

## **Risk perception and internet shopping: comparing United States and Saudi Arabian consumers**

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### **ABSTRACT**

Understanding what motivates and impedes shoppers from either purchasing or not purchasing through the Internet will become increasingly important as more and more consumers around the world gain access to and experience on the Internet. Showing the strongest sales growth of any country in the Middle East, Saudi Arabia (S.A.) is on the cusp of the Internet revolution. Using the Extended E-Commerce Technology Acceptance model, this research investigated what consumers from both Saudi Arabia and the United States (U.S.) perceive about using technology for online shopping as well as their perceptions of risk. U.S. consumers had a more positive attitude toward online shopping as well as a greater intention to shop online. These consumers also perceived technology for online shopping more useful and easier to use than S.A. consumers. In all cases, U.S. consumers perceived less overall risk to online shopping and less perceived risk on 6 different risk dimensions than did S.A. consumers. As 99% of U.S. respondents had purchased a product online compared to only 28% of S.A. respondents, experience with the online purchasing process may contribute significantly reduced levels of perceived risk as well as a more positive attitude to shopping online, a greater intention to shop online, perceived ease of use and usefulness. Results shed light on understanding how situational differences (online shopping experience) may be related to cultural differences (nationality) with regards to perceived risk in online shopping.

Keywords: Saudi Arabia, perceived risk, online shopping

## INTRODUCTION

The Internet has grown from its first commercial use in the early 1990s to being used by almost 27% of the world's population in just under 20 years (Howe, 2012). As the Internet continues to make its reach into homes and businesses across the world, the opportunities for retailers will expand. However, with great opportunity comes an equally great challenge for both retailers and consumers alike. With the growth of online shopping, where people can buy almost anything at anytime and from anywhere, consumers have to deal with risks they perceive about the product, the environment, or the buying process (Ko, Jung, Kim and Shim, 2004). For example, consumers may worry about purchasing products and services from "faceless" retailers, giving out personal and financial information online, buying products they can't examine physically before a purchase, loss of time and/or money, as well as what their friends and family will think about their purchases. These perceived risks occur when an individual recognizes the possibility of loss or some other negative consequence from using or purchasing a product or service (Bauer, 1960). These perceived risks may increase when consumers consider shopping from internationally-based retailers that cross global and cultural boundaries. As such there has been amplified interest by retailers and academicians alike in how people from around the world might perceive the risks affecting how, when, and if consumers will purchase a product or service online.

One of the fastest growing markets for retailers looking to expand across global boundaries are those member countries of the Cooperation Council for the Arab States of the Gulf (commonly referred to as the GCC) which includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. Several reasons for the retailing interest in the GCC countries include: the geographic location of these countries are attractive to tourists; these countries have developing logistics systems; availability of shopping that is both diverse and high-quality; the increasing purchasing power of GCC citizens; a growing expatriate population; changing lifestyles of the region; expanding tourism and hospitality industry; and proactive retail government initiatives and policies (Zawya, Dec. 10, 2012).

Although all GCC countries are projected to have positive retail sales growth through the year 2016, Saudi Arabia's projections remain at the top with an increase in sales expected to be close to 10% by 2016, compared to 5-7% for all other GCC countries (Zawya, 2012, Dec. 10). According to the U.S. Department of State's Bureau of Near Eastern Affairs addressing U.S.-Saudi Arabian relations, a close relationship between the U.S. and Saudi Arabia has developed on issues related to "international, economic, and development issues because of its unique role in the Arab and Islamic worlds, its possession of the world's largest reserves of oil, and its strategic location" (U.S. Department of State, 2011, para 1). The U.S. is Saudi Arabia's largest trading partner, and Saudi Arabia is the largest U.S. export market in the Middle East its 15<sup>th</sup> largest trade partner overall (Office of the United States Trade Representative: Executive Office of the President, n.d.). Because of the importance of this region to the U.S., and to the overall projected importance to the global retailing industry, understanding the similarities and differences between consumers in the U.S. and Saudi Arabia is imperative to retailers especially as it relates to the Internet market and how these two groups of consumers perceive the risks often associated with buying goods through Internet sites.

Therefore, the purpose of this study is to examine whether there are differences in risk perception between consumers in the U.S. and Saudi Arabia, and second, as it has been shown that perceived risk negatively affects technology adoption (Parasuraman, 2000), this study also

seeks to incorporate additional dimensions involving constructs related to technology adoption as modeled in the Extended E-Commerce Acceptance Model (Herrero Crespo, Rodriquez del Bosque, and de los Salmones Sanchez, 2009).

