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Mediating Effect of e-Service Quality Perceptions on Attitude and Trust Toward Online Shopping

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Abstract: Attitude is referred to as a positive or negative evaluation of people, activities, ideas, objects, event or just about anything in the environment. Trust is significant for the success of online consumer purchasing. In addition, it was revealed that trusting beliefs affect positively online shopping intentions. The aim of the study is to determine the mediating effect of e-Service quality perceptions on trust and attitude toward online shopping. A quantitative research design was adopted to collect data. Multiple regression analysis method was used to conduct this study. The findings of the study will contribute to both theory and practice. The results of this study have important contributions and implications for practitioners and policy-makers. This study contributed to the field of e-Service quality perceptions on consumers' trust and attitude relationship with online shopping in the context of developing countries. It is hoped that e-Service quality constitutes drivers of trust which consequently influence online purchase attitude and on the service quality consumer expectations in both Malaysia and Saudi Arabia. The effect of service quality perception on trust is lower for consumers having high-risk perception while the effect is higher for those with low risk perception.

Key words: e-Service quality, attitude, trust, online shopping, perception

INTRODUCTION

Several researchers have carried out empirical studies concerning trust in the context of e-Commerce. Some of them generally considered trust as trusting the other party (Gefen, 2000). Among the well-known studies is the one carried out by Mayer *et al*. (1995) who defined trust as the trustor's intention to take risk and suggested the main predictors of trust as the trustor's perceptions regarding the trustee's characteristics. Another well-known study was conducted by McKnight *et al*. (1998). In their model, trust was considered as comprising trust intention and trusting beliefs specifically in risky and uncertain cases. Pavlou and Gefen (2004) described trust as the perception of the buyer of the suitable situations in place to bring about the process of transaction with online sellers. Grabner-Kraeuter (2002) on the other hand, found that trust had a significant role in the increase of electronic business and suggested that some of its serious factors should be examined.

Trust is significant for the success of online consumer purchasing (Jarvenpaa *et al*., 1999). In addition, it was revealed that trusting beliefs affect positively online shopping intentions (Verhagen *et al*., 2006). Several scholars maintained that minimal consumer's trust in online vendors is an important hindrance to long-term electronic commerce (Crowell, 2001). The trustworthiness perception of online vendors is specifically important in the facilitation of electronic commerce adoption especially when consumers perceive online shopping as riskier than traditional shopping (Metzger, 2006). Several studies (Doolin *et al*., 2005) indicated that costumer's trust in online purchasing is a critical element that facilitates online businesses success.

There have been several attempts to examine the dimensional nature of the concept of trust (Dwyer and LaGace, 1986). Literature in marketing indicates varying measures and conceptualizations of trust that are uni-dimensional (Morgan and Hunt, 1994), two-dimensional (Doney and Cannon, 1997) or three-dimensional (Mayer *et al*., 1995).

Other researchers have conceptualized trust in a global way and considered its many dimensions as its antecedents. For instance, Doney and Cannon (1997)'s study initially proposed that trust had a two-dimensional composition (credibility and benevolence). However,

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their results later showed that trust emerged as uni-dimensional, global concept. By treating trust as a uni-dimensional construct, Confirmatory Factory Analysis (CFA) procedures indicated that a single dimension measuring supplier firm trust (a = 0.94) and salesperson trust (a = 0.90) exhibited high reliability.

Another study supporting the uni-dimensionality perspective of trust was conducted by Joshi and Stump (1999). In their study of joint action in manufacturer-supplier relationships, supplier trust was treated as a uni-dimensional concept. By comparing the results of measurement models with a series of 10 different alternative measurement models using multi-dimensional trust components, the single-dimension trust scale used in their research had the best measurement properties.

Conceptual framework: A framework refers to a conceptual model of the way the relationships among several factors, identified as important to the issue are theorized (Sekaran, 2003). The present study develops a conceptual study based on a thorough review of literature as indicated in the previous chapter (Fig. 1). The research model suggests that consumers' decisions to shop via the internet are affected by their perception of quality of e-Service. Additionally, the conceptual framework suggests perceived trust as a mediating variable to show how e-Service quality can increase consumers' trust while risk works as a moderator that affects this relation. Finally, the dependent variable is attitude towards online shopping. Researcher included culture construct into the conceptual framework as an antecedent variable to prove that consumers' perceptions of e-Service quality are influenced by various cultures. Researcher came up with a combination of various variables from many studies to develop the modified conceptual framework which would be studied and analyzed.

