

Customers' Perceptions as an Antecedent of Satisfaction with Online Retailing Services

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ABSTRACT

The assessment of antecedents of customer satisfaction has become very important for the success of online retailing services. This paper reports the results of a study that investigated the antecedent role of customers' perceptions vis-a-vis satisfaction with online retailing services. While the study model conceptualizes customers' perceptions as a composite variable made up of three dimensions (perceived attributes, perceived risk and perceived value) prescribed by four established information systems (IS) and consumer behaviour frameworks, namely the Technology Acceptance Model (TAM), Perceived Risk Theory (PRT), Theory of Consumption Values (TCV) and Expectations-Artifact Model of Satisfaction (EAMS), it does not specify how the different perceptual factors influence online satisfaction; instead it aggregates all three dimensions into a higher-order construct called "customers' perceptions" and tries to understand the nature of relationship between the composite independent variable and the dependent variable. It employed a descriptive, correlational survey design whereby the response data collected from 240 registered users of 6 online retailers was analyzed using both descriptive as well as inferential statistics. The linear regression analyses indicate that the model provides a statistically significant explanation of the variation in consumers' online retailing satisfaction. The study also found empirical support for customers' perceptions as an antecedent of satisfaction with online retailing services.

JEL classification: M00, M31

Keywords: online retailing, customer satisfaction, perceptions, e-commerce, online consumer behaviour

1. INTRODUCTION

The commercial use of the internet has grown tremendously over the last two decades, characterized by a proliferation of various online-based electronic commerce (e-commerce)

services. One of these services is online retailing (internet retailing, electronic retailing, or e-tailing), the direct sale from business to consumer (B-2-C) through electronic storefronts, typically designed around an electronic catalogue and shopping cart model (Stair & Rynolds, 2010). Due to its huge popularity, online retailing has had a significant impact on several market segments such as travel, consumer electronics, hobby goods, and media goods across the globe (Weltevrenden & Boschma, 2008). Consequently, online retailing has developed to become an established marketing channel in its own right within the consumer marketplace (Doherty & Ellis-Chadwick, 2010).

In the context of online shopping, the website of an online retailer is the main contact point by which the online retailer and consumers interface in the online shopping process (Ahn, Ryu & Han, 2004). Therefore, the quality of service rendered during the course of the whole online shopping transaction has significant influence on customer satisfaction (Ho & Wu, 1999). While a high level of customer satisfaction does not necessarily guarantee customer loyalty, dissatisfaction will cause customers to take their business elsewhere. In other words, customers who are dissatisfied with the level of service they have received will be less likely to return in the future, or if they do return, they will most likely do so with less frequency than they did in the past. Conversely, customers who are extremely satisfied with their service experience with a given firm will most likely continue to return to that firm at the same frequency or even more frequently (Davis & Heineke, 1998). As a result, electronic satisfaction (e-satisfaction) has become vital for online retailers to attract and retain online shoppers in this virtual environment (Ting, Ariff, Zakuan, Sulaiman & Saman, 2016).

With the ever increasing popularity of electronic commerce, the evaluation of antecedents and of customer satisfaction has become very important for the online shopping store vendors as well as for researchers (Ho & Wu, 1999). This is driven by the fact that customer satisfaction has become a hoped-for business outcome, and therefore focusing discussion on its antecedents is a necessary means to effect the desired outcome (Day & Crask, 2000). However, a review of past research literature suggests that there are various antecedent factors of customer satisfaction, since the researchers chose the variables and factors that best suit each circumstance in their perception (Jiradilok, Malisuwan, Madan, and Sivaraks, 2014). In the online context, a number of studies have shown that satisfaction is mainly affected by customers' perceptions of their user experiences with information technology (IT) (Bhattacharjee, 2001a; 2001b). Therefore, in this study, satisfaction is conceptualized as an outcome of customers' perceived performance of the e-retailing service.

2. LITERATURE REVIEW

The literature review is drawn from past online consumer behaviour and information systems (IS) studies regarding two main variables: the independent variable – customer perceptions and the dependent variable – satisfaction. These variables are discussed in the following sections. The research hypothesis was developed based on theory from the combined literature.

2.1 Customer Satisfaction

Customer satisfaction is often defined as the customers' post-purchase comparison between pre-purchase expectation and performance received (Oliver, 1980; Zeithaml *et al.*, 1993). Customer satisfaction is when products and services meet the expectation of the consumers (Kotler, Cunningham & Turner, 2001). Like traditional business, online firms also need to satisfy their customers. Normally, most satisfied customers intend to re-purchase the products if the product performance meets their expectation. Moreover, from a marketing perspective, satisfaction

ensures that customers develop positive emotions towards brands, while dissatisfaction translates into negative brand emotions (Pizam *et al.*, 2016).

How one conceptualizes customer satisfaction also affects the modelling and measurement of the construct and its antecedents. Johnson *et al.* (1995) describe two basic conceptualizations of satisfaction, namely: transaction-specific and cumulative. Transaction-specific satisfaction is a customer's transient evaluation of a particular product or service experience (Cronin & Taylor, 1992; Parasuraman *et al.*, 1988). The cumulative model conceptualizes satisfaction as a cumulative construct that describes the total consumption experience with a product or service to date (Johnson and Fornell, 1991; Meeks, 1984; Van Raaij, 1981). Although transaction-specific satisfaction may provide insights into particular product or service encounters, cumulative satisfaction is arguably a better predictor of future behaviour (customer retention) and firm performance (profitability). The approach employed in this study is both aggregate and cumulative, in line with Johnson, Nader & Fornell (1996). Accordingly, this study defined satisfaction as the customer's overall positive evaluation of the online retailing service following initial usage or based on all prior interactions/encounters and shopping experiences.

As demonstrated in past literature, customer satisfaction has been considered one of the most important concepts (McQuitty *et al.*, 2000), and one of the main goals in marketing (Erevelles & Leavitt, 1992). Owing to the growing importance of online commerce, a number of studies have focused on online satisfaction (Nusair & Kandampully, 2008) because it helps to build customer trust (Flavian *et al.*, 2006), enhances favourable word-of-mouth (Bhattacharjee, 2001), leads to repeat purchases (Kim, 2005), predicts purchase behaviour (McQuitty *et al.*, 2000), projects the internet retailer's endurance and success (Evanschitzky *et al.*, 2004) and is critical for retaining current users (Bhattacharjee, 2001a; 2001b). It is therefore imperative to be able to understand and measure satisfaction in the context of e-commerce.

