

# An Investigation Of Perceived Service Quality In Online Shopping: A Hierarchical Approach


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## ABSTRACT

*Online retailing is a new but fast growing phenomenon in many countries around the world. The fast pace at which it is growing is resulting in stiff competition on the online market space. Many firms now realise that they cannot only rely on low prices as a source of competitive advantage and are looking for other effective ways of differentiating themselves so as to attract more customers and enhance their satisfaction with their online stores. This paper investigates online store service quality as a source of competitive advantage for online stores. Data was collected from a total of 201 online shoppers from Gauteng South Africa using a structured questionnaire. The findings show that online store service quality as reflected by platform quality, interaction quality and outcome quality has significant influence on customers' attitude towards online stores as well as their behavioural response in terms of engagement in positive word of mouth. The findings also show that attitude is not a significant mediator of the relationship between online store service quality and customers behavioural response of positive word of mouth. The findings have wide implications of management of online retail stores and these have been highlighted in the paper.*

**Keywords:** Attitude Towards Online Store; Online Shopping; Service Quality; South Africa

## INTRODUCTION

 Online retailing has now become a common phenomenon around the globe. Statistics show that over the past decade online retailing has on average grown at rates that are more than double those of traditional retailing (E-marketer 2014; Statista, 2014). In South Africa, estimates show that over the past decade online retailing has been growing at an average rate of around 30 percent per year compared to 5.4 percent average growth in total retail sales over the same period (Tustin et al 2014; Goldstuck 2012). With growth in online sales has come stiff competition in the online market space. Many retailers have and continue to open up stores online. Growing competition has resulted in the need for change in online business orientation from one that places more emphasis on low prices to one that uses other means of differentiation (Kim and Kim 2010). Benaroch and Appari (2011) observed that while early e-commerce businesses focused on reducing service cost, increasing efficiency and offering products at low prices, many businesses soon realised that the low prices were resulting in very low profit margins. They argued that it was this that gave rise to a paradigm of e-service 'that goes beyond simple automation of services towards differentiation via the quality of services offered' p.536. Web presence and low prices are no longer considered significant drivers of e-business success. Santouridis et al. (2012) observed that advancements in technology have resulted in a situation where websites including online stores can easily be established without significant problems. They pointed out that the major challenge that many businesses now face relates to properly managing the processes associated with serving the customer.

Service quality is well recognised in literature to be an important factor that helps companies derive varied strategic benefits including increased ability to attract and retain customers. Benaroch and Appari (2011) pointed out that delivery of quality services is an important firm competitive capability that helps ensure effective differentiation and long term profitability gains. With online shopping being a relatively new phenomenon, the need for studies that

can help better understand service quality in this context is acknowledged by many (Chen et al. 2013; Carlson and O’Cass 2011). Santouridis (2012) observed that research in this area is at relatively early stages of development. Carlson and O’Cass (2011) pointed out that proper conceptualisation and measurement of service quality in the context of e-services has become a strategic issue in need of much research attention. This study aims at contributing to addressing this need by examining drivers and outcomes of perceived online shopping service quality among shoppers in Gauteng, South Africa. The article is structured such that the next section takes a look at the research problem and presents the objectives of the paper. This is followed by presentation of the study’s conceptual framework and a review of literature. Thereafter the methodology used for the study is elaborated on before presenting the findings and discussing their theoretical and managerial implications. The paper concludes by providing a summary of the main findings and providing direction for future research.

## **RESEARCH PROBLEM AND OBJECTIVES**

Similar to service quality in traditional retail environments, researchers have taken a keen interest in issues relating to proper conceptualisation and measurement of electronic retail services. This is mainly due to the impact that quality of services is believed to have on the competitiveness of firms. A review of literature however shows that there is in general lack of clarity on what online retail service quality includes and what it does not. For example some researchers such as Ha and Stoel (2012) include product elements in examining service quality while others do not. Ha and Stoel (2012) specifically define service quality in the context of online retailing as ‘consumer perceptions of an e-store’s performance and effectiveness in terms of its product and/or service offerings’. Taking a similar perspective, Benaroch and Appari (2011) included product elements, product variety to be specific, as a determinant of service quality. On the other hand other researchers including Santouridis et al. (2012) as well as Shahadev and Purani (2008) argue that the focus of e-service quality is on issues relating to interaction between the customer and the websites/online stores. This is irrespective of the product on offer. In line with this argument is Parasuraman et al. (2005)’s definition of e-service quality which defines it as “the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of products and services”. In looking at online store service quality this study takes the view that it is about ‘facilitation’ irrespective of products on offer. In so doing, the study aims at contributing to the understanding of customer’s perceptions of online shopping service quality in general regardless of the nature of product bought.

Another point of contention in online service quality relates to measuring of the construct. Related to this are questions on dimensions of online service quality. Chen et al. (2013) as well as Ho and Lin (2010) observed that there is lack of general consensus in literature on important dimensions of online service quality. Some researchers such as Zhou et al. (2009) and Kettinger et al (2005) measure e-service quality using SERVQUAL, an instrument originally developed to measuring conventional service quality using five dimensions of reliability, responsiveness, assurance, empathy and tangibles. The specific objectives of this paper are to identify key dimensions of online shopping service quality and to examine the influence of these on customers’ attitude towards online stores as well as their behavioural response in terms of engagement in positive word of mouth.

## **REVIEW OF LITERATURE AND PROPOSE CONCEPTUAL FRAMEWORK**

### **Online Shopping Service Quality**

According to Zeithaml et al (2013) as well as Hoffman and Bateson (1997) the term service refers to deeds, efforts, processes or performances. While traditionally retail customer service was associated with face to face interaction between service personnel and customers, developments of information technology have given rise to what is called e-services. Rowley (2006) defined e-service ‘as deeds, efforts or performances whose delivery is mediated by information technology including the web, information kiosks and mobile devices’. Researchers in business have over a long time taken a keen interest in trying to understand and evaluate customers’ perceptions of services in terms of quality. This interest has mainly been driven by the need to strengthen business-customer relations. This may explain why the concept of service quality has been of much research interest particularly for researchers in the field of marketing. Marketing scholars such as Parasuraman, Zeithaml and Berry have particularly been very influential in service quality research mainly due to the service quality measurement scale known as the SERVQUAL that they developed. Mittal et al (2013) as well as Awasthi et al (2011) note the SERVQUAL remain

the most widely used and tested service quality instrument in marketing studies. SERVQUAL measures service quality based on customers' expectations and perceptions relating to five core dimensions namely reliability, responsiveness, assurance, empathy and tangibles. According to Parasuraman et al (1988) reliability relates to ability to perform promised services consistently and dependably; responsiveness refers to willingness and readiness to provide services while empathy is about being caring and providing customers with individualised attention. They described assurance as employees' knowledge, courtesy and ability to inspire trust and confidence while tangibles were noted to refer to the physical facilities, equipment and appearance of personnel.

