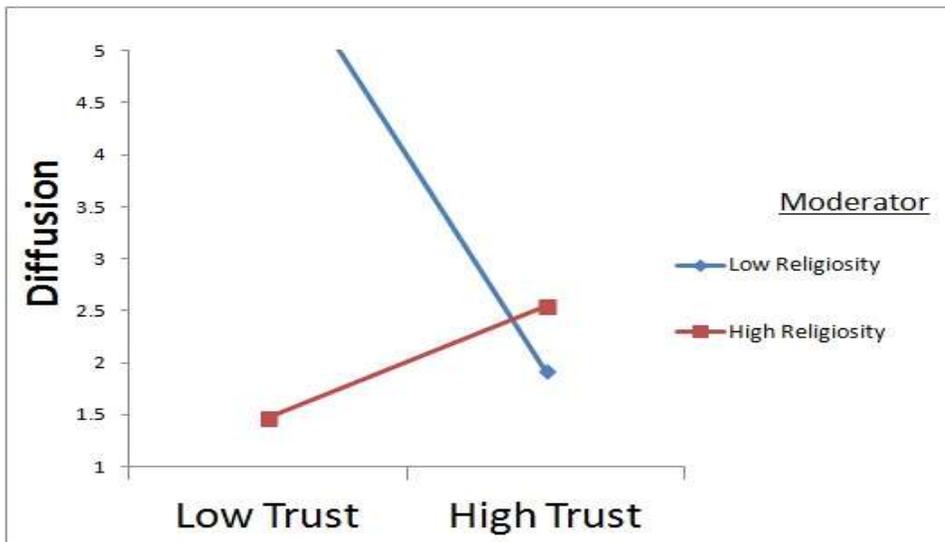
Strength of the Moderating Effects

Endogenous Latent Variable	R-Squared		f-Squared	Effect Size
	Included	Excluded		
Diffusion	0.439	0.368	0.1266	Small

APPENDIX-E
Bootstrapping Algorithm and GPower

GPower Test

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PUSAT BAHASA
LANGUAGE CENTRE
Bangunan Komunikasi dan Bahasa Moden
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

UUM
Universiti Utara Malaysia

Tel. 604-928 5701/5705/5707
Faks (Fax): 604-928 5709
Laman Web (Web): http://pb.uum.edu.my

'KEDAH AMAN MAKMUR. BERSAMA MEMACU TRANSFORMASI'

Ref. : UUM/PUSAT BAHASA/T-9/2
Date : 2 April 2015

Basharat Ali (95736)
School of Technology, Operation and Logistics Management
Universiti Utara Malaysia

Dear Mr. Basharat

PAYMENT FOR EDITING SERVICE

With reference to the above matter, the payment for the editing service is RM 0.05 for every word based on the original text. The questionnaire was edited by **En. Noor Allam bin Wan Chek** (English) and **En. Abdul Hadi bin Abu Hasan** (Arabic).

This is to inform you that the payment due is **RM 198.55.**

Title	Moderating EFFECT OF Religiosity on The Relationship between Technology Readiness, Trust and Diffusion of E-Commerce (B2C) in Sultanate of Oman
Type of Document	Questionnaire
Total of Words	2037 (English) & 1934 (Arabic)
Services	Editing (English & Arabic)

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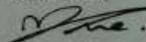
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Editing Coordinator

Pn. Rohaida Hashim
Financial Clerk

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Data Collection and Research Work

OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

Tel: 604-928 7118/7119/7130
Faks (fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/K-14
23 March 2015

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Basharat Ali (Matric No: 95736)** is a bonafied student of Doctor of Philosophy (PhD), Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. He is conducting a research entitled *"Moderating Effect of Religiosity On The Relationship Between Technology Readiness Trust, and Diffusion of E-Commerce (B2C) in Sultanate of Oman."* under the supervision of Assoc. Prof. Dr. Zulkifli B Mohamed Udin.

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours faithfully

NOORHANA BINTI RAMLI
Social Research Officer
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c   -   Supervisor
       -   Student's File (95736)

Sultan Qaboos University

جامعة السلطان قابوس

OFFICE OF THE ADVISOR
FOR ACADEMIC AFFAIRS

مكتب المستشار
للشـؤون الأكاديمـية

12 April , 2015

TO WHOM IT MAY CONCERN

This is to certify that the University has no objection of Mr. Basharat Ali, from Universiti Utara Malaysia collecting the relevant data for his research:

" Moderating Effect of Religiosity On The Relationship Between Technology Readiness Trust and Diffusion of E-Commerce (B2C)in Sultanate of Oman."