According to Davis & Heineke (1998), defining customer satisfaction in service operations has been approached in two general ways: (1) satisfaction as a function of disconfirmation; and (2) satisfaction as a function of perception. Owing to its complexity the disconfirmation model has been criticized by some researchers (Teas, 1994; Goode & Moutinho, 1995) who prefer another approach. Consequently, the alternative approach that appears to be gaining acceptance is that satisfaction depends primarily on the customer's perception of service performance rather than on the disconfirmation between perception and expectation (Cronin & Taylor, 1994; Teas, 1993). This approach is in line with extant research evidence which demonstrates that overall customer satisfaction in a service encounter is influenced by customers' perception (Brocato *et al.*, 2012; Anderson *et al.*, 2008; Sreejesh *et al.*, 2017).

If customer satisfaction is viewed as an outcome, then focusing discussion on its antecedents is necessary to effect the desired outcome (Day & Crask, 2000). This study will use this approach, whereby customers' perceptions are conceptualized as having an antecedent effect on satisfaction with online retailing services.

2.2. Customers' Perceptions

Perceptions are essentially mental maps made by people to give them a meaningful picture of the world on which they can base their decisions (Berelson & Steiner, 1964). Perception occurs when stimuli are registered by one of the five human senses: vision, hearing, taste, smell and touch (Hoyer & MacInni, 2008) via a process of sensing, selecting, and interpreting stimuli in the external, physical world into the internal, mental world (Wilkie, 1994). This perceptual process leads to a response which is either overt (actions) or covert (motivations, attitudes, and feelings) or both.

From a consumer behaviour perspective, perceptions are an attempt by a consumer to obtain and process information about a market situation with a purpose to make himself aware of the

market and market offerings (Sahaf, 2008). Consumers establish and continuously update their perceptions about the alternative products/services that they are considering and based on those perceptions, they determine their attitudes towards the products (preferences). According to Schiffman & Kanuk (2010), perception has strategy implications for marketers because consumers make decisions based on what they perceive rather than on the basis of objective reality. As a result, marketers have realized that understanding the perceptual process of consumers helps them to design better ways to help customers perceive their products and services favourably, especially since products and services that are perceived distinctly and favourably have a much better chance of being purchased than products or services with unclear or unfavourable images.

Consequently, both marketing and information systems (IS) researchers have over the years sought to establish how perceptions of an IT innovation influence satisfaction (Lin & Sun, 2009). It is therefore important that an online business understands the perceptions of the customer, as this can help the businesses to get a higher chance of satisfaction of their customers and at the same time attract and maintain their loyal customers (Yee & Yazdanifard, 2014). Consequently, for this study, the customers' perceptions construct serves as the independent variable. It is composed of three constructs (perceived attributes, perceived risk and perceived value) identified in extant service management, consumer behaviour and technology adoption literature as playing an antecedent role *vis-à-vis* satisfaction with online retailing services. However, in this study, the three dimensions are aggregated to form a composite higher-level construct known as "customers' perceptions" in order to investigate the relationship between the composite independent variable and the dependent variable. These variables are discussed in the following sections.

2.2.1. Perceived Attributes

Perceived attributes (PA) refer to the perception towards the primary characteristics of innovations by actual adopters and potential adopters. The behaviour of individuals is predicated by how they perceive these primary attributes. Because individuals might perceive primary characteristics in different ways, their eventual behaviours might differ (Moore & Benbasat, 1991). PAs have been found to influence consumer usage patterns *vis-à-vis* information and communications technology (ICT), whereby users would perceive the attributes of these innovations favourably, while non-users and rejecters perceive them unfavourably enough not to use them (Rugimbana & Iversen, 1994). In this study, PA is an aggregate variable of three dimensions (perceived usefulness, perceived compatibility and perceived ease of use) drawn from the work of Davis' TAM (1989), Rogers' IDT (1995; 2003), and Moore and Benbasat's PCI model (1991).

2.2.2. Perceived Risk

Perceived risk (PR) is a subjective concept that relates to the uncertainty and consequences associated with a consumer's action. A perception of risk with regard to purchasing or using a product or service dissuades a consumer from taking further action in that regard (Sharma, Durand & Gur-Arie, 1981; Bhatnagar, Misra & Rao, 2000). Due to the personal nature of such assessments, it cannot be objectively determined. PR can vary across individuals, situations and types of products and services (Day & Crask, 2000). In the online retailing context, the intangible nature of online transactions poses a risk for consumers, impeding further use of online purchasing services (Bhatnagar *et al.*, 2000; Hansen, 2007). Previous research on its antecedent role also suggests that PR negatively impacts internet shopping (Liebermann & Stashevsky, 2002). By and large, perceived risk is conceptualized as a multi-dimensional construct in several information systems studies (Cox & Rich, 1964; Jacoby & Kaplan, 1972; Bettman, 1973; Bhatnagar *et al.*, 2000; Forsythe & Shi, 2003; Zhang, Tan, Xu & Tan, 2012). This study adapted the perceived risk indicators from a review of relevant literature. These are i) financial risk (Jacoby & Kaplan,

1972; Bettman, 1973, Bhatnagar *et al.*, 2000; Forsythe & Shi, 2003), ii) performance risk (Jacoby & Kaplan, 1972; Bettman, 1973; Forsythe & Shi, 2003) and iii) personal/privacy risks drawn from work by Jarvenpaa & Todd, 1997; Tan, 1999; Forsythe *et al.*, 2006.

