Antecedents of continuance intentions towards e-shopping: the case of Saudi Arabia

Talal Al-maghrabi and Charles Dennis

Centre for Research in Marketing (CREAM), Brunel Business School, Brunel University, London, UK, and

Sue Vaux Halliday

School of Management, University of Surrey, Guildford, UK

Abstract

Purpose – The purpose of this study is to clarify the theoretical problem and identify factors that could explain the level of continuance intentions towards e-shopping. It aims to propose a revised technology acceptance model that integrates expectation confirmation theory to measure age differences with regard to continuance intentions towards e-shopping in Saudi Arabia.

Design/methodology/approach – The sample ($n = 465$) consists of 68.8 per cent women and 31.4 per cent men, 348 younger than 35 years old and 117 older than 35. A structural equation model confirms model fit. The model explains 65 per cent of the intention to continue shopping online.

Findings – Perceived usefulness, enjoyment, and subjective norms are determinants of online shopping continuance. The structural weights are mostly equivalent between the young and old groups, but the regression path from subjective norms to perceived usefulness is not invariant, with that relationship being stronger for the younger respondents.

Research limitations/implications – The research findings imply that usefulness and subjective norm contribute to continuance intentions to some extent, but it is enjoyment that leads to a higher level of continuance intentions. Online strategies cannot ignore either the direct or the indirect effects on continuance intentions in Saudi Arabia.

Originality/value – The paper adds to the understudied area of online shopping continuance intentions in the Arab World in general, and Saudi Arabia in particular, by examining the effects of usefulness, enjoyment, and subjective norms on continuance intentions.

Keywords Internet shopping, Saudi Arabia, Electronic commerce, Individual behaviour

Paper type Research paper

1. Introduction

In electronic commerce environment, business to customer electronic commerce had developed rapidly for recent years (Alden *et al.*, 2006; Holt *et al.*, 2004), and advances with the internet and e-commerce have further diminished trade boundaries. E-commerce and e-shopping create opportunities for businesses to reach consumers globally and directly – indeed they are transforming retailing. In turn, business and social science research increasingly focuses on cross-national and cross-cultural internet marketing (Griffith *et al.*, 2006). This paper examines an aspect of on-line retailing of increasing potential importance, the Saudi Arabian context.

The internet has 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 1999, there were 250 million users online, and 63 million of them engaged in online transactions, which produced a total value of $110 billion and estimated that sales on the internet are expected to continue to rise.

As you would have thought, e-commerce transactions are also growing in the Middle East (19.5 million internet users) and in the Gulf States. In Saudi Arabia, online transactions increased by 100 per cent, from $278 million in 2002 to $556 million in 2005 (Al Riyadh, 2006). Yet this context of explosive growth is under-researched.

Normally, of course, consumers now 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). Despite impressive online purchasing growth rates, compelling evidence indicates that many consumers who search different online retail sites abandon their purchase intentions. So our study is aimed to help online businesses understand which factors encourage consumers to complete their e-shopping. 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). Increasing the number of repeat (loyal) customers by as little as 5 per cent can increase profitability by 30-85 per cent, depending on the type of product and service (Reichheld and Schefter, 2000).

Previous research found that gender and age differences significantly affect new technology decision-making processes (Van Slyke *et al.*, 2002; Venkatesh *et al.*, 2000; Spero and Stone, 2004). Venkatesh *et al.* (2000) report that women tend to accept information technology when others have high opinions of it and are more influenced by ease of use. Additionally, youth populations are motivated by status and peer pressure (Spero and Stone, 2004). On the other hand, 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 male and female can attain greater satisfaction from online shopping, especially that the internet is one of the main environments for young people to play, work, learn and communicate (Alreck and Settle, 2002; Spero and Stone, 2004). Saudi Arabia has a population of 25 million, highly skewed in terms of age distribution, with 60 per cent under the age of 30 (Middle East Statistics, 2007). This age profile relevant to our topic, as in countries that are further advanced in internet shopping; much of the growth has been driven by young people. For example, in the UK, teenagers spend on average £3 billion a year (Datamonitor, cited by Spero and Stone, 2004). Clearly young people's behaviour is of special importance to Saudi trade.

Theoretical explanations of online shopping intentions consider several factors. Rogers' theory of innovation (1995) suggests that consumers re-evaluate acceptance decisions during a final confirmation stage and decide to continue or discontinue, and this is a clear stage in the purchasing process on-line. As a result, we are looking to understand continuance behaviour of online customers within Saudi Arabia. Many studies have indicated that there is a strong correlation between behavioural intentions and actual behaviour (e.g. Ajzen and Fishbein (1975); and Kim and Hunter (1993)),

supporting the use of behavioural intention as a substitute for actual behaviour. This substitution is common in information systems research (Agarwal and Prasad, 1998). The decision to continue may be an extension of acceptance behaviour that co-varies with acceptance (e.g. Bhattacherjee, 2001a; Davis *et al.*, 1989; Karahanna *et al.*, 1999). We therefore use continuance intention as a substitute for repurchase behaviour, in the understanding that continuance intention will lead to repurchase behaviour (loyalty).

Our contribution is potentially valuable, as the growing body of research still does not appear to address the research questions that e-retailers in this extremely competitive environment now face in the context of Saudi Arabia, as an example of a developing country in the Arabic World. Moreover, the cross-cultural aspect to our contribution is also relevant, as both models (TAM and ECT) have been used widely in research in the industrialized world, but they are less commonly applied to the Arab countries, particularly Saudi Arabia. Within the topic of online shopping, there are few, if any, attempts to examine what factors drive consumers' continuance intentions.

To sum up, researchers are confronted with a choice among a multitude of models and find that they could "pick and choose" constructs across the models, or choose a "favoured model" and largely ignore the contributions from alternative models (Venkatesh *et al.*, 2003). Given the complementary nature of technology acceptance model (TAM; Davis *et al.*, 1989) and expectation confirmation theory (ECT; Bhattacherjee, 2001b), our research attempts to provide a validated conceptual model of on-line behaviour, adapting different constructs from the modified TAM and ECT, including age, and to clarify and explain more variance of continuance intentions in the context of e-shopping in Saudi Arabia. Such an integrated model is depicted in Figure 1. In this proposed model, we postulated the effect on continuance intention, which is adapted from ECT, comes from three constructs: perceived usefulness, enjoyment, and subjective norm.

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, our conclusions and contribution, and recommendations for further research. Finally, we present managerial implications.

2. 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 behaviours across a broad range of computing technologies and
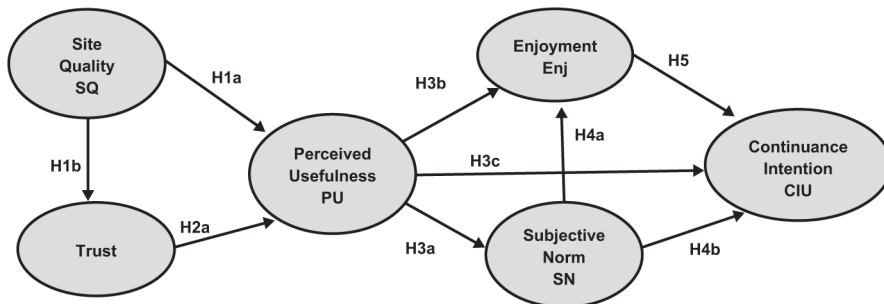
Figure 1.
Hypotheses and internet
continuance intentions
towards e-shopping model

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 researchers (e.g. Bhattacherjee, 2001a; Ma and Liu, 2004; Van der Heijden *et al.*, 2003) indicate that ease of use has the greatest most effect on acceptance after 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 (Gefen and Straub, 2000; Leader *et al.*, 2000; Teo *et al.*, 1999; Venkatesh and Davis, 2000; Venkatesh *et al.*, 2003).

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).

On the other hand, expectation confirmation theory (ECT) in turn helps predict consumer behaviour 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). 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, the consumer experiences positive intentions to repurchase (Anderson and Sullivan, 1993; Oliver, 1980).

