



SPANISH JOURNAL OF MARKETING - ESIC

www.elsevier.es/sjme



ARTICLE

Consumer's perceptions of website's utilitarian and hedonic attributes and online purchase intentions: A cognitive–affective attitude approach



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Received 16 August 2016; accepted 12 July 2017

Available online 10 August 2017

KEYWORDS

S-O-R Model;
Online shopping;
Cognitive and
affective attitude;
Utilitarian attributes;
Hedonic attribute

Abstract The study aims to investigate consumers' perceptions regarding attributes of online shopping websites that influence their cognitive and affective attitudes and also online purchase intentions. Convenient sampling was employed to collect data through an online questionnaire from 335 adult customers of apparel brands *Kaymu* and *Daraz*. Utilitarian and hedonic attributes are utilized; reflecting higher order constructs. Structural equation modeling (SEM) with maximum likelihood estimation (MLE) via AMOS 21 was used. Modified S-O-R model explained considerable variation in online retailing. The study showed that consumers' perception of utilitarian attributes and hedonic attributes are significant and positive predictors of cognitive and affective attitude. Similarly, cognitive and affective attitudes are significant and positive predictors of consumers purchase intentions. Researchers can use S-O-R model to better explain online purchase intentions. It was further concluded that online retailers should not only put a heavy emphasis onto utilitarian attributes but also take hedonic attributes in consideration while formulating online retail strategy.

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PALABRAS CLAVE

Modelo S-O-R;
Compras online;
Actitud cognitiva y
afectiva;
Atributos afectivos;
Atributos hedonistas

Percepciones de los consumidores sobre los atributos funcionales y hedonistas de las páginas web, e intenciones de compra online: visión de la actitud cognitivo-afectiva

Resumen El estudio tiene como objetivo analizar las percepciones de los consumidores en relación a los atributos de las páginas web de compras online que ejercen una influencia sobre sus actitudes cognitivas y afectivas, así como las intenciones de las compras online. Se utilizó una muestra conveniente para recolectar los datos a través de un cuestionario online realizado por 335 clientes adultos de las marcas de moda *Kaymu* y *Daraz*. Se utilizaron atributos funcionales y hedonistas, reflejando constructos de orden superior. Se utilizó el Modelo de Ecuaciones Estructurales (SEM) por Estimación con máxima similitud (MLE) a través de AMOS 21. El modelo S-O-R modificado explicó la variación considerable en cuanto a venta al por menor online. El estudio reflejó que la percepción de los consumidores de los atributos funcional y hedonista constituye un factor predictivo significativo y positivo de la actitud cognitiva y afectiva. De manera similar, las actitudes cognitiva y afectiva constituyen factores predictivos significativos y positivos de las intenciones de compra de los consumidores. Los investigadores pueden utilizar el modelo S-O-R para poder explicar mejor las intenciones de compra online. También se concluyó que los minoristas online deberían hacer mayor hincapié, no sólo en los atributos funcionales, sino también en la consideración de los atributos hedonistas a la hora de formular su estrategia minorista online.

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Introduction

Online shopping is growing and has considerably reduced the market share of the conventional stores (Online Retailing, 2016). World online retail market is growing notably fast and sales have increased from \$694 in 2014 to \$1155 billion across the world (Global Retail E-Commerce Index, 2015). As a result, online retailing has become a very important channel for many companies around the world, for marketing and selling their products and services (Chiu, Wang, Fang, & Huang, 2014).

Online shopping is a kind of shopping where websites of the companies are in the middle of retailers and customers. The arrival of the World Wide Web (www) has completely changed the methods of purchasing goods and services by allowing the companies to do the business more openly in a hyper connected world. As the number of Internet users increases, the opportunities for online vendors are also developing (Overby & Lee, 2006). The competition has also become severe in this segment (Simester, 2016). Due to this heightened competition, online retailers are more concerned to find methods to attract customers to their websites (Chiu et al., 2014). The Internet users in Pakistan are growing continuously. However, the rate of increase in online shopping does not absolutely correlate with the rate of increase in online users. The size of the online retail market in Pakistan is expected to reach over \$600 million in 2017 from its current size of \$30 million (Ahmad, 2015). This may be attributed to increased Internet penetration rates, ease, comfort, convenience cost and time savings and quick delivery systems. Despite these highly encouraging forecasts, online shoppers make merely 3 percent of the total population (19 Billion) of Pakistan (Ahmad, 2015). It is important for online retailers to study consumers' perceptions of values or benefits that may motivate them to purchase online.