2.2.3. Perceived Value

Perceived value (PV) is a broad and abstract concept that refers to the benefits ascribed to the purchase/use of a product or service. As Monroe (1990) notes, value is “the trade-off between the quality or benefits [consumers] perceive in a product relative to the sacrifice they perceive by paying the price”. Customer value is usually operationalized as a trade-off between quality (benefit) and cost (price) (Bolton & Drew, 1991). Consumers sometimes attribute value to an item because its consumption or usage serves as a means to an end (Day & Crask, 2000), or “value-in-use” (Woodruff & Gardial, 1996). In knowing how to manipulate perceived value, the marketing manager in turn has knowledge essential to satisfying customers (Day & Crask, 2000). The perceived value construct is multi-dimensional in nature (Sheth, Newman & Gross, 1991; Sánchez-Fernández & Iniesta-Bonillo, 2007). In this study, it has four dimensions drawn from relevant literature, namely i) monetary value, ii) convenience value, iii) social value and iv) emotional value. Online customer value can be different from its offline counterpart. In online retailing settings, not only the product itself, but also the web store and the internet channel contribute value to customers (Yunjie & Shun, 2004). Previous research established that perceived customer value is a significant determinant of online transaction behaviour (Chew, Shingi & Ahmad, 2006).

3. THEORETICAL REVIEW

This study is underpinned by four theories commonly used in services marketing and consumer technology adoption research. These are (i) Technology Acceptance Model, (ii) Perceived Risk Theory (iii) Theory of Consumption Values and (iv) Expectations-Artifact Model of Satisfaction.

4.1. The Technology Acceptance Model

The Technology Acceptance Model (TAM) of Davis (1989) and Davis, Bagozzi and Warshaw (1989) is one of the most widely used models of information systems (IS) for explaining or predicting the motivational factors in user acceptance of technology. The TAM states that users’ positive perception of usefulness as well as perceived ease of use toward any technology will lead to a positive attitude toward using that particular technology, which in turn leads to the actual system use. In this study, the perceived usefulness (PU) and perceived ease of use (PEOU) indicators are drawn from the TAM. In spite of its efficacy, several researchers have sought to extend the TAM by adding different constructs. For instance, a study by Lin and Sun (2009) that investigated the link between TAM factors and e-satisfaction in the online shopping context found a positive and significant relationship between TAM factors and e-satisfaction. Alternatively, other studies have used the TAM in combination with other frameworks/models in various contexts to test its ability to predict different outcomes. For example, a study by Cho (upcoming) which focuses on consumer satisfaction in online shopping attempts to combine the expectations disconfirmation theory (EDT) with the TAM. Similarly, rather than predicting the acceptance and use of IS, this study investigated how TAM factors amalgamated with other consumer behaviour frameworks might contribute to online satisfaction.

4.2. The Perceived Risk Theory

The Perceived Risk Theory was first introduced by Bauer (1960) in studying consumer behaviour. According to this theory, consumers perceive risk because they face uncertainty and potentially undesirable consequences as a result of purchase or usage of products/services. This means that the more risk consumers perceive, the less likely they will purchase/use a product or service (Bhatnagar, Misra & Rao, 2000). The perceived risk construct in this study is derived from the perceived risk theory and adapted to the online retailing context. The core constructs of the theory have been decomposed by researchers into several perceived risk dimensions. For instance, Cunningham (1967) conceptualized six dimensions of perceived risk: performance, financial, opportunity/time, safety, social, and psychological risk, while Bhatnagar *et al.* (2000) argued that two types of risk exist when buying over the internet: product risk and financial risk. These risks are thought to be present in every choice situation but in varying degrees, depending upon the particular nature of the decision (Taylor, 1974). Moreover, different individuals have different levels of risk tolerance or aversion (Bhatnagar *et al.*, 2000). Findings from a study by Forsythe and Shi (2003) which examined the relationship between types of risk perceived by internet shoppers and their online patronage behaviours suggested that perceived risk is a useful context to explain barriers to online shopping.

4.3. Theory of Consumption Values

The theory of consumption values (TCV) is a consumer behaviour theory that was developed by Sheth, Newman and Gross (1991a; 1991b). Over the years, TCV has evolved into a popular marketing theory and has been widely applied in various contexts, including IS. The theory focuses on explaining why consumers choose to use or not to use a specific product or service, arguing that consumer decisions are made based on perceived value. The TCV has five core constructs which are conceptualized as five different types of values (Functional value, Social value, Epistemic value, and Emotional value, and Conditional value) that underlie consumer choice behaviour. In this study, the perceived value construct is drawn from the TCV by Sheth *et al.* (1991a; 1991b) and adapted to the online retailing context. Kalafatis, Ledden and Mathioudakis (n.d.) postulate that all or any of the consumption values can influence a decision and can contribute additively and incrementally to choice; consumers weight the values differently in specific buying situations, and are usually willing to trade-off one value in order to obtain more of another. TCV's strong point is its analytical strength, which helps practitioners to understand consumer decision making. This enables them to develop practical strategies that address real market conditions (Gimpel, 2011).

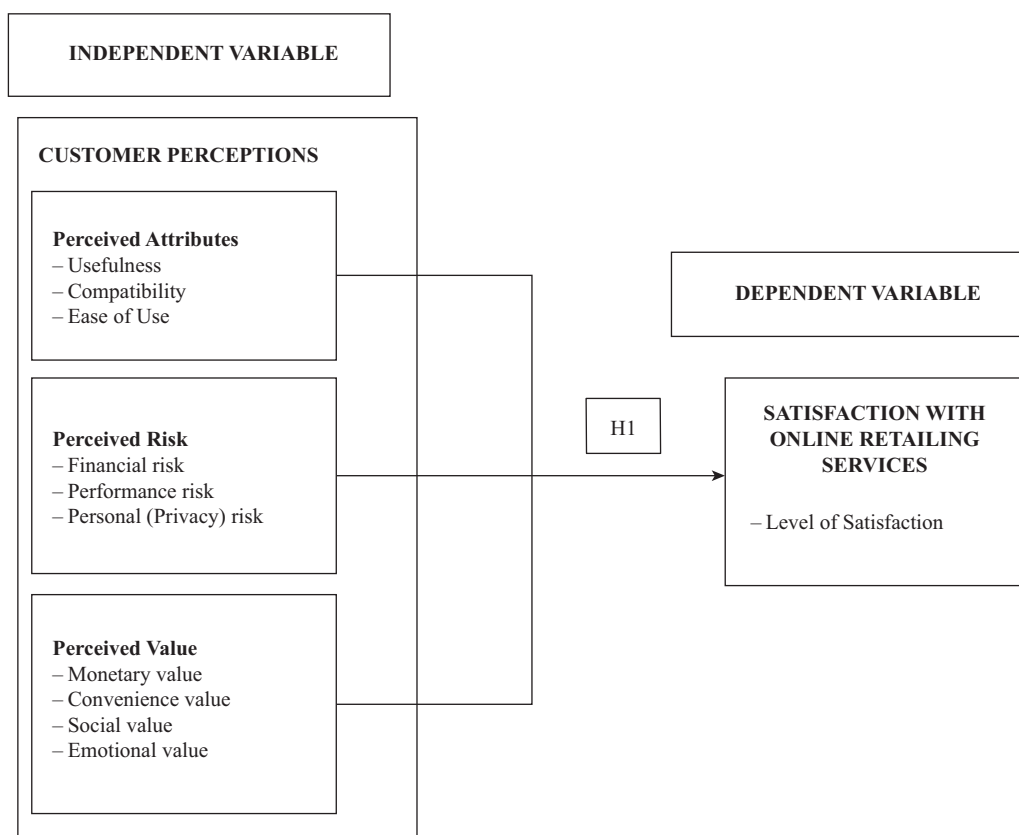
4.4. The Expectations-Artifact Model of Satisfaction