Kindly cooperate with him to obtain the data required for the research.

Prof. Taher Ba-Omar
VC's Advisor, Academic Affairs

Sultanate of Oman
Ministry of Manpower
Directorate General of Technological
Education

بسم الله الرحمن الرحيم

سلطنة عمان
وزارة القوى العاملة
المديرية العامة للتعليم التقني

Ref. No. :

Date : ١٣ - ٤ - ١٥

الرقم .
التاريخ .
الموافق .

TO THE DEANS OF COLLEGES OF TECHNOLOGY

This is to certify that the Directorate General of Technological
Education has no objection of Mr. Basharat Ali, from Universiti
Utara Malaysia to collect the relevant data for his research:

*" Moderating Effect of Religiosity On The Relationship Between
Technology Readiness Trust and Diffusion of E-Commerce (B2C)
in Sultanate of Oman"*

Kindly cooperate with him to obtain the data required for the research.
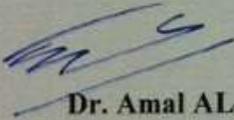
Dr. Amal AL-Mujaini
Deputy Director General

Sultanate of Oman
Ministry of Manpower
Directorate General of Technological
Education

Ref. No. :

Date : ١٥ ـ ٧ ـ ١٣

سلطنة عمان
وزارة القوى العاملة
المديرية العامة للتعليم التقني

الرقـــــم :
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الموافـــق :

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تحية طيبة وبعد،،،

الموضوع/ رسالة عدم ممانعة

بالإشارة إلى الموضوع أعلاه ، نود الإفادة بان Mr. Basharat Ali من جامعة أوتارا الماليزية
يقوم بإعداد رسالة الدكتوراه المعنونة بـ :

" Moderating Effect of Religiosity On The Relationship Between
Technology Readiness' Trust and Diffusion of E-Commerce (B2C) in
Sultanate of Oman"

وعلية يرجى منكم التعاون معه في جمع البيانات اللازمة للعمل البحثي عن طريق
الأستبيانة المرفقة.

وتفضلوا بقبول فائق الاحترام والتقدير ،،،

د. أمـــل بنـــت عبيـــد المجينيـــة
المديــــر العــام المساعد للتعليـــم التقنــي

نسخة إلى :
المديرية العامة للتعليم التقني

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DIFFUSION OF ELECTRONIC COMMERCE (B2C) IN OMAN THROUGH EDUCATION SECTOR -AN ANALYSIS BASED ON E.M. ROGERS' THEORY OF DIFFUSION OF INNOVATIONS (DOI) 1995

Basharat Ali[1], Nazim Baluch[2], and Zulkifli Mohamed Udin[3]

School of Technology Management & Logistics (STML)
College of Business(COB), University Utara Malaysia

Abstract

Notwithstanding Sultanate of Oman is recently entitled as one of the fastest growing nations over the last 40 years among 135 states in the world and is grouped as the most developed and stable country in the region by the United Nations Development Programme, it ranks low in the list of electronic commerce (EC) practicing countries worldwide. Indeed, it is locals' attitude towards EC that has been resulting in country's lower position in the list states pursuing EC and not technological infrastructure. Addressing important factors effecting persuasion of business-to-consumer (B2C) e-commerce in Oman, this paper aims to uphold a thorough analysis by using E.M. Rogers's theory of diffusion of innovations (DoI) and come up with a proposed framework and valuable suggestions those will help diffusing EC within the Sultanate. In this regard, it is recommended that intellectuals including; academicians, scholars and students can play a vital role by conducting interpersonal communication across the community.