Developers of the SERVQUAL scale noted that the scale could be adapted to fit different types of services and contexts. Since its development, the scale has been adapted and used widely in different service contexts including in the field of information systems (Aker 2010; April and Pather 2008). While this is so, the significant differences that exists between traditional and information technology mediated services is widely acknowledged in literature and have resulted in many calling for use of measures that take cognisance of these differences in measuring quality of services that are mediated by information technologies. For example, while personal contact between retail staff and customers is encouraged in offline retail settings, a good online store is regarded as the one that enables customers to transact without the need for contact with retail staff. This is because according to Rowley (2006) online retailers look at e-service as a self-service experience. Customer failure to 'self-serve' is likely to be an indication of lack in the system.

### **Dimensions Of E-Service Quality**

While it is widely accepted that measuring of services quality in information technology mediated contexts cannot be exactly the same as in the case of traditional service delivery, there is no consensus in literature on how to conceptualise and measure e-service quality. Commenting on dimensions of e-service quality in literature Chen et al. (2013) described it as diverse and desultory i.e haphazard or unfocused. Some of the researchers that have come up with measures of e-service quality include Parasuraman et al., (2005), the team that developed SERVQUAL, noting the significant differences that are there between conventional and e-service quality came up with a scale for measuring e-service quality called ES-QUAL. Unlike SERVQUAL with its five dimensions, the team argued that the main dimensions of e-service quality are four, namely, efficiency, system availability, fulfilment and privacy. Lee and Lin (2005) came up with an instrument showing five dimensions of e-service quality namely website design, reliability, responsiveness, trust and personalisation. Kim et al., (2009) identified fulfilment/reliability, responsiveness, web-design and security/privacy as the four main dimensions of service quality in electronic markets. Zuliarni et al., (2013:86) argued for six dimensions namely usefulness, ease of use, reliability, responsiveness, security and continuous improvement.

Taking cognisance of wide variations in conceptualisation of e-service quality Kim et al. (2009) pointed out that whatever the dimensions one may use in studying quality in the context of online shopping, what is important is that a study captures elements that are to do with the whole process. This includes aspects to do with online transaction such as website navigation and aspects related to offline fulfilment. Rowley (2006) noted out that the online service experience can be regarded as consisting of a number of service components each of which can be evaluated separately. Chen et al. (2013), in agreement with Fassnacht and Kooese (2006) point out the need for online retailers to focus on three main components namely the service environment, delivery and outcomes. They remarked that environmental quality captures aspects to do with the appearance of the user interface; delivery quality pertains to customer-website interaction during usage while outcome quality relates to what the customer is left with after the service. This study adopts a similar perspective and examines online retail service quality by focusing on customers perceptions on quality of the platform, interactions taking place on the platform, and outcomes of the interaction. The study adopts a hierarchical view of service quality. It regards platform quality, interaction quality and outcome quality as higher order dimensions of service quality each of which is made up of sub-dimensions. Commenting on modelling of e-service quality, Calson and O'Cass (2011) observed that while the construct is defined by dimensions it is necessary to go a step further and treat it not only as multidimensional but also hierarchical. They argued that this is critical to and a step forward in continued building of theory relating to the e-service quality.

Figure 1 presents the proposed conceptual model used in this study. According to the model, platform quality is a function of two quality sub-dimensions namely visual appeal and information quality. Interaction quality is a function of website ease of use and personalisation. Outcome quality on the other hand is based on fulfilment reliability and privacy protection.

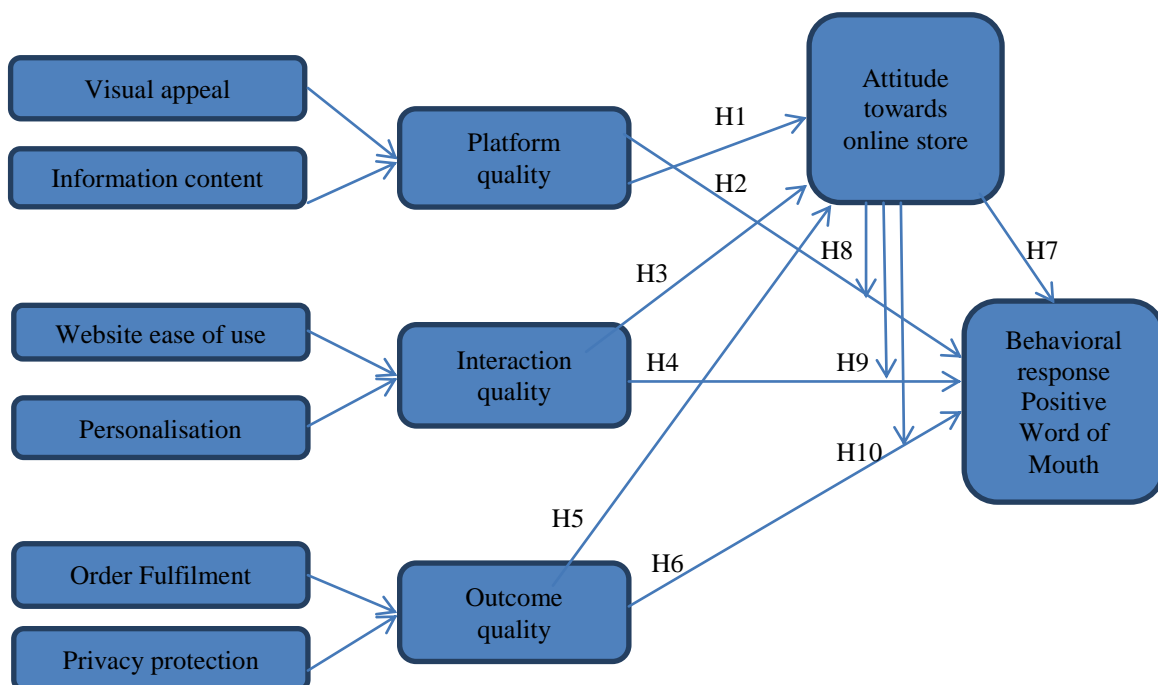
### Platform Quality

An online shopper interacts with a retailer through the retailers' website. Wells et al (2011) noted that the website helps signal quality in online retailing. According to Zhou et al (2009) a high quality website demonstrates not only a sellers' capability but also its interest in customers. Of primary concern are issues of appearance of the website and what information it contains. Chen et al (2013) noted that visual appearance of the website is one of the factors associated with quality of online store environment. Visual appeal is associated with elements such as use of colour, graphics and layout (Thielsch and Hirschfeld 2012; Phillips and Chaparro 2009). The information quality sub-dimension on the other hand is to do with the content on the platform. Rowley (2006) remarked that e-service needs to be seen as information service. When customers visit an online store they are looking for information about products on offer and the business itself. Quality of information provided as determined by such elements as adequacy for decision making and timeliness does influence customers' perceptions about the quality of service provided by online retailers (Chen et al 2013). Failure to ensure that online store information is up-to-date only serves to display an image of carelessness (Küster and Vila, 2011).