The Expectations-Artifact Model of Satisfaction (EAMS) is a relatively new alternative framework that was first proposed by Johnson, Der and Fornell (1996) as a response to the shortcomings of extant satisfaction models such as the Disconfirmation Model by Oliver (1980) as well as the performance model. It posits that the primary determinant of customer satisfaction should be perceived performance. According to the model, expectations should have no positive or negative effect on satisfaction because they serve as neither an anchor, as in the performance model, nor a standard of comparison, as in the disconfirmation model, for evaluating satisfaction. At the same time, perceived performance should co-vary with customers' stated expectations. Performance gives rise to the expectations that customers report. Accordingly, the model posits a direct positive effect of perceived performance on satisfaction and a positive relationship between performance and expectations, without linking expectations directly to satisfaction, to capture these predictions (Johnson *et al.*, 1996).

5. CONCEPTUAL FRAMEWORK

The conceptual framework for this study is made up of various service marketing, consumer decision-making and IS constructs; it is based on the premise that customers' perceptions have a direct effect on satisfaction with online retailing services. This study attempts to develop a comprehensive model linking the factors drawn from the TAM model, the PRT, and the TCV to customers' satisfaction with online retailing services, which is drawn from the EAMS. However, the study does not specify how the different perceptual factors influence online satisfaction; instead it aggregates all factors into a composite variable – “customers' perceptions” – and posits the nature of relationships between the independent variables and the dependent variable. The conceptual framework, a graphical representation of how these theoretical constructs are interconnected, is depicted in Figure 1.

Figure 1
Conceptual Model



Source: Researcher, 2017.

6. METHODOLOGY

6.1. Research Design

This research adopted a cross-sectional, descriptive, correlational study design that sought to establish the antecedent role of customers' perceptions with regard to satisfaction with online retailing services in Kenya. Descriptive, correlational studies seek to investigate the studied phenomena but are not able to control or manipulate variables, and thus require the researcher to collect data and determine relationships without inferring causality (Swanson & Holton, 2005).

6.2. Empirical Model

The antecedent role of customers' perceptions in satisfaction was ascertained using a linear regression equation in line with Spencer *et al.* (2005). Since the customers' perception variable was computed as a continuous composite/aggregate value made up of three constructs (perceived attributes, perceived risk and perceived value), the study equation was in the form of a simple linear regression, a data analysis technique for identifying underlying correlations among data in research (Nimon, 2010). The simple linear regression (equation 1) is illustrated below:

$$Y = \beta_0 + \beta_1 P_1 + \varepsilon_1 \quad (1)$$

Where:

Y = Customer Satisfaction (Dependent variable)

β_0 = Constant

β_1 = Linear regression coefficient

P_1 = Customers' Perceptions (Composite Value)

ε_1 = Error Term

6.3. Sampling and Data Collection

6.3.1. Sampling

The study respondents were 18,147 registered users drawn from six online retailing firms. A sample of 391 respondents was selected using multi-stage sampling methods including purposive, stratified and simple random sampling. Purposive sampling was employed to select the 6 online retailing firms that were accessible to the researcher. Thereafter, stratified random sampling, a probability sampling technique, was used to select the sample from the 18,147 respondents who were registered users of the online retailing services. Stratified random sampling was employed because the sampling frame was not homogeneous since the sample contained sub-groups, thereby necessitating a fair representation of these sub-groups in the sample size (Ahuja, 2005). This technique ensures that observations from all relevant strata are included in the sample (Lemm, 2010). Stratified sampling also guarantees that every possible sample matches the population distribution on strata-defining characteristics (Mallet, 2006).

To this end, proportional stratification technique was initially employed to arrange the study elements according to the respective strata. In proportional stratified sampling, the population is divided into groups or strata. Samples are then selected (e.g., using simple random sampling) by strata, in proportion to strata sizes (Mallet, 2006). The six online retailing firms in Nairobi, Kenya formed the six strata from which the respondents were drawn. Subsequently, a sample was randomly drawn from each strata and categories using random sampling method. In simple random sampling, every possible combination of population elements is equally likely to be selected (Mallet, 2006), thereby eliminating possible bias. For this study, a computerized random number generator was used to select the respondents out of the whole population. This was aimed at eliminating bias in the sample selection.

6.3.2. Questionnaire Construction

Primary data was collected using a 54-item questionnaire composed of three different sections (A, B & C) based on different scales of measurement. Section A consisted of 3 questions on demographic factors, i.e. age, education level and income level; Section B had 46 close-ended Likert scale type questions with seven-point rating scale ranging from 1 = "strongly disagree" to 7 = "strongly agree"; Section C consisted of 5 close-ended questions with 5-point rating scale

with various ordered responses (“strong yes” – “strong no”; “extremely well” – “extremely poorly”; “very dissatisfied” – “very satisfied”). The measures were adopted from previous studies (Swan *et al.*, 1981; Oliver & Westbrook, 1982; Oliver & Bearden, 1983; Thompson *et al.*, 1991; Compeau & Higgins 1995b; Compeau *et al.* 1999, Sweeney & Soutar, 2001; Venkatesh *et al.*, 2003; Hernández *et al.*, 2011) and reworded to suit the context of the current study. Each scale item was modelled as a reflective indicator of its hypothesized latent construct. A sample of the final questionnaire is shown in Appendix 1.

