The factors driving online shopping in Saudi Arabia: Gender differences and behavior

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Abstract

Purpose — This study proposes a revised technology acceptance model that integrates expectation confirmation theory to measure gender differences with regard to continuance online shopping intentions in Saudi Arabia.

Design/Methodology — The 465-respondent sample consists of 68.8% women and 31.4% men. A structural equation model confirms model fit.

Findings — Perceived usefulness, enjoyment, and subjective norms are determinants of online shopping continuance in Saudi Arabia. Both male and female groups are equivalent. The structural weights are also largely equivalent, but the regression paths from perceived usefulness to subjective norms and to continuous intention are not invariant between men and women.

Originality — This research moves beyond online shopping intentions and includes factors affecting online shopping continuance. The research model explains 65% of the intention to continue shopping online.

Research Implications — This research suggests that online strategies cannot ignore either the direct and indirect gender differences on continuance intentions in Saudi Arabia. The model can be generalized across Saudi Arabia.

Value of research – Contributes to the literature on internet shopping and continuance intentions to e-shop in the context of Saudi Arabian country and economy.

Keywords: internet shopping; e-shopping; technology acceptance; male and female examination; continuance online shopping; Saudi Arabia

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Globalization continues to drive the rapid growth of international trade, global corporations, and non-local consumption alternatives (Alden et al. 2006; Holt et al. 2004), and advances of the Internet and e-commerce have diminished trade boundaries. E-commerce and e-shopping create opportunities for businesses to reach to consumers globally and directly, and in turn, business and social science research now focuses specifically on cross-national and cross-cultural Internet marketing (Griffith et al. 2006).

The Internet had changed how businesses and customers customize, distribute, and consume products. Its low cost gives both businesses and consumers a new and powerful channel for information and communication. In 1991, the Internet had less than 3 million users worldwide and no e-commerce applications; by 1999, about 250 million users appeared online, and 63 million of them engaged in online transactions, which produced a total value of $110 billion (Coppel 2000). Business-to-consumer online sales in the United States grew by 120% between 1998 and 1999 (Shop.org and Boston Consulting Group, 2000). In the United Kingdom and according to a U.K. payment association, the number of consumers who shop online has increased by more than 157%, from 11 million in 2001 to more than 28 million in 2006 (cited in Alsajjan and Dennis, 2009). E-commerce transactions also are growing in the Middle East (19.5 million Internet users) and in the Gulf States. In Saudi Arabia, online transactions have increased by 100%, from $278 million in 2002 to $556 million in 2005 (*Al Riyadh* 2006). In 2007, Internet sales increased to more than $1.2 billion worldwide and are expected to continue to rise (World Internet Users and Population Stats 2007).

Despite impressive online purchasing growth rates, compelling evidence indicates that many consumers who search different online retail sites abandon their purchase intentions. Our study aims to help online businesses to understand which factors encourage consumers to

complete their e-shopping behavior. Such continuance is critical, because acquiring new customers may cost as much as five times more than retaining existing ones (Bhattacherjee 2001b; Crego and Schiffrin 1995; Petrissans 1999).

Online customer retention is particularly difficult. Modern customers demand that their needs be met immediately, perfectly, and for free, and they are empowered with more information to make decisions (Bhattacherjee 2001b; Crego and Schiffrin 1995). They also have various online and offline options from which to choose, and without a compelling reason to choose one retailer over another, they experiment or rotate purchases among multiple firms (Bhattacherjee 2001b; Crego and Schiffrin 1995).

Theoretical explanations of online shopping intentions consider several factors. Rogers (1995) suggests that consumers re-evaluate acceptance decisions during a final confirmation stage and decide to continue or discontinue. Continuance may be an extension of acceptance behavior that covaries with acceptance (e.g., Bhattercherjee 2001a; Davis et al. 1989; Karahanna et al. 1999). We adopt the extended expectation confirmation theory (ECT; Bhattacherjee 2001b) and the technology acceptance model (TAM; Davis et al. 1989) as a theoretical basis, integrating ECT from consumer behavior literature to propose a model of e-shopping continuance intentions, similar to the way in which the TAM adapts the theory of reasoned action (TRA) from social psychology to postulate a model of technology acceptance.

The TAM, as expanded by Davis and colleagues (1992) and Gefen (2003), and the ECT (Bhattacherjee 2001a; Oliver 1980) have been used widely in research in the industrialized world, but they are less commonly applied to developing countries. Moreover, the TAM stops at intention and does not investigate continuance intentions or behavior.

As another issue in prior research, no widely accepted definition for e-commerce exists. Coppel (2000) calls it doing business over the Internet, including both business-to-business and business-to-consumer markets. For the purpose of this research, we propose a new, comprehensive definition: E-shopping, electronic shopping, online shopping, and Internet shopping are the same. All these activities include the activity of searching, buying, and selling products and services through the Internet. In recent years, the Internet has grown to include a wider range of potential commercial activities and information exchanges, such as the transaction and exchange of information between government agencies, governments and businesses, businesses and consumers, and among consumers. We focus mainly on the business-to-consumer (B2C) arena, which has been the source of most online progress and development.

Previous research also finds that gender differences significantly affect new technology decision-making processes (Van Slyke et al. 2002; Venkatesh et al. 2000). Venkatesh and colleagues (2000) report that women tend to accept information technology when others have high opinions of it and are more influenced by ease of use. Men rely more on their evaluations of the usefulness of the technology. However, in many cultures, women represent the primary decision makers in families and households' main shoppers. Greater e-commerce exposure and decision-making power may imply that women can attain greater satisfaction from online shopping (Alreck and Settle 2002).

Finally, no previous research considers Internet shopping in Saudi Arabia or, specifically, continuance intentions for online shopping in Saudi Arabia, nor do studies address differences in gender shopping behavior online in Saudi Arabia. This research attempts to provide a validated conceptual model that integrates different factors, including gender, and clarifies the theoretical problems of continuance intentions in the unique context of Saudi Arabia.

The remainder of this article proceeds as follows: We offer a review of existing literature, and then detail our proposed model, hypotheses, and methodology. After describing the structural equation model and analysis, we provide our results. We conclude with some limitations and recommendations for further research.