Studies on store environment show that it can have significant influence on consumer response. Hausman and Siekpe, 2009 as well as Mazaheri et al (2011) found that perceptions of website atmospherics were positively associated with site attitude and site involvement. Ha and Im (2012) found that website design in the context of online shopping has a positive influence on consumers emotional as well as cognitive responses and contributes to word of mouth communication. This study thus hypothesises that:

**H1:** Online store platform quality has significant influence on customers' attitude towards online stores.

**H2:** Online store platform has significant influence on customers' behavioural response as evidenced by positive word of mouth.



**Figure 1:** Proposed Online Shopping E-Service Quality Model

## **Interaction Quality**

In offline retailing, when shoppers enter a store they can expect face to face interaction with sales representatives. They also have the opportunity to touch and feel products of interest. In online retailing, interaction is via the website. Customers have to rely on themselves to find products of interest, evaluate them and to complete the transaction. The ease with which the website allows this as well as the extent to which services can be adapted to suit customer needs are two factors that can help signal quality or lack of it to customers (Zavareh et al 2012; Ladhari 2010).

On ease of use, Akrimi and Khemakhem (2014) pointed out that a web site that is easy to use is the one that responds fast to commands. For example, when a customer clicks on a link, the pages need to be able to load fast enough. Online systems that are slow in responding to commands can be very frustrating to customers. Ease of use also denotes user friendliness of the system. Studies on human, computer interaction often acknowledge the need for system developers to have the user in mind and not just be taken up by technical capabilities. A user friendly website does not demand exertion of excessively high levels of mental effort on the part of the customer (Alomari et al. 2012).

The concept of personalisation is based on the appreciation of the fact that each customer is in many ways unique to any other. A store's ability to provide a shopping experience that takes into consideration the diverse needs is indicative of responsiveness on its part. Pappas et al (2014) pointed out that online stores can enrich customer online store experience by having a system that is able to use customer data to filter website content and provide customers with only the content that is relevant to them. Pappas et al (2012) found that ability of a store to provide customers with personalised helps enhance online shopping experience. Research shows that shopping experience is positive associated positive word of mouth (Gounaris et al 2010). In this study it is hypothesised that:

**H3:** Interaction quality has a positive influence on attitude towards online stores.

**H4:** Interaction quality has a positive influence on customers' behavioural response as evidenced by positive word of mouth.

## **Outcome Quality**

This construct covers the outcomes of the customers' interaction with an online store. As per proposed model, it includes fulfilment reliability and privacy protection as the main sub-dimensions. Akter et al (2010) in a study of mobile health services noted that outcome quality which they defined as the result of one's interaction with an mHealth platform contributes positively to customer satisfaction as well as to continued usage intentions. In their study they included functional and emotional benefits as what defines outcomes on an interaction. Functional benefits were regarded as a measure of the extent to which a service serves its actual purpose. Taking cognisance of the fact that in online buying the customer is ultimately interested in getting the product bought, this study considers quality issues relating to order fulfilment as an important outcome of customer online store interaction. One of the main issues of concern to customers when it comes to order fulfilment for products bought online is to do with the reliability of the store in making sure that products arrive in time and error free (Chen et al 2013).

Commenting on emotional benefits as part of outcome quality in service delivery, Akter et al., (2010) noted that it has much to do with arousal of feelings of hopefulness as well as confidence associated with using a service. Studies in online shopping including Liao et al (2011) as well as Featherman et al. (2010) widely acknowledge privacy concerns as a major factor that affects customer's confidence in online shopping in general. This study thus includes privacy protection as an important area that can affect customer's evaluation of quality of services provided by online stores. Ha and Stoel (2012) as well as Kim et al (2009) found that perceived levels of privacy protection have a positive influence on customers satisfaction in online shopping. Taking order fulfilment and privacy protection as sub-dimensions of outcome quality this study hypothesises that:



**H5:** Outcome quality has a positive influence on attitude towards online stores.

**H6:** Outcome quality has a positive influence on customers' behavioural response as evidenced by positive word of mouth.

### **Attitude And Behavioural Response**

Alomari et al (2012) defined attitude in the context of online government services as a positive or negative feelings that individuals might have towards interaction with the government online through their website. Taking a similar view this study looks at attitude as favourable or unfavourable feelings that customers have towards an online store. One of the widely cited theories in understanding consumer behaviour, the Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975), notes that attitude is very critical in explaining ones behavioural intentions. It further notes that an individuals' intention to perform or not to perform a given behaviour is the ultimate determinant of whether an action will be taken or not. In other words, TRA behaviour posits that behaviour is a direct outcome of intentions. Many studies including Mishra et al (2014) and Lee et al (2013) confirm the positive relationship that attitude has on behavioural responses.

There are many behavioural responses that retail store managers are often interested to see in their customers. One of these is intention to say positive things about a store to others. Awad et al (2008) argued that positive word of mouth is important in e-commerce as it helps enhance trust in service providers. As noted in the proposed model, in looking at behavioural response this study investigates customers' engagement in positive word of mouth. According to the TRA attitude mediates the relationship between perceptions and behavioural response or intention. This study examines the importance of attitude as a mediator of the relationship between customer service quality perceptions and their behavioural response in terms of positive word of mouth. The following hypotheses are thus proposed

**H7:** Customers attitude towards an online store has a positive influence on behavioural response as evidenced by engagement in positive word of mouth.

**H8:** Attitude towards online store is a significant mediator of the relationship between customer perceptions on platform quality and their behavioural response as evidenced by positive word of mouth.

**H9:** Attitude towards online store is a significant mediator of the relationship between customer perceptions on interaction quality and their behavioural response as evidenced by positive word of mouth.

**H10:** Attitude towards online store is a significant mediator of the relationship between customer perceptions on platform quality and their behavioural response as evidenced by positive word of mouth.