Table 1
Operationalization and Measurement of Study Variables

Variable	Indicator	Nature	Operationalization	Measure	Question No.
Perceived Attributes	Usefulness	Independent Variable (IV)	The degree to which consumers believe that using an e-commerce service will enhance their activities.	4 items; 7 point Likert scale. (Davis, 1989; Davis <i>et al.</i> , 1989)	B1-B4
	Compatibility	Independent Variable (IV)	The degree to which using an e-commerce service is perceived as being consistent with the values, needs, and habits of potential user.	4 items; 7 point Likert scale (Moore & Benbasat, 1991)	B5-B8
	Ease-of-Use	Independent Variable (IV)	The degree to which an e-commerce system is perceived as relatively easy to understand and use.	6 items; 7 point Likert scale (Davis, 1989; Davis <i>et al.</i> , 1989; Forsythe <i>et al.</i> , 2006)	B9-B14
Perceived Risk	Financial risk	Independent Variable (IV)	The degree of anxiety regarding the perceived financial loss as a result of e-commerce usage.	3 items; 7 point Likert scale (Zhang <i>et al.</i> , 2012; Forsythe <i>et al.</i> , 2006)	B15-B17
	Performance risk	Independent Variable (IV)	The level of uncertainty regarding the perceived performance of an e-commerce system.	5 items; 7 point Likert scale (Forsythe <i>et al.</i> , 2006)	B18-B22
	Personal risk	Independent Variable (IV)	The level of anxiety regarding the perceived compromise/ insecurity of personal information as a result of e-commerce usage.	3 items; 7 point Likert scale (Forsythe <i>et al.</i> , 2006; Tan, 1999)	B23-B25

Variable	Indicator	Nature	Operationalization	Measure	Question No.
Perceived Value	Monetary value	Independent Variable (IV)	The financial utility derived from e-commerce usage	4 items; 7 point Likert scale (Sweeney & Soutar, 2001)	B26-B29
	Convenience value	Independent Variable (IV)	The time, place and execution utility derived from usage of the e-commerce system	5 items; 7 point Likert scale; (Chang <i>et al.</i> , 2012; Mosavi & Ghaedi, 2012)	B30-B34
	Social value	Independent Variable (IV)	The perceived favourability/ approval derived from one's social milieu regarding e-commerce usage	5 items; 7 point Likert scale (Tan, 1999; Sweeney & Soutar, 2001)	B35-B39
	Emotional value	Independent Variable (IV)	The utility derived from the feelings or affective states that an e-commerce service generates	7 items; 7 point Likert scale (Thompson <i>et al.</i> , 1991; Compeau & Higgins, 1995b; Compeau <i>et al.</i> , 1999; Sweeney & Soutar, 2001)	B40-B46
Customer Satisfaction	Level of Satisfaction	Dependent Variable (MV)	The level of satisfaction with the e-commerce system	4 item, 5 point Categorical scale (Westbrook, 1980; Oliver & Bearden, 1983; Oliver & Westbrook, 1982; Swan <i>et al.</i> , 1981) Ordinal	C1-C5
Demographic Factors	Age	Moderating Variable (MV)	Age group	1 item; Ordinal (Venkatesh <i>et al.</i> , 2003)	A1.
	Income	Moderating Variable (MV)	Level of Income	1 item; Ordinal (Hernández, 2011)	A2.
	Education	Moderating Variable (MV)	Level of Education	1 item; Ordinal	A3.

Source: Researcher (2017).

6.3.3. Data Collection

Primary data collection was carried out via an e-mail questionnaire that was administered to the 391 respondents. In order to increase the survey response rate (RR), the e-mail questionnaires were followed up with a self-administered questionnaire that was delivered to non-respondents using the drop-and-pick method as recommended in previous studies (Rojas-Méndez & Davies, n.d., Ibeh *et al.*, 2004), whereby respondents are contacted in person and asked to fill in a questionnaire at their most convenient time. Secondary data was collected from a variety of industry sources including newsletters, directories and trade publications as well as from industry magazines.

6.4. Validity and Reliability of Instrument

6.4.1. Validity

Validity was assessed using two methods: criterion-related and content validity. Criterion-related validity was demonstrated through the questionnaire items which were derived from measures validated in prior research (Nunnally & Bernstein, 1994; Cooper & Schindler, 2008) and standardized and adapted to the context of this study. Content validity was achieved using a panel of five experts in the field who were asked to give their views and suggestions on how to improve the questionnaire (Nunnally & Bernstein, 1994; Cooper & Schindler, 2008). The five experts evaluated the questionnaire and found that the questions were relevant to the study variables.

6.4.2. Reliability

Cronbach's Alpha coefficient (α) was used to assess reliability of the measures. As a rule of thumb, reliability of 0.7 and above is recommended to denote the research instrument as reliable (Roberts, Priest & Traynor, 2006). Using this cut-off value, all but one of the measures exhibited internal consistency by having Cronbach's Alpha values greater than 0.7 with the exception of social value ($\alpha = 0.538$). However, Cronbach's Alpha for social value does meet the guidelines suggested by Hair, Anderson, Tatham and Black (2006), who recommended reliability level of 0.5 and above. Following the guideline developed Gliem & Gliem (2003), low Cronbach's Alpha for social value could be an indicator of a poor scale (but still not unacceptable). This is not surprising since Cronbach's Alpha values are quite sensitive to the number of items in the scale. With short scales (e.g., scales with less than ten items) it is common to find quite low Cronbach values (e.g., .5).

Table 2
Reliability of instruments

Factor	Measure	Number of Items	Reliability (α)
Perceived Attributes (PA)	Usefulness	4 items (B1–B4)	0.954
	Compatibility	4 items (B5–B8)	0.954
	Ease-of-Use	4 items (B9–B14)	0.950
Perceived Risk (PR)	Financial Risk	3 items (B15–B17)	0.801
	Performance Risk	5 items (B18–B22)	0.702
	Personal Risk	3 items (B23–B25)	0.885
Perceived Value (PV)	Monetary Value	4 items (B26–B29)	0.839
	Convenience Value	5 items (B30–B34)	0.954
	Social Value	5 items (B35–B39)	0.538
	Emotional Value	7 items (B40–B46)	0.975
Customer Satisfaction	Level of Satisfaction	5 items (C1–C5)	0.941

Source of data: Survey (2017).