Theoretical Background

The TAM (Davis 1989) represents an adaptation of the TRA, tailored to users' acceptance of information systems. It helps explain determinants of computer acceptance and can explicate user behaviors across a broad range of computing technologies and populations; it also is parsimonious and theoretically justified (Davis et al. 1989). The major determinants are perceived usefulness and ease of use. Perceived usefulness significantly influences attitude formation (Agarwal and Prasad 1999; Davis 1989; Dishaw and Strong 1999; Gefen and Keil 1998; Igbaria et al. 1996; Moon and Kim 2001; Taylor and Todd 1995; Venkatesh 2000; Venkatesh and Davis 2000), but evidence regarding perceived ease of use remains inconsistent. Furthermore, other researches (e.g., Bhattachergee 2001a; Ma and Liu 2004; van der Heijden, et al. 2003) indicate that ease of use has a greater effect on acceptance up to a certain threshold. That is, with more experience, the impact of ease of use on intention declines. Because our research focuses on continuance intentions, we assume all participants already have e-shopping experience, which implies other factors may be more important than ease of use. Moreover, many studies simplify TAM by dropping attitude and studying just the effect of perceived usefulness and ease of use on intention to use (Venkatesh and Davis 2000; Venkatesh et al. 2003; Gefen and Straub 2000; Leader et al. 2000; Teo et al. 1999; Premkumar and Bhattacherjee 2008).

Updates to the TAM add antecedents of perceived usefulness and ease of use (Venkatesh and Davis 2000), such as subjective norms, experience, trust, and output quality. Ample evidence

confirms that both usefulness (i.e., external motivation) and intrinsic enjoyment (i.e., internal motivation) offer direct determinants of user acceptance online (Davis et al. 1992; Leader et al. 2000; Moon and Kim 2001; Teo et al. 1999; Venkatesh 1999).

Expectation confirmation theory (ECT) in turn helps predict consumer behavior before, during, and after a purchase in various contexts, in terms of both product and service repurchases (Anderson and Sullivan 1993; Dabholkar et al., 2000; Oliver, 1980, 1993; Patterson et al. 1997; Spreng et al. 1996; Swan and Trawick 1981; Tse and Wilton 1988). According to ECT, consumers define their repurchase intentions by determining whether the product or service meets their initial expectations. Their comparison of perceived usefulness versus their original expectation of usefulness influences their continuance intentions (Bhattacherjee 2001a; Oliver 1980). For example, expectations might derive from knowledge and information collected from mass media or other source that predicts that products or services will perform in a certain way. As the consumer uses the product, he or she confirms these expectations about the value and benefits of the product/service. If it meets his or her initial expectation and leaves the consumer happy and satisfied, this consumer experiences positive intentions to repurchase. That is, repurchase intentions depend on satisfaction with the product or service (Anderson and Sullivan 1993; Oliver 1980).

However, ECT ignores potential changes in initial expectations following the consumption experience and the effect of these expectation changes on subsequent cognitive processes (Bhattacherjee 2001a). Prepurchase expectations typically are based on others' opinions or information from mass media, whereas postpurchase expectations derive from first-hand experience, which appears more realistic (Fazio and Zanna 1981). After such first-hand

experience, expectations may increase if consumers believe the product or service is useful or contains new benefits and features that were not part their initial expectation.

Venkatesh and colleagues (2003) suggest that usage and intentions to continue usage may depend on cognitive beliefs about perceived usefulness. Gefen (2003) also indicates that perceived usefulness reinforces an online shopper's intention to continue using a Web site, such that when a person accepts a new information system, he or she is more willing to alter practices and expend time and effort to use it (Succi and Walter 1999). However, consumers may continue using an e-commerce service if they consider it useful, even if they are dissatisfied with its prior use (Bhattacherjee 2001a).

The dominant influence of perceived usefulness has led Bhattacherjee (2001a) to include usefulness in his revised ECT. In a recent study by Premkumar and Bhattacherjee (2008), an interesting finding was found. Just as perceived usefulness is the strongest predictor of intention in TAM, it continues to be a stronger predictor of continuance intention than satisfaction when TAM combined with ECT (whereas satisfaction was dominant in the original ECT) (Premkumar and Bhattacherjee 2008). The relative dominance of usefulness explains its role as critical driver in continuance decisions, particularly in comparisons of utilitarian value over hedonic value (Premkumar and Bhattacherjee 2008).

Site quality and good interface design enhance the formation of consumer trust (McKnight et al. 2002a), and if a consumer perceives a vendor's Web site to be of high quality, he or she should trust that vendor's competence, integrity, and benevolence (McKnight et al. 2002a). Gefen and colleagues (2003) integrate trust into the TAM in a B2C e-shopping context and find trust positively affects consumers' intention to use a Web site. Building trust with

consumers is an essential mission for e-retailers, because purchasing decisions represent trust-related behaviors (Jarvenpaa et al. 2000; McKnight et al. 2002b; Urban et al. 2000).

A person's beliefs about what important others think about the behavior also should directly influence subjective norms. Therefore, if e-shopping is a socially desirable behavior, a person is more likely to e-shop (George 2002).

Childers and colleagues (2001) also find that enjoyment can predict attitude towards e-shopping, just as much as usefulness can. However, usefulness was the better predictor for grocery items, whereas enjoyment offered better results for hedonic purchases. With regard to e-shopping, the hedonic enjoyment constructs in the TAM may reflect the pleasure users obtain from shopping online, which reinforces continuance intentions.

Proposed Model and Hypotheses

Site Quality

Initial trust forms quickly on the basis of available information (Meyerson et al. 1996). If consumers perceive a Web site as high quality, they trust it and will depend on that vendor (McKnight et al. 2002a). Site information quality and a good interface design enhance consumer trust (Fung and Lee, 1999). Web site quality may help predict behavior indirectly (Business Wire 1999; Carl 1995; Meltzer 1999). Perceptions of Web site quality affect trust and perceptions of usefulness. In addition, it is suggested that customers may see a well-designed Web site, one that is user friendly and pleasant to use, as evidence of the company's trustworthiness, (Hampton-Sosa and Koufaris, 2005). On the basis of previous research, we therefore predict:

H1.a Perceived Site Quality is positively related to Perceived Usefulness.

H1.b. Perceived Site Quality is positively related to Customer Trust in online shopping.