### **RESEARCH METHODOLOGY**

The study followed a quantitative research approach. Data was collected from online shopping customers based in Gauteng, South Africa. A structured questionnaire was used to collect the data. Due to lack of readily available sampling frame from which respondents could be selected for participation, the study made use of non-probability sampling method in the form of quota sampling. According to Battaglia (2008) in quota sampling the researcher deliberately sets the proportions of strata within the sample so as to ensure the inclusion of population segments of interest. In this study the interest was in ensuring that both male and female shoppers were adequately included. Trained field assistants were used to collect the data. The data collectors personally approached identified potential respondents with an invitation to participate in the study. Those willing to participate were given the questionnaire to complete. The data collectors were present during the filling process ready to respond to any questions that the respondents may have had.

In responding to the questions, respondents were asked to keep a specific online store in mind and answer the questions in relation to the services of that store. The use of retrospective experience taken in this study is an accepted approach that has been used before in other in e-service marketing studies (Calson and O'Cass, 2011). The

questionnaire made use of 5 point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree, to measure the extent to which respondents agreed with statement items associated with constructs of interest in the study. Items used to measure constructs of interest were sourced from literature so as to enhance validity. Details of items used for each construct as well as their sources are provided in table 1. At the end of the data collection period a total of 201 usable responses were gathered. 51.2 percent of the respondents were female while 48.8 percent were male. 24.9 percent of the respondents were under the age of 30, 63.7 percent were aged between 30 and 49 while 11.4 percent were aged 50 and above.

Structural Equation Modelling (SEM) was used to analyse the data using version 22 of the SPSS/ AMOS program. A two-step approach was used in the analysis. Firstly assessment of the measurement model for goodness of fit, construct reliability and validity was done. Just as with Calson and O'Cass (2011) as well as Akter et al (2010) studies assessment of the measurement model was done at the first construct order i.e. the level that shows the relationship between the observed items and the constructs associated with them. Reliability of the constructs was measured using Composite reliability coefficients (CR). Convergent validity was assessed using average variance extracted (AVEs) while discriminant validity was assessed by comparing the average variance extracted (AVE) values with the maximum shared variance (MSV) as well as by comparing the square root of the average variance extracted with the absolute values of the correlations. The chi-square statistic with degrees of freedom and five different model fit indices were used to evaluate both the measurement for goodness of fit. These indices included the normed chi-square, the goodness of fit index (GFI), the Tucker Lewis Index (TLI), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA).

The second step in the analysis involved hypothesis testing. Constructs of interest in the structural models tested included platform quality, interaction quality, outcome quality, attitude and behavioural response (positive word of mouth). As second order constructs, platform quality, interaction quality and output quality were treated as formative constructs and not reflective constructs. Calson and O'Cass (2011) noted that formative conceptualisation is based on the view that a construct is an explanatory combination of its dimensions while in a reflective conceptualisation causation is regarded to flow from the construct. They argued for use of formative conceptualisation of higher order e-service quality constructs noting that it makes more sense for one to think of higher order constructs as being made up of related dimensions than to argued that the higher order constructs causes the associated dimensions.

## **FINDINGS**

### **Assessment Of Measurement Model**

The results in table 1 show that all the outer constructs had composite reliability coefficients of above the recommended value of at least 0.70 as per Hair et al (2010). The actual values as per table 1 ranged from 0.780 to 0.897. This shows that all the constructs were highly reliable. An assessment of the measurement model in terms of goodness of fit found that the Chi-square ( $\chi^2$ ) was 282.633 with 217 degrees of freedom and a significant p value of .002. Examination of other fit indices showed acceptable fit of the model as per Byrne (2009) and Hair et al., (2010). Specifically the normed chi-square ( $\chi^2/df$ ) was found to be 1.302 the GFI was .901, TLI .970, CFI .976 and the RMSEA .039.

**Table 1: Measurement Scales**

Constructs and items	Items adapted from	Composite Reliability (CR)	Factor Loadings
VA - Visual appeal VA 1 - The website has visually appealing design VA 2 - The website is aesthetically appealing VA 3 - The way in which products can be viewed on this site is attractive	Lee and Overby (2004)	0.897	.870 .808 .802
IC - Information content IC 1 - Enough information to assess the products IC 2 - Information that is up to date IC 3 - Detailed information about the products featured	Fassnacht & Koese, 2006; Kim et al 2012	0.840	.798 .671 .785
WEU - Website ease of use WEU 1 - When I surf this site the pages load fast WEU 2 - It is easy to complete online transactions on this website WEU 3 - This site is a user friendly site	Parasuraman et al., (2005); Gounaris et al., (2010).	0.818	.634 .726 .761
Ps - Personalisation Ps 1 - The services of this web site are often personalised to me Ps 2 - This online store treats me as an individual unique customer Ps 3 - This site is designed to adapt to my future needs so as to make future transactions easier	Harris and Goode (2010); Srinivasan et al (2002)	0.780	.787 .755 .720
OF – Order fulfilment OF 1 – This online store delivers within stipulated time frame OF 2 – Transactions with this online store are mostly error free OF 3 – I believe that this vendor has an efficient system for processing orders received	Yen and Lu (2008); Qureshi et al., (2009).	0.819	.683 .754 .761
Privacy protection PP 1 - I think this site will not share my personal information with others PP 2 - The site provides explicit assurances of customer privacy PP 3 - This site will protect my personal information from unauthorised access	Yen and Lu (2008)	0.818	.766 .585 .785
ATS - Attitude towards online Store ATS 1 - I like this online store ATS 2 - Compared with other websites, I would rank this one as one of the best ATS 3 - This is a good online store	Chen and Wells (1999); Nusair and Parsa (2011)	0.855	.737 .765 .823
BR-WM – Behavioural Response: Positive Word of Mouth BI 1 - I say positive things about this online retailer to other people BI 2 - I recommend this online retailer to others who seeks my advice BI 3 - I encourage friends and relatives to do business with this online retailer	Zeithaml et al., (1996); Gounaris et al., (2010).	0.816	.874 .910 .810

Results on validity tests are presented in table 2. According to the results, all constructs in the measurement model have AVE values of greater than 0.5. As per Hair et al (2010) AVE values of 0.5 or more provide evidence on convergence validity. They also note that factor loadings of 0.5 and above provide additional evidence of construct convergent validity. Results in table 1 show that all indicator variables had factor loadings of greater than 0.50 on their respective factors.

Table 2 also provides results on discriminant validity analysis. According to Gaskins (2013) discriminant validity is evident when the square root of the AVE for a construct is greater than the absolute values of the correlations with other factors. Hair et al (2010) pointed out that discriminant validity is also evidenced by AVE values that are greater than the Maximum Shared Variance (MSV). The results in table 2 provide evidence that both conditions were met in all factors.