According to social exchange theory (Blau, 1964), trust is developed only when the trustee's manner is acceptable and in line with the trustor's expectations. In addition, empirical findings revealed that trust increased with the increase in the customer's attitude to buy a product from the firm (Jarvenpaa *et al*., 2000). Based on

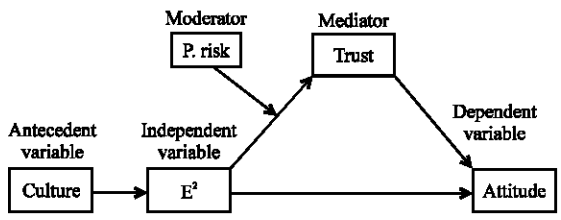

Fig. 1: Conceptual framework (Researchers' modification)

Grabner-Krauter and Kaluscha (2003)'s study, lack of trust was the reason that prevented online shopping. Hence, the establishment of trust in online shopping is considered among the primary factors that enable successful online businesses.

Since, service quality is generally required by customers in their dealings with the vendor, it is a criterion to attain a customer's trusts online (Gefen, 2002). Thus, service quality by the e-Retailer that is delivered in line with the customer's expectations facilitates the development of trust. It is imperative for the online retailer to concentrate on the needs of the customer by offering customer support through follow-up services and fulfilling promises in an efficient way which in turn lead to increased trust belief of the customer and promotion of online purchase attitude. Researchers stress the significance of service quality and the manner it encourages trust in e-Shopping. Previous research conducted by Cyr (2008) revealed that service quality factors helped build trust in the context of B2C e-Commerce.

In the present study, all the above issues are addressed. Moreover, none of the studies conducted tests on the mediating role of trust and the moderating role of risk in the e-Service quality-attitude towards e-Shopping relationship. The only study to test the mediating role of trust but confined to antecedent factors (i.e., user and website characteristics) was conducted by Sultan *et al.* (2005).

MATERIALS AND METHODS

Attitude measurement instrument: There are different attitude models each one of them describes one or the other component of attitude. Not a single model can be the right model or the absolute model for all research works as each model has its own strengths and weaknesses. They do not provide answers but insights although, these models can assist in describing attitudes so that marketers are in a convenient position to clarify and provide predictions regarding the target customers' attitudes and eventually their purchase behavior.

Attitude has been described as a construct that is complex and multi-dimensional that consists of cognitive, affective and conative elements (Krech *et al*., 1962). On the basis of this point of view, it is evident that a single evaluative score is insufficient to present the complexity of the attitude construct. Behavior inconsistencies are ready justification for observed attitude; it has been argued that the acquired attitude measures only conducted an assessment of one of the three elements namely cognitive, affective and behavioral (Ostrom, 1969).

In this study, items were adapted from Sun *et al.* (2011) who measured attitude toward varying online security measures. Table 1 shows the dimensions and reliability of the attitude as stated by Sun *et al.* (2011) while Table 2 shows attitude dimensions and items used by Sun *et al.* (2011) originally proposed instrument to encapsulate the three attitudes dimensions to various concepts comprising 14 semantic differential items, each with its pair of bi-polar adjectives. Attitude measurement is carried out with the help of a seven-point scale, requesting the respondent to rate the possibility of each outcome (Ajzen and Fishbein, 1980). Respondents are requested to pick the place indicating the nearest suitable adjective. For scoring purposes, a numerical score is assigned to each position on the rating scale. Traditionally, score ranges such as 1, 2, 3, 4, 5, 6, 7 or -3, -2, -1, 0, +1, +2, +3 are used in this study, scale ranges from -3 to +3 has been used. The average score is computed for every respondent to measure the overall attitude toward the object. This process is chosen as it produces reliable and valid attitude estimation (Smith and Swinyard, 1983).

Table 1: Attitude measurements

Construct	Researchers	Dimensions	Coefficient alpha	No. of items
Attitude	Sun *et al.* (2011)	Behavioral	0.826	2
		Affective	0.826	6
		Cognitive	0.923	6

e-Service quality measurement instrument: The dominating and most widely utilized scale for the assessment of service quality is SERVQUAL, developed by Parasuraman *et al.* (1985). It has 97 items in a total of 10 dimensions of service quality (Parasuraman *et al.*, 1985). In 1988, researchers brought down the dimension from 10 to 5 and the items from 97 to 22. The dimensions comprise tangibles that include physical facilities, functional appeal and employee appearance; reliability that includes the ability to conduct promised service in an accurate manner and in a trustworthy way; assurance including personnel recognition that encourages user confidence and trust and lastly, empathy that includes care provision and paying individual attention to customers. From that time, the five service quality dimensions have become the basis for universal service quality measurement (Yang and Jun, 2002).