Nevertheless, ECT ignores potential changes in initial expectations following the consumption experience and the effect of these expectation changes on subsequent cognitive processes (Bhattacherjee, 2001a). Pre-purchase expectations typically are based on others' opinions or information from mass media, whereas post-purchase expectations derive from first-hand experience, which appears more realistic (Fazio and Zanna, 1981). Other researchers have concluded that expectations coming from consumers' direct experiences (post-adoption expectations) are the main predictors of consumer satisfaction. After such experience, expectations may increase if consumers believe the product or service is useful or contains new benefits and features that were not part of their initial expectation. In the expectation confirmation paradigm, expectation is commonly defined as individual beliefs about the level of attributes possessed by a product or service. Based on the previous researches, including TAM (e.g. Davis *et al.*, 1989; Karahanna *et al.*, 1999; Venkatesh, 2000), perceived usefulness is the most consistent antecedent of consumer's intention to use IT. It has been indicated that it is more logical to have usefulness to be surrogate for post-adoption expectations in future

research when measuring intention. Hence, the post-expectation in the original ECT is represented by usefulness in our model.

The dominant influence of perceived usefulness has led Bhattacherjee (2001) to include usefulness in his revised ECT. Furthermore, in a recent study by Premkumar and Bhattacherjee (2008), an interesting finding was reported. Perceived usefulness is the strongest predictor of intention in TAM, and continues to be the strongest predictor of continuance intention (over satisfaction) when TAM combined with ECT, whereas satisfaction was the dominant in ECT (Premkumar and Bhattacherjee, 2008). The relative dominance of usefulness explains its role as critical driver in continuance decisions, particularly in respect of utilitarian rather than hedonic aspects (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 *et al.* (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 behaviours (Jarvenpaa *et al.*, 2000; McKnight *et al.*, 2002b; Urban *et al.*, 2000).

Koufaris (2002) indicated that perceived usefulness has a stronger effect on intention to return to an online store than shopping enjoyment. Cyr *et al.* (2006) showed that enjoyment has a stronger effect on repeat purchase (loyalty) towards a mobile service than perceived usefulness, whereas Cyr *et al.* (2007) showed that perceived usefulness has a stronger effect on repeat purchase (loyalty) towards an e-service web site. It appears that the exact nature of the impacts of perceived usefulness and enjoyment on customer continuance intention (repurchase intention) towards online shopping remains unclear.

The extended TAM and ECT have been adopted as a basis in this research because, across the years, numerous empirical tests have shown them as strong models of technology acceptance intention behaviours and continuance intention in a wide variety of IT and country contexts. Based on the prior research outlined previously, we are able to predict expectations with regard to the effects of site quality, trust, usefulness, subjective norm and enjoyment, in the following section.

3. Proposed model and hypotheses

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). Trust refers to an expectation that others will not behave opportunistically (Gefen *et al.*, 2003). If e-shopping is a believed to be socially desirable behaviour, a person is more likely to e-shop (George, 2002). Therefore, a person's beliefs about what important others think about the behaviour also should directly influence subjective norms.

Furthermore, Venkatesh *et al.* (2003) suggest that usage and intentions to continue usage may depend on cognitive beliefs about perceived usefulness. Gefen *et al.* (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). Childers *et al.* (2001) also find that enjoyment can predict attitude towards e-shopping, just as much as usefulness can. 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.

3.1 Site quality

Site information quality and a good interface design enhance consumer trust (Fung and Lee, 1999). Web site quality may help predict behaviour indirectly (Business Wire, 1999; Carl, 1995; Meltzer, 1999). Perceptions of web site quality affect trust and perceptions of usefulness. In addition, e-shoppers should perceive a web site as more trustworthy if it appears more attractive because of its contents, layout, and colours, which represent site quality. On the basis of previous research, we therefore predict:

H1a. Perceived site quality is positively related to perceived usefulness.

H1b. Perceived site quality is positively related to customer trust to use online shopping.

3.2 Trust

Trustworthiness in the person trusted is therefore an essential element in the decision to place trust in the other party (Vaux Halliday, 2004). Trust therefore implies a belief that the vendor will provide what has been promised (Ganesan, 1994). A lack of trust prevents buyers from engaging in online shopping because they are unlikely to transact with a vendor who fails to convey a sense of trustworthiness, mainly because of fears of seller opportunism (Hoffman *et al.*, 1999). 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.

3.3 Perceived usefulness

According to Burke (1996), 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; Igbaria *et al.*, 1995; Subramanian, 1994), including e-commerce adoption (Gefen and Straub, 2000). Therefore:

H3a. Perceived usefulness is positively related to increasing customer subjective norm.

H3b. Perceived usefulness is positively related to increasing customer enjoyment.

H3c. Perceived usefulness is positively related to increasing customer continuance intention.

3.4 Subjective norm

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 *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. Social influence also is relevant to enjoyment, because involving web sites facilitate e-friendship among social communities and enforce enjoyment as e-shopping. Thus,

H4a. Perceived subjective norm is positively related to increasing customer enjoyment.

H4b. Perceived subjective norm is positively related to increasing customer continuance intention.

3.5 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, 2002), 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). Support for the role of enjoyment in the continuance intention (repurchase intention) is provided by Koufaris (2002), Bart *et al.* (2005) and Cyr *et al.* (2006). Thus:

H5. Perceived enjoyment is positively related to increasing customer continuance intention.

Thus, based on the proposed research hypotheses outlined previously and in Figure 1, we are able to proceed to develop an appropriate method as a guide for identification and interpretations of the important research factors and frame work, which are explored in details in the following section.

4. Methodology

The survey method is used to collect the primary data for the research constructs. 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. Because this study aims to determine factors that influence continuance intentions towards e-shopping, and develop an appropriate conceptual framework, factor analysis, discriminant validity, and structural equation modelling are used throughout, see Table I.

Previous studies have shown that data collected directly from users rather than from service providers offer more accurate information about service characteristics and how they lead to higher quality evaluation in the context of e-shopping, especially given that customers' continuance intentions are best assessed through information

Strategy of inquiry	Methods
Survey design (online)	
Which is suitable for collecting data from large geographical area	Pre-determined instrument based questions
	Self-administered questionnaire
Get free access to both male and female participants	Statistical analysis (quantitative)
SEM	
Provides comprehensive, flexible approach to conducting the research design and performing data analysis	
Allows for multiple immediate directions of causality, and distinguishes the direct effect from the indirect effect, as well as the total effect	
Invariance analysis is important to minimize the possibility of research biases in group-analysis researches that may arise from the data collection or date	

Table I.
Research design

obtained from the users themselves. Furthermore, including students in the survey sample may represent the future e-shopping patterns in the population at large, especially that online customers commonly are younger and more highly educated than conventional customers. Therefore, the profile of students is closer to that of the online customer population than is the profile of the population generally. Research has confirmed by meta analysis the value of using students over professionals in technology acceptance studies.

Visitors to the online survey were invited to complete the survey in relation to an e-retailer from which they had recently shopped or purchased. The participants were then asked to indicate the degree to which each statement in the survey was characteristic of their thoughts and feelings. As a result, 465 students have completed the online survey.

A pilot study was carried out in Saudi Arabia to evaluate the effectiveness of the research instrument. The pilot study suggested some clarifications to the survey instruments. 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.

Thus, all these methods are appropriate and indicate the research path is ready to proceed, into the actual data and findings derived from the proposed conceptual model.

4.1 Measures

The measures of the various constructs come from previous literature, adapted to the context of online shopping if necessary. All online survey items use 1-7 Likert scales, on which 1 indicates strongly disagree and 7 is strongly agree, see the Appendix. The site quality and trust items come from McKnight *et al.* (2002a, b). The perceived usefulness items derive from Gefen *et al.* (2003). Perceived enjoyment is a measure from Childers *et al.* (2001). Shih and Fang (2004) provide the subjective norm items. The continuance intention items were adapted from Yang and Peterson (2004).

4.2 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 II, the sample consists of 465 participants in Saudi Arabia, 68.6 per cent (319) of who are women and 31.4 per cent (146) of who are men. Most respondents are in the younger age group, this age range broadly reflects the profile of the young Saudi population, where 60 per cent is younger than 30 years of age. The vast majority (92.3 per cent) of respondents came from the three main regions in Saudi Arabia.