6.5. Data Analysis

Data was analyzed using both descriptive as well as inferential statistics. Descriptive statistics provide a summary of the characteristics of response data (Wilson, 2006). The descriptive statistics that were used in this study include frequency distribution (in terms of counts and percentages) as well as measures of central tendencies (mean) and dispersion (standard deviation). On the other

hand, inferential statistics was performed using binary linear regression. This is a type of analysis that examines the relationship between two variables drawn from the same sample population (Zickmund & Babbin, 2007). Statistical Package for Social Sciences (SPSS) software version 19 was used to conduct the data analysis. Data was presented in the form of tables and narratives.

7. RESULTS AND DISCUSSIONS

The summary of the results is presented in two main sections: (1) descriptive statistics and (2) inferential statistics.

7.1. Descriptive Statistics

7.1.1. Response Rates

From three hundred and ninety-one (391) respondents who are registered as users of 6 online retailing services in Nairobi County, Kenya, two hundred and forty-two (240) were able to participate in the study by completing and returning the questionnaire on time. This was equivalent to a 61.38% response rate and is depicted in Table 3. According to Rubin and Babbie (2011), a 50% response rate is considered adequate for reporting and analysis. This means that the response data was more than adequate for analysis.

7.1.2. Demographic Characteristics

This section shows the summarized responses regarding the demographic characteristics of the sample based on Section A of the questionnaire (Table 3) as well as the descriptive statistics for the composite indexes based on section B of the questionnaire (Table 4).

Table 3
Demographic characteristics of the sample ($n = 240$)

Variable	Category	Frequency	Percentage
Age	18–23 Years	30	12.5
	24–29 Years	105	43.8
	30–35 Years	77	32.1
	36–41 Years	24	10.0
	42–47 Years	4	1.7
	48 years and above	0	0
	Total	240	100.0
Level of Education	High School Cert.	1	0.4
	Diploma	37	15.4
	Bachelor's Degree	139	57.9
	Master's Degree	51	21.3
	Doctorate	8	3.3
	Professional	3	1.3
	Other	1	0.4
	Total	240	100
Monthly Income	Less than KSh24,999	31	12.9
	KSh25,000 – 49,999	45	18.8
	KSh50,000 – 74,999	54	22.5
	KSh75,000 – 99,999	43	17.9
	KSh100,000 – 124,999	32	13.3
	KSh125,000 & above	35	14.6
	Total	240	100.0

Source: Survey data (2017).

In terms of the age of the response group ($n = 240$), the majority of respondents (43.8%) were between 24–29 years while the minority (1.7%) were between 42–47 years of age. None of respondents were older than 48 years of age. When it comes to education, the majority of the respondents (57.9%) have a Bachelor's degree, followed by 51 (21.3%) who have a Master's degree and 37 (15.4%) who have a diploma. Only 1 (0.4%) had a high school certificate, while 3 (1.3%) had a professional qualification. With regard to the monthly income of the respondents, the majority (22.5%) earned between KSh 50,000–74,999, whereas the minority (12.9%) had a monthly income of less than KSh 24,999 per month. Taken as a whole, the demographic information showed that the respondents are predominantly young, relatively well educated and with relatively high levels of income. These findings concur with past studies regarding e-shoppers which established that online shoppers are generally younger, with a high level of income and a university education (Li, Kuo & Russell, 1999; Vrechopoulos, Siomkos & Doukidis, 2001; Dholakia & Uusitalo, 2002).

In Table 4, the descriptive statistics for the ordinal data was presented as means and standard deviations.

Table 4
Descriptive statistics results for study constructs

Variable	Measure	Statistic
Perceived Attributes	Mean	4.3899
	Std. Deviation	1.54140
Perceived Risk	Mean	4.1256
	Std. Deviation	1.27855
Perceived Value	Mean	4.2589
	Std. Deviation	1.16118
Customer Perceptions	Mean	4.2585
	Std. Deviation	.62906
Satisfaction	Mean	3.1650
	Std. Deviation	1.0866

$N = 240$

Source: Survey data (2017).

The results indicate that perceived attribute had the highest mean score (4.389), closely followed by perceived value (4.258) and perceived risk (4.125). This high value concurs with several studies that have empirically established that the perceived attributes is a key element in usage behaviour as regards online services (Parthasarathy & Bhattacharjee, 1998; Bhattacharjee, 2001b). The mean score of the customers' perception variable was also reasonably high (4.26), while the value of customer satisfaction was moderate (3.165). This moderate value could imply that users are not very pleased about their online shopping experience. This is a cause for concern since customers' overall satisfaction is an indication of how well customers like their experience with using the website, and it is probably the best indication of their willingness to return to the site again if they are to make another purchase in the category (Jiang & Rosenbloom, 2005). With regard to the standard deviation, the value was 1.087.

7.2. Inferential Statistics

Further to the descriptive statistics, the researcher conducted a simple linear regression analysis so as to (i) examine whether the model provides a statistically significant explanation of the variation in the online retailing consumers' satisfaction, and more importantly to (ii) determine the empirical support for customers' perceptions as an antecedent of satisfaction with online retailing services. This section presents the findings and interpretation of the linear regression analysis.

4.2.1. Normality Tests

Before performing inferential statistics on the data, a diagnostic test was carried out to ascertain the normality of the customers' perceptions distribution. Normality was tested in order to determine whether parametric tests could be performed on the data as it is an important assumption of many statistical procedures such as t-tests, linear regression analysis, discriminant analysis and ANOVA (Razali & Wa, 2011). This study used the formal normality test, specifically the 1-sample Kolmogorov-Smirnov (KS) test, to test for evidence of the normality of the customer perceptions distribution, in line with Razali and Wa (2011). The outcome of the test is shown in Table 5. According to the KS test, if the significance value is less than 0.05, there is a significant difference between the population and sample, implying that the data is not normally distributed.