Boshoff (2007) conducted an assessment of the psychometric nature of E-S-QUAL and reported it to be an instrument that is valid and reliable. It appears to be the most effective scale created to gauge e-Service quality in the current times. On the basis of the above discussion, researcher adopted Parasuraman *et al.* (2005)'s E-S-QUAL four dimensions and E-RecS-QUAL three dimensions. Table 3 shows the dimensions and reliability of each dimension as stated by Parasuraman. Moreover, Table 4 shows e-Service quality dimensions and items

Table 2: Items in attitude measurements

Items	Measurements
Behavioral	
I am ___ to shop online	Inclined----------Disinclined
I am ___ to shop online	Eager----------Hesitant
Affective	
I feel ___ toward online shopping	Like----------Dislike
I feel like ___ toward online shopping	Accepting----------Rejecting
I feel ___ while using online shopping	Relaxed----------Tensed
I feel ___ while using online shopping	Excited----------Bored
I feel ___ with the online shopping security	Content----------Annoyed
I feel ___ with the online shopping security	Happy----------Sad
Cognitive	
I believe that online shopping is____	Useful----------Useless
I believe that online shopping is____	Perfect----------Imperfect
I believe that it is ___ to shop online	Easy----------Difficult
I believe that it is ___ to shop online	Safe----------Unsafe
I believe that adopting online shopping is____	Wise----------Foolish
I believe that adopting online shopping is____	Beneficial----------Harmful

Table 3: e-Service quality measurements

Construct	Researchers	Dimensions	Coefficient alpha	No. of items
e-Service quality	Parasuraman *et al.* (2005)	Efficiency	0.94	8
(E-S-QUAL scale)		System availability	0.83	4
		Fulfillment	0.89	7
		Privacy	0.83	3
e-Service quality		Responsiveness	0.88	5
(e-RecS-QUAL scale)		Compensation	0.77	3
		Contact	0.81	3

Table 4: e-Service quality items

Items	Description
Efficiency	The e-Retailer website makes it easy to find what I need
	It makes it easy to get anywhere on the e-Retailer website
	It enables me to complete a transaction quickly on the e-Retailer website
	Information at the e-Retailer website is well organized
	It loads its pages fast
	The e-Retailer website is simple to use
	The e-Retailer website enables me to get on to it quickly
	This site is well organized
System availability	The e-Retailer website is always available for business
	The e-Retailer website launches and runs right away
	The e-Retailer website does not crash
	Pages at this site do not freeze after I enter my order information
Fulfillment	e-Retailer website delivers orders when promised
	e-Retailer website makes items available for delivery within a suitable time frame
	e-Retailer website quickly delivers what I order
	e-Retailer website sends out the items ordered
	e-Retailer website has in stock the items the company claims to have
	e-Retailer website is truthful about its offerings
	e-Retailer website makes accurate promises about delivery of products
Privacy	e-Retailer website protects information about my Web-shopping behaviour
	e-Retailer website does not share my personal information with other websites
	e-Retailer website protects information about my credit card
Responsiveness	e-Retailer website provides me with convenient options for returning items
	e-Retailer website handles product returns well
	e-Retailer website offers a meaningful guarantee
	e-Retailer website tells me what to do if my transaction is not processed
	e-Retailer website takes care of problems promptly
Compensation	e-Retailer website compensates me for problems it creates
	e-Retailer website compensates me when what I ordered doesn't arrive on time
	e-Retailer website picks up items I want to return from my home or business
Contact	e-Retailer website provides a telephone number to reach the company
	e-Retailer website has customer service representatives available online
	e-Retailer website offers the ability to speak to a live person if there is a problem

used by Parasuraman *et al.* (2005). The general E-S-QUAL scale consists of 22 items with four dimensions which are efficiency, fulfillment, system availability and privacy. The second scale is appropriate for customers who do not frequently avail of the sites' services and it consists of 11 times with three dimensions which are responsiveness, compensation and contact.

e-Service quality is measured in this study by a Likert-scaled instrument. A 7-point Likert scale is often utilized to examine e-Service quality which is selected based on its benefit of enabling intercultural questioning while avoiding systematic errors (Lee and Turban, 2001).

Trust measurement instrument: Researchers have defined trust in varying ways. It has been acknowledged that trust is challenging to define and to measure (Corritore *et al.*, 2003). Jarvenpaa *et al.* (2000) defined trust in internet businesses as the willingness of the consumer to rely on the seller and interact in situations where action makes the consumer exposed to the seller's machinations. Trust exists in risky and doubtful situations (Mayer *et al.*, 1995). Some of the recommended definitions targeted the element of risk existence (Johnson-George and Swap, 1982) while others concentrated on one of the parties' vulnerability (Boss, 1978). Others targeted the existence of clear motivation (Kee and Knox, 1970). In online shopping context, McKnight and Chervany (2002) described trust as a belief about online merchant he defined trust as "the belief that the Internet shopper has in an internet merchant and is willing to engage in an internet shopping transaction, even with the possibility of loss, based on the expectation that the merchant will engage in generally acceptable practices and will be able to deliver the promised products or services". The view taken up in the present research is the online store through website wherein trust is required to be encouraged between suppliers and consumers if commerce over the web is to continue thriving (Sivasailam *et al.*, 2002).