Table II indicates that younger people have the intention to spend more than older people in Saudi Arabia. Additionally, as we show in Table III, both the young and old

Question	Younger than 35		35 and older	
	n	%	*n*	%
Gender				
Male	114	32.8	32	27.4
Female	234	67.2	85	72.6
Age				
Less than 18	16	4.6	0	
Between 18-25	130	37.4	0	
Between 26-35	202	58	0	
Between 36-45	0	88	75.2	
Above 46	0	29	24.8	
Education level				
Less than high school	8	2.3	1	0.9
High school	49	14.1	8	6.8
Diploma	43	12.4	12	10.3
Bachelor	191	54.9	50	42.7
Post-graduate	57	16.4	46	39.3
Internet spending				
None	49	14.1	9	7.7
SR100-1,000 (£100-500)	115	33.0	48	41.0
SR1,001-5,000 (£501-1,000)	111	31.9	32	27.4
> SR5,001 (£ > 1,001)	73	21.0	28	23.9
Income level				
< SR4,000 (£1,000)	87	25.0	5	4.3
SR4,000-SR6,000 (£1,000-2,000)	56	16.1	13	11.1
SR6,001-SR8,000 (£2,001-4,000)	46	13.2	12	10.3
SR8,001-SR10,000 (£4,001-7,000)	33	9.5	9	7.7
SR10,001-SR15,000 (£7,001-10,000)	42	12.1	27	23.1
> SR15,001 (> £10,000)	21	6.0	49	41.9
Dependent on others	63	18.1	2	1.7
Region				
East region	100	28.7	17	14.5
West region	122	35.1	67	57.3
Central region	93	26.7	30	25.6
North region	20	5.7	1	0.9
South region	13	3.7	2	1.7

Table II.
Demographic findings

	Younger than 35		35 and older	
	n	%	*n*	%
Items purchased in the last six months				
Buying books	197	56.6	65	55.6
Music CD, DVD, videotape	157	45.1	36	30.8
Cloth	102	29.3	18	15.4
Sports equip	67	19.3	18	15.4
Travel reservation and ticketing	208	59.8	86	73.5
Hotel booking	149	42.8	69	59.0
Reason for using the internet				
Info. search	320	92	112	95.7
Entertainment	256	73.6	74	63.2
Social communication	245	70.4	77	65.8
Work	194	55.7	92	78.6
Study	44	60.9	59	50.4
Purchasing	284	81.6	97	82.9
Banking	231	66.4	90	76.9
Types of companies trusted				
Local companies	42	12.1	12	10.3
International companies	143	41.1	54	46.2
Trust them both the same	163	46.8	51	43.6

Note: Respondent can select more than one option

Table III.
Items purchased online and reason for using the internet

age group trust international companies more than the local Saudi companies. Younger age participants dominated the older group of 35 years and older in all categories. Security, quality, payment, and language barrier are considered as an issue when conducting e-shopping in Saudi Arabia, as we show in Table IV.

4.3 Analysis
The scale reliability and validity were assessed, as well as the examination of the convergent and discriminant validity of the research instruments. The criterion for the minimum loading of 0.70 required for the inclusion of an item within a scale was applied. A criterion for average variance extracted (AVE) 0.50 or more was applied. The researcher also used the guidelines recommended by Hair *et al.* (2006) in

	Younger than 35		35 and older	
Important issues to e-shoppers	*n*	%	*n*	%
Security	275	79	100	85.5
Price	204	58.6	73	62.4
Service, delivery	222	63.8	78	66.7
Quality	252	72.4	81	69.2
Payment	220	63.2	78	66.7
Language barrier	157	45.1	56	47.9

Note: Respondent can select more than one option

Table IV.
Important issues when shopping online

determining the relative importance and significance of the factor loading of each item (i.e. loadings greater than 0.30 are considered significant; loadings greater than 0.40 are considered important; and loadings 0.50 or greater are considered to be very significant). Finally, the criteria were applied to determine the adequacy of the reliability coefficients obtained for each measure.

Discriminant validity, which assesses whether individual indicators can adequately distinguish between different constructs, is assured if the square root of AVE for each construct is greater than the correlation between the measures of potentially overlapping constructs.

The internal consistency reliabilities Cronbach's alphas (see Table V) are all greater than 0.7, exceeding the recommended values in Bagozzi and Yi's (1988) guidelines. The correlation matrix in Table V indicates that the square root of the AVE of each construct is higher than the corresponding correlation values for that variable, thereby assuring discriminant validity. Consistent with the recommendation of Bagozzi (1994) and Hair *et al.* (2006), the squared multiple correlation exceeded the cut-off point of 0.7, and the average variance extracted exceeded the cut off-point is 0.5 (see Table VI). We thus confirm the convergent reliability and discriminant validity.

5. Structural equation model

As the first step in testing the proposed model, we estimate the goodness-of-fit indices (see Figure 2). Bentler and Bonett (1980) suggest the Chi-square/degrees-of-freedom (CMIN/DF) ratio as an appropriate measure of model fit, which should not exceed 5 (Bentler, 1989).

A structural equation model (SEM) with AMOS 5.0 software determines additional goodness-of-fit indices. In general, GFI and CFI greater than 0.90 indicate good model fit (Bentler, 1989). As illustrated in Table VII, all 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 VIII, the goodness-of-fit indices of the proposed model of continuance intentions fit the data reasonably well, as confirmed by the chi-square CMIN = 656.880, df = 236, CMIN/DF = 2.783, RMR = 0.176, GFI = 0.897, CFI = 0.966, and RMSEA = 0.062.

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

| Model constructs | Mean | SD | Cronbach's alpha | Factor correlations | | | | | |
				SQ	PU	Trust	SN	Enj	CIU
SQ	21.52	5.31	0.926	*0.871*					
PU	21.89	5.59	0.949	0.740	*0.903*				
Trust	21.68	5.31	0.949	0.676	0.719	*0.903*			
SN	18.73	6.19	0.947	0.298	0.316	0.440	*0.805*		
Enj	20.80	5.07	0.935	0.464	0.494	0.686	0.547	*0.870*	
CIU	21.30	5.49	0.961	0.440	0.468	0.650	0.565	0.778	*0.833*

Note: Diagonal elements represent square root of the AVE value

Table V.
Convergent and discriminant validity and scale correlations

| Constructs/indicators	S. factor loading	SE	CR	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				0.816	
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				0.815	
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 VI.
Measurement model
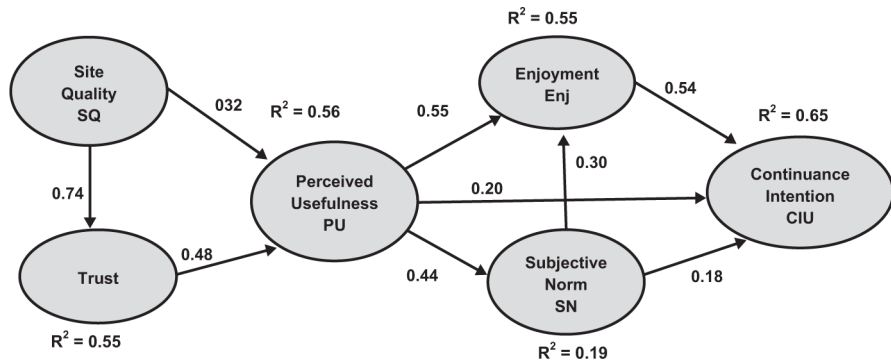
Figure 2.
Internet continuance
intentions towards
e-shopping model in Saudi
Arabia

Notes: X^2 = 656.880; df = 236; X^2/df = 2.783; CFI = 0.966; RMSEA = 0.062

Hypotheses	Paths			Standardized regression weights (B)	Standard error SE	Critical ratio CR	p-value	Hypotheses findings
H1a	PU	< –	SQ	0.318	0.059	5.796	***	Supported
H1b	Trust	< –	SQ	0.740	0.044	17.261	***	Supported
H2	PU	< –	Trust	0.484	0.058	8.673	***	Supported
H3a	SN	< –	PU	0.440	0.042	9.184	***	Supported
H3b	Enj	< –	PU	0.553	0.035	11.549	***	Supported
H3c	CIU	< –	PU	0.198	0.043	4.594	***	Supported
H4a	Enj	< –	SN	0.303	0.036	7.076	***	Supported
H4b	CIU	< –	SN	0.182	0.041	4.974	***	Supported
H5	CIU	< –	Enj	0.543	0.072	10.244	***	Supported