To successfully utilize the growth potential of online retail sector, retailers must pinpoint the features of the shopping websites that motivate consumers to purchase online.

Various attitudinal/behavioral models like technology acceptance models (TAM), theory of planned behavior (TPB), and theory of reasoned action (TRA) have been extensively used in online shopping studies (e.g. Cheng & Huang, 2013; Hsu, Yen, Chiu, & Chang, 2006; Ketabi, Ranjbarian, & Ansari, 2014). The theory of reasoned action (TRA) states that consumer behavior is predicted by consumer intentions which are functions of consumer's attitude and subjective norms (Ajzen & Fishbein, 1975). Theory of planned behavior (TPB) extends TRA by adding perceived behavioral control as predictor of intention and behavior (Ajzen & Fishbein, 1980). Whereas technology acceptance model (TAM) explains that two beliefs (i.e. perceived usefulness and perceived ease of use) about a new technology determines users' attitude toward using that technology which will further determine their intention to use it (Davis, 1989). One of the main assumptions of TRA, TPB and TAM is that people are rational in their decision-making processes and actions, so that cognitive approaches can be used to predict behaviors (Ajzen & Fishbein, 1980; Cheng & Huang, 2013; Ajzen & Fishbein, 1975; Hsu et al., 2006; Ketabi et al., 2014; Moon, Habib, & Attiq, 2015). However, several researchers have criticized these models for being too limited when it comes to explaining affective side of the behavior and the addition of affective variables has been recommended as a useful extension of the theories (e.g., Conner & Armitage, 1998; Nejad, Wertheim, & Greenwood, 2004). In line with this recommendation, the stimulus organism response S-O-R model (Mehrabian & Russell, 1974) enables researchers to examine both cognitive and affective influences on behavior (Lee & Yun, 2015). Yet to date, no study has used the S-O-R model to explain consumer's online purchase intentions.

Furthermore, this study focuses on attitudes toward online purchase intentions. Most of the online shopping researches have concentrated on the attitude toward the shopping website itself (Anderson, Knight, Pookulangara, & Josiam, 2014; Childers, Carr, Peck, & Carson, 2001; Overby & Lee, 2006). We focus on attitude toward the online shopping in this study rather than attitude toward the website itself. In consumer behavior studies an inconsistency between attitude and behavior is found which means that attitude toward the website does not necessarily lead to online shopping (Anderson et al., 2014; Celebi, 2015; Jones, Reynolds, & Arnold, 2006). This inconsistency is termed as attitude-behavior gap in consumer studies (Moraes, Carrigan, & Szmigin, 2012; Boulstridge & Carrigan, 2000). Therefore, we consider attitude toward online shopping a more valid approach to predict online purchase intentions rather than attitude toward the website itself. This conceptualization of attitude toward the behavior rather than the object is consistent with TRA and TPB (Ajzen & Fishbein, 1980). The study has therefore three main objectives: (1) to empirically test and validate the modified stimulus organism response (S-O-R) model in the online retail sector. (2) To investigate consumer's perception of attributes of the shopping websites which affect consumer's attitude as well as intention about online item's purchase. (3) To identify how consumers perceive the attributes of shopping websites which further influence their cognitive and affective dimensions of attitude. The contributions of this study are more of theoretical nature. This study is significant because a model, that may better explain the online shopping behaviors of consumers, is warranted. This study is also important as it aims to overcome the attitude-intentions inconsistency by incorporating two dimensions of attitudes. In the following sections, we provide conceptual development and hypothesis formulation followed by methods and results. In the end we discuss implications and limitation of this study.

Conceptual background

Cue utilization theory (Cox, 1967; Olson & Jacoby, 1972) and *Stimulus Organism Response model* (Mehrabian & Russell, 1974) are employed as theoretical footholds in this study. The *S-O-R model* consists of three components i.e. stimuli, organism, and response. Stimuli are basically considered to be external to the person. Organism usually deals with the internal states appearing from external stimuli. Response is considered as the final outcome which may be an approach/avoidance behavior. This model generally assumes that an organism is exposed to external stimuli which will uniquely be identified by the individual and then individual responds accordingly. *S-O-R model* is adapted in this study by operationalizing consumers' perceptions of online shopping websites attributes as stimuli, attitude as organism, and purchase intentions as response.