In the present study, the trust measure was employed from Harris and Goode (2004) with acceptable reliability as shown in Table 5. Harris and Goode based their study on Hess (1995) who was the first to determine customer's trust in car sales in traditional commerce. Trust items used by Harris and Goode used in this study to measure trust in online shopping:

- e-Retailer is interested in more than just selling me goods and making a profit. In other word, e-Retailer tries to make me happy

Table 5: Trust measurements

Construct	Researchers	Dimensions	Coefficient alpha	No. of items
Trust	Harris and Goode (2004)	Unidimensional	0.814	8

- There are no limits to how far e-Retailer will go to solve a service problem I may have
- e-Retailer is genuinely committed to my satisfaction
- Most of what e-Retailer says about its products is true
- I think some of e-Retailer's claims about its service are exaggerated
- If e-Retailer makes a claim or promise about its product, it's probably true
- In my experience e-Retailer is very reliable
- I feel I know what to expect from e-Retailer

They argued that the Hess (1995)'s measure of perceived brand trust is a trust measure that is easily transferable and adaptable to online situations. In addition, this scale was used to measure e-Trust in previous studies (Rocereto and Mosca, 2012). Responses were scored along a 7-point Likert scale where -3 indicated that respondents strongly disagreed with the provided statement while +3 presenting that they strongly agreed with it.

RESULTS AND DISCUSSION

Normality: Normality is the most fundamental assumption in multivariate analysis (Hair *et al*., 2010). It measures whether differences revealed between the obtained and predicted scores of dependent variables (Stewart, 1981). The study sample was taken from the population, it is crucial to compare the sample normal distribution to one of the basic social science measurements, namely, the normal distribution of the population. To check for normality, four measures were used in this study to measure and assess the spread of data distribution: standard deviation, mean, skewness and kurtosis.

Standard deviation is described as a measure of the way the data are spread; it is the average distance of the data distribution from the mean. It presents the degree of variation from the mean with a low standard deviation indicating data that is close to the mean and high standard deviation indicating the data's distribution over a range of values. It is a common measure used to test and appraise the data dispersion by calculating the square root of the variance (Bell and Bryman, 2003). Dancey and Reidy (2008) indicated that the degree of variability can be utilized to delineate the boundaries of normal distribution. Thus, it is important to assess the standard deviation because it explains some statistical rules for the normal distribution. For instance, 68% probability score will be within -1 standard deviation and +1 deviation of the mean. The area on the curve between -1 and +1 deviation of the mean is called the normal zone of the curve. This means that the standard deviation for a score set can be utilized to delineate the boundaries of normal distribution. Between 90 and 95% of cases fall within two standard deviations and all observations fall within three standard deviations (Burns and Burns, 2008).

Table 6: Normality test results

Test results	N	Mean	SD	Skewness	Kurtosis
Attitude	414	4.78	1.35	-0.500	-0.70
Risk	414	4.72	1.54	-0.500	-0.75
Trust	414	3.50	1.36	0.270	-0.66
E^2	414	3.52	1.43	0.500	-0.60
Culture	414	3.47	1.09	0.005	-0.24

In the present study, the entire variables were tested for normality where the values of skewness and kurtosis were examined to test the scores of normality. Table 6 shows that the overall the values of skewness and kurtosis were within the critical value. Hence, the possibility of issues surrounding non-normal distribution appeared to be insignificant.

Reliability of measures: Reliability refers to whether or not the measurement scale is characterized by consistency and stability. A research instrument's reliability is defined as the concerns to the degree to which the instrument produces the same results in repeated cases (Carmines and Zeller, 1979). It presents the level to which the respondent answers the same or similar questions consistently every time (Cronbach, 1951). It is the function that a researcher should consider as a fundamental requirement prior to proceeding with the data analysis and interpretation. Reliability is confirmed as a necessary target that is considered as a validity criterion (Crocker and Algina, 1986).

An instrument of data collection is considered reliable when it provides consistent results every time it is used on the same sample or a different sample from the same target population (Tull and Albaum, 1973). Sekaran (2003) stated that reliability coefficient is better if it is closer to 1.00. Generally, while the acceptable alpha coefficient should be higher than 0.7, a coefficient of 0.6 is still considered acceptable (Bagozzi and Yi, 1988). Collis and Hussey (2003) suggested the following rule of thumb: a Cronbach's alpha coefficient that is 0.70 or higher denotes a good internal reliability measure while those ranging between 0.50 and 0.69 denote an acceptable level of reliability and those <0.50 are deemed poor. For Trochim (2006), a value of 0.50 or higher denotes an acceptable level of reliability.

Two measures are used to evaluate reliability namely Cronbach's alpha (α) and item-to-total correlation. Cronbach's alpha, named after Cronbach (1951) is

described as a measure that provides an idea as to the internal consistency by presenting the way items are used to measure some constructs of interest by examining the proportion of times variance compared to common known figures. Cronbach's alpha is considered high if the correlation between particular items increases. Items having low correlation values should be eliminated under particular conditions as they might lessen the total relationship value within a single set of items in other words, low correlation value items are invalid to use.