Note: $p < 0.001$

Table VII.
Regression weights

Confirmatory factor analysis CFA (goodness-of-fit measure)	Acceptable values	Value
Chi-square CMIN	NA	656.880
Degree of freedom	NA	236
CMIN/DF	Chi square/ df ≤ 5 (Bentler and Bonett, 1980)	2.783
Root mean square residual (RMR)	No established thresholds (the smaller the better) (Hair *et al.*, 2006)	0.176
Goodness-of-fit (GFI)	≥ 0.90 (the higher the better) (Hair *et al.*, 2006)	0.897
Comparative fit index (CFI)	≥ 0.90 (Hair *et al.*, 2006)	0.966
Root mean square error of approximate (RMSEA)	< 0.08 (Hair *et al.*, 2006)	0.062

Table VIII.
Goodness-of-fit indices

for each path (see Table VII). The hypothesized associations are strongly significant at $p = 0.000$. Perceived enjoyment is the strongest predictor of continuance intention (standardised regression weight (B) = 0.543), followed by perceived usefulness (B = 0.198), and then subjective norms (B = 0.182). The model explains 65 per cent of the variance in continuance intentions (see Figure 2).

5.1 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 and Rensvold, 1999).

Invariance analysis enables us to examine the differences between the young (younger than 35 years old) and old group (35 and older) in Saudi Arabia. The invariance analysis indicates whether any differences occur between the two age groups, young and old. The factorial analysis reveals if young and old conceptualize the model constructs the same way. If we find an age 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 age for the young and old 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 = 1206.661, df = 468, CMIN/DF = 2.578, RMR = 0.123, GFI = 0.906, CFI = 0.971, and RMSEA = 0.041, indicate satisfactory goodness-of-fit indices across the groups (see Table IX).

Assuming the unconstrained model is correct, compared with constraining all factorial paths, the results across groups indicate changes in df(Δdf) = 18, chi-square ($\Delta\chi^2$) = 31.677, and p = 0.115, which is greater than Byrne's (1995) 0.05 cut-off. Tests of measurement invariance in which we freely estimate the other loadings appear in Table X. According to the results in Table X, changes in the chi-square and df are insignificant (p = 0.115). Therefore, the goodness-of-fit indices are comparable across age groups, supporting the invariance of the unconstrained and constrained models. We thereby establish metric equivalence and can proceed in our analysis to regression paths.

The coefficient (regression paths) invariance analysis determines if young and old respondents in Saudi Arabia have the same relationships with same variables in the research model. The findings in Table X suggest coefficient invariance among age groups across the research model with all regression paths constrained ($\Delta\chi^2$ = 13.244, Δdf = 9, p = 0.369). Despite the lack of overall coefficient invariance, the authors realised the need to minimize the possibility of research biases in group analysis among constructs relationship (path) that may arise from the data strength and weakness when applied to every constructs' path. Therefore, to look for significant path differences, the authors decided to test each factorial path separately while the rest of the paths are freely estimated across the compared age groups, to look for any non-invariance path. In Table XI, it could be seen that non-invariance is found in the individual path, even though it was not so over whole. The findings indicate that young and old age group in Saudi Arabia are

Confirmatory factor analysis CFA (goodness-of-fit measure)	Acceptable values	Value
Chi-square CMIN	NA	1206.661
Degree of freedom	NA	468
CMIN/DF	Chi square/ df ≤ 5 (Bentler and Bonett, 1980)	2.578
Root mean square residual (RMR)	No established thresholds (the smaller the better) (Hair *et al.*, 2006)	0.123
Goodness-of-fit (GFI)	> 0.90 (the higher the better) (Hair *et al.*, 2006)	0.906
Comparative fit index (CFI)	> 0.90 (Hair *et al.*, 2006)	0.971
Root mean square error of approximate (RMSEA)	< 0.08 (Hair *et al.*, 2006)	0.041

Table IX.
Goodness-of-fit indices (younger than 35-35 and older)

Model	Δdf	$\Delta\chi^2$	P
Measurement weights	18	31.677	0.115
Structural weights	9	13.244	0.369

Table X.
Invariance analysis (younger than 35-35 and older)

non-invariant in certain relational paths. Differences in their behaviour in the context of online shopping continuance in Saudi Arabia can be observed in the different coefficients in the subjective norm $\rightarrow$ enjoyment link. Specifically, in the comparisons of the young with old ($\Delta\chi^2 = 5.609$, $p = 0.018$), the influence of subjective norm is greater for younger sample than for older sample (see Table XI). Therefore, in this case testing the individual path has demonstrated to be a more rigorous test for non-invariance.

The result of the latent mean analysis is reported in Table XII. Age was found to have latent mean non-invariance for the research constructs. This difference between younger than 35 and 35 and older, in the context on continuance e-shopping in Saudi Arabia, resulted from the differences of the latent mean of trust, enjoyment, and continuance intention to use. The result is significant ($p > 0.05$, trust, $p = 0.004$; enjoyment $p = ^{***}$; continuance intention to use $p = 0.025$). Thus, trust is more (higher) among the younger sample than it is among older sample. The same is for enjoyment and continuance intention-to-use are more (higher) among the younger sample than it is among older sample.

SEM distinguishes between direct, indirect, and total effects (Jöreskog and Sörbom, 2001). A total effect consists of a direct and one or more indirect effects. The direct and indirect effects in Table XIII reveal that the greatest total

| | | Sample | | | | | | Invariance | | |
| | | Younger than 35 | | | 35 and older | | | | | |
Hypotheses	Paths	RW	CR	p-value	RW	CR	p-value	Δdf	$\Delta\chi^2$	p-value
H4a	Enj < – SN	0.186	7.039	***	0.322	5.694	***	1	5.609	0.018

Table XI.
Structural factorial of theoretical construct (structure invariant – regression) for the age sample (younger than 35-35 and older)

	Latent mean	SE	CR	p-value
PU	0.096	0.092	1.037	0.300
Trust	0.278	0.097	2.875	0.004
Enj	0.401	0.095	4.209	***
CIU	0.217	0.097	2.237	0.025
SQ	0.070	0.091	.769	0.442
SN	0.149	0.091	1.644	0.100

Table XII.
Means: (younger than 35 – default model) – for the age sample (younger than 35-35 and older)

| | CIU (younger than 35) | | | CIU (35 and older) | | |
Construct	Direct	Indirect	Total	Direct	Indirect	Total
SQ	–	0.620	0.620	–	0.624	0.624
TRUST	–	0.318	0.318	–	0.269	0.269
PU	0.211	0.215	0.426	0.263	0.244	0.506
SN	0.215	0.131	0.346	0.212	0.241	0.453
ENJ	0.741	–	0.705	0.749	–	0.749

Note: $R^2 = 0.65$

Table XIII.
Direct and indirect influences on CIU

influences of direct and indirect (mediated) effects on continuance intentions come from enjoyment for the 35 years and older (0.749) and (0.705) for younger than 35 years samples. The next greatest influences derive come from site quality for both old and young samples. Therefore, site quality, trust, perceived usefulness, enjoyment, and subjective norm all play significant direct and indirect roles for continuance intentions regarding online shopping in Saudi Arabia for both age groups.

6. Discussion

Empirical testing of the proposed model found the model to be strongly supported, with all paths are significant in the hypothesised directions. The model explains 65 per cent of continuance intentions towards e-shopping. The result suggests that enjoyment, subjective norms, and perceived usefulness are the main determinants of online shopping continuance intention. These findings are consistent with previous research (e.g. Bhattacherjee, 2001a; Childers *et al.*, 2001; Davis *et al.*, 1989; George, 2002; Shih and Fang, 2004; Taylor and Todd, 1995; Teo *et al.*, 1999; Venkatesh *et al.*, 2003). One interesting findings of this research is that, among the three determinants of online shopping continuance intention, the influence of enjoyment is the strongest predictor; it was even stronger than usefulness and subjective norms. As indicated by the results of this research, the importance of subjective norms contradicts Davis *et al.* (1989) who claimed that subjective norms are not significant in explaining behavioural intentions, which can be assumed to be related to cultural factors.