## REVIEW OF LITERATURE

### Online Shopping in the U.S. and Saudi Arabia

According to Nielson Online, in 2009, there were approximately 220 million, or 77%, of people in the U.S. who had access to, and used, the Internet (Internet World Stats, US, n.d.). In the U.S., most of the major retailers have online shopping sites that capture nearly 80% of U.S. individuals aged 32-44, 72% of those aged 55-64, and 71% of 18-32 year olds, an opportunity that many retailers are unwilling to miss (Williams, 2010). In 2010, online retail sales for U.S. retailers was \$176 billion jumping to \$194.3 billion for 2011, and projected to reach \$279 billion by 2015 and account for 11% of all retail sales (Internet World Stats, US, n.d.).

The Saudi Arabian market is considered the largest in the Middle East with a forecasted average annual private consumption growth in Saudi Arabia between 8% in 2011 and 2014. Moreover, the Saudi population is a predominantly young (approximately 30% under age 15) and computer-savvy generation and Internet penetration is on the rise which creates higher demand for Internet commerce. As such, annual online sales in Saudi Arabia have increased steadily throughout the years and by mid-2010 nearly 3 billion was spent on online goods and services by 3.1 million internet users (MVF Global, 20 <http://www.mvfglobal.com/saudi-arabia>).

In comparison to online retailing in the U.S. where e-commerce took hold in 1990, Saudi Arabia has been slower to adopt the Internet, with e-commerce only being introduced in 1998. As such, Internet commerce in the U.S. is more developed than in Saudi Arabia although sales are picking up speed. During 2001, there were one million Internet users in Saudi Arabia, and by 2012 this number grew to 13 million users with a 35% annual growth rate and 49% Internet usage among the population (Internet World Stats, Saudi Arabia, n.d.). However, strong and consistent Internet sales in Saudi Arabia are still expected to be 5-10 years away largely due to related Internet and traditional retail shopping issues including "the poor postal system in Saudi Arabia, low credit card penetration, and the importance of shopping outings for many Saudi families," said Farouk Miah, Head of Equity Research at NCB Capital (Zawya, 2012, Dec. 6).

Sait, Al-Tawil, and Hussain, (2004) conducted a national study on Saudi Arabia Internet usage and inclusion towards e-commerce on an early stage of Internet adoption (data was collected during 2001-2002). Computer usage duration and online experience were found to affect consumer's inclination toward e-commerce. Most recently, Al-maghrabi and Dennis (2010) conducted a study to measure online shopping continuance intentions in Saudi Arabian female consumers. Results indicated that perceived enjoyment, usefulness, and subjective norms are determinants of online shopping continuance among Saudi female consumers. Results of the study also show that users who are comfortable with the Internet are more likely to adopt e-commerce. No research was found regarding the influence of perceived risk on online shopping adoption in Saudi Arabia.

This study attempts to extend the body of research on the role of culture onto perceived risk towards Internet shopping in a cross-cultural context between a developed country and a developing country namely, the U.S. and Saudi Arabia. Thus this research is a cross-cultural comparison between consumer's levels and types of perceived risk in online shopping with U.S.

consumers (as a country with a strong e-commerce sector) and Saudi Arabia consumers (with a developing e-commerce sector).

### **Theoretical Framework**

Using Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA), Davis (1989) first proposed the Technology Acceptance Model (TAM) to focus specifically on consumers' adoption of a computer innovation. This application was considered to be a reasonable extension of TRA as it was hypothesized that a consumer's beliefs toward a computer innovation will impact their attitude and thus, their intention, to adopt a new technology. These beliefs include the perceived ease-of-use (PEOU) of computer innovation as well as the perceived usefulness (PU) of the technology (Davis, Bagozzi, & Warshaw, 1989).