In the present study, the reliability of the instruments used was examined using Cronbach's alpha. Generally, the measurement scales showed good performance with Cronbach's alpha values higher than 0.7 for all measurement constructs, however, most of the measurement scales in this study showed excellent performance with Cronbach's alpha values >0.9 (Table 7).

Factor analysis of attitude toward online shopping: Attitude items were run through exploratory factor analysis. The analysis was conducted on attitude items in terms of data sets obtained from the responses which suggested a two-factor solution. The two-factor solution explained 75% of the variance. The orthogonal factor dimensions were identified through the use of principal component and varimax rotation procedures. For factor extraction, the latent criterion of 1.0 was used whereas for item inclusion, the factor loadings of 0.40 were used (Hair *et al*., 1992).

The individual construct composite reliability was investigated to determine the internal consistency of indicators that measure the underlying factors (Fornell and Larcker, 1981). Netemeyer *et al*. (2003) suggested that a factor is reliable when its composite reliability is revealed to be higher than 0.60. The Cronbach's alpha for the two dimensions ranged from acceptable to very good. The first dimension of the Cronbach's alpha coefficient was 0.966, indicating a very good reliability. The second dimension (0.821) also illustrated very good reliability. The statements' reliability was deemed to be good and can hence produce the same results in repetitive tests. Result is presented in Table 8.

Table 7: Reliability for study's variables

Construct	Instrument	Dimensions	Original alpha	Alpha (pilot test)	Alpha (main sample)	No. of items
Attitude	Sun *et al*. (2011)	Behavioral	0.826	0.837	0.821	2
		Affective	0.826	0.811	0.928	6
		Cognitive	0.923	0.727	0.947	6
Culture	Yoo *et al*. (2011)	Power distance	0.910	0.534	0.836	5
		Uncertainty avoidance	0.880	0.841	0.984	5
		Individualism	0.850	0.828	0.914	6
		Long-term orientation	0.790	0.888	0.858	6
		Masculinity	0.840	0.709	0.749	4
Perceived Risk	Sitkin and Weingart (1995)	Unidimensional	0.750	0.815	0.928	3
e-Service quality	Parasuraman *et al*. (2005)	Efficiency	0.940	0.852	0.972	8
(E-S-QUAL scale)		System availability	0.830	0.608	0.886	4
e-Service quality		Fulfillment	0.890	0.713	0.941	7
(E-RecS-QUAL scale)		Privacy	0.830	0.874	0.941	3
		Responsiveness	0.880	0.890	0.904	5
		Compensation	0.770	0.796	0.796	3
		Contact	0.810	0.903	0.897	3
Trust	Harris and Goode (2004)	Unidimensional	0.814	0.797	0.907	3

Table 8: Factor analysis of attitude toward online shopping

Factors	Factor loading	Eigen	Variance explained	Alpha
Dimension one		9.399	67.137	0.966
I believe that adopting online shopping is	0.898			
I believe that adopting online shopping is	0.888			
I believe that online shopping is	0.867			
I feel ___ toward online shopping	0.860			
I feel ___ while using online shopping	0.849			
I believe that online shopping is	0.841			
I feel ___ toward online shopping	0.812			
I believe that it is ___ to shop online	0.809			
I feel ___ while using online shopping	0.800			
I feel ___ with the online shopping security	0.753			
I believe that it is ___ to shop online	0.737			
I feel ___ with the online shopping security	0.719			
Dimension two		1.145	8.180	0.821
I am ___ to shop online	0.944			
I am ___ to shop online	0.800			

Factor analysis of trust in online shopping: The trust items concerning online shopping was exposed to exploratory analysis. The analysis conducted on the data set formed by the responses suggested a one-factor solution. The factor solution explained 70% of the variance. Both procedures of principal component and varimax rotation were employed to determine orthogonal factor dimensions. The latent root criterion of 1.0 was employed for factor extraction while the factor loadings of 0.40 were used for item inclusion as recommended by Hair *et al.* (1992).

The factor's composite reliability for each construct was examined to test the internal consistency of indicators that measure the underlying factors (Fornell and Larcker, 1981). Netemeyer *et al.* (2003) suggested that a factor is reliable when its composite reliability is revealed to be higher than 0.60. The Cronbach's alpha for trust was very good at 0.94. The statements' reliability was deemed to be good and can hence produce the same results in repetitive tests. The Cronbach's alpha coefficient for the trust items is displayed in Table 9.

Factor analysis of e-Service quality on online shopping: The e-Service quality items were exposed to an explanatory factor analysis. The analysis of the items was carried out on the data set from the responses showed a two-factor solution. The two-factor solution explained 73% of the variance. Procedures of principal component and varimax were utilized to determine the dimensions of orthogonal factor. The latent criterion of 1.0 was used for factor extraction while factor loadings of 0.40 were used for item inclusion (Hair *et al*., 1992).