Trust

Trust refers to an expectation that others will not behave opportunistically (Gefen 2003). Trust therefore implies a belief that the vendor will provide what has been promised (Ganesan 1994). In turn, perceived usefulness should occur only for an e-vendor that can be trusted (Festinger 1975). Thus:

H2. Perceived Trust is positively related to customer Perceived Usefulness.

Perceived Usefulness

According to Burke (1997), perceived usefulness is the primary prerequisite for mass market technology acceptance, which depends on consumers' expectations about how technology can improve and simplify their lives (Peterson et al. 1997). A Web site is useful if it delivers services to a customer but not if the customers' delivery expectations are not met (Barnes and Vidgen 2000). The usefulness and accuracy of the site also influence customer attitudes. Users may continue using an e-commerce service if they consider it useful, even if they may be dissatisfied with their prior use (Bhattacherjee 2001a). Consumers likely evaluate and consider product-related information prior to purchase, and perceived usefulness thus may be more important than the hedonic aspect of the shopping experience (Babin et al. 1994). In a robust TAM, perceived usefulness predicts IT use and intention to use (e.g., Adams et al. 1992; Agarwal and Prasad, 1999; Gefen and Keil 1998; Gefen and Straub 1997; Hendrickson et al. 1993; Igabria et al. 1995; Subramanian 1994), including e-commerce adoption (Gefen and Straub 2000). Additionally, with regards to the wider literature in support of Perceived Usefulness as an antecedent of Perceived Playfulness, Davis et al. (1992) found that there was a positive

relationship between Perceived Usefulness and Enjoyment (Chung and Tan 2004). We posit that a useful product or service online could make people more likely to use and recommend it to their peers. Although it does not affect the importance of friends, perceived usefulness likely encourages peers to spread word-of-mouth, which increases enjoyment and continuance intentions. Therefore:

H3.a. Perceived Usefulness is positively related to increasing customer Subjective Norm.

H3.b. Perceived Usefulness is positively related to increasing customer Enjoyment.

H3.c. Perceived Usefulness is positively related to increasing customer Continuance

Subjective Norms

According to Venkatesh et al. (2003), social influences result from subject norms, which relate to individual consumers' perceptions of the beliefs of other consumers. Shim, Eastlick et al (2001) consider subjective norms only marginally significant for e-shopping intentions, whereas Foucault et al (2005) confirm a significant link between talking about e-shopping with friends and intention to e-shop. A social influence also is relevant to enjoyment, because involving websites facilitate e-friendship among social communities and promote the enjoyment of e-shopping. Thus:

H4.a. Perceived Social Norm is positively related to increasing customer Enjoyment.
H4.b. Perceived Social Norm is positively related to increasing customer Continuance Intention.

Enjoyment

Enjoyment in using a Web site significantly affects intentions to use (Davis et al. 1992; Igbaria et al. 1995; Teo et al. 1999; Venkatesh et al. 2002). Shopping enjoyment (Koufaris 2002b), perceived entertainment value of the Web site (O'Keefe et al. 1998), and perceived visual attractiveness have positive impacts on perceived enjoyment and continuance intentions (van der Heijden 2003). Furthermore, enjoyment has commonly been found to have a significant impact on customer attitudes and behavior on the Web, such as increasing customer intention to return (Hampton-Sosa and Koufaris ,2005; Jarvenpaa and Todd, 1997; Koufaris et al., 2001a; Koufaris, 2002b). Thus:

H5. Perceived Enjoyment is positively related to increasing customer Continuance Intention.

Methodology

To validate the conceptual model and the proposed research hypotheses, we developed an online survey, which is suitable for collecting data from large geographical areas. In addition, compared with traditional surveys, online surveys offer lower costs, faster responses, and less data entry effort. We contacted potential respondents through e-mail invitations sent to members of seven universities and colleges, which put the survey link on their official Web sites to encourage students and staff to participate.

Measures

The measures of the various constructs come from previous literature, adapted to the context of online shopping where necessary. All online survey items use 1–7 Likert scales, on which 1 indicates strongly disagree and 7 is strongly agree. The site quality and trust items come from McKnight and colleagues (2002a, 2002b). The perceived usefulness items derive from Gefen (2003). Perceived enjoyment is a measure from Childers (2001). Shih and Fang (2004)

provide the subjective norm items. The continuance intention items were adapted from Yang and Peterson (2004).

The pilot study suggested some clarifications to the survey. Both Arabic and English language versions were available. The Arabic questionnaire employed Brislin's (1986) back-translation method to ensure that the questionnaires have the same meaning in both languages.

Data analysis

Survey respondents were people who were actively engaged in Internet and online shopping in Saudi Arabia, including undergraduate and postgraduate students and professionals. As we show in Table 1, the sample consists of 465 participants in Saudi Arabia, 68.6% (319) of whom are women and 31.4% (146) of whom are men. This somewhat surprising gender breakdown illustrates the high rate of Internet use among women in Saudi Arabia, in contrast to popular perceptions. Most respondents are in their late 30s (3.4% younger than 18 years of age, 12.3% between 18 and 25, 43.4% are 26–35, 18.9% are 36–45, and 6.2% are older than 46 years). Similarly, 60% of the Saudi population is younger than 30 years of age. The vast majority (92.3%) of participants came from the three main regions in Saudi Arabia: 25.2% from the east, 26.5% from the central region, and 40.6% from the western region. The education levels indicate 1.9% of respondents earned less than a high school degree, 10.7% attended high school, 12.4% had diplomas, 51.8% had bachelor degrees, and 22.2% were postgraduates. Most respondents thus are well-educated. Moreover, 31.8% of them work in the public sector (government employee), 34.6% in the private sector, 6.5% were businesspeople, and 26% were students.

[Take in Table 1]

Analysis

The Cronbach's alphas (Table 2) are all greater than 0.7 (Bagozzi and Yi 1988). The squared multiple correlation cut-off point is 0.7, and the average variance extracted cut off-point is 0.5 or higher (Bagozzi 1994; Byrne 2001; Hair et al. 2006) (Table 3). We thus confirm the convergent reliability and discriminant validity.

[Take in Table 2]

[Take in Table 3]

Structural Equation Model

As the first step in testing the proposed model, which operationalizes the hypotheses and the factors involved in continuance e-shopping intentions in Saudi Arabia, we estimate the goodness-of-fit indices (Figure 1). Bentler and Bonnett (1980) suggest the Chi-square/Degrees-of-freedom (CMIN/DF) ratio as an appropriate measure of model fit, which should not exceed 5 (Bentler and Bonnett 1980).