Many studies have used the TAM to research e-shopping adoption and it is generally accepted that the relationships in TAM are supported (Childers, Carr, Peck, and Carson, 2001; Fenech and O'Cass, 2001; Park, Lee, and Ahn, 2004; Teo, Lim, and Lai, 1999). However, based on the Jarvenpaa and Todd (1997) study which confirmed the presence of economic, performance, social, physical and privacy risks that are present and that impact attitudes during Internet shopping, additional studies have examined perceived risk during Internet shopping. Jarvenpaa and Tractinsky (1999) found that consumers' willingness to buy over the Internet was negatively affected by their perceptions of risk toward a retail store. In particular, van den Poel and Leunis (1999) found that e-commerce adoption is negatively impacted by economic risk which was also supported by Bhatnagar, Misra, and Rao in 2000. E-commerce adoption was also found to be negatively affected by concerns of performance risk (Dahlen, 1999; Bhatnagar, et. al., 2000), social risk (Eastlick and Lotz, 1999) and perception of privacy risks (Swaminathan, Lepkowska-White, and Rao, 1999; Liu, Marchewka, Lu, & Yu, 2005). Supported by these and other studies that have shown technology's influence on Internet shopping adoption, Herrero Crespo et. al. (2009) proposed the Extended E-Commerce Acceptance Model as indicated in Figure 1(Appendix) incorporating the technology constructs of perceived usefulness and perceived ease of use as well as perceived risk dimensions. Perceived usefulness (PU) is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320), whereas perceived ease of use (PEOU) might include hardware related criteria such as connectivity, and physical manipulation or software and site criteria. Both PU and PEOU have been found to be a determinant of whether, and to what extent consumers adopt a technology (Davis, 1989; Davis, Bagozzi & Warshaw, 1989; Fenech, 1998). A study by Al-maghrabi and Dennis (2010) involving S.A. respondents and technology adoption and online shopping continuance intentions indicated that perceived enjoyment, usefulness, and subjective norms are determinants of online shopping continuance among Saudi female consumers. Results of the study also show that users who are comfortable with the Internet are more likely to adopt e-commerce.

H1: U.S. Consumers will have a more positive attitude toward online shopping than will S.A. consumers.

H2: U.S. consumers will exhibit a greater intention to shop online than will S.A. consumers.

H3: U.S. consumers will perceive online shopping to be more useful than will S.A. consumers (PU).

H4: U.S. consumers will perceive online shopping to be easier to use than will S.A. consumers (PEOU).

### **Perceived Risk**

First proposed in the early 1960s by Bauer (1960), perceived risk has been found to be a key determinant in consumer behavior and a primary factor in influencing the conversion of browsers to buyers (Mitchell, 1992; Dowling & Staelin, 1994). Although there has been no accepted standard definition of perceived risk, for the purpose of this study we will accept the definition as proposed by Stone and Gronhaug (1993) as when an individual experiences "a subjective expectation of loss" (Herrero Crespo, et. al., 2009, p. 261).

Through the years, most research has built toward the consensus that there are five different types of perceived risk: social, psychological, economic, performance, and time. The possibility of being embarrassed, disappointed, or suffering from status loss from family or friends by making a poor choice describes social risk whereas psychological risk is the danger to an individual's ego for making a poor choice (Herrero Crespo, et. al., 2009; Jacoby and Kaplan, 1972). Perceived economic risk is when an individual may sense that there is financial harm or loss in the initial purchase price of a product or service as well as future costs due to maintenance and/or loss due to potential fraud (Herrero Crespo, et. al., 2009). Performance risk can be defined as the perception that a product or service may not perform as needed or expected and suffering from the loss of the desired benefits (Stone and Gronhaug, 1993). Perceived time risk is experienced by consumer when faced with the potential time lost from researching or making a purchase. In addition to the five previously mentioned types of perceived risk, an additional dimension of risk, that of privacy, has been identified in numerous studies relating to Internet shopping adoption (Herrero Crespo et. al., 2009; Jarvenpaa and Todd, 1997; Featherman and Pavlou, 2003; Forsythe and Shi, 2003; Miyazaki and Fernandez, 2001). Privacy risk is the "potential loss of control over personal information" (Herrero Crespo, et. al., 2009), such as the invasion of privacy or the potential of retailers to sell information about you to unknown others (Miyazaki and Fernandez, 2006).

With the introduction of residential Internet in the early 1990s, consumer buying behavior regarding online shopping, including perception of risk has become an important area of research. Although research has shown that consumers perceive benefits of using the Internet (Salisbury, Pearson, Pearson, & Miller, 2001; O'Cass and Fenech, 2003; Park, Lee, and Ahn, 2004; Shih, 2004), negative effects from the perception of risk have also been found to have a negative impact on shoppers' attitudes towards online shopping (O'Cass, 2001; Shih, 2004; Heijen, Verhagenm and Creemers, 2003) as well as a negative effect on a person's intention to shop online (Korgaonkar and Wolin, 1999; and Salisbury, Person, and Miller, 2001). Jarvenpaa and Todd (1997) examined the influence of perceived risk from a multidimensional perspective. Findings of the study suggest the influence of economic, social, performance, physical, and privacy risks on attitudes toward online shopping and that consumers perceive increased risk when shopping in this format (Jarvenpaa and Todd, 1997; Featherman and Pavlou, 2003). Heijen, Verhagenm and Creemers (2003) found that the perceived risk in online shopping has a negative effect on e-commerce adoption.