The factor's composite reliability for each construct was studied to test the indicators internal consistency measuring the underlying factors (Fornell and Larcker, 1981). Netemeyer *et al.* (2003) suggested that a factor is reliable when its composite reliability is higher than 0.60. The Cronbach's alpha for the four dimensions ranged from acceptable to very good. Specifically, the Cronbach's alpha coefficients for the first dimension and second dimension were 0.984 and 0.941, respectively were seen to have a very good reliability. The reliability of these statements was regarded as being good and can therefore produce consistent results in repetitive tests. The Cronbach's alpha coefficients for each dimension of e-Service quality are depicted in Table 10.

Factor analysis of culture on online shopping: Exploratory factor analysis was conducted on the 33 items of culture which yielded a four-factor solution and explained 72% of the variance. In order to identify the orthogonal factor dimensions, both principal component and varimax procedures were utilized. For factor extraction, the latent root criterion of 1.0 was used while for inclusion, factor loadings of 0.40 were used as recommended by Hair *et al.* (1992).

The factor's composite reliability for each construct was investigated to examine the internal consistency of indicators which measure the underlying factors (Fornell and Larcker, 1981). According to Netemeyer *et al.* (2003), a factor is reliable when its composite reliability is over 0.60. The Cronbach's alpha for the four dimensions ranged from acceptable to very good. Specifically, the Cronbach's alphas for the first, second and third dimension were 0.949, 0.895, 0.916 and 0.862, respectively were seen to have a very good reliability. The reliability of these statements was regarded as being good and can therefore produce results that are consistent and are expected to be the same upon repetition. The Cronbach's alpha coefficients for each dimension of culture are illustrated in Table 11.

Testing of hypothesis: As suggested by Hubbard and Mannell (2001), a mediation model as shown in Fig. 2 was developed to describe an alternative set of relationships or processes that might exist among constraints, constraint negotiation and behavioral intentions. A variable is deemed as a mediator if its existence explains the relationship between the predictor and criterion variable. In other words, the mediator acts as the general mechanism through which the predictor variable affects the criterion (Baron and Kenny, 1986). Mediator is different from moderator; the primary distinction between

Table 9: Factor analysis of trust in online shopping

Factors	Factor loading	Eigen	Variance explained	Alpha
Dimension one		5.67	70.876	0.94
e-Retailer is genuinely committed to my satisfaction	0.923			
In my experience e-Retailer is very reliable	0.895			
I feel I know what to expect from e-Retailer	0.889			
There are no limits to how far e-Retailer will go to solve a service problem I may have	0.882			
e-Retailer is interested in more than just selling me goods and making a profit. In other word, e-Retailer try to make me happy	0.842			
If e-Retailer makes a claim or promise about its product, it is probably true	0.835			
Most of what e-Retailer says about its products is true	0.831			
I think some of e-Retailer's claims about its service are exaggerated	0.593			

Table 10: Factor analysis of e-Service quality

Factors	Factor loading	Eigen	Variance explained	Alpha
Dimension one		21.74	65.9	0.984
It makes it easy to get anywhere on the e-Retailer website	0.908			
The e-Retailer website makes it easy to find what I need	0.906			
The e-Retailer website is simple to use	0.895			
e-Retailer website sends out the items ordered	0.885			
The e-Retailer website is always available for business	0.883			
It enables me to complete a transaction quickly on the e-Retailer website	0.881			
The e-Retailer website enables me to get on to it quickly	0.880			
The e-Retailer website launches and runs right away	0.874			
Information at the e-Retailer website is well organized	0.870			
e-Retailer website protects information about my Web-shopping behavior	0.796			
e-Retailer website is truthful about its offerings	0.776			
e-Retailer website makes items available for delivery within a suitable time frame	0.768			
This site is well organized	0.766			
e-Retailer website does not share my personal information with other web sites	0.746			
It loads its pages fast	0.744			
e-Retailer website makes accurate promises about delivery of products	0.737			
e-Retailer website has in stock the items the company claims to have	0.732			
e-Retailer website delivers orders when promised	0.729			
e-Retailer website quickly delivers what I order	0.721			
e-Retailer website protects information about my credit card	0.713			
e-Retailer website provides a telephone number to reach the company	0.691			
The e-Retailer website does not crash	0.689			
e-Retailer website tells me what to do if my transaction is not processed	0.684			
Pages at this site do not freeze after I enter my order information	0.626			
Dimension two		2.582	73.7	0.941
e-Retailer website picks up items I want to return from my home or business	0.821			
e-Retailer website compensates me when what I ordered doesn't arrive on time	0.812			
e-Retailer website handles product returns well	0.808			
e-Retailer website provides me with convenient options for returning items	0.785			
e-Retailer website compensates me for problems it creates	0.785			
e-Retailer website offers a meaningful guarantee	0.708			
e-Retailer website takes care of problems promptly	0.674			
e-Retailer website offers the ability to speak to a live person if there is a problem	0.644			
e-Retailer website has customer service representatives available online	0.581			

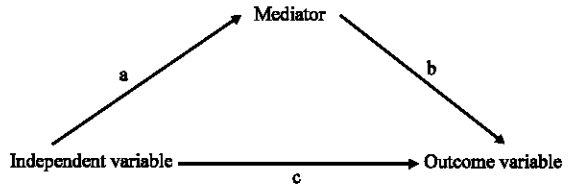

Fig. 2: Baron and Kenny (1986) Model

moderator and mediator is that the former specifies when specific effects will occur between variables whereas the latter shows how or why the effects occur.