The measurement weights of the young, and old groups, are consistent between those groups, as are many of the regression paths are similar for both young and old age groups in Saudi Arabia. However, the subjective norms $\rightarrow$ enjoyment path is non-invariant between the age groups. That is, younger people are more influenced by evaluations of the opinions of others (young RW = 0.186, CR = 7.039; old RW = 0.322, CR = 5.694; $\Delta\chi^2 = 5.609$, $p = 0.018$). This may reflect the general tendency of more mature people to rely on their own experience or, rephrasing, young people are more influenced by peer groups (Spero and Stone, 2004).

Additionally, another key conclusion from this study is the importance of both the direct and indirect effects of age differences in Saudi Arabia, which should be take into consideration when developing any web site and marketing strategy for e-retailing. Site quality and trust are strong antecedents of perceived usefulness (site quality SRW = 0.318; trust SRW = 0.484). Both site quality (0.620) and trust (0.318) have large indirect effects on continuance intentions (see Table XIII). 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, enjoyment and continuance intention are higher among the younger population (trust, $p = 0.004$; enjoyment $p < 0.001$, continuance intention to use $p = 0.025$). Thus, Trust is 0.278 more (higher) among the younger sample than it is among older sample. The same goes for enjoyment with 0.401 and continuance intention to use with 0.217, both higher among the younger sample than among older sample, consistent with the expected greater readiness of younger people to embrace technological innovations.

7. Managerial implications

This study provides managers with useful and important information to increase shoppers' intention toward online shopping, and we suggest that this should feed into web site planning and marketing strategies. Managers and site developers should focus on the quality and informative content, which reflect usefulness and enjoyment. Managers also should not underestimate the power of the technology and the internet, especially in a young population. By improving usefulness and enjoyment of their sites, managers would work to maximise continued shopping. This is important, because customers who fail to return reduce the firm's customer base and most often its revenues and may require substantial expenditures to attract them back from competitors. In short, we recommend that in these ways managers can build sustainable, continued e-shopping relationships that are relevant and credible to the companies' target audience. Managers cannot ignore either direct (perceived usefulness, enjoyment, subjective norms) or indirect (site quality and trust) influences on continuance behaviours. The findings indicate that both young and old respondents have concerns about trusting local e-shopping sites. Managers are advised to enhance the web site security, content and design quality, and add a dual language feature, in order to retain consumers and build long-term trustworthy relationships.

Online retailers can build positive word of mouth to enhance the perceptions of friends and family members of current customers about the web site's usefulness, site quality, interactivity, and enjoyment, which can increase perceptions of the firm's trustworthiness. The research findings confirm that the young population is spending more time online, spending more money in e-shopping, and trusting internet shopping more than the older population. Therefore, managers should communicate the product benefits and values and rely on the young people to spread the positive word of mouth and recommend the product. Peer pressure would engage and encourage consumers to enjoy shopping online leading to more intention to e-shop. This is more important among young consumers as they are making the online world their environment, developing personal relationships, and spreading experiences. Moreover, the findings indicate that young people have greater trust, enjoyment, and intentions to continue e-shopping than older people. This is good news for Saudi online retailers! However, managers could also work towards increasing levels of trust, enjoyment, and intention to continue e-shopping among the older population.

In these many ways this research can help managers shift consumers from single visits to ongoing, trusting, useful, and enjoyable relationships, which should produce more stable, long-run business for online firms.

8. Research limitation

We note that our research findings must be interpreted in the light of the study's limitations. The purpose of the online survey is to attract participants with online experience, and who had access to the internet. Therefore, the results should be interpreted as only explaining the continuance intentions towards e-shopping of current online customers.

Additionally, the novelty associated with using an online survey in the Saudi Arabian market indicates the empirical data may lead to novelty effect bias. Moreover, 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 (928 in the first two months) and covers all three main commercial, geographical regions in Saudi Arabia, it still may suffer from the biases that are inherent to survey studies. On the other hand, this survey can claim to be more realistic than typical laboratory experiments, as it addresses real consumers and real shopping issues, outweighing the disadvantages of the survey method.

9. Further research

This study confirms that e-shopping continuance intention involves hedonic as well as utilitarian values. Prior research classifies convenience, savings and product quality as utilitarian values and enjoyment, entertainment and self-expression as hedonic values. Therefore, an interesting area for future research would be to identify the various dimensions of hedonic and utilitarian values, especially in the Arabic countries, and to examine their relative importance in driving customers' continuance intentions towards e-shopping.

Research has shown that the product type, product price and purchase involvement can influence online shopping. The suitability of the internet as a shopping medium depends on the characteristics of the products sought. Some products are more convenient to be bought in traditional shopping, whereas others are easier to buy online. Thus, the model should be tested within a certain product category in future research.

As the research data are cross-sectional and not longitudinal, there is an opportunity to test the research model with longitudinal data and track actual repeat purchase as a measure of customer continuance intention towards online shopping.

In the online context in Saudi Arabia; further research could usefully include finding ways to appeal to both hedonic and utilitarian shoppers, especially within the large younger segment of the population. Moreover, future research related to continuance intentions could incorporate different comparisons such as new e-shoppers versus continuing users who have more internet knowledge and experience.

Finally, in line with the current interest in cross-cultural research, we recommend that our model should be tested in other cultures, particularly those that may have parallels with Saudi Arabia, such as the Gulf regions. Future research may extend the current model by incorporating specific cultural dimensions, and testing the model in countries that exhibit salient cultural differences.

10. Conclusion

This study adds to the understudied area of continuance intentions towards e-shopping in the western countries in general and in non-western countries in particular, such as Saudi Arabia, by examining the effects of usefulness, enjoyment, and subjective norms on continuance intention. The proposed model considered TAM and ECT, with the inclusion of other variables associated with online shopping. Empirical testing of the proposed model found the model to be strongly supported, with all paths are significant in the hypothesised directions. The result suggests that enjoyment, subjective norms, and perceived usefulness are the main determinants of continuance intention; where enjoyment is the strongest predictor, followed by usefulness and then subjective norms.

Notwithstanding that TAM omits subjective norms, primarily because Davis claimed that they are not significant in explaining behavioural intentions (Davis *et al.*, 1989), our research finding of subjective norm (social pressure) towards continuance intention is consistent with research that concludes that positive or negative social pressure, such as word-of-mouth, is more effective than advertising in persuading customers to increase or reduce their intention or action. The authors speculate that such a model may well be generally applicable to online shopping in other countries, and perhaps also generally applicable to continuance intention in other service industries. However, as indicated by the results of this research, the importance of subjective norms can be assumed to be related to cultural factors leading to the interesting question of to what extent the TAM and ECT may be valid in more collective societies than developed countries. Thus, it is for future research to explore this potential generalization.

To conclude, most e-commerce research has focused on understanding the initial purchasing intention, purchase intention, and willingness to transact or transaction intention. However, research on online continuance intention is still scant, especially in Saudi Arabia. The results of this study contribute to existing literature from a theoretical standpoint, in several ways:

- First, we enhance e-shopping literature by providing insights into the factors that affect continuance intentions towards e-shopping in Saudi Arabia. Additionally, another key conclusion from this study is the importance of both the direct and indirect effects of age differences in Saudi Arabia, which should be take into consideration when developing any web site and marketing strategy for e-retailing. To have a significant effect on continuance intentions towards e-shopping, 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.

- Second, the results support previous research that perceived usefulness reflects the utilitarian aspects of online shopping, whereas perceived enjoyment reflects its hedonic aspects. In our study, enjoyment has the strongest direct effect on continuance intentions towards e-shopping. Nevertheless, combining the direct and indirect effects indicates that perceived usefulness had a stronger total effect on continuance intentions towards e-shopping, in support of previous findings that 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, this study is unique in its methodological approach. Within Saudi Arabia, few prior studies have used SEM as their methodological approach, and even fewer applied invariance analysis to verify age behavioural differences. This approach allows the author to examine and compare details of different age groups that were not otherwise possible. This study addresses this knowledge gap for a unique culture.