A structural equation model (SEM) with AMOS 5.0 software determines additional goodness-of-fit indices, including Critical Ration (CR), Chi-square (CMIN), Degrees-of-Freedom (df), Chi-square/Degrees-of-freedom (CMIN/DF), Root mean square residual (RMR), Root mean square error of approximate (RMSEA), Goodness-of-fit (GFI), Comparative fit index (CFI), Normal fit index (NFI), Incremental fit index (NFI), Relative fit index (RFI). In general, GFI, NFI, RFI, IFI, and CFI greater than 0.90 indicate good model fit (Bentler 1989). As illustrated in Table 4, all the hypotheses are statistically significant and supported, with critical ratios ranging from 17.261 to 4.594, which are greater than 1.96 and thus indicate acceptable results (Hair et al. 2006; Holmes-Smith 2000). As illustrated in Table 5, the goodness-of-fit

indices of the proposed model of continuance intentions fit the data reasonably well (Hair et al. 2006; Bentler and Bonnett, 1980), as confirmed by the chi-square CMIN=764.381, df=236, CMIN/DF=3.239, RMR=0.248, GFI=0.886, CFI=0.960, RMSEA=0.069, NFI=0.943, IFI=0.960, and RFI=0.933.

[Take in Table 4]

[Take in Table 5]

Next, we examine the regression weights (path significance) of each relationship in our research model and the variance explained (R^2 value) by each path. The AMOS software reports the standardized regression weights, standard error, and critical ratio for each path. Table 4 illustrates the standardized regression weights, standard errors, and critical ratios. The hypothesized associations are strongly significant at p = 0.000. Perceived enjoyment is the strongest predictor of continuance intention (B = 0.543), followed by perceived usefulness (B = 0.198), and then subjective norms (B = 0.182). The model explains 65% of the variance in continuance intentions (Figure 1).

[Take in Figure 1]

Invariance Analysis

When comparing cultures or groups, research participants may not recognize the same meaning and understanding of survey items. Scholars thus have emphasized the importance of minimizing possible research biases in cross-national and cross-cultural research derived from the data collection (Yi et al. 2008). To minimize the bias, we applied back-translation (Brislin 1986). In addition, we assess the measurement invariance (equivalence) across the groups to consider the constructs' factorial invariance (Cheung et al. 1999).

The invariance analysis indicates whether any differences occur between genders. The factorial analysis reveals if men and women conceptualize the model constructs the same way. If we find a gender effect on the measurement invariance of the construct and the score of the group analysis is significant, the construct measurement differs for the two groups, and they cannot be compared directly.

To compare the male and female samples, we use factorial invariance (metric equivalence) to assess the extent to which measures from both groups have the same meaning (Hair et al. 2006). The CMIN=1104.946, df=454, CMIN/DF=2.434, RMR=0.291, GFI=0.839, CFI=0.947, RMSEA=0.056, NFI=0.916, IFI=0.949, and RFI=0.907, indicate outstanding goodness-of-fit indices across the groups (Table 6).

[Take in Table 6]

Assuming the unconstrained model is correct, compared with constraining all factorial paths, the result across groups indicates changes in df (Δdf)= 18, chi-square ($\Delta\chi^2$)=31.677, and *p* = 0.024, below Byrne's (2001) 0.05 cut-off. Tests of measurement invariance in which we freely estimate the other loadings appear in Table 6. According to the results in Table 7, changes in the chi-square and df are significant (*p* = 0.024). Therefore, the test of invariance for the two gender groups must be rejected.

[Take in Table 7]

That is, the construct measurement differs for the two groups, and they cannot be compared directly. To find the non-invariant item, we conducted several tests of a partially constrained model. If at least two items per factor can be constrained to be equal without significantly worsening the fit, partial metric invariance is supported (Hair et al. 2006), which

would allow for a valid comparison of the relationships between constructs. We therefore compared the partially constrained model with the fully constrained model (Lai and Li 2005). According to the test of each measurement invariance, as reported in Table 8, subjective norms are the source of non-invariance between the two gender groups.

[Take in Table 8]

As suggested by Hair and colleagues (2006), we also conducted partial metric analysis for the model without subjective norms. The result, as we show in Table 9, reveals changes across groups in df (Δdf)= 17, chi-square ($\Delta\chi^2$)=18.849, and p = 0.337. According to the results in Table 8, the changes in chi-square and df are not significant (p = 0.337), and the goodness-of-fit indices are comparable, justifying the invariance of the unconstrained and constrained models. Thus, we establish metric equivalence and proceed to regression paths.

[Take in Table 9]

The coefficient (regression paths) invariance analysis determines if male and female respondents have the same relationships with same variables in the research model. The findings in Table 9 suggest coefficient invariance between men and women across the research model with all regression paths constrained ($\Delta\chi^2$ = 13.683, Δdf = 9, p = 0.134). Despite the overall coefficient invariance, we consider the relationships between individual model constructs for any non-invariance. The findings in Table 10 indicate that men and women are non-invariant in certain relational paths. Differences in their behavior in the context of online shopping continuance in Saudi Arabia result from different coefficients of perceived usefulness $\rightarrow$ subjective norms (change in chi-square = 7.233, p = 0.007). For the men, this influence is greater than that for women. The difference in the coefficients of perceived usefulness $\rightarrow$ continuance

intentions (change in chi-square = 4.976, p = 0.026) again indicates the influence is greater for the male sample than for the female sample.

[Take in Table 10]

The results of the latent mean regional analysis appear in Table 11. Latent means make possible to explore whether the quantifiable meanings of the scales are similar across cultures or the compared groups, which involves scalar invariance through comparing the mean between two populations. The latent mean then can be interpreted as how much higher or lower the latent mean construct means are in one group relative to the other compared group (Hair et al., 2006). The group analysis of gender between male and female samples exhibits latent mean invariance for the research constructs.

[Take in Table 11]

Direct and Indirect Effect Analysis

The direct and indirect effects in Table 12 reveal that the greatest total influences of direct and indirect (mediated) effects on continuance intentions come from perceived usefulness for both the male (0.782) and female (0.601) samples. The next greatest influences derive from site quality (0.588) for men and enjoyment (.577) for women. Additionally, trust has more influence for males (.406) on continuance intention than for females (.279). Therefore, site quality, trust, perceived usefulness, and subjective norm all play significant roles for continuance intentions regarding online shopping in Saudi Arabia for both men and women.