When looking at risk from each of the six different dimensions rather than a combined, multi-dimensional perspective, Jarvenpaa and Todd (1997) and Featherman and Pavlou (2003) found that consumers perceive risk in their loss of privacy during an online shopping experience

when they have to provide personal and credit card information. Forsythe and Shi (2003) also found that the effect of performance, time and economic risks affect the purchase frequency of online shopping. Similarly, Herrero Crespo, et. al. (2009) concluded that economic and performance risk dimensions have a greater influence than do social and time dimensions on e-commerce adoption.

### **Cross-Cultural Perspectives of Perceived Risk**

Although there can be many multidimensional interpretations of culture, it is useful in this study to adopt that proposed by Hofstede (1997) as "the collective programming of the mind which distinguishes the members of one group or category of people from one another" (p. 5). As an individual's cultural values are central in determining cognitive processes such as decision-making, attitude formation (Radford, Mann, Ohta, & Nakane, 1993), intentions and purchases (Jarvenpaa & Tractinsky, 1999), they are thus also important in determining consumer behavior (Keh & Sun, 2008; Steenkamp, Ter Hofstede, & Wedel, 1998). In research by Samiee (2001), the author even went so far as to assert that "the single most important factor that influences international marketing on the Internet is culture" (p. 297).

Hofstede (1984) conducted a comprehensive study on how culture influences values in the workplace. In this study, he collected and analyzed data on 160,000 employees from forty countries, including the U.S. and S.A. The study developed a model that identifies five cultural dimensions namely individualism vs. collectivism, masculinity vs. femininity, power distance, uncertainty avoidance, and time orientation. Results of Saudi Arabians indicated that power distance (which scores 80) and uncertainty avoidance (which scores 68) are the predominant characteristics of people living in this region, while the US scores are among the lowest these two dimensions, which score 40 and 46 respectively. The highest dimensions of people living in the U.S. are masculinity and individualism. Cultures scoring high in uncertainty avoidance avoid risk-taking because of fear of loss or failure (Bontempo, Bottom, and Weber, 1997). The high Power Distance (PDI) ranking is indicative of a high level of inequality of power and wealth within the society. Individuals in such cultures are more willing to accept a new technology when they are asked by leaders to do so (Algahtani, 2007). Moreover, individuals living in low individualistic societies such as Saudi Arabia, tend to accept a technology only as they are influenced by others around them.

Hofstede's (1984) study indicates that cultural differences do exist between the US and Saudi Arabia. Saudi Arabia is a collectivist society while the US is an Individualist culture. Additionally, the Saudi Arabian society has low level of tolerance for uncertainty, which results on that the society does not willingly accept change and is very risk adverse. The U.S. ranked as one of the lowest uncertainty avoidance countries, which is an indication that the society has a great level of tolerance for a variety of ideas, and beliefs. Hence, we can suggest that the previously mentioned cross-cultural differences between the two countries would affect consumers' perceived risk of online shopping.

Jarvenpaa and Tractinsky (1999) documented that perceived risk of online shopping varies by country and can be influenced by both culture and the level of e-commerce infrastructure of a country. Hence, we suggest that the previously mentioned cross-cultural differences between U.S. and S.A. consumers will affect consumers' perceived risk of online shopping. Jarvanpaa and Tractinsky (1999) also found that cultural environment may influence consumers' risk perception of online shopping and that consumers from individualistic cultures (such as the U.S.)

have lower levels of risk perception than do consumers from a collectivist cultures (such as S.A.).

Therefore, the following hypotheses were tested:

H5: U.S. consumers will perceive less overall risks with online shopping than will S.A. consumers.

H5a: U.S. consumers will perceive less privacy risk than will S.A. consumers.

H5b: U.S. consumers will perceive less time risk than will S.A. consumers.

H5c: U.S. consumers will perceive less social risk than will S.A. consumers.

H5d: U.S. consumers will perceive less performance risk than will S.A. consumers.

H5e: U.S. consumers will perceive less financial risk than will S.A. consumers.

H5f: U.S. consumers will perceive less psychological risk than will S.A. consumers.