References

Adams, D.A., Nelson, P.R. and Todd, P.A. (1992), "Perceived usefulness, ease of use and usage of information technology: a replication", *MIS Quarterly*, Vol. 16 No. 2, pp. 227-47.

Agarwal, R. and Prasad, J. (1998), "A conceptual and operational definition of personal innovativeness in the domain of information technology", *Information Systems Research*, Vol. 9 No. 2, pp. 204-15.

Agarwal, R. and Prasad, J. (1999), "Are individual differences germane to the acceptance of new information technologies?", *Decision Sciences*, Vol. 30 No. 2, pp. 361-91.

Ajzen, I. and Fishbein, M. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA, p. 45.

Al Riyadh (2006), "Challenge bad the future of e-com in Saudi Arabia", *Saudi Arabia*, Vol. 13943 No. 43, 27 August, available at: www.alriyadh.com/2006/08/27/article182047.html (accessed April 4, 2007).

Alden, D.L., Steenkamp, J.-B. and Batra, R. (2006), "Consumer attitudes toward marketing globalization: antecedent, consequent and structural factors", *International of Research in Marketing*, Vol. 23 No. 3, pp. 227-39.

Alreck, P. and Settle, R.A. (2002), "Gender effects on internet", *Catalog and Store Shopping, Journal of Database Marketing*, Vol. 9 No. 2, pp. 150-62.

Anderson, E.W. and Sullivan, M.W. (1993), "The antecedents and consequences of customer satisfaction for firms", *Marketing Science*, Vol. 12 No. 2, pp. 125-43.

Babin, B.J., Darden, W.R. and Griffen, M. (1994), "Work and/or fun: measuring hedonic and utilitarian shopping value", *Journal of Consumer Research*, Vol. 49 No. 2, pp. 91-9.

Bagozzi, R. (1994), *Principles of Marketing Research*, Blackwell, Malden, MA.

Bagozzi, R. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16, pp. 74-94.

Barnes, S.J. and Vidgen, R. (2000), "Information and Interaction quality: evaluating internet Bookshop web sites with SERVQUAL", *Proceedings of the 13th International E-commerce Conference, Bled*.

Bart, Y., Shankar, V., Sultan, F. and 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*, Vol. 69 No. 4, pp. 133-52.

Bentler, P.M. (1989), *EQS Structural Equations Program Manual*, BMDP Statistical Software, Los Angeles, CA.

Bentler, P.M. and Bonett, D.G. (1980), "Significance tests and goodness of fit in the analysis of covariance structures", *Psychological Bulletin*, Vol. 88 No. 3, pp. 588-606.

Bhattacherjee, A. (2001a), "Understanding information systems continuance: an expectation-confirmation model", *MIS Quarterly*, Vol. 25 No. 3, pp. 351-70.

Bhattacherjee, A. (2001b), "An empirical analysis of the antecedents of electronic commerce service continuance", *Decision Support Systems*, Vol. 32 No. 2, pp. 201-14.

Brislin, R. (1986), "The wording and translation of research instruments", in Lonner, W. and Berry, J. (Eds), *Field Methods in Cross-cultural Research*, Sage, Beverly Hills, CA.

Burke, R.R. (1996), "Do you see what I see? The future of virtual shopping", *Journal of the Academy of Science*, Vol. 25 No. 4, pp. 352-60.

Business Wire (1999), *Online Investing Market Grows by 37 Per Cent in 1998; Online Investors Expect Impact to Be Felt by Full Service and Discount Firms*, available at: www.businesswire.com/webbox/bw.021199/1100662.html (accessed February 2009).

Byrne, B. (1995), *SEM with AMOS: Basic Concepts, Applications, and Programming*, Routledge, New York, NY.

Carl, J. (1995), "Online service users: loyal as alley cats?", *Web Week*, Vol. 1 No. 7.

Cheung, G.W. and Rensvold, R.B. (1999), "Testing factorial invariance across groups: a reconceptualization and proposed new method", *Journal of Management*, Vol. 25 No. 1, pp. 1-27.

Childers, T., Carr, C., Peck, J. and Carson, S. (2001), "Hedonic and utilitarian motivations for online retail shopping behavior", *Journal of Retailing*, Vol. 77 No. 4, pp. 511-35.

Crego, E.T. Jr and Schiffrin, P.D. (1995), *Customer-centered Reengineering: Remapping for Total Customer Value*, Irwin, Burr Ridge, IL.

Cyr, D., Head, M. and Ivanov, A. (2006), "Design aesthetics leading to m-loyalty in mobile commerce", *Information and Management*, Vol. 43 No. 8, pp. 950-63.

Cyr, D., Hassanein, K., Head, M. and Ivanov, A. (2007), "The role of social presence in establishing loyalty in e-service environments", *Interacting with Computers*, Vol. 19 No. 1, pp. 43-56.

Dabholkar, P.A., Shepard, C.D. and Thorpe, D.I. (2000), "A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study", *Journal of Retailing*, Vol. 76 No. 2, pp. 139-73.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-40.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989), "User acceptance of computer technology: a comparison of two theoretical models", *Management Science*, Vol. 35 No. 8, pp. 982-1003.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1992), "Extrinsic and intrinsic motivation to use computers in the workplace", *Journal of Applied Social Psychology*, Vol. 22, pp. 1111-32.

Dishaw, M.T. and Strong, D.M. (1999), "Extending the technology acceptance model with task-technology fit constructs", *Information and Management*, Vol. 36 No. 1, pp. 9-21.

Fazio, R.H. and Zanna, M.P. (1981) in Berkowitz, L. (Ed.), *Direct Experience and Attitude Behavior Consistency in Advances in Experimental Social Psychology*, Vol. 6, Academic Press, New York, NY, pp. 161-202.

Festinger, L.A. (1975), *A Theory of Cognitive Dissonance*, Row and Peterson, Evanston, IL.

Foucault, B.E., Scheufele Laroche, M., Yang, Z., McDougall, G.H.G. and Bergeron, J. (2005), "Internet versus bricks and mortar retailers: an investigation into intangibility and its consequences", *Journal of Retailing*, Vol. 81 No. 4, pp. 251-67.

Fung, R.K.K. and Lee, M.K.O. (1999), "EC-trust (trust in electronic commerce): exploring the antecedent factors", in Haseman, W.D. and Nazareth, D.L. (Eds), *Proceedings of the Fifth Americas Conference on Information Systems, August 13-15*, pp. 517-9.

Ganesan, S. (1994), "Determinants for long-term orientation in buyer-seller relationships", *Journal of Marketing*, Vol. 58, pp. 1-19.

Gefen, D. and Keil, M. (1998), "The impact of developer responsiveness on perceptions of usefulness and ease of use: an extension of the technology acceptance model", *The DATA BASE for Advances in information Systems*, Vol. 29 No. 2, pp. 35-49.

Gefen, D. and Straub, D.W. (1997), "The relative importance of perceived and adoption of e-mail: an extension to the technology acceptance model", *MIS Quarterly*, Vol. 21 No. 4, pp. 389-400.

Gefen, D. and Straub, D.W. (2000), "The relative importance of perceived ease-of-use in IS adoption: a study of e-commerce adoption", *Journal of the Association for Information Systems*, Vol. 1 No. 8, pp. 1-30.

Gefen, D., Karahanna, E. and Straub, D.W. (2003), "Trust and TAM in online shopping: an integrated model", *MIS Quarterly*, Vol. 27 No. 1, pp. 51-90.

George, H.F. (2002), "Influences on the internet to make purchases", *Internet Research*, Vol. 12 No. 2, pp. 165-80.

Griffith, D.A., Myers, M.B. and Harvey, M.G. (2006), "An investigation of national culture's influence on relationship and knowledge resources in interorganizational relationships between Japan and the United States", *Journal of International Marketing*, Vol. 14 No. 3, pp. 1-32.

Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R. (2006), *Multivariate Data Analysis*, 6th ed., Pearson Education, Harlow.

Hendrickson, A.R., Massey, P.D. and Cronan, T.P. (1993), "On the test-retest reliability of perceived usefulness and perceived ease of use scales", *MIS Quarterly*, Vol. 17 No. 2, pp. 227-30.