Keywords: electronic commerce, diffusion, innovation, channel, social system, persuasion

ELSEVIER

A Theological Approach towards Electronic Commerce Trust Building in Sultanate of Oman: An Analysis based on Rogers' Theory of Diffusion of Innovation

Basharat Ali*, Nazim Baluch, and Zulkifli Mohamed Udin

School of Technology Management & Logistics (STML)
College of Business(COB), University Utara Malaysia

Abstracts

Notwithstanding Sultanate of Oman is possessed of an efficient technological infrastructure and widespread use of internet enabled smart devices by its inhabitants, it contributes lower in the global e-commerce (EC) market. The fact has been rightfully instigating diffusion researcher to investigate about buyers' less trust in e-commerce. This paper aims proposing a theological approach towards business-to-consumer (B2C) e-commerce trust building by considering religiosity as a potential variable having a high impact on diffusion rate of innovation within an Islamic state – the Sultanate of Oman. Highlighting an Islamic perspective of e-commerce, it provides a glance at EC trust building, its likely issues and challenges. A momentous précis of E.M. Rogers' (1995) diffusion of innovations (DoI) theory along with an analysis is provided with. Following the theory, author proposes a framework promoting diffusion of EC trust into potential buyers. In this regard, education institutions are advised to be the best podium to uphold an effective interpersonal communications. Teachers, Islamic scholars and students, as trustworthy actors, opinion leaders and change agents can play effective roles in process of e-commerce trust building within the Sultanate.

Keywords: electronic commerce; diffusion; innovation; channel; social system; persuasion

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The Moderating Effect of Religiosity on the Relationship between Technology Readiness and Diffusion of Electronic Commerce

Basharat Ali[1], Nazim Baluch[2] and Zulkifli Mohamed Udin[3]

[1,2,3] School of Technology Management and Logistics, College of Business, University Utara Malaysia

Correspondence: Basharat Ali, School of Technology Management & Logistics, University Utara Malaysia (UUM), Sintok, Kedah, Malaysia 06010, Tel: +60 1124 35 7882. E-mail: sahibasharatali@gmail.com

Abstract

Developing states are severely in need of building up their electronic commerce for their economic survival on the globe. Beside other challenges, developing states are lagging behind in terms of technology readiness (TR). Another leading factor, particularly within the practicing Muslim communities, could be the impact of religiosity that has been unanimously found playing an immense role in buyers' buying attitude, judgment of product price and quality. Having an immense influence, it affects both intra-personally and interpersonally. Furthermore, religiosity shapes consumers' mind-set, learning and life style and is also considered as one of the significant factors with regards to hi-tech innovations adoption. This paper puts light on the relevant and valuable perspectives: technology readiness, religiosity and diffusion of electronic commerce, in the perspective of Muslim majority developing countries. While contributing to the field of knowledge, the study highlights the importance of technology readiness and trust in the diffusion process of electronic commerce. Looking into the moderating effect of religiosity in this regard, it underlines the unique features (completeness, universality, ever-greenness and applicability) of Islam including the moderate approach of Islam, toward technologies including e-commerce, thus boosting up electronic commerce trade. While, possessing the practical, educational and theological implications, the study will be helpful to all the stakeholders including; prospective consumers, governmental concerned authorities and e-commerce global community.

Keywords: diffusion, technology readiness, religiosity, electronic commerce

The Moderating Effect of Religiosity on the Relationship between Trust and Diffusion of Electronic Commerce

Basharat Ali[1], Nazim Baluch[2] and Zulkifli Mohamed Udin[3]

[1, 2, 3] School of Technology Management and Logistics, College of Business, University Utara Malaysia

Correspondence: Basharat Ali, School of Technology Management & Logistics, University Utara Malaysia (UUM), Sintok, Kedah, Malaysia 06010, Tel: +60 1124 35 7882. E-mail: sahibasharatali@gmail.com

Abstract

Electronic commerce, an enormous revolution in today's business world, has genuinely influenced the financial systems, marketplaces, product manufacturing, service and job industries, logistics and consumers' mind-set. Consumers, posturing different individual characteristics, act differently in showing their trust in e-commerce business mainly due to the nature of the business. As an important predecessor of customers' readiness to make use of e-commerce, it is essential to maintain consumers' level of trust. Importantly, religiosity is one of the leading factors in building Muslim consumers' opinion, both intra-personally and interpersonally, towards new ideas or latest technologies. This is a conceptual study to explore the moderating effect of religiosity on the relationship between trust and diffusion of e-commerce; in particular in Islamic perspective. Exploring the enlightened moderate version of Islamic teachings toward new ideas and innovations including e-commerce, the study aims to highlight applicability of Islamic traits.

Keywords: diffusion, innovation, religiosity, trust, e-commerce, communication