## **METHOD**

### **Sampling and data collection**

A college student population was considered appropriate for several reasons. First, college student samples have been found to help equalize differences across cultural boundaries (Choi & Lee, 2003; Douglas & Craig, 1983). Secondly, although student samples have been challenged for representativeness to the general population, in several notable studies on perceived risk, student samples have been found to be generalizable (Kim, Qu, & Kim, 2009; Mitchell & Vassos, 1997; Mitchell & Greator, 1993; Mitra, Reiss, & Capella, 1999; Pope, Brown & Forrest, 1999; Stone & Gronhaug, 1993; Tan, 1999). Thirdly, Wang (2001) found that a student sample was not rationally different from other potential online user populations in terms of psychological processes such as those measured in this research. Additionally, as today's college-aged students have grown up with computers and are considered by many to be among the most experienced and active of all Internet users (Lee & Allaway, 2002), their perceptions, experiences, as well as past and future e-commerce purchases qualifies them as an appropriate sample for conducting online shopping research (Wang, 2001; Yooh & Donthu, 2001). Finally, although many college-aged students have lower personal incomes, they often work at least part-time while going to school and as such, often have a higher percentage of personal discretionary income than do other age groups, thereby making them a consumer group with a tremendous amount of buying power (Gardyn, 2002; Lee & Allaway, 2002). Therefore, respondents were gathered from two major universities, one located in a large, urban center in Saudi Arabia (n=300) and the U.S. sample gathered in a large, urban center located the southeast (n=245) as indicated in Table 1 (Appendix).

### **Instrument**

A survey was designed in a three-step process to enable researchers to sample respondents in the U.S. and in S.A. The first step of instrument development was to design the survey in English to investigate research constructs and demographic information. Then the survey instrument was translated to Arabic for S.A. respondents using the back-translation method. A native Arabic-speaking faculty member in the English Language department at a major university in Riyadh translated the original English questionnaire into Arabic. Another faculty member from the same department then back translated the questionnaire into English.

The two English language versions (before and after) were compared and minor corrections were then made.

Consumers' attitudes toward e-commerce and intention to purchase via the Internet were adopted from Taylor and Todd (1995), whereas perceived ease of use and perceived usefulness in online shopping adopted from Taylor and Todd (1995) and Van der Heijden, Verhagen, and Creemers, (2003). Risk perception was measured using eighteen items adopted from Garner (1986), Jarvenpaa and Todd (1997), and Featherman and Pavlou (2003) to measure the six perceived risk constructs of financial, social, performance, time, psychological, and privacy. Construct questions were measured using a 7-point Likert-type scale (1 = strongly disagree to 7 = strongly agree) were used to examine research constructs. Cronbach Alpha's coefficients ( $\alpha$ ) ranged from .92 to .73 (Table 2), which is higher than the cutoff value of .70 proposed by Nunnally (1978). In addition to the perception of risk and technology adoption construct questions, demographic questions covering age, gender, personal income were asked. Questions about a respondent's online shopping and purchasing behavior were also included.

## **Analysis**

Descriptive statistics were used to analyze respondent's demographic and behavioral responses. One-way ANOVA analysis was used to test for differences in intention, attitude, perceived ease of use and perceived usefulness regarding online shopping between U.S. and S.A. respondents. For overall risk perception as well as for the six dimensions of risk, one-way ANOVA was also used to test for differences between U.S. and S.A. respondents.

## **RESULTS**

### **Demographics**

There were 300 respondents from S.A. and 245 respondents from the U.S. sample as indicated in Table 1 (Appendix). As expected, the sample was young, with only 12 % of the U.S. sample and 17% of the S.A. sample aged 24 years or older as indicated in Table 1 (Appendix). For the U.S. sample, approximately 72% were female and 26% were male (of those reporting) and of the S.A sample, approximately 46% were male and 54% were female. Not surprisingly, the majority of both the U.S. and the S.A. sample had a personal income of the equivalent of \$20,000 or less.

### **Attitude, Intention, Usefulness, and Perceived Ease of Use**

As indicated in Table 2 (Appendix), differences were found in the means of the four constructs (attitude toward online shopping, intention to shop online, perceived usefulness, and perceived ease of use) between the respondents of both countries. The means for the U.S. sample were highest for attitude toward online shopping, perceived usefulness, intention to shop, and perceived ease of use with intention, attitude, and PU constructs earning a 5 or higher on the 7-pt. rating scale (PEOU was 4.9 of 7)., The highest mean for the S.A. sample was for PEOU at 4.5, followed by perceived usefulness, attitude toward online shopping, and then intention to shop. All four construct means for the S.A. respondent group were neutral in response or lower.

Research hypotheses were examined using one-way ANOVA to compare means between groups. The first four hypotheses (H1, H2, H3 and H4) predicted that U.S. respondents will have a more positive attitude towards online shopping (H1), a greater intention to shop online (H2), will perceive online shopping to be more useful (PU)(H3) and will perceive online shopping to have better ease of use (PEOU) (H4) than S.A. respondents.

H1: U.S. Consumers will have a more positive attitude toward online shopping than will S.A. consumers.

Result: Supported

H2: U.S. consumers will exhibit a greater intention to shop online than will S.A. consumers.