[Take in Table 12]

Discussion

This research attempts to provide a validated conceptual model that integrates different factors and clarifies the theoretical problems of continuance e-shopping intentions and behavioral gender differences in Saudi Arabia. The online field survey validates the hypothesized model, and the model findings confirm that perceived enjoyment, perceived usefulness, and subjective norms are the main determinants of continuance intentions in Saudi Arabia, explaining 65% of continuance e-shopping intentions. However, enjoyment is more influential (see Table 5; srw = 0.543, cr = 10.244), followed by perceived usefulness (srw = 0.198, cr = 4.594), and then subjective norms (srw = 0.182, cr = 4.974). These findings are consistent with previous research (e.g., Bhattacherjee 2001a; Childers 2001; Davis et al. 1989; George 2002; Shih and Fang 2004; Taylor and Todd 1995; Teo et al. 1999; Venkatesh et al. 2003). Enjoyment, perceived usefulness, and subjective norms have positive influences (direct or indirect) on consumers' continuance e-shopping intentions.

The measurement weights of the male and female groups, based on partial metric invariance, are invariant. Testing for factorial regression paths invariance, we find that relationship path between site quality → trust; site quality → perceive usefulness; trust → perceived usefulness; perceived usefulness → enjoyment; subjective norms → enjoyment; subjective norms → continuance intentions; and enjoyment → continuance intentions are similar for both genders in Saudi Arabia. However, the perceived usefulness → subjective norms and perceived usefulness → continuance intentions relationship paths are non-invariant. That is, men are more influenced by evaluations of the utilitarian usefulness of technology, whereas women tend to accept technology based on their hedonic experiences and the opinions of others (Teo et al. 1999; Venkatesh et al. 2000). Women are more affected by hedonic enjoyment and the

opinions of others than are men (enjoyment → continuance intentions male srw = 0.594, female srw = 0.783; subjective norms → enjoyment (male srw = 0.161, female srw = 0.297).

The model factorial paths of site quality and trust are strong antecedents of perceived usefulness on the regression weights (site quality srw = 0.318, cr = 5.796; trust srw = 0.484, cr = 8.673). Both site quality (0.588) and trust (0.406) have large indirect effects on continuance intentions (see Table 12). These findings match the collectivist culture of Saudi Arabia, where people tend to trust only those within their in-group (Yamagishi and Yamagishi 1994).

Trust and site quality do not have direct effects on continuance intentions toward the online retailer. Rather, significant indirect effects from trust and site quality move through perceived usefulness, subjective norms, and enjoyment. This model pertains to post-purchase behavior after a first-hand experience. It appears consumer initial trust and usefulness expectations can be confirmed, leading to increased usefulness that puts more pressure on social contacts to use and enjoy the site.

Conclusion and Contributions

From a theoretical standpoint, these results contribute to existing literature in several ways. First, we enhance e-shopping literature by providing insights into the factors that seem to affect online shopping continuance intentions in Saudi Arabia. We also posit that enjoyment, subjective norms, and perceived usefulness have direct and indirect effects on continuance intention. The greater positive indirect effects of site quality on perceived usefulness, subjective norms, and enjoyment and that of trust on enjoyment and subjective norms suggest that online retailers should increase the positive perceptions of trust and site quality to make their e-shopping environment more useful and enjoyable. For instance, if new customers are more likely

to judge a Web site by its appeal conveying its quality and trustworthiness rather than its usability, then companies need to pay attention to increasing the appeal of their sites. Furthermore, e-retailers should endorse their trustworthiness by marketing their robust security measures, policies, and including statements such as "secure servers" can increase confidence among current and potential customers (Gehrke and Turban, 1999). Offering guarantees, warranties or adding Frequently Asked Questions (FAQ) section to the web site services should lower users' uncertainty perceptions.

Today, the use of the technology, such as online shopping, is determined not only by subjective norms but also by user's need for relationships with others and social communities (Schau and Gilly, 2003). According to Wilska (2003, p. 459), the relation to technology would impact the whole of consumers' lifestyles, including work and consumption. To have a significant effect on e-shopping continuance intentions, any e-shopping environment should encourage a shopping experience that is useful and enjoyable. Customers' involvements in the product design process are perceived to be more enjoyable, but sending a useful offer or product is perceived as a useful way of sharing life with friends and relatives. For example, Nike online shoppers can customize shoes, colors, styles, and even selecting a name or message.

Second, the results support previous research that shows perceived usefulness reflects the utilitarian aspects of online shopping, and perceived enjoyment reflects its hedonic aspects. In our study, enjoyment has the strongest effect on e-shopping continuance intentions, which confirms that enjoyment in an online shopping environment is important and had a direct effect. Moreover, this result demonstrates that perceived usefulness had a stronger direct and indirect effect on e-shopping continuance intentions, in support of previous research that shows usefulness has strong links to intentions. Usefulness is an important criterion for consumers

when they select online stores and can increase their satisfaction. Consumers may continue using an e-commerce service they consider useful, even if they are dissatisfied with it (Bhattacherjee 2001a).

Third, in the context of Saudi Arabia, few prior studies use SEM as their methodological approach, and even fewer apply invariance analysis to verify behavioral gender differences. This study addresses this knowledge gap for a unique culture.

Research Limitations and Further Research

Typical of most field surveys, this study suffers some limitations. First, the novelty associated with using an online survey in the Saudi Arabian market indicates the empirical data may be biased by a novelty effect. Second, the online survey was posted with permission on Saudi universities' online forums. The survey may suffer a non-response bias, but there is no systematic way to determine the response rate in an online survey. Although the survey attracted a large sample of participants and covers all main geographical regions in Saudi Arabia, it still may suffer from the biases that are inherent to survey studies.

More research should address the online context in Saudi Arabia, including ways to appeal to both hedonic and utilitarian shoppers, especially its young population. This research attempts to integrate the well-established TAM with ECT; additional research should continue to investigate continuance intentions, such as comparisons of new e-shoppers with continuing users who have Internet knowledge and experience.