Literature classifies stimuli into two broader categories, i.e. social psychological stimuli and object stimuli. Social psychological stimuli originate from environment that surrounds the individual. Object stimuli deal with the complexity, time of consumption, and product characteristics (Arora, 1982). In online retailing, shopping website's characteristics or attributes can be understood as object stimuli.

Cue utilization theory is used to provide further justifications for inclusion of website attributes as object stimuli (Cox, 1967). Cue utilization theory suggests that consumers will evaluate objects on the basis of one or more cues. Consumers usually examine or evaluate the usefulness of the website based on the attributes they perceive that are readily available to them. These attributes are considered as cues by the consumers. Consumers usually search for the websites with most attributes, form an impression in their mind and use these attributes as cues to evaluate that website.

There are three kinds of attributes which have been used in online shopping studies: social attributes, utilitarian attributes, and hedonic attributes. Social attributes fall in social psychological stimuli (Ganesan, 1994) and the focus of this study remains purely on website attributes so we only considered utilitarian and hedonic attributes as most relevant for this study. Utilitarian attributes deal with the utility or functional value of an object whereas hedonic attributes deals with the emotional or sensory experiences of online shopping (Batra & Ahtola, 1991). Utilitarian attributes include desire for control, autonomy, efficiency, broad selection & availability, economic utility, product information, customized product or service, ease of payment, home environment, lack of sociability, anonymity, monetary savings, convenience, and perceived ease of use; whereas hedonic attributes include curiosity, entertainment, visual attraction, escape, intrinsic enjoyment, hang out, relaxation, self-expression, enduring involvement with a product/service, role, best deal, and social (Chiu et al., 2014; Martínez-López, Pla-García, Gázquez-Abad, & Rodríguez-Ardura, 2014; Martínez-López, Pla-García, Gázquez-Abad, & Rodríguez-Ardura, 2016). Search, credence, and experience attributes are three kinds of attributes mentioned in economics literature (Darby & Karni, 1973; Nelson, 1970). Search and experience attributes are considered more relevant in evaluation of online shopping attributes (Hsieh, Chiu, & Chiang, 2005). Therefore, we only consider search and experience attributes of online shopping. Utilitarian attributes include product information, monetary savings, convenience, and perceived ease of use; whereas hedonic attributes include role, best deal, and social.

According to the *S-O-R model*, pleasure, arousal, and dominance (PAD) are three emotional states that are represented by organism (Mehrabian & Russell, 1974). Researchers have suggested other types of internal states of an organism which include cognition, emotion, affect, consciousness, and value (Fiore & Kim, 2007; Lee, Ha, & Widdows, 2011). Furthermore, Eroglu, Machleit, and Davis (2001) suggested two types of internal states that include cognition and affect. These two states have more explanatory power as compared to the previous ones. The focus of this research is on two internal states of an organism (i.e., cognition and affect) and we operationalized attitude as cognitive attitude and affective attitude.

The current study aims to investigate that how consumers perceptions of websites attributes either utilitarian or hedonic attributes can influence cognitive and affective level of attitudes and purchase intentions toward online shopping.

Literature review and research hypothesis

Purchase intentions

Intentions can be defined as subjective evaluations of a person toward a particular object in order to respond with a particular behavior (Ajzen & Fishbein, 1975). Online purchase intentions can be defined as the possibility of a consumer to perform a particular purchase behavior online (Salisbury, Pearson, Pearson & Miller, 2001). Online purchase intentions have been extensively studied in online retailing (Anderson et al., 2014; Moon, Habib, et al., 2015; Overby & Lee, 2006; Ramayah & Ignatius, 2005). If we apply this concept in our study we can say that, purchase intentions are the subjective evaluation of the person that is willing to perform particular purchase behavior online.