Hoffman, D.L., Novak, T.P. and Perlta, M. (1999), "Building consumer trust online", *Communications of the ACM*, Vol. 42 No. 4, pp. 50-6.

Holmes-Smith, P. (2000), *Introduction to Structural Equation Modelling Using AMOS 4.0 and LISREL 8.30*, School Research, Evaluation and Measurement Services, Canberra.

Holt, D.B., Quelch, J.A. and Taylor, E.L. (2004), "How global brands compete", *Harvard Business Review*, Vol. 82 No. 9, pp. 68-75.

Igbaria, M., Livari, J. and Maragahh, H. (1995), "Why do individuals use computer technology? A finish case study", *Information and Management*, Vol. 29, pp. 227-38.

Igbaria, M., Parasuraman, S. and Baroudi, J.J. (1996), "A motivational model of microcomputer usage", *Journal of Management Information Systems*, Vol. 13 No. 1, pp. 127-43.

Jarvenpaa, S.L., Tractinsky, N. and Vitale, M. (2000), "Consumer trust in an internet store", *Information Technology & Management*, Vol. 7 Nos 1-2, pp. 45-71.

Jöreskog, K.G. and Sörbom, D. (2001), *LISREL 8: User's Reference Guide*, Scientific Software International, Lincolnwood, IL.

Karahanna, E., Straub, D.W. and Chervany, N.L. (1999), "Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs", *MIS Quarterly*, Vol. 23 No. 2, pp. 183-213.

Kim, M.S. and Hunter, J.E. (1993), "Relationships among attitudes, behavioral intentions and behavior", *Communication Research*, Vol. 20 No. 3, pp. 331-64.

Koufaris, M.L. (2002), "Applying the technology acceptance model and flow theory to online consumer behavior", *Information System Research*, Vol. 13 No. 2, pp. 205-23.

Leader, A.L., Maupin, D.J., Sena, M.P. and Zhuange, Y. (2000), "The technology acceptance model and the worldwide web", *Decision Support Systems*, Vol. 29 No. 3, pp. 269-82.

McKnight, D.H., Choudhury, V. and Kacmar, C. (2002a), "The impact of initial consumer trust on intentions to transact with a web site: a trust building model", *Journal of Strategic Information Systems*, Vol. 11 Nos 3-4, pp. 297-323.

McKnight, D.H., Choudhury, V. and Kacmar, C. (2002b), "Developing and validating trust measures for e-commerce: an integrative typology", *Information Systems Research*, Vol. 13 No. 3, pp. 334-59.

Ma, Q. and Liu, L. (2004), "The technology acceptance model: a meta-analysis of empirical findings", *Journal of Organizational and End User Computing*, Vol. 16 No. 1, pp. 59-72.

Meltzer, M. (1999), *Customer Profitability: Information Just Isn"t Enough*, CRM Forum, available at: www.crm-forum.com/crm_forum_white_papers/cpie/ppr.htm (accessed February 2009).

Meyerson, D., Weick, K.E. and Kramer, R.M. (1996), "Swift trust and temporary groups", in Kramer, R.M. and Tyler, T.R. (Eds), *Trust in Organizations: Frontiers of Theory and Research*, Sage, Thousand Oaks, CA, pp. 166-95.

Moon, J.W. and Kim, Y.G. (2001), "Extending the TAM for a world-wide-web context", *Information and Management*, Vol. 38 No. 4, pp. 217-30.

O'Keefe, R., O'Connor, G. and Kung, H.J. (1998), "Early adopters of the web as a retail medium: small company winners and losers", *European Journal of Marketing*, Vol. 32 Nos 7/8, pp. 629-43.

Oliver, R.L. (1980), "Cognitive model for the antecedents and consequences of satisfaction", *Journal of Marketing Research*, Vol. 17, pp. 460-9.

Oliver, R.L. (1993), "Cognitive, affective, and attribute bases of the satisfaction response", *Journal of Consumer Research*, Vol. 20, pp. 418-30.

Patterson, P.G., Johnson, L.W. and Spreng, R.A. (1997), "Modeling the determinants of customer satisfaction for business-to-business professional services", *Journal of the Academy of Marketing Science*, Vol. 25 No. 1, pp. 4-17.

Peterson, R.A., Balasubramanian, S. and Bronnenberg, B.J. (1997), "Exploring the implications of the internet for consumer marketing", *Journal of the Academy of Marketing Science*, Vol. 25 No. 4, pp. 329-46.

Petrissans, A. (1999), "Customer relationship management: the changing economics of customer relationship", white paper, IDC and Gap Gemini.

Premkumar, G. and Bhattacherjee, A. (2008), "Explaining information technology usage: a test of competing models", *Omega*, Vol. 36, pp. 64-75.

Reichheld, F.F. and Schefter, P. (2000), "E-loyalty: your secret weapon on the web", *Harvard Business Review*, Vol. 78 No. 4, pp. 105-13.

Rogers, E.M. (1995), *Diffusion of Innovations*, 4th ed., Free Press, New York, NY.

Shih, Y.Y. and Fang, K. (2004), "The use of decomposed theory of planned behavior to study internet banking in Taiwan", *Internet Research*, Vol. 14 No. 3, pp. 213-23.

Shim, S., Eastlick, M.A., Lotz, S.L. and Warrington, P. (2001), "An online prepurchase intentions model: the role of intention to search", *Journal of Retailing*, Vol. 77, pp. 397-416.

Spero, I. and Stone, M. (2004), "Agents of change: how young consumers are changing the world of marketing", *Qualitative Market Research: An International Journal*, Vol. 7 No. 2, pp. 153-9.

Spreng, R.A., MacKenzie, S.B. and Olshavsky, R.W. (1996), "A reexamination of the determinants of consumer satisfaction", *Journal of Marketing*, Vol. 60, pp. 15-32.

Subramanian, G.H. (1994), "A replication of perceived usefulness and perceived ease of use measurement", *Decision Sciences*, Vol. 25 Nos 5/6, pp. 863-74.

Succi, M.J. and Walter, Z.D. (1999), "Theory of user acceptance of information technologies: an examination of health care professionals", *Proceedings of the 32nd Hawaii International Conference on System Sciences (HICSS)*, pp. 1-7.

Swan, J.E. and Trawick, I.F. (1981), "Disconfirmation of expectations and satisfaction with a retail service", *Journal of Retailing*, Vol. 57, pp. 49-67.

Taylor, S. and Todd, P.A. (1995), "Understanding information technology usage: a test of competing models", *Information Systems Research*, Vol. 6 No. 2, pp. 144-76.

Teo, T.S.H., Lim, V.K.G. and Lai, R.Y.C. (1999), "Intrinsic and extrinsic motivation in internet usage", *Omega*, Vol. 27 No. 1, pp. 25-37.

Tse, D.K. and Wilton, P.C. (1988), "Models of consumer satisfaction: an extension", *Journal of Marketing Research*, Vol. 25, pp. 204-12.

Urban, G.L., Sultan, F. and Qualls, W.J. (2000), "Placing trust at the center of your internet strategy", *Sloan Management Review*, Vol. 42 No. 1, p. 39.

Van der Heijden, H. (2003), "Factors influencing the usage of web sites – the case of a generic portal in The Netherlands", *Information & Management*, Vol. 40 No. 6, pp. 541-9.

Van der Heijden, H., Verhagen, T. and Creemers, M. (2003), "Understanding online purchase intentions: contributions from technology and trust perspectives", *European Journal of Information Systems*, Vol. 12, pp. 41-8.

Van Slyke, C., Comunale, C. and Belanger, F. (2002), "Gender differences in perceptions of web based shopping", *Communications of ACM*, Vol. 45 No. 7, pp. 82-6.

Vaux Halliday, S. (2004), "Which trust? And when? Conceptualising trust in business relationships based on context and contingency", *International Review of Distribution, Retail and Consumer Research*, Vol. 13 No. 4, pp. 405-21.

Venkatesh, V. (1999), "Creation of favorable user perceptions: exploring the role of intrinsic motivation", *MIS Quarterly*, Vol. 23 No. 2, pp. 239-60.