Table 5

Results of Kolmogorov-Smirnov normality test

Predictor Variable	Significance Value
Perceived Attributes	.000
Perceived Risk	.000
Perceived Value	.000
Customer Perceptions	.200

Source: Survey data (2017).

The study results show that while the KS test values for the three predictors were 0.000, the overall KS test p-value (.200) for the composite customer perceptions distribution was greater than the significance level ($p = 0.05$), thus implying that the customer perception variable data is normally distributed. This means that the customer perception distribution satisfies the assumptions of normality.

7.2.2. Goodness of Fit

Table 6 shows the output measures regarding the "goodness of fit", i.e. how well the model fits the data. The table presents the coefficient of determination (R-Square) which is used to test the goodness-of-fit of the model which reveals what percentage of variability in the dependent variable is accounted for by all of the independent variables.

Table 6

Model summary

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.728	0.531	0.529	0.74603

a. Predictors: (Constant), Customer Perceptions

Source: Research data (2017).

If the R-Square value is 1, then there is a perfect fit, whereas R-Square value 0 indicates that there is no relationship between the IV & DV. According to Table 4, the adjusted R-Square value = 0.531. This therefore means that there is a moderate relationship since the customers' perceptions variable accounts for 53.1% of the variation in the satisfaction variable, implying that other factors affecting satisfaction that were not studied in this research add up to 46.9.1%. The adjusted R^2 is important as it helps to discourage overfitting of the model (Doane & Seward, 2011).

7.2.3. ANOVA Results

Table 7 reveals the SPSS output for the analysis of variance (ANOVA). The ANOVA table tells us whether or not the model can predict Y using X. It contains the output for determining the statistical significance of the model.

Table 7
ANOVA

Model		Sum of Squares	df	F	Sig.
1	Regression	149.726	1	269.024	0.000
	Residual	132.460	238		
	Total	282.186	239		

a. Predictors: Customer Perceptions

b. Dependent Variable: Satisfaction

Source: Research Data (2017).

The statistical significance of the model was assessed using the following hypotheses:

H_0 : $\beta_1 = 0$; i.e. Variation in Y is not explained by variation in X

H_1 : $\beta_1 \neq 0$; i.e. Variation in Y is explained by variation in X

According to the H_0 , if a coefficient (β_i) = 0, then the distribution of the response variable (Y) does not directly depend on the input variable X_i , which can therefore be “dropped” from the model. Therefore, H_0 – the null hypothesis – implies that the model has no predictive value and H_1 – the alternate hypothesis – implies that the model has predictive value. Since the significance value (0.000) is less than 0.05, the null hypothesis that the model is not useful was rejected, implying that the model is statistically significant and is therefore useful in predicting the relationship between customers' perceptions and satisfaction with online retailing services.

7.2.4. Test of Hypothesis

After establishing that the model is useful, the researcher tested the relative significance of the independent variable in predicting the dependent variable. Table 8 shows the linear regression coefficients with the output data.

Table 8
Coefficient table

Variable	β	Std. Error	$t = \beta/S.E$	P-Value
Constant	-2.193	.330	-6.642	.000
Customer Perceptions	1.258	.077	16.402	.000

a. Dependent Variable: Satisfaction

Source: Survey data (2017).

The hypothesis that was tested regarded the relationship between customers' perceptions and customer satisfaction with online retailing services.

H_0 : There's no relationship between customers' perceptions and customer satisfaction with online retailing services.

As the study results in Table 8 show, the null hypothesis which proposes that customers' perceptions have no statistically significant effect on satisfaction with online retailing services was rejected since $\beta = 1.258$ and $p\text{-value} = 0.000$. Consequently, the null hypothesis was rejected since $\beta \neq 0$ and $p\text{-value} < \alpha$, meaning that customer perceptions have a statistically significant effect on customer satisfaction with online retailing services. This outcome lends support to the findings of Bolton and Drew (1994), who empirically established that customer perceptions have a significant positive relationship with customer satisfaction in the service context. This is in line with Sing (1991), who argued that customer satisfaction can be understood as a collection of multiple satisfactions with various objects that constitute the service system.

8. FINAL CONSIDERATIONS

8.1. Conclusions

The most important conclusion that can be drawn from the findings of this study is that customers' perceptions have an antecedent role with regard to satisfaction. In other words, the study concludes that customers' perceptions are associated with satisfaction with online retailing services.

8.2. Implications of the Study

The empirical findings of this study have implications for scholars, practitioners as well as policy makers.

8.2.1. Theoretical Implications of the Study

This study makes an important theoretical contribution to the study of online consumer behaviour by proposing and outlining perceptual antecedents of electronic consumer satisfaction. Moreover, by empirically testing the association between the two widely-used IS and consumer behaviour constructs, the study demonstrates that the proposed study model can be used to explain a significant amount of variance in customer satisfaction with e-retailing. The research also shows that customers' satisfaction with e-retailers depends on their perceptions vis-à-vis the website, confirming that online consumer behaviour is subject to individual perceptions. It therefore provides future scholars with a useful framework of how to incorporate both IS and consumer behaviour theories and constructs in their research projects.

8.2.2. Practical Implications of the Study

With the rapid growth of online retailing, customer satisfaction has become a major concern for online retailing managers and practitioners since customers are less likely to search for alternative purchase options when the current website offers satisfaction. The study therefore recommends that online retailing decision makers should put more effort in enhancing the quality of their services as a way of ensuring their customers are satisfied with their services. It is therefore imperative that online retailing firms have a good understanding of their target customers, since

this will not only help in enhancing the desired levels of customer satisfaction, but will also help to increase customer loyalty towards their services in the long term.

8.2.3. Policy Implications of the Study

Due to its ever increasing popularity, online retailing has had a significant impact on several sectors including entertainment, consumer electronics, food and media goods, posing substantial challenges to consumers, industry players and regulators alike in the process. There is therefore a need for a regulatory framework that keeps online users safe while protecting the interest of all stakeholders, including the government. If need be, a quasi-independent multi-sectorial entity could be tasked with overseeing such a programme as is the case in other countries.