Result: Supported

H3: U.S. consumers will perceive online shopping to be more useful than will S.A. consumers (PU).

Result: Supported

H4: U.S. consumers will perceive online shopping to be easier to use than will S.A. consumers (PEOU).

Result: Supported

Results of the one-way ANOVA comparisons for the two groups indicate that the two groups differ significantly in all four tested constructs ( $F = 198.9 P < .000$ ,  $F = 68.9 P < .000$ ,  $F = 41.6 P < .000$ , and  $F = 26.5 P < .000$ ) for intention, attitude, perceived usefulness and perceived ease of use regarding online shopping respectively as indicated in Table 3 (Appendix). The mean scores for the four tested constructs are higher for U.S. consumers with the largest  $F$  statistics for intention to shop online (198.9) followed by attitude towards online shopping (68.9). Thus, H1, H2, H3 and H4 were supported.

## Perceived Risk

Overall perceived risk regarding online shopping between the two groups (i.e. US and SA respondents) as well as differences in the six separate risk dimensions was examined. Results of the one-way ANOVA showed that the mean scores for the two groups regarding overall risk differ significantly ( $F = 180.1 P < .000$ ), where U.S. consumers perceived lower overall risk ( $M = 2.9$ ,  $SD = .89$ ) than S.A. consumers ( $M = 4.3$ ,  $SD = 1.4$ ). Thus, H5 was supported.

Moreover, consumers in the two countries differ significantly regarding all six risk facets with U.S. respondents reporting less risk for each dimension than S.A. respondents, therefore, Hypotheses 5a through 5f were all supported. The largest difference in means between U.S. and S.A. respondents was found in psychological risk, followed by social risk, time risk, financial risk, performance risk, performance risk, with privacy risk showing the lowest mean difference between the two. Saudi respondents perceived higher risk on all six risk facets than did U.S. respondents. Although respondents from the two countries differ significantly regarding social risk, respondents from both groups perceive social risk as the lowest among risk facets. Similarly, the two groups perceive high performance risk, where it has the highest mean for the US respondents and the second highest mean for SA respondents.

H5a: U.S. consumers will perceive less privacy risk than will S.A. consumers.

Results: Supported

H5b: U.S. consumers will perceive less time risk than will S.A. consumers.

Results: Supported

H5c: U.S. consumers will perceive less social risk than will S.A. consumers.

Results: Supported

H5d: U.S. consumers will perceive less performance risk than will S.A. consumers.

Results: Supported

H5e: U.S. consumers will perceive less financial risk than will S.A. consumers.

Results: Supported

H5f: U.S. consumers will perceive less psychological risk than will S.A. consumers.

Results: Supported

## DISCUSSION

The study showed significant differences in attitude, intention, perceived usefulness, and perceived ease of use towards online shopping between respondents from the two countries. These results might be explained by the difference in experience in online shopping between the two respondent groups, where all (except one) U.S. respondent reported using the internet for shopping, compared to only 27.8% of S.A. respondents. This lack of use of the Internet for shopping by S.A. respondents is not surprising. With a 49% Internet usage rate in Saudi Arabia in 2010 (Internet World Stats, Saudi Arabia, n.d.), it can be assumed that even fewer Saudi Arabian citizens use the Internet for shopping, thus explaining the significantly lower means for intention to shop online for S.A. as well as a weaker mean for attitude toward online shopping. As all but one of the U.S. respondents reported using the Internet to look for and purchase a product, this might explain why the means for the four constructs (intention to shop, attitude toward online shopping, perceived usefulness and perceived ease of use) were significantly higher than S.A. respondents. Additionally, as Saudi Arabia is a collectivist culture, this may explain their higher level of risk perception and thus risk-averse behavior (Jarvanpaa & Tractinsky, 1999) and thus the reluctance of using the Internet for shopping.

In cultures characterized by a high uncertainty avoidance dimension as documented by Hofstede (1984), individuals will be more inclined to show a low level of tolerance for uncertainty. As a result, a culture with a high uncertainty avoidance dimension score (such as Saudi Arabia) would not readily accept change and thus would be very risk averse. This would explain the significant differences between the U.S. respondents and the S.A. respondents, with the U.S. respondents perceiving less overall risk with online shopping as well as less risk in all six risk dimensions than perceived by S.A. respondents. U.S. respondents ranked performance risk highest followed by privacy risk compared to S.A. respondents who perceived the most risk with financial aspects of online shopping followed by performance risk.