Baron and Kenny (1986) stated that a variable is said to be a mediator if it accounts for the relationship between the predictor and the criterion variable. Accordingly, the following criteria must be achieved for mediation:

- Variations in the independent variable levels significantly explain the variations in the presumed mediator (Path a)
- Variations in the mediator variable significantly explain the dependent variable's variations (Path b)
- Upon controlling for the two prior paths, a prior significant relation between independent and dependent variables (Path c) becomes significant. If the residual Path c is not equal to zero, the multiple mediating factors are in operation. If there is partial mediation, the relationship would still be significant between the variables (independent and dependent) but there would be a reduced effect (Baron and Kenny, 1986)

Hierarchical regression analysis: In order to examine the possible mediation effects of trust on e-Service quality-attitude toward online shopping relationship, Baron and Kenny (1986) and Judd and Kenny (1981) recommended hierarchical regression analysis. They suggested four regression equations to satisfy the tests of the associations in the mediation model (Fig. 3).

In the first phase, researcher tested the direct effect model in which the predictor variables (i.e., electronic service quality) must affect attitude towards shopping online as the criterion variable while ignoring the mediator. In the second phase, the predictor variables should affect the moderator (i.e., trust). In the third stage,

Table 11: Factor analysis of culture

Factors	Factor loading	Eigen	Variance explained	Alpha
Dimension one		11.70	45.005	0.949
It is important to closely follow instructions and procedures in e-Retailer website	0.816			
It is important to have instructions in e-Retailer website spelled out in detail so that I always know what I'm expected to do	0.812			
Rules and regulations in e-Retailer website are important because they inform me of what is expected of me	0.806			
Instructions in e-Retailer website are important	0.797			
Standardized procedures in e-Retailer website are helpful	0.789			
Individuals should only pursue their goals after considering the welfare of the group	0.587			
Solving difficult problems usually requires an active, forceful approach which is typical of men	0.536			
Men usually solve problems with logical analysis. Women usually solve problems with intuition	0.524			
There are some jobs that a man can always do better than a woman	0.448			
Dimension two		2.90	15.274	0.895
Long term planning	0.838			
Giving up today's fun for success in the future	0.829			
Personal steadiness and stability	0.819			
Working hard for success in the future	0.776			
Going on resolutely in spite of opposition (Persistence)	0.723			
Careful Management of money (thrift)	0.704			
It is more important for men to have a professional career than it is for women	0.419			
Dimension three		1.80	7.297	0.916
Individuals should sacrifice self-interest for the group (either at school or the work place)	0.824			
Group welfare is more important than individual rewards	0.820			
Group success is more important than individual success	0.817			
Group loyalty should be encouraged even if individual goals suffer	0.756			
Individuals should stick with the group even through difficulties	0.681			
Dimension four		1.16	4.486	0.862
People in higher positions should not ask the opinions of people in lower positions too frequently	0.802			
People in lower positions should not disagree with decisions by people in higher positions	0.795			
People in higher positions should not delegate important tasks to people in lower positions	0.761			
People in higher positions should avoid social interaction with people in lower positions	0.742			
People in higher positions should make most decisions without consulting people in lower positions	0.714			

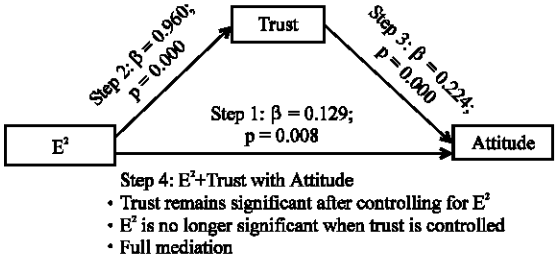

Fig. 3: A mediation model with hierarchical regression results

there is a direct effect between mediator variables (i.e., trust) and criterion variable (i.e., attitude toward online shopping). Fourth, the mediator (i.e., trust) should be associated with the criterion variable (attitude) with the predictor variable (i.e., e-Service quality) being added to the third equation. Following the application of these steps, researcher found significant relationships among the variables from steps 1 through 3. As shown in Table 12 in step four, complete mediation was revealed as the effect of trust was significant even while controlling for e-Service quality. In addition, e-Service quality was not significant anymore after trust was controlled for, indicating full mediation.