The continuance intention antecedents reveal the direct and indirect effects, as well as gender differences. The impact of additional factors, such as satisfaction, loyalty, and

interactivity, and the moderating effect of different demographic factors, such as income, age, and regional location, should be considered in future research investigations.

Managerial Implications

This study provides managers with useful and important information about planning their Web sites and marketing strategies. Limayem et al. (2000) argued that providing and managing accurate information with clear and brief text attached with the appropriate images is essential and comprises the primary role of web designers and marketers. Thus, managers and site developers should focus on quality and informative content, which reflect usefulness and enjoyment. Moreover, nowadays, computer applications, such as online shopping, are ubiquitous in all aspects of our life, and are no longer fads or image enhancers, but utilitarian tools without which businesses may come to a halt. Therefore, e-shoppers are going to increasingly demand usefulness, particularly in the long run, for customers to be successfully retained. As a result, managers should work to minimize churn, because customers who never return reduce the firm's customer base and revenues and require substantial expenditures to lure them back from competitors.

To build sustainable, continued e-shopping relationships, managers cannot ignore either direct (perceived usefulness, enjoyment, subjective norms) or indirect (site quality, trust, perceived usefulness, subjective norms) influences on continuance intentions. Moreover, significant effects of subjective norms on enjoyment and continuance intention suggest that recommendations from other people still play a major role in an individual's e-commerce intention behaviour. Therefore, managers should endorse and facilitate positive word of mouth, through social networks such as Blogger, Delicious, Facebook, Google Bookmarks, MySpace,

Twitter, and many more, to enhance family, friends, potential customers, and customers' perceptions about their websites' usefulness and trustworthiness.

This study draws attention to the direct and indirect gender differences in Saudi Arabia, which should be take into consideration when developing any Web site and marketing strategy. E-retailers in Saudi Arabia should emphasise the usefulness (utilitarian values) of their websites in their marketing strategy when communicating with men, whilst emphasise their enjoyment (hedonic values) when designing their marketing mix for women. e-Retailers targeting Saudi customers should not use the same web design and/or marketing mix to stimulate usefulness and enjoyment perceptions among male and female consumers.

Finally, understanding the differences between male and female consumers can help managers shift consumers from single visits to ongoing, trusted, useful, and enjoyable relationships, which should produce more stable, long-run business for online firms in Saudi Arabia.

Acknowledgments

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Figure 1: Internet continuance intention shopping model
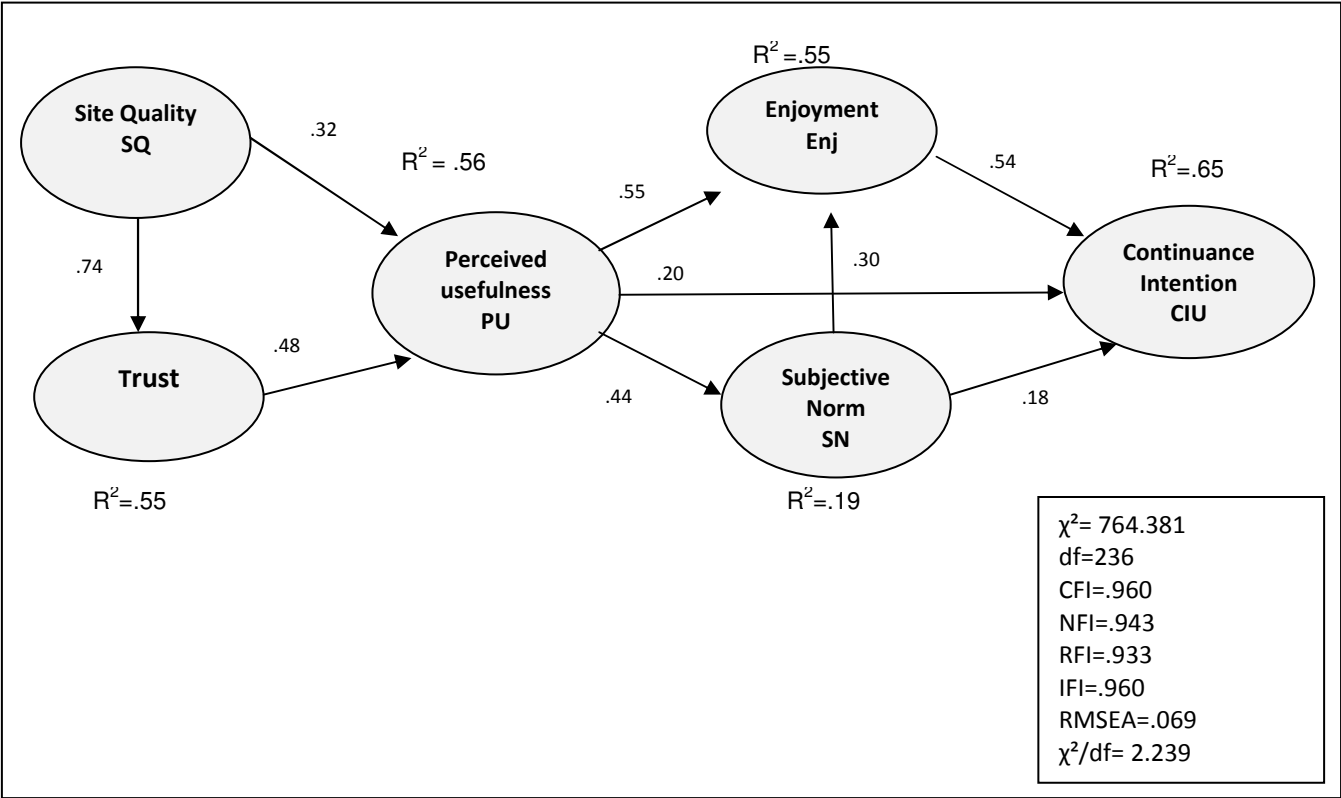
Table 1: Demographic items