Utilitarian attributes (UT)

Utilitarian attributes are defined as the attributes that deal with the consumers' perception of utility and functionality of an object (Batra & Ahtola, 1991). Utilitarian attributes are directed toward achieving goals, and they are referred to the efficient and rational decision making (Batra & Ahtola, 1991). We used four proxies of utilitarian attributes: product information, monetary savings, convenience, and perceived ease of use. Product information deals with quality or standard of information about goods and services available to the customers by the retailers (Yang, Cai, Zhou, & Zhou, 2005). Monetary savings is defined as spending the less amount of money in order to save for the future time period (Celebi, 2015; Escobar-Rodríguez & Bonsón-Fernández, 2016; Mimouni-Chaabane & Volle, 2010). Convenience can be defined as the saving time and money while purchasing online in flexible hours (Childers et al., 2001). Whereas perceived ease of use is defined as the level of understanding of an individual who believes that there are no efforts required to use a particular system (Davis, 1989).

Previous research illustrated that utilitarian motivations behind online shopping can significantly influence consumer's attitudes (e.g., Childers et al., 2001; Chiu & Ting, 2011). Literature also specifies that consumers' perception of instrumental values of online shopping websites are important determinants of consumers' attitudes (Childers et al., 2001; Mathwick, Malhotra, & Rigdon, 2001). In a recent exploratory study, Martínez-López et al. (2014) identified several utilitarian drivers that may be considered relevant in online shopping. In previous literature, it was found that utilitarian attributes deals with more cognitive aspects of attitude while purchasing online (i.e. convenience, economic value for the money, or time savings) (Jarvenpaa & Todd, 1996; Teo, 2001; Zeithaml, 1988). For example consumer purchase online because they have much time to evaluate the prices and features of the product and find it convenient and time saving (Mathwick et al., 2001). Therefore, we deem it appropriate to assume that:

H₁. There is a positive relationship between consumer's perceptions of utilitarian attributes and cognitive attitude toward online shopping.

H₂. There is a positive relationship between consumer's perception of utilitarian attributes and affective attitude toward online shopping.

Hedonic attributes

Hedonic attributes are defined as the attributes which deal with the experiences of sensory appeals, which include emotion and gratification (Batra & Ahtola, 1991). The motivation behind hedonic attributes deals with the entertainment-seeking behaviors of consumer. Consumers' perception of hedonic attributes can be defined as the individuals who are seeking for emotional needs with interesting and entertaining shopping environment (Celebi, 2015; Escobar-Rodríguez & Bonsón-Fernández, 2016). Hedonic attributes are defined as the overall experience of an object that consumer evaluate and seek benefits (i.e., entertainment and enjoyment). This concept is similar to the concept identified by Babin, Darden, and Griffin (1994) who explain hedonic attributes as an appreciation of experience instead of task completion. In other words, hedonic aspects of shopping entail the enjoyment an individual feels during online shopping.

We used three proxies of hedonic attributes: role shopping, best deal, and social. Role shopping qualifies with the enjoyment that an individual feels while shopping for their loved ones. In role shopping, when an individual purchases gifts for others, there is an intrinsic enjoyment, emotions, and feelings associated with them. Best deal is defined as the joy an individual feels while negotiating and bargaining with the sales people (Westbrook & Black, 1985). Best deal shopping deals with discounts, sales, and bargains offered by the retailer during the shopping process. Social shopping is defined as the bonding experience with others or socializing with others while purchasing online (Chiu et al., 2014). When an individual feels joy and pleasure while shopping with friends and family is known as social shopping (Chiu et al., 2014). It reflects shopper's propensity to get affection in interpersonal relationships during shopping.

Research suggested that the hedonic motivations are important predictors of consumers' attitude (Childers et al., 2001; Chiou & Ting, 2011; Mathwick et al., 2001). In a recent exploratory study, Martínez-López et al. (2016) identified several hedonic drivers that may be considered relevant to online shopping. According to Burke (1999) hedonic attributes are known to be important predictors of online shopping. Like conventional shopping, online shoppers also shop online for entertainment and enjoyment purposes (Kim, 2002; Mathwick et al., 2001). Therefore, we may assume that hedonic motivations can significantly influence consumer's attitudes to buy online. These assumptions lead us to the development of third and fourth hypothesis:

H₃. There is a positive relationship between consumer's perception of hedonic attributes and affective attitude toward online shopping.