As U.S. respondents had more experience with online shopping, it is not surprising that they are not as concerned with financial dealings over the Internet as their online shopping may have calmed many fears. Those who have never purchased a product online, as is the case with the S.A. respondents, may feel a certain amount of fear in many of the risk dimensions as they have no experience to counteract or calm these perceptions. Psychological risk had the highest mean difference between the U.S. respondents and S.A. respondents and may be also be due to lack of experience in buying products online as is the case with S.A. respondents. As psychological risk deals with mental discomfort that might be experienced from making the wrong product choice, once again, those with experience shopping and purchasing products online may feel less risk as they know that they have options to return products rather quickly and easily as well as more experience in anticipating how online products might meet

expectations. Those with no experience with this form of shopping may not understand return processes, how online products will align with their expectations, and as such may perceive more risk.

Results also indicated that social risk has the lowest mean score for U.S. respondents and for S.A. respondents, but this dimension has the second highest difference between means for the two countries. This might be explained by the U.S. being an individualistic culture compared to Saudi Arabia which is a collectivist culture. Social risk, where disapproval from friends, family, or peers influences how a person may behave (including shopping), may also influence how S.A. respondents respond as the S.A. culture is manifested in a close commitment to social and familial groups whereas the U.S. culture is more individualistic.

These results shed light on understanding how situational differences (online shopping experience) are related to cultural differences (nationality) with regards to perceived risk in online shopping. Online shopping in S.A. is still in its first stage, i.e., local retailers use store web sites for store information and products promotions. As most online purchasing in S.A. are cross-border transactions with products coming mainly from U.S. or European e-tailers, consumers are affected by situational factors such as dealing with international retailers, different sizing systems for some products, warranty for other products, payment methods through international credit cards, availability of international shipping in retailer's web site, and the cost of international shipping. Such factors might affect the diffusion of internet shopping in a developing country such as Saudi Arabia.

With Saudi Arabia and other GCC countries predicted to have strong retail sales in the near future and with retail companies the world over looking at this region for expansion, it is more important than ever to understand how consumers in this region view both traditional brick-and-mortar retailing and Internet retailing. This is especially vital with consumers in Saudi Arabia, as this country leads the GCC in strong retail growth. Although still considered to be a somewhat novel and risky practice in Saudi Arabia, it has been predicted that in 5 to 10 years, internet shopping will dramatically increase due to improvements in the S.A. postal system and increasing credit card usage (Zawya, 2012, Dec. 6). To be ready for the increasing demand for internet shopping in countries the world over, it is imperative that retailers understand how cultural differences can and do impact how they do business and to develop ways to decrease how consumers perceive risk.

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## APPENDICES

Table 1. Demographics of U.S. and S.A. Sample

		U.S.		S.A.	
		n	%	n	%
Age	17 and under	1	0.4	3	.94
	18-19	65	26.1	162	51.5
	20-21	108	43.4	54	18.1
	22-23	45	18	29	9.6
	24 or older	30	12	52	17.5
Gender	Male	66	26.4	140	45.6
	Female	179	71.6	160	54.1
Personal Income (in US \$ equivalent)	Under 10,000	177	70.8	54	7.9
	10,000< 20,000	40	16	195	28.8
	20,000< 35,000	13	5.2	10	1.5
	35,000-<50,000	5	2	6	.8
	50,000<75,000	3	1.2	13	1.9
	75,000-<100,000	2	.8	6	.8
	100,000 >	2	.8	16	2.5
Looked for a product online	Yes	248	99.2	213	0.6
	No	1	0.4	87	29.1
Purchased a product online	Yes	248	99.2	79	27.8
	No	1	0.4	221	72.1

Table 2. Means for Extended E-Commerce Technology Model Constructs

Constructs	US			SA		
	M	S.D.	Alpha	M	S.D.	Alpha
Intention to shop online	5.0	.86	.84	3.7	1.2	.92
Attitude towards online shopping	5.3	1.4	.90	4.1	1.9	.91
Perceived Usefulness (PU)	5.1	1.2	.70	4.2	1.8	.83
Perceived Ease of Use (PEOU)	4.9	.81	.72	4.5	1.1	.78
Overall Perceived Risk	2.9	.95	.86	4.3	1.4	.91

Table 3. Mean differences between US and SA respondents

	Total (n=550) M	U.S (n=250) M	S.A (n=300) M	F	sig.
Attitude towards online shopping	4.7	5.3	4.1	68.9	.000
Intention to shop online	4.3	5.0	3.7	198.9	.000
Perceived Usefulness (PU)	4.6	5.1	4.2	41.6	.000
Perceived Ease of Use (PEOU)	4.7	4.9	4.5	26.5	.000