Question	Count	Percentage
Gender		
Male	146	31.4
Female	319	68.6
Age		
Less than 18	16	3.4
Between 18-25	57	12.3
Between 26-35	55	43.4
Between 36-45	88	18.9
Above 46	29	6.2
Education Level		
Less than high school	9	1.9
High school	99	10.7
Diploma	115	12.4
Bachelor	241	51.8
Post-graduate	103	22.2
Occupation		
Government employee	148	31.8
Private sector	161	34.6
Business people	35	6.5
Student	121	26.0
Income Level		
<SR4,000 (£1,000)	92	19.8
SR4,000-SR6,000 (£1,000-2,000)	69	14.8
SR6,001-SR8,000 (£2,001-4,000)	58	12.5
SR8,001-SR10,000 (£4,001-7,000)	42	9.0
SR10,001-SR15,000 (£7,001-10,000)	69	14.8
>SR15,001 (>£10,000)	70	15.1
Dependent on others	65	14.0
Region		
East region	117	25.2
West region	189	40.6
Central region	123	26.5
North region	21	4.5
South Region	15	3.2

Table 2: Scale Properties and Correlations

Model Constructs	Mean	Std. Dev.	Cronbach's alpha	Factor Correlations					
				SQ	PU	Trust	SN	Enj	CIU
SQ	21.52	5.31	0.926	1.000					
PU	21.89	5.59	0.949	0.740	1.000				
Trust	21.68	5.31	0.949	0.676	0.719	1.000			
SN	18.73	6.19	0.947	0.298	0.316	0.440	1.000		

Enj	20.80	5.07	0.935	0.464	0.494	0.686	0.547	1.000	
CIU	21.30	5.49	0.961	0.440	0.468	0.650	0.565	0.778	1.000

Table 3: Measurement Model

Constructs/Indicators	S. Factor Loading	S.E	C.R.	AVE	Squared Multiple Correlation
Site Quality (SQ)				0.758	
SQ 1	0.918	0.043	24.143		0.84
SQ 2	0.850	0.042	23.400		0.72
SQ 3	0.841	0.041	22.731		0.71
SQ 4	0.872	___	___		0.76
Perceived usefulness				0.817	
PU 3	0.906	0.031	31.931		0.82
PU 4	0.892	0.030	32.097		0.80
PU 5	0.937	___	___		0.88
PU 6	0.880	0.031	30.848		0.77
Trust				0.814	
Trusting Beliefs Integrity 1	0.903	0.032	31.167		0.82
Trusting Beliefs Integrity 2	0.897	0.025	38.232		0.80
Trusting Beliefs Integrity 3	0.889	0.030	30.023		0.79
Trusting Beliefs Integrity 4	0.919	___	___		0.85
Subjective Norm				0.819	
SN 3	0.757	___	___		0.57
SN 4	0.976	0.057	23.251		0.95
SN 5	0.966	0.057	22.815		0.93
SN 6	0.904	0.059	21.415		0.82
Enjoyment				0.756	
Enj 4	0.704	___	___		0.79
Enj 5	0.931	0.066	19.223		0.87
Enj 6	0.935	0.067	19.479		0.88
Enj 8	0.887	0.066	18.058		0.50
Continuance Intention				0.872	
CIU 1	0.872	0.026	34.199		0.76
CIU 2	0.938	0.020	47.621		0.88
CIU 3	0.975	___	___		0.95
CIU 4	0.946	0.020	50.386		0.90

Table 4: Regression Weights

Hypotheses	Paths			Standardized Regression Weights (B)	Standard Error S.E.	Critical Ratio C.R.	P Value	Hypotheses Findings
H1 a	PU	<---	SQ	.318	.059	5.796	***	Supported
H1 b	Trust	<---	SQ	.740	.044	17.261	***	Supported
H2	PU	<---	Trust	.484	.058	8.673	***	Supported
H3 a	SN	<---	PU	.440	.042	9.184	***	Supported
H3 b	Enj	<---	PU	.553	.035	11.549	***	Supported
H3 c	CIU	<---	PU	.198	.043	4.594	***	Supported
H4 b	CIU	<---	SN	.182	.041	4.974	***	Supported
H4 a	Enj	<---	SN	.303	.036	7.076	***	Supported
H5	CIU	<---	Enj	.543	.072	10.244	***	Supported

*** $p < 0.001$.

Table 5: Goodness-of-Fit Indices

Confirmatory Factor Analysis CFA (Goodness-of-fit measure)	Acceptable Values	Value
Chi-Square CMIN	NA	764.381
Degree of freedom	NA	236
CMIN/DF	Chi square/ df ≤5 (Bentler and Bonnett, 1980)	3.239
P value	p≤0.05 (Hair et al., 2006)	0.000
Root mean square residual (RMR)	No established thresholds (the smaller the better) (Hair et al., 2006)	0.248
Goodness-of-fit (GFI)	≥ 0.90 (the higher the better) (Hair et al., 2006)	0.886
Comparative fit index (CFI)	≥ 0.90 (Hair et al., 2006)	0.960
Root mean square error of approximate (RMSEA)	< 0.08 (Hair et al., 2006)	0.069
Normal fit index (NFI)	≥ 0.90 (Hair et al., 2006)	0.943
Incremental fit index (IFI)	≥ 0.90 (Hair et al., 2006)	0.960
Relative fit index (RFI)	≥ 0.90 (Hair et al., 2006)	0.933

Table 6: Goodness–of–fit Indices (Male – Female)

Confirmatory Factor Analysis CFA (Goodness-of-fit measure)	Acceptable Values	Value
Chi-Square CMIN	NA	1104.946
Degree of freedom	NA	454
CMIN/DF	*Chi square/ df ≤5* (Bentler and Bonnett, 1980)	2.434
P value	*p*≤0.05 (Hair et al., 2006)	0.000
Root mean square residual (RMR)	No established thresholds (the smaller the better) (Hair et al., 2006)	0.291
Goodness-of-fit (GFI)	> 0.90 (the higher the better) (Hair et al., 2006)	0.839
Comparative fit index (CFI)	> 0.90 (Hair et al., 2006)	0.947
Root mean square error of approximate (RMSEA)	< 0.08 (Hair et al., 2006)	0.056
Normal fit index (NFI)	≥ 0.90 (Hair et al., 2006)	0.916
Incremental fit index (IFI)	≥ 0.90 (Hair et al., 2006)	0.949
Relative fit index (RFI)	≥ 0.90 (Hair et al., 2006)	0.907

Table 7: Invariance Analysis (Male and Female)

Model	Δdf	Δχ²	p
Measurement weights	18	31.677	.024
Structural weights	9	13.244	.152