H₄. There is a positive relationship between consumer's perception of hedonic attributes and cognitive attitude toward online shopping.

Cognitive and affective attitude

Attitude is defined as the general, enduring, and long lasting evaluation of a person, place, or object (Solomon, 2014).

Attitude is not one dimensional construct – it has multiple dimensions including: cognition, affect, emotion, value, and consciousness (Fiore & Kim, 2007). We used two dimensions of attitude in our study: cognitive attitude and affective attitude following Eroglu's (2001) classification of attitude. Cognitive attitude refers to the extent to which an individual likes or dislikes an object on the basis of utility and functions performed by that object (Celebi, 2015; Fiore & Kim, 2007). Affective attitude deals with the sensations and emotional experience of an individual that are derived from using or experiencing an object (Fiore & Kim, 2007).

Attitude has been used by various kinds of studies and has been used in different contexts (Solomon, 2014). A significant and positive relationship exists between consumers' attitude and their purchase intentions or purchase behaviors (Ajzen & Fishbein, 1980; Simester, 2016). In previous studies, attitude has been found to have a significant influence on purchase intentions toward online shopping (Kim & Park, 2005; Solomon, 2014). Based on the above argument, we considered a positive and significant relationship between cognitive and affective attitude and purchase intentions.

H₅. There is a positive relationship between cognitive attitude and purchase intention toward online shopping.

H₆. There is a significant relationship between affective attitude and purchase intention toward online shopping.

Methods

Population

Population of the study consisted of adults living in the urban areas of Punjab (Pakistan) who are online purchasers of apparel products (i.e. clothing and accessories) between the ages of 18–35. According to the research conducted by Kaymu (2014), most of the people who were interested in online shopping were between the age bracket of 18–35 and resided in four cities (i.e. Multan, Faisalabad, Lahore and Rawalpindi). Furthermore, clothing and accessories is the leading product category of online shopping sector in Pakistan and the most popular online shopping websites of apparel products in Pakistan are Kaymu and Daraz (BrandSynario, 2015; E-Commerce Trends in Pakistan, 2014).

Sample

We used non-probability convenient sampling technique in our study. Due to the unavailability of consumer data bases as well as lack of resources; probability sampling could not be carried out. According to the suggestion of Kline (2015), a minimum sample of 200 is required in order to use structural equation modeling (SEM) technique. While other researchers recommended that in order to get an adequate sample size, 5–10 responses per parameter are required (Hair, Black, Babin, & Anderson, 2010; Bentler & Chou, 1987). Also, several researchers have used a sample size from 107 to 299 respondents in the studies of online shopping (Jones et al., 2006; Mosteller, Donthu, & Eroglu, 2014). Based on the above guidelines, a sample of at least 299 is required in order to

test the model. Sample of 335 respondents is deemed sufficient under the aforementioned guidelines for this study.

Measurement instrument

The survey instruments were adapted from previous studies. The measurement items were measured on a 5-point Likert scale (anchored from strongly disagree = 1 to strongly agree = 5). Five items of product information (PI) were adapted from Yang et al. (2005). Three items for monetary savings' (MS) were adapted from Rintamäki, Kanto, Kuusela, and Spence (2006). Four items of Convenience (CONV) scale were adapted from Childers, Carr, Peck, and Carson (2002). Five items for perceived ease of use (PEOU) were adapted from Davis (1989). Three items each for role (RO), best deal (BD) and social (SO) scales were adapted from Arnold and Reynolds (2003). Five items of cognitive attitude (CAOS) and affective attitude (AAOS) each were adapted from Voss, Spangenberg, and Grohmann (2003). Three items were adapted from Ramayah and Ignatius (2005) for measuring purchase intention (PIOS).

Data collection process

The data were collected via a web survey from consumers who were connected to apparel retailers via Retailer Facebook Pages (RFP). Data were collected from the official Retailer Facebook Page (RFP) fans of the two famous online retailers in Pakistan, i.e. Kaymu and Daraz.