**Table 2:** Means, Standard Deviations And Construct Validity

Construct	Mean	Standard Deviation	VA	IC	WEU	Ps	OF	PP	ATS	BR-WM
VA	4.16	0.74	<b>0.863</b>							
IC	4.26	0.73	0.487	<b>0.799</b>						
WEU	4.31	0.62	0.720	0.604	<b>0.774</b>					
Ps	3.65	0.94	0.317	0.179	0.289	<b>0.741</b>				
OF	4.21	0.62	0.618	0.537	0.689	0.280	<b>0.776</b>			
PP	4.11	0.70	0.520	0.566	0.676	0.273	0.716	<b>0.777</b>		
ATS	4.24	0.66	0.671	0.614	0.753	0.342	0.700	0.645	<b>0.815</b>	
BR-WM	4.24	0.64	0.718	0.502	0.736	0.396	0.723	0.693	0.604	<b>0.774</b>
AVE			0.745	0.638	0.600	0.550	0.602	0.604	0.664	0.599
MSV			0.518	0.377	0.567	0.159	0.523	0.513	0.397	0.542

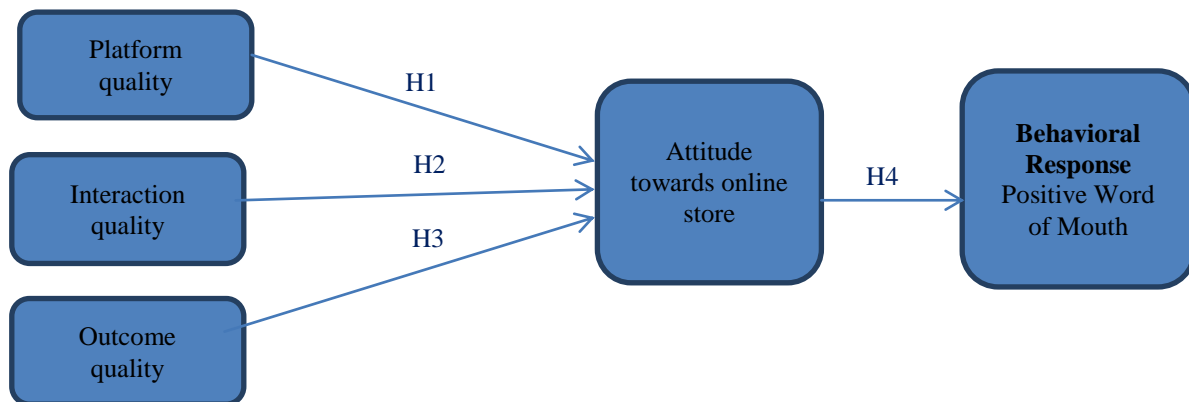
Note: 1. All correlations were significant at the 0.01 level (2-tailed).

2. Diagonal values in bold are the square root of the AVE. Off diagonal values are construct correlations

### Hypothesis Testing

Two separate structural models were run in analysing the data and testing the hypotheses. The first structural model looked at the relationship between the three dimensions of online store service quality and attitude as well as behavioural response. The second model examined the relationship between each of the three service quality dimensions and behavioural response directly and also assessed the mediation effect of attitude on service quality dimensions and customers behavioural response.

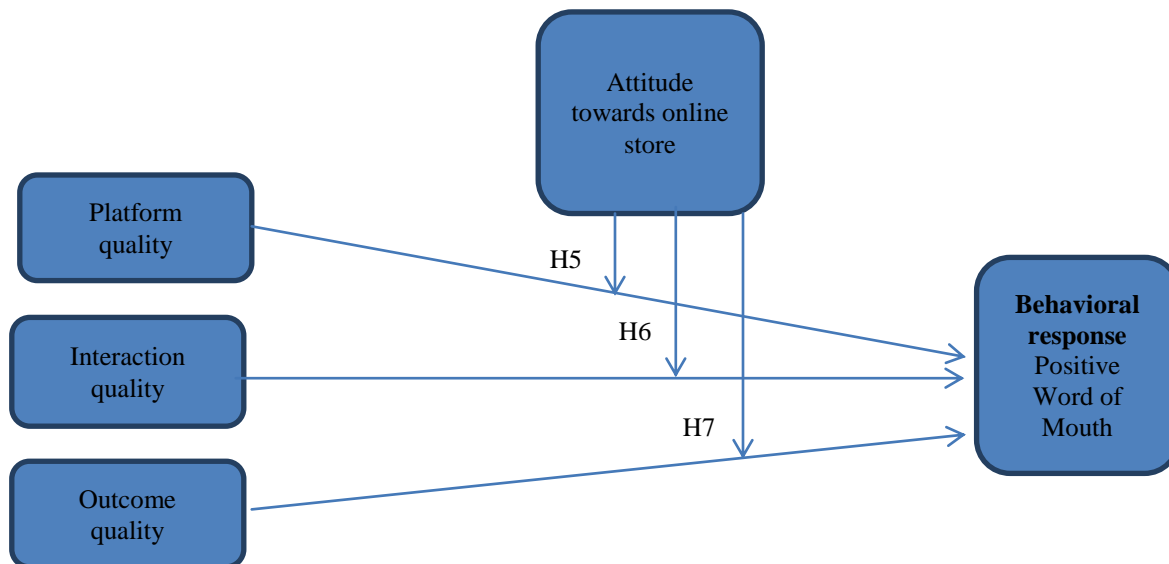
Results of the first structural model showed that all the three dimensions of online store service quality had significant influence on attitude towards online store. The results also show that attitude towards online store has significant influence on behavioural response in terms of saying positive words about an online store to others.

**Figure 2:** Structural Model 1 – Online Service Quality, Attitude And Behavioural Response**Table 4:** Results Of The Hypothesis Testing – Attitude Service Quality Precursors And Outcomes

			Standardised Regression Coefficient	SE	P	Conclusion
Attitude towards online store	←	Platform quality	.417	.061	.000	H1 supported
Attitude towards online store	←	Interaction quality	.164	.053	.007	H3 Supported
Attitude towards online store	←	Outcome quality	.398	.063	.000	H5 Supported
Behavioural response: Positive word of mouth	←	Attitude towards online store	.704	.085	.000	H7 Supported

Examination of the mediation effect of attitude on the relationship between online store service quality dimensions and behavioural response was done in line with recommendations by Baron and Kenny (1986) significant mediation effects are present when four criteria are met. These include first three conditions which are that the independent variable affects the dependent variable, that the independent variable affects the mediator variable and that the mediator variable affects the dependent variable. The independent variables in this case are platform quality, interaction quality and outcome quality. The mediator variable is attitude while the dependent variable is behavioural response of positive word of mouth. Results of the hypotheses testing in table 3 show significant effects that each of the service quality dimensions has on attitude and the effect that attitude has on behavioural response. Analysis of direct relationship between each of the three service quality dimensions and behavioural response showed significant effects as presented in table 4.