Table 4. Mean difference in risk perception between US and SA respondents

	Total respondents (N=550) M	U.S respondents (N=250) M	S.A respondents (N=300) M	F	sig.
Overall Perceived Risk	3.7	2.9	4.3	180.1	.000
Performance Risk	4.4	4.0	4.6	21.6	.000
Financial Risk	4.3	3.7	4.8	75.5	.000
Social Risk	2.6	1.7	3.3	169.4	.000
Time Risk	3.7	3.0	4.1	91.7	.000
Psychological Risk	3.4	2.3	4.2	187.7	.000
Privacy Risk	4.2	4.0	4.4	6.87	.009

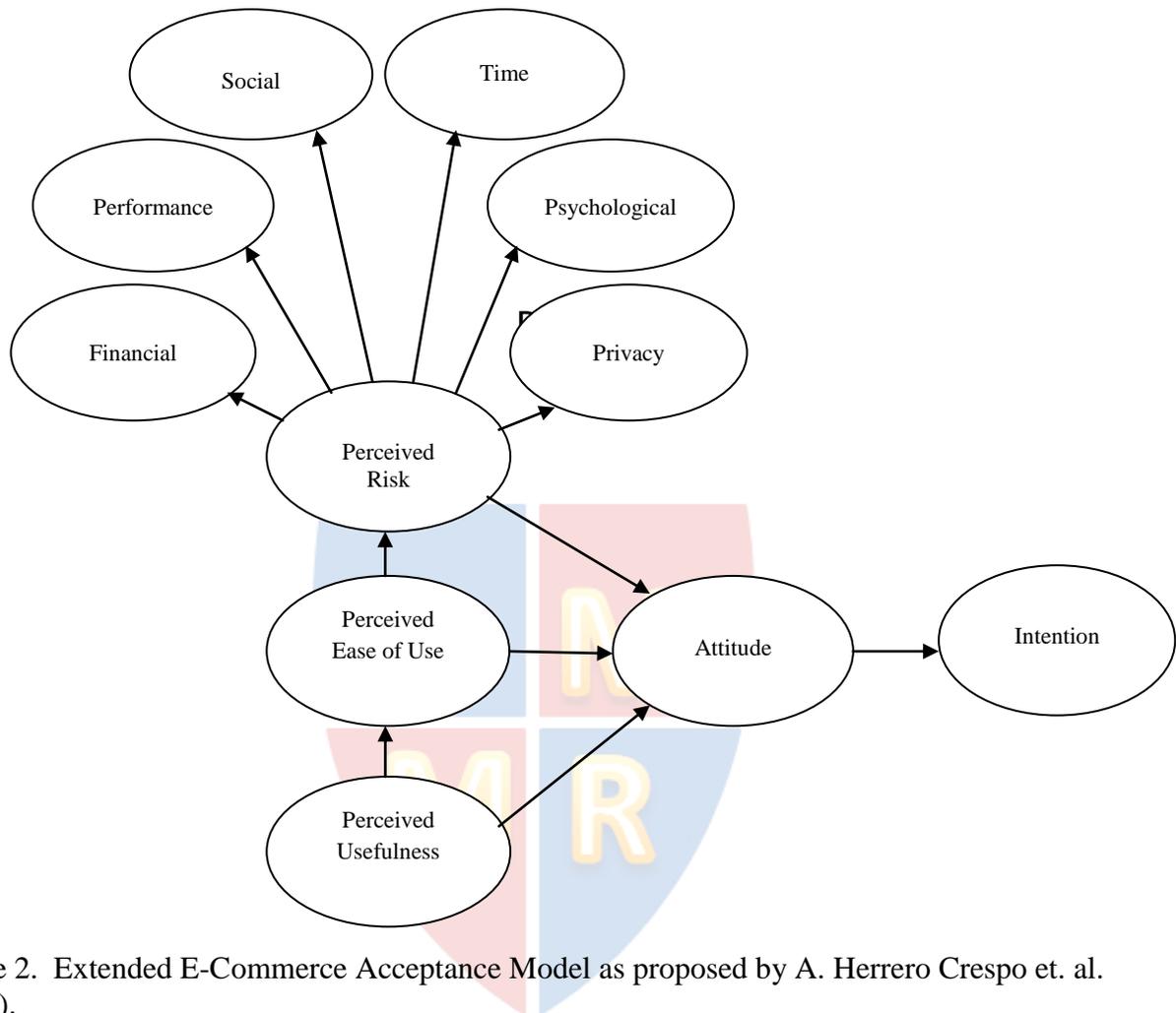


Figure 2. Extended E-Commerce Acceptance Model as proposed by A. Herrero Crespo et. al. (2010).