Table 8: Test of Freely Estimated Measurement Invariance

Model	DF	CMIN	P
PU	3	1.832	.608
Trust	3	1.321	.724
Enjoyment	3	7.168	.067
Site Quality	3	.777	.855
Subjective Norm	**3**	**14.417**	**.002**
Subjective Norm – sn4	1	8.989	.003
Subjective Norm – sn5	1	3.012	.083
Subjective Norm – sn6	1	3.327	.068
Subjective Norm – without sn4	2	1.791	.408
Continuance Intention	3	6.252	.100

Table 9: Invariance Analysis (Male and Female) After Correction

Model	Δdf	Δχ²	p
Measurement weights	17	18.849	.337
Structural weights	9	13.683	.134

Table 10: Structural Factorial Analysis of Theoretical Construct for Gender (Male – Female)

Paths			Male Sample			Female Sample			Invariance		
			SRW	C.R.	P value	SRW	C.R.	P Value	Δ DF	Δ CMIN	P Value
Trust	<---	SQ	.793	10.421	***	.732	13.583	***	1	.430	.512
PU	<---	SQ	.375	4.378	***	.323	4.173	***	1	.200	.655
PU	<---	Trust	.479	6.127	***	.518	6.475	***	1	.124	.725
SN	**<---**	**PU**	**.596**	**7.235**	*******	**.319**	**6.571**	*******	**1**	**7.233**	**.007**
Enj	<---	PU	.454	6.387	***	.392	9.474	***	1	.536	.464
Enj	<---	SN	.161	2.715	.007	.297	5.817	***	1	2.069	.150
CIU	<---	SN	.194	3.546	***	.192	3.628	***	1	.017	.895
CIU	<---	Enj	.594	5.641	***	.783	8.596	***	1	1.788	.181
CIU	**<---**	**PU**	**.348**	**4.701**	*******	**.150**	**2.899**	**.004**	**1**	**4.976**	**.026**

Table 11: Means: Gender Sample (Male – Female)

	Latent mean	S.E.	C.R.	P Value
PU	-.080	.140	-.569	.569
Trust	-.127	.146	-.869	.385
Enj	.015	.136	.113	.910
CIU	.036	.144	.254	.800
SQ	-.068	.139	-.491	.623
SN	.180	.139	1.294	.196

Table 12: Direct and Indirect Influences on Continuance Intentions

Construct	CIU (Male)			CIU (Female)		
	Direct	Indirect	Total	Direct	Indirect	Total
SQ	--------	.588	.588	--------	.382	.382
TRUST	--------	.406	.406	--------	.279	.279
PU	.344	.438	.782	.152	.449	.601

SN	.201	.099	.300	.160	.194	.354
ENJ	.447	--------	.447	.577	--------	.577
$R^2 = 0.65$						

Appendix A

Questionnaire (Measurement indicators)

Perceived usefulness *(Strongly disagree . . .Strongly agree)*
Adapted from (Gefen et al, 2003).
1. The website I use for my online shopping is useful for searching and purchasing.
2. The website I use for my online shopping improves my performance in searching and purchasing.
3. The website I use for my online shopping enables me to search and purchase faster.
4. The website I use for my online shopping enhances my effectiveness in searching and purchasing.
5. The website I use for my online shopping makes it easier to search for and purchase.
6. The website I use for my online shopping increases my productivity in searching and purchasing.

Trust *(Strongly disagree . . .Strongly agree)*
Adapted from (McKnight et al, 2002b).
Trusting Beliefs (Benevolence)
1. I believe that the website I use for my online shopping would act in my best interest.
2. If I required help, the website I use for my online shopping would do its best to help me.
3. The website I use for my online shopping is interested in my well-being, not just its own.
Integrity
1. The website I use for my online shopping is truthful in its dealings with me.
2. I would characterize the website I use for my online shopping as honest.
3. The website I use for my online shopping would keep its commitments.
4. The website I use for my online shopping is sincere and genuine.
Competence
1. The website I use for my online shopping is competent and effective in providing online business.
2. The website I use for my online shopping performs its role of giving shopping advice very well.
3. Overall, the website I use for my online shopping is a capable and proficient Internet shopping provider.
4. In general, the website I use for my online shopping is very knowledgeable about its service.
Trusting Intentions (Willingness to Depend)
1. When an important shopping issue or problem arises, I would feel comfortable depending on the information provided by the website I use for my online shopping.

2. I can always rely on the website I use for my online shopping in a tough shopping situation.
3. I feel that I could count on the website I use for my online shopping to help with a crucial shopping problem.
4. If I had a challenging shopping problem, I would want to use the website I use for my online shopping again.

Perceived enjoyment *(Strongly disagree . . .Strongly agree)*
Adapted from (Childers et al 2001).
1. Shopping online in this website would be fun for its own sake.
2. Shopping online in this website would make me feel good.
3. Shopping online in this website would be boring.
4. Shopping online in this website would involve me in the shopping process.
5. Shopping online in this website would be exciting.
6. Shopping online in this website would be enjoyable.
7. Shopping online in this website would be uncomfortable.
8. Shopping online in this website would be interesting.

Perceived Site Quality *(Strongly disagree . . .Strongly agree)*
Adapted from (McKnight et al, 2002b).
1. Overall, this website worked very well technically.
2. Visually, this website resembled other sites I think highly of.
3. This website was simple to navigate.
4. On this website, it was easy to find the information I wanted.
5. This website clearly showed how I can contact or communicate with online shopping customer service.

Subjective Norms *(Strongly disagree . . .Strongly agree)*
Adapted from (Shine and Fang, 2004).
1. Most people who are important to me would think that using the website to shop online is a wise idea.
2. Most people who are important to me would think that using the website to shop online is a good idea.
3. Most people who are important to me would think I should use the website to shop online.
4. My family who are important to me would think that using the website to shop online is a wise idea.
5. My family who are important to me would think that using the website to shop online is a good idea.
6. My family who are important to me would think I should use the website to shop online.

Continuance intention *(Strongly disagree . . .Strongly agree)*

Adapted from (Yang and Peterson, 2004).

1. I say positive things about the website I use for my online shopping to other people.
2. I would recommend the website I use for my online shopping to those who seek my advice about such matters.
3. I would encourage friends and relatives to use the website I use for my online shopping.
4. I would post positive messages about the website I use for my online shopping on some Internet message board.
5. I intend to continue to do business with the present web site.
6. I intend to do more business with the present web site.