8.3. Suggestions for Further Study

Since the model conceptualizes customers' perceptions as a composite variable made up of perceived attributes, perceived risk and perceived value, it does not specify how the different perceptual factors influence online customer satisfaction; instead, it aggregates all factors into one construct called "customers' perceptions". Therefore, as a way of advancing and deepening our understanding of this link, future studies should consider investigating the specific nature of the relationships between perceived attributes, perceived risk and perceived value and electronic satisfaction. In addition, future studies might need to investigate other e-commerce sub-sectors/context such as online travel reservation, e-entertainment as well as online education/e-learning amongst others for purposes of generalizing the research model.

The current research is one of few studies in the online retailing context that have attempted to examine the relationship between what customers perceive and online satisfaction. However, in spite of the fact that this current empirical study confirms that customer' perceptions are an important factor behind users' satisfaction in the online retailing context, it would be interesting to carry out qualitative, in-depth studies whereby online users detail their experience when shopping online. Such studies would give managers and practitioners deeper insight into what works and what does not insofar as online customer satisfaction is concerned, which will in turn contribute to reducing consumers' reluctance to purchase online.

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APPENDIX

APPENDIX 1: QUESTIONNAIRE INSTRUMENT

SECTION A. CUSTOMER DEMOGRAPHIC FACTORS

First things first: Tell us a bit about yourself. Please respond to each item by choosing the response that best describes you.

1.	Age:	<input type="checkbox"/> 18 – 23	<input type="checkbox"/> 24 – 29	<input type="checkbox"/> 30 – 35
		<input type="checkbox"/> 36 – 41	<input type="checkbox"/> 42 – 47	<input type="checkbox"/> 48 years & above
2.	Highest Level of Education:	<input type="checkbox"/> High School Certificate	<input type="checkbox"/> Diploma	<input type="checkbox"/> Bachelor's Degree
		<input type="checkbox"/> Masters Degree	<input type="checkbox"/> Doctorate	<input type="checkbox"/> Professional
		<input type="checkbox"/> Other		
3.	Monthly income (gross):	<input type="checkbox"/> Below KSh 24,999	<input type="checkbox"/> KSh 25,000-49,999	
		<input type="checkbox"/> KSh 50,000-74,999	<input type="checkbox"/> KSh 75,000-99,999	
		<input type="checkbox"/> Ksh 100,000-KSh 124,999	<input type="checkbox"/> Ksh 125,000 & above	

SECTION B. CUSTOMER PERCEPTION MEASURES

Please indicate the extent to which you disagree or agree with each of the following statements by marking with a cross (X) in the appropriate block provided. Please use the following seven-point rating scale ranging from 1 = “strongly disagree” to 7 = “strongly agree”.

	CUSTOMER PERCEPTIONS	Value Label						
	Variable Label	1	2	3	4	5	6	7
	<u>Perceived Attributes</u>							
1.	The system enables me to accomplish what I want more quickly							
2.	The system makes me more effective							
3.	The system makes it easier to do what I want							
4.	I find the system useful							
5.	The e-commerce service fits my image well.							
6.	Using the system is compatible with all aspects of my lifestyle.							
7.	I think that using the system fits well with the way I like to do things.							
8.	Using the system fits into my lifestyle.							
9.	I find the system to be clear and understandable.							
10.	It's easy to get the system to do what I want it to do							
11.	It's easy to find what is being sought							
12.	The system has no hassles							

	CUSTOMER PERCEPTIONS	Value Label						
		1	2	3	4	5	6	7
13.	Learning to operate the system is easy for me.							
14.	Overall, I believe that the system is easy to use.							
<u>Perceived Risk</u>								
15.	This service costs more than conventional methods							
16.	I might be overcharged for using this service							
17.	I might not receive the product/service that I paid for							
18.	Inability to touch and feel the item worries me							
19.	One can't examine the actual product							
20.	It's not easy to get what I want							
21.	Information takes too long to come up/load							
22.	The e-commerce service failed to perform to my satisfaction							
23.	My credit card number may not be secure							
24.	My personal information may be sold to advertisers							
25.	My personal information may not be securely kept							
<u>Perceived Value</u>								
26.	This e-commerce service is reasonably priced.							
27.	This e-commerce service is competitively priced							
28.	This e-commerce service offers value-for-money							
29.	Using this e-commerce service is economical							
30.	I can use this e-commerce service anytime							
31.	I can use this e-commerce service anyplace							
32.	This e-commerce service is convenient for me to use							
33.	I feel that the e-commerce service is convenient for me							
34.	I value the convenience of using this e-commerce service							
35.	This service would help me feel acceptable by others							
36.	This service would improve the way I am perceived							
37.	Using this service would make a good impression on others							
38.	My friends and relatives think more highly of me for using this service.							
39.	This service would give its user social approval							
40.	I enjoy using the system.							
41.	Some aspects of the system make me want to use it							
42.	I feel relaxed about using the system							
43.	Using the system makes me feel good							
44.	Using the system gives me pleasure							
45.	Using the system is fun							
46.	It's exciting to use the e-commerce service							

SECTION C. CUSTOMER SATISFACTION MEASURES

Please indicate the extent to which you are satisfied with the e-commerce system by marking with a cross (X) on one of the five blocks provided below the position which most closely reflects your satisfaction with the service.

1.	How satisfied were you with the online retailing service initially? <input type="checkbox"/> Very Dissatisfied <input type="checkbox"/> Somewhat Satisfied	<input type="checkbox"/> Slightly Dissatisfied <input type="checkbox"/> Very Satisfied	<input type="checkbox"/> Neither
2.	To what extent does this online retailer meet your needs? <input type="checkbox"/> Extremely well <input type="checkbox"/> Mixed	<input type="checkbox"/> Pleased <input type="checkbox"/> Extremely poorly	<input type="checkbox"/> Satisfied
3.	My experience with this online retailer was very satisfactory <input type="checkbox"/> Strong Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> Strong No	<input type="checkbox"/> Neutral
4.	Overall, I am _ with the service? <input type="checkbox"/> Delighted <input type="checkbox"/> Mixed	<input type="checkbox"/> Pleased <input type="checkbox"/> Mostly Dissatisfied	<input type="checkbox"/> Satisfied
5.	If I could do it all over again, I would still use this service? <input type="checkbox"/> Strong Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> Strong No	<input type="checkbox"/> Neutral

Thank you very much for your time.