The forth condition for establishing mediation as per Baron and Kenny (1986) involves comparing the results of the direct effect with the mediator from those of the direct results without the mediator. They noted that full mediation is evident when the relationship between independent and dependent variables become insignificant when a mediator is present. Partial mediation, on the other hand, is said to be evident when the relationship between independent and dependent variables loses its level of significance of effect. The results in this study as presented in table 4 show no loss of significance of effect which means that attitude is not a significant mediator of the relationship between any of the online store service quality dimensions and behavioural response.



**Figure 3: Structural Model – Mediation Effect**

**Table 5: Results Of The Hypotheses Testing -Mediation Effect**

Relationship	Direct Effect Without Mediator		Direct Effect With Mediator		Indirect Effect Conclusion	
	Regression Coefficient	P value	Regression Coefficient	P value	P value	Conclusion
H5: Platform quality ---Attitude---Behavioural response	.266	.000	.287	.000	.590	Non-Significant; No mediation
H6: Interaction quality ---Attitude---Behavioural response	.201	.003	.209	.002	.559	Non-Significant; No mediation
H7: Outcome quality---Attitude---Behavioural response	.424	.000	.441	.000	.413	Non-Significant; No mediation

## **DISCUSSION AND IMPLICATIONS**

Online retailing is a phenomenon that is growing in South Africa. Despite this, lack of studies in the area makes it difficult for managers to come up with informed decisions on strategies to pursue in their efforts aimed at ensuring that their businesses succeed. Findings in this study contribute to understanding the concept of online store service quality and the influence it has on both customers' attitude towards an online store as well as their behavioural response in terms of engaging in positive word of mouth. The findings showed that customers evaluate different dimensions related to service quality. Unlike other studies that look at service quality at the overall or at the first dimensional level, this study took a hierarchical approach in conceptualising service quality. By capturing customer perceptions of online service quality at three second order dimensional level and six first order sub-dimensional level the study contributes to theory on service quality by validating arguments raised by researchers such as Akter et al (2010) as well as Calson and O'Cass (2011) on the need to look at service quality as a multi-level and not just one level construct. The results in this study show that service quality as a second order construct does have significant effect on attitude. The results also provide empirical support for the argument in the Theory of Reasoned Action that attitude has significant effect on behaviour. This is in line with findings by Mishra et al (2014) who also noted the significant influence that attitude has on customers' actual behaviours. Investigations focusing on the mediating role of attitude on the relationship between service quality dimensions and customers behavioural response show no support for this. This indicates that it is important to measure attitude separately from service quality when trying to determine customers' evaluation of an online store.

The findings in this study have major implications on management of service quality by online stores. The findings can help managers better understand how customers evaluate online store service quality and how they are performing on different dimensions so as to be able to identify possible areas that need improvement. Specifically, the findings point to the need for managers to focus on improving quality of their services across three main dimensions namely the quality of the online store platform, quality of store interaction with the customer and quality of outcome. On the platform quality level, managers need to appreciate the fact that the website is the contact point between an online store and the customer. As such the platform provides managers with an opportunity to create first impressions that may convey service quality to customers. Just as managers spend time, effort and often finances in designing the interiors of their physical stores, online managers need to appreciate the importance of good interior design even for their online stores. The website in this case represents the interior of the online store. How this interior is designed can help make it a good source of positive stimuli to the customer. As noted by Thielsch and Hirschfeld (2012) managers can play around with issues such as colour, graphics and page layout in their efforts aimed at creating a visually appealing website. Apart from visual aspects managers need to also pay attention to quality of information provided on their websites. Just as with visual appeal, the findings in this study show that information quality is an important dimension of service quality as evidenced by the significant positive relationship that it has with attitude towards online store as well as on customers' engagement in positive word of mouth. In this regard managers need to ensure that they provide customers with adequate information that can enable them engage in online buying without the need to get in contact with store' personnel. As pointed out by Rowley (2006) online retailing needs to be seen as a self-service. Constant need by customers to get in contact with store personnel needs to be carefully examined as it may be an indication of deficiencies in the system.

On interaction quality, the findings point to the need for managers to pay attention to ensuring that their pages load fast enough and that in general their websites are user friendly so as to allow customers to complete transactions easily. The need for user friendly sites and pages that are responsive is a call for managers to look into among others issues of store size as determined by bandwidth needed to send, receive and process transactions. It is also a call for managers to examine issues that may add complexity to the online shopping process including the need to use simple language on the website so as to ensure that ease of communication is enhanced. Online store needs to also give simple and clear instructions to customers relating to the buying process so that customers can easily follow and complete transactions with ease. In general managers should avoid having sites that demand exertion of high levels of mental effort by customers. As noted by Alomari et al. (2012) the need for high levels of mental effort signals low levels of website user friendliness. The findings in the study also show the positive relationship that personalisation of services has on customers attitude as well as behavioural intentions. Managers need to always be cognisant of the fact that customers are different and are likely to have different needs as they interact with their store online. Means need to be found of providing customers with as much personalised services

as possible and making them feel that they are appreciated at an individual level. Such means may include addressing customers by name where possible. Managers can also design their sites so as to be able to provide customers with content that is filtered and is relevant to them based on what is known about them from their profile.

The last dimension investigated was outcome quality. The focus was on what comes out of the interaction with an online store. The findings show that outcome quality in general has positive influence on both attitude towards an online store and customers' behaviour in terms of engaging on positive word of mouth. Sub-dimensions that contribute to outcome quality are order fulfilment and privacy protection. The high levels of correlation found between each of these sub-dimensions and attitude as well as customers behaviour point to the need for managers to special attention to related matters. When a customer buys products online, they look forward to receiving the products. In cases where products need to be transported and delivered to customers as was the case with the online buying in this investigation, customers are concerned with issues of timing. They are happy when the rights products are delivered in time. It is thus imperative for online store managers to ensure that they have good systems in place for processing orders since without good systems customers are likely to be receiving poor services relating to order fulfilment. In terms of privacy protection, studies often highlight privacy protection concerns as a major risk factor that customers consider when deciding to buy online or not (Liao et al 2011). While customers may inherently associate online shopping with privacy risk, managers of individual stores can take steps aimed at reducing levels of risk concerns that customers are likely to feel when shopping at their stores. This calls for managers to provide customers with assurances regarding handling of issues that contribute to privacy risk. Customers need to be assured that their personal information will be protected from unauthorised access and not be shared with others without their knowledge. Buying from an online store need not be at the expense of loss of ones privacy and managers of online stores have great responsibility to ensure customer privacy.