Venkatesh, V. (2000), "Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model", *Information Systems Research*, Vol. 11 No. 4, pp. 342-65.

Venkatesh, V. and Davis, F. (2000), "A theoretical extension of the technology acceptance model: four longitudinal field studies", *Management Science*, Vol. 46 No. 2, pp. 186-204.

Venkatesh, V., Morris, M. and Ackerman, P. (2000), "A longitudinal field investigation of gender differences in individual technology adoption decision making processes", *Organizational Behavior and Human Decision Processes*, Vol. 83 No. 1, pp. 33-60.

Venkatesh, V., Speier, C. and Morris, M.G. (2002), "User acceptance enablers in individual decision making about technology: toward an integrated model", *Decision Sciences*, Vol. 33 No. 2, p. 297.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003), "User acceptance of information technology: toward a unified view", *MIS Quarterly*, Vol. 27 No. 3, pp. 425-78.

Yamagishi, T. and Yamagishi, M. (1994), "Trust and commitment in the United States and Japan", *Motivation and Emotion*, Vol. 18, pp. 129-66.

Yang, Z. and Peterson, R.T. (2004), "Customer perceived value, satisfaction, and loyalty: the role of switching costs", *Psychology & Marketing*, Vol. 21 No. 10, p. 799.

Yi, H., Merz, M.A. and Alden, D.L. (2008), "Diffusion of measurement invariance assessment in cross-national empirical marketing research: perspectives from the literature and a survey of researchers", *Journal of International Marketing*, Vol. 16 No. 2, pp. 64-83.

Further reading

Arab News Newspaper (2007), *Airlines Initiate E-ticketing Process to Meet Deadline*, Arab News Newspaper, Saudi Arabia, available at: www.arabnews.com/?page=9&section=0&article=96844&d=30&m=5&y=2007 (accessed July 10).

Lai, V. and Li, H. (2005), "Technology acceptance model for internet banking: an invariance analysis", *Information & Management*, Vol. 42, pp. 373-86.

Middle East Internet State (2009), *Internet Usage in the Middle East*, Middle East Internet State, available at: www.internetworldstats.com/stats5.htm (accessed March 31).

Shop.org & Boston Consulting Group (2000), *State of Online Retailing 3.0*, National Retail Federation, Washington, DC, available at: www.shop.org.

Straub, D.W. and Watson, R.T. (2001), "Research commentary: transformational issues in researching IS and net-enabled organizations", *Information Systems Research*, Vol. 12 No. 4, pp. 337-45.

World Internet Users and Population Stats (2007), *World Internet Users and Population Stats*, available at: www.Internet worldstats.com/stats.htm (accessed on April 4).

Yi, M.Y. and Hwang, Y. (2003), "Predicting the use of web-based information systems: self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model", *International Journal of Human-computer Studies*, Vol. 59 No. 4, pp. 431-49.

Appendix. Questionnaire (measurement indicators)
Perceived usefulness (Strongly disagree ... Strongly agree)
Adapted from (Gefen *et al.*, 2003).

- The web site I use for my online shopping is useful for searching and purchasing.
- The web site I use for my online shopping improves my performance in searching and purchasing.
- The web site I use for my online shopping enables me to search and purchase faster.
- The web site I use for my online shopping enhances my effectiveness in searching and purchasing.
- The web site I use for my online shopping makes it easier to search for and purchase.
- The web site 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)
- I believe that the web site I use for my online shopping would act in my best interest.
- If I required help, the web site I use for my online shopping would do its best to help me.
- The web site I use for my online shopping is interested in my well-being, not just its own.

Integrity
- The web site I use for my online shopping is truthful in its dealings with me.
- I would characterize the web site I use for my online shopping as honest.
- The web site I use for my online shopping would keep its commitments.
- The web site I use for my online shopping is sincere and genuine.

Competence
- The web site I use for my online shopping is competent and effective in providing online business.
- The web site I use for my online shopping performs its role of giving shopping advice very well.
- Overall, the web site I use for my online shopping is a capable and proficient internet shopping provider.
- In general, the web site I use for my online shopping is very knowledgeable about its service.

Trusting intentions (willingness to depend)

- When an important shopping issue or problem arises, I would feel comfortable depending on the information provided by the web site I use for my online shopping.
- I can always rely on the web site I use for my online shopping in a tough shopping situation.
- I feel that I could count on the web site I use for my online shopping to help with a crucial shopping problem.
- If I had a challenging shopping problem, I would want to use the web site I use for my online shopping again.

Perceived enjoyment (Strongly disagree . . . Strongly agree)
Adapted from (Childers *et al.*, 2001).

- Shopping online in this web site would be fun for its own sake.
- Shopping online in this web site would make me feel good.
- Shopping online in this web site would be boring.
- Shopping online in this web site would involve me in the shopping process.
- Shopping online in this web site would be exciting.
- Shopping online in this web site would be enjoyable.
- Shopping online in this web site would be uncomfortable.
- Shopping online in this web site would be interesting.

Perceived site quality (Strongly disagree . . . Strongly agree)
Adapted from (McKnight *et al.*, 2002b).

- Overall, this web site worked very well technically.
- Visually, this web site resembled other sites I think highly of.
- This web site was simple to navigate.
- On this web site, it was easy to find the information I wanted.
- This web site clearly showed how I could contact or communicate with online shopping customer service.

Subjective norms (Strongly disagree . . . Strongly agree)
Adapted from (Shih and Fang, 2004).

- Most people who are important to me would think that using the web site to shop online is a wise idea.
- Most people who are important to me would think that using the web site to shop online is a good idea.
- Most people who are important to me would think I should use the web site to shop online.
- My family who are important to me would think that using the web site to shop online is a wise idea.
- My family who are important to me would think that using the web site to shop online is a good idea.
- My family who are important to me would think I should use the web site to shop online.

Continuance intention (Strongly disagree . . . Strongly agree)
Adapted from (Yang and Peterson, 2004).

- I say positive things about the web site I use for my online shopping to other people.

- I would recommend the web site I use for my online shopping to those who seek my advice about such matters.
- I would encourage friends and relatives to use the web site I use for my online shopping.
- I would post positive messages about the web site I use for my online shopping on some internet message board.
- I intend to continue to do business with the present web site.
- I intend to do more business with the present web site.

About the authors
Talal Al-maghrabi is a PhD of Marketing and E-commerce from Brunel University, London, UK. He holds a BSc in Aeronautics from Saint Louis University, USA, and MBA in Marketing and Information System from Kent State University, USA. His current research interests include e-shopping behaviour, e-retailing, CRM, customer satisfaction and loyalty, loyalty programs, and corporate social responsibility (CSR). He is a member of the Centre for Research in Marketing (CREAM) and British Academy of Management (BAM). He works in the Marketing and Loyalty Department with a leading worldwide airline, and as a lecturer and guest speaker with many universities and colleges. Talal Al-maghrabi is the corresponding author and can be contacted at: talal.almaghrabi@brunel.ac.uk

Charles Dennis is a Reader at Brunel University, London, UK. His teaching and research area is (e-)retail and consumer behaviour – the vital final link of the marketing process – satisfying the end consumer. Charles is a Chartered Marketer and has been elected as a Fellow of the Chartered Institute of Marketing for work helping to modernise the teaching of the discipline. Charles was awarded the Vice Chancellor's Award for Teaching Excellence for improving the interactive student learning experience. Charles's publications include *Marketing the E-business*, (1st and 2nd editions) (joint-authored with Dr Lisa Harris), the research-based *E-retailing* (joint-authored with Professor Bill Merrilees and Dr Tino Fenech) and research monograph *Objects of Desire: Consumer Behaviour in Shopping Centre Choice*. His research into shopping styles has received extensive coverage in the popular media.

Sue Vaux Halliday is a Senior Lecturer at the University of Surrey, UK. Her teaching and research area is in services and relationships, where her focus has been on trust and is now on branding and shared values and innovation. Sue is a founder Chartered Marketer of the Chartered Institute of Marketing. She has published in esteemed international journals of general management, such as the *Journal of Management Inquiry*, as well as in key marketing journals, such as the *European Journal of Marketing* and the *Journal of Marketing Management*.