Mediating role of trust: Empirical studies have tested the direct impact of e-Service quality on attitude toward online shopping (Carlson and O'Cass, 2010). However, it is still debatable whether this is mediated by other variables or not (Alsajjan and Dennis, 2010; Chang *et al*., 2005). Fassnacht and Koese (2006) revealed that future studies should examine the mediating impact of buyer's trust on the buyers' perception-attitude towards online shopping relationship. Hence, one of the objectives of the present study was to confirm whether a mediating effect of the buyer's trust exists on the e-Service-quality-attitude relationship.

Consistent with the finding reported by Alsajjan and Dennis (2010) in internet banking context, finding of the present study showed that the impact of e-Service quality on attitude was mainly mediated with trust. From the theoretical point of view, these findings corroborate Theory of Reasoned Action (TRA) as constructs of attitude is based on beliefs, leading to behavioral intentions. Based on our findings, attitude is influenced by e-Service quality when trust exists as a mediator. Trust, in turn is significantly impacted by the e-Service quality perceptions of consumers.

Several researchers (Alsajjan and Dennis, 2010) revealed that perceived e-Service quality had a weak or no direct impact on attitude toward online shopping. On the other hand, e-Service quality was found to have a greater significant impact on attitude towards online shopping when trust was introduced into the regression analysis as

Table 12: Result of hierarchical regression

Regression paths	R	R^2	Adjusted R^2	SE of the estimate	R^2 change	Unstandardized coefficients β	Sig. F change
Service quality→attitude	0.129	0.017	0.014	1.33652	0.017	0.122	0.008
E^2→trust	0.690	0.476	0.475	0.96187	0.476	0.640	0.000
Trust→attitude	0.224	0.050	0.048	1.31350	0.050	0.228	0.000
E^2, trust→attitude							
E^2	0.227	0.052	0.057	1.31425	0.052	-0.045	0.467
Trust						0.261	0.000

a mediator (Alsajjan and Dennis, 2010). Indeed, the finding of the present study supported Alsajjan and Dennis (2010)'s observation.

To better explain the nature of trust relationships, past studies in this area have focused on the role of trust as a mediator. For example, in the traditional context, Doney and Cannon (1997) revealed trust to be a mediating variable that affected the decision process. Fukuyama (1995) showed the mediating effect of buyer's trust on the association between the buyer's perceived risk and purchase intention. In contrast with online environment, Zhou *et al.* (2010) showed that trust mediated the impact of service quality upon users' behavioral intention. Therefore, measures to improve service quality may be effective when they maximize users' trust and satisfaction with the site. Ganguly *et al.* (2010) tested the mediating role of trust and found that it fully mediated the relationship between website design factors and perceived risks but partially mediated the relationship between website design factors and purchase intention. Cyr (2008) found that the trust mediating impact between design elements and e-Loyalty. Similarly, Auh (2005) revealed trust's mediating effect on the relationship between soft attributes and service quality. Meanwhile, Kantsperger and Kunz (2010) reported that the effect of customer satisfaction on loyalty was mediated by trust. Similarly, Buttner and Goritz (2008)'s study involving pharmaceutical products showed that trust mediated perceived risk and buying intention. In addition, Wang *et al.* (2004) revealed that trust mediated the association between trust-building cues and consumers' inclination to provide their personal information. Bart *et al.* (2005) found that trust mediated between antecedents like website and consumer characteristics and consequences like behavioral intention. Sultan *et al.* (2002) examined consumer trust determinants and role in e-Business. They found that trust mediated the relationship between website and consumer characteristics and behavioral intent. They contended that this result indicated the extension of the mediating role of trust from and offline environment to an online one.

CONCLUSION

The literature review concerns consumer attitude toward online shopping upon the internet, along with consumer e-Service quality, trust and risk. The theoretical framework of the present study was developed in chapter three with the inclusion of research propositions. This study is concluded by the present study that provided an overview of the study implications in light of theory and practice. The attitude toward online shopping model that emphasizes the relationships between e-Service quality, culture, trust and risk was presented in this final chapter and it also enumerated the limitations and directions for future research.

The aim of the study was to examine the factors that affect attitude of consumers towards internet shopping in Malaysia and Saudi Arabia and how they affect purchase attitude. The findings revealed that service quality was relatively significant in its impact on consumer trust in online shopping, proving the proposed positive direct impact of perceived service quality upon customer trust. However, perceived risk was revealed to be linked with consumer trust towards online shopping, contrary to the proposed hypothesis. According to the results, trust in online retailer was positively associated with the attitude of consumers to online shopping. Therefore, marketers and managers should take into close consideration the requirements of trust development in online retailing. Finally, trust based on e-Service quality is considered as the most suitable environment for developing favorable consumer attitude towards online shopping.

This study also contributed to the field of service quality expectations relationship with online shopping in the context of developing countries. It also examined the impact of culture on the service quality consumer expectations in both Malaysia and Saudi Arabia. In addition to comparing cultural values, researcher confirmed the need for cultural adaptation through E-S-QUAL. The findings indicated that in order to design strategies for effective service delivery and customer service expectation, the cultural background of consumers should be understood.

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