## **CONCLUSION**

Service quality provides online retailers an opportunity to effectively differentiate themselves in the online market place in a way that is appealing to customers. This study developed and tested a model that can be used to diagnose and improve quality of services delivered by online stores to their customers. The model, backed by findings in the study, underscores the importance good online store platform, interaction and administration systems in ensuring that customers are provided with good services. The findings have wider implications on delivery of quality services by online stores. In general the findings point to the need for managers to address in a coordinated manner the quality of services associated with each dimension. The findings provide a useful roadmap for interventions aimed at improving service quality at each of the three main dimensions. It shows the sub-dimensions that managers need to work on in order to effect changes. Specifically, the findings show the importance of visual appeal and information quality in understanding customers' perceptions on platform quality. They also show that website ease of use as well as personalisation efforts are important components of interaction quality while outcome quality with a special focus on output can be understood by focusing on privacy risk protection as well as order fulfilment. The importance of the service quality dimensions is evidenced by the positive influence they have on not only customers' attitude towards an online store but also on their behavioural response in terms of engaging on positive word of mouth about a store.

While the study makes significant contributions to understanding online store service quality and its effects, it is not without limitations. One limitation relates to the fact that the study is based on a relatively small sample of respondents drawn from a limited geographical area in South Africa. This limits the extent to which the findings can be generalised to customers from other areas in the country. Another limitation relates to the fact that the study is cross-sectional in nature. It thus at most only provides a perspective of service quality and its effects at a specific point in time. Keeping in mind the fast pace at which technological capabilities are changing the model examined need to be appreciated within the context of current online retailing environment. The limitations of the study provide opportunities for more research in the future focusing on online store service quality. Researchers can replicate the study in other geographical areas in order to validate the findings. Researchers need to also appreciate the need for continued examination of online service quality so as to capture factors relating to changing technological contexts in which such firms operate.

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## REFERENCES

1. Akrimi Y & Khemakhem P. (2014). An Analysis of Perceived Usability, Perceived Interactivity and Website Personality and their effects on Consumer Satisfaction. *International Journal of Management Excellence* 2(3):227-236.
2. Akter, S., D'Ambra, J., & Ray, P. (2010). Service quality of mHealth platforms: development and validation of a hierarchical model using PLS. *Electronic Markets*, 20(3-4), 209-227.
3. Alomari, M., Woods, P., & Sandhu, K. (2012). Predictors for e-government adoption in Jordan: Deployment of an empirical evaluation based on a citizen-centric approach. *Information Technology & People*, 25(2), 207-234.
4. April, G. D., & Pather, S. (2008). Evaluating service quality dimensions within e-commerce SMEs. *Electronic Journal Information Systems Evaluation Volume*, 11(3), 109-124.
5. Awad, N. F., & Ragowsky, A. (2008). Establishing trust in electronic commerce through online word of mouth: An examination across genders. *Journal of Management Information Systems*, 24(4), 101-121.
6. Awasthi, A., Chauhan, S. S., Omrani, H., & Panahi, A. (2011). A hybrid approach based on SERVQUAL and fuzzy TOPSIS for evaluating transportation service quality. *Computers & Industrial Engineering*, 61(3), 637-646.
7. Baron RM, Kenny DA 1986. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-82.
8. Battaglia, M (2008). Quota sampling. In Lavrakas, P. J. (Edt). *Encyclopedia of Survey Research Methods: AM* (Vol. 1). Sage. Retrieved from <http://srmo.sagepub.com/view/encyclopedia-of-survey-research-methods/n431.xml>
9. Benaroch, M., & Appari, A. (2011). Pricing e-service quality risk in financial services. *Electronic Commerce Research and Applications*, 10(5), 534-544.
10. Chen, M. H., Tsai, K. M., Hsu, Y. C., & Lee, K. Y. (2013). E-service Quality Impact on Online Customer's Perceived Value and Loyalty. *China-USA Business Review*, 12(5): 473-485.
11. Chen, Q. and Wells, W.D. (1999). Attitude toward the site, *Journal of Advertising Research*, 39(5), 27-38.
12. Carlson, J., & O'Cass, A. (2011). Developing a framework for understanding e-service quality, its antecedents, consequences, and mediators. *Managing Service Quality*, 21(3), 264-286.
13. E-marketer. (2014). Global B2C ecommerce sales to hit \$1.5 trillion this year driven by growth in emerging markets. Retrieved from <http://www.emarketer.com/Articles/Print.aspx?R=1010575>.
14. Fassnacht, M., & Koese, I. (2006). Quality of electronic services: Conceptualizing and testing a hierarchical model. *Journal of Service Research*, 9(1), 19-37.
15. Featherman, M. S., Miyazaki, A. D., & Sprott, D. E. (2010). Reducing online privacy risk to facilitate e-service adoption: the influence of perceived ease of use and corporate credibility. *Journal of Services Marketing*, 24(3), 219-229.
16. Fishbein, M. & Ajzen, I. 1975. *Belief, attitude, intention, and behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley
17. Gaskins, J. (2013). Confirmatory factor analysis. Retrieved from [http://statwiki.kolobkreations.com/wiki/Confirmatory\\_Factor\\_Analysis#Model\\_Fit](http://statwiki.kolobkreations.com/wiki/Confirmatory_Factor_Analysis#Model_Fit)
18. Goldstuck, A. (2012). Internet Matters: The Quiet Engine of the South Africa Economy. \Johannesburg: World Wide Worx. Retrieved from [http://www.internetmatters.co.za/report/ZA\\_Internet\\_Matters.pdf](http://www.internetmatters.co.za/report/ZA_Internet_Matters.pdf)
19. Gounaris, S., Dimitriadis, S., & Stathakopoulos, V. (2010). An examination of the effects of service quality and satisfaction on customers' behavioural intentions in e-shopping. *Journal of Services Marketing*, 24 (2), 142-156.



20. Ha, Y., & Im, H. (2012). Role of web site design quality in satisfaction and word of mouth generation. *Journal of Service Management*, 23(1), 79-96.
21. Ha, S., & Stoel, L. (2012). Online apparel retailing: roles of e-shopping quality and experiential e-shopping motives. *Journal of Service Management*, 23(2), 197-215.
22. Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis: A global perspective*. New Jersey: Pearson Education.
23. Hoffman, K.D. and Bateson, J.E.G. (1997), *Essentials of service marketing*, The Dryden Press, Fort Worth, TX.
24. Kettinger, W. J., & Lee, C. C. (2005). Zones of tolerance: alternative scales for measuring information systems service quality. *MIS quarterly*, 29(4):607-623.
25. Kim, C., Galliers, R. D., Shin, N., Ryoo, J. H., & Kim, J. (2012). Factors influencing Internet shopping value and customer repurchase intention. *Electronic Commerce Research and Applications*, 11(4), 374-387.
26. Kim, J., Jin, B., & Swinney, J. L. (2009). The role ofetail quality, e-satisfaction and e-trust in online loyalty development process. *Journal of Retailing and Consumer Services*, 16(4), 239-247.
27. Kim, J. H., & Kim, C. (2010). E-service quality perceptions: a cross-cultural comparison of American and Korean consumers. *Journal of Research in Interactive Marketing*, 4(3), 257-275.
28. Küster, I. and Vila N. (2011). Successful SME web design through customer focus groups. *International Journal of Quality & Reliability Management*, Vol. 28, pp. 132-154.
29. Ladhari, R. (2010). Developing e-service quality scales: A literature review. *Journal of Retailing and Consumer Services*, 17(6), 464-477.
30. Lee, J., Ham, C. D., & Kim, M. (2013). Why People Pass Along Online Video Advertising: From the Perspectives of the Interpersonal Communication Motives Scale and the Theory of Reasoned Action. *Journal of Interactive Advertising*, 13(1), 1-13.
31. Lee, G. G., & Lin, H. F. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2), 161-176.
32. Lee, E. J., & Overby, J. W. (2004). Creating value for online shoppers: Implications for satisfaction and loyalty. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 17, 54-67.
33. Liao, C., Liu, C. C., & Chen, K. (2011). Examining the impact of privacy, trust and risk perceptions beyond monetary transactions: An integrated model. *Electronic Commerce Research and Applications*, 10(6), 702-715.
34. Mazaheri, E., Richard, M. O., & Laroche, M. (2011). Online consumer behavior: Comparing Canadian and Chinese website visitors. *Journal of Business Research*, 64(9), 958-965.
35. Mishra, D., Akman, I., & Mishra, A. (2014). Theory of Reasoned Action application for Green Information Technology acceptance. *Computers in Human Behavior*, 36, 29-40.
36. Mittal, S., Gera, R., & Singhvi, S. R. (2013). Developing and Testing a Hierarchical Model of Customer Perceived Service Quality for Life Insurance Services. *Asia-Pacific Journal of Management Research and Innovation*, 9(1), 63-76.
37. Nusair, K., & Parsa, H. G. (2011). Introducing Flow Theory to Explain the Interactive Online Shopping Experience in a Travel Context. *International Journal of Hospitality & Tourism Administration*, 12(1), 1-20.
38. Pappas, I. O., Giannakos, M. N., & Chrissikopoulos, V. (2012). Personalized services in online shopping: Enjoyment and privacy. In *Information Society (i-Society), 2012 International Conference on* (pp. 168-173). IEEE.
39. Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Chrissikopoulos, V. (2014). Shiny happy people buying: the role of emotions on personalized e-shopping. *Electronic Markets*, 1-14.
40. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. *Journal of retailing*, 64(1), 12-40.
41. Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7 (3), 213-233.
42. Phillips, C., & Chaparro, B. (2009). Visual appeal vs. usability: which one influences user perceptions of a website more?. *Usability News*, 11(2), 1-9.
43. Qureshi, I., Fang, Y., Ramsey, E., McCole, P., Ibbotson, P., & Compeau, D. (2009). Understanding online customer repurchasing intention and the mediating role of trust—an empirical investigation in two developed countries. *European Journal of Information Systems*, 18 (3), 205-222.



44. Rowley, J. (2006). An analysis of the e-service literature: towards a research agenda. *Internet Research*, 16(3), 339-359.
45. Sahadev, S., & Purani, K. (2008). Modelling the consequences of e-service quality. *Marketing Intelligence & Planning*, 26(6), 605-620.
46. Santouridis, I., Trivellas, P., & Tsimonis, G. (2012). Using ES-QUAL to measure internet service quality of e-commerce web sites in Greece. *International Journal of Quality and Service Sciences*, 4(1), 86-98.
47. Srinivasan, S. S., Anderson, R. and Ponnnavolu, K. (2002). Customer loyalty in e-commerce: an exploration of its antecedents and consequences, *Journal of Retailing*, 78(1): 41-50.
48. Statista (2014). Forecast for global retail sales growth from 2008 to 2016. Retrieved from <http://www.statista.com/statistics/232347/forecast-of-global-retail-sales-growth/>.
49. Thielsch, M. T., & Hirschfeld, G. (2012). Spatial frequencies in aesthetic website evaluations—explaining how ultra-rapid evaluations are formed. *Ergonomics*, 55(7), 731-742.
50. Tustin, D., van Aardt, C., Jordaan, J., van Tonder, J., & Meiring, J. (2014). Retail trade sales forecast for South Africa, 2014. Bureau of Market Research, Research Report No 443. Retrieved from [http://www.wrseta.org.za/downloads/Report443\\_Retail%20Trade%20Sales%202014.pdf](http://www.wrseta.org.za/downloads/Report443_Retail%20Trade%20Sales%202014.pdf)
51. Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What Signals Are You Sending? How Website Quality Influences Perceptions of Product Quality and Purchase Intentions. *MIS Quarterly*, 35(2), 373-396.
52. Zavareh, F. B., Ariff, M. S. M., Jusoh, A., Zakuan, N., Bahari, A. Z., & Ashourian, M. (2012). E-service quality dimensions and their effects on e-customer satisfaction in internet banking services. *Procedia-Social and Behavioral Sciences*, 40, 441-445.
53. Zeithaml, V. A., Berry, L., & Parasuraman, A. (1996). The behavioural consequences of service. *Quality, Journal of Marketing*, 60 (2), 31–46.
54. Zeithaml, V., Bitner, M., & Gremler, D. (2013). Services marketing: Integrating customer focus across the firm. 6<sup>th</sup> Edition, New York:McGraw-Hill Irwin.
55. Zhou, T., Lu, Y., & Wang, B. (2009). The relative importance of website design quality and service quality in determining consumers' online repurchase behavior. *Information Systems Management*, 26(4), 327-337.
56. Zuliarni, S., Haroon, H. H., & Yahya, S. (2013). The Extent Of Internet Banking Services Usage In Relation With Customers' Perceived E-Service Quality (PESQ) Of Malaysian Banks In Penang: The Moderating Role Of Adopters Risk Profil. *Jurnal Aplikasi Bisnis*, 1(2), 78-83.

**NOTES**