We contacted 1500 fans of Kaymu and Daraz in November and December of 2015 by sending messages to their Facebook inbox. Out of those 1500 fans of Kaymu and Daraz, 471 (31%) fans showed their consent to participate in this survey by the end of January 2016. After receiving their consent to participate, 471 questionnaires links were in-boxed to the respondents. After sending the questionnaires links we received 213 (45.2%) responses out of 471 in the first two weeks and the remaining 258 respondents were sent a reminder. In the third week, after the reminder, we received 85 (18%) responses while in the fourth and fifth weeks, we received 37 (7.8%) responses by sending second reminder to their inboxes. In five weeks, we received a total of 335 (71%) responses.

Data analysis procedures

For data analysis SPSS and AMOS version 21.0 were used. In order to test the relationships between the proposed hypotheses, structural equation modeling (SEM) was used.

Results and discussions

Before data analysis, the screening of the data is always required in order to review the possible number of errors to be detected. For this, we carried out some initial tests for data screening. Out of 335 final cases, there were no missing and aberrant values as data was collected online. Outliers were treated with the mean of corresponding values (Cousineau & Chartier, 2015). The results of our study showed that data is normally distributed and the values of

Table 1 Multi-collinearity statistics.

Sr		Tolerance	VIF
1	Monetary savings	.596	1.677
2	Convenience	.587	1.703
3	Perceived ease of use	.474	2.111
4	Role	.583	1.714
5	Best deal	.624	1.603
6	Social	.534	1.872
7	Cognitive attitude	.524	1.910
8	Affective attitude	.641	1.560

Note: Dependent variable: product information; VIF = variance inflation factors.

skewness and kurtosis were within the recommend thresholds (± 1 , ± 3) as suggested by [Tabachnick, Fidell, and Osterlind \(2001\)](#) and [Cameron \(2004\)](#). Furthermore, the tolerance level and variance inflation factors (VIF) were used to examine the multi-collinearity among independent variables ([Diamantopoulos & Winklhofer, 2001](#)). The VIF value of the first order variables varied from 1.56 to 2.11 and tolerance values varied from 0.47 to 0.64. Therefore, multi-collinearity is not a concern for all the variables mentioned in [Table 1](#).

Sample profile

The sample of 335 individuals comprised of 179 males and 156 females (53%, 47% respectively). 61 (18%) of the consumers were between the age of 18 and 22 years, 144 (43%) were between 22 and 26 years, 80 (24%) were between 25 and 29, and (50) 15% were of ages (30–36). When inquired about the income; 121 (36%) of the e-consumers had income less than 20,000, 88 (26%) of the sample consumers had income between 20,000 and 40,000, 57 (17%) had income between 40,000 and 60,000, 31 (10%) of the had income between 60,000 and 80,000, and 38 (11%) had income more than 80,000. 61 (18%) of the sample consumers shop one time semi-annually, 116 (35%) shop 2–3 times semi-annually, 89 (26%) shop 4–5 times semi-annually, and remaining 69 (21%) shop 6 times semi-annually. Furthermore, we inquired about the education of respondents; 84 (25%) of the sample respondents were undergraduates, 112 (33%) were graduates, and 139 (42%) were post graduates. 65 (19%) of the sample respondents had Internet experience of less than 5 years, 91 (27%) had Internet experience of between 5 and 6 years, 80 (24%) had Internet experience of 7–8 years, 99 (30%) had Internet experience of 9 years.

Structural equation modeling

Next, we used two step approach recommended by [Anderson and Gerbing \(1988\)](#), where measurement model was tested first for the reliability and validity of the first and second order model and then the structural model was tested for the proposed hypothesis. When conducting a second order CFA, establishing the reliability and validity of first order latent variables is necessary. Following section details the first order construct reliability and validity.

First order measurement model

In specification search, the confirmatory factor analysis (CFA) was conducted with 10 first order latent variables and thirty-nine observed variables. Maximum likelihood estimation (MLE) was used for model assessment. The latent variables include product information (PI), monetary savings (MS), convenience (CONV), perceived ease of use (PEOU), role (RO), best deal (BD), social (SO), cognitive attitude (CAOS), affective attitude (AAOS), and purchase intention (PIOS). In the initial run of CFA, various items had factor loadings less than the minimum recommended threshold value ($FL \geq 0.5$) ([Kline, 2015](#)) and fit indices indicated a poor fit. Therefore, in re-specification, we eliminated items with factor loadings below 0.5 ([Kline, 2015](#)). The re-specified model fitness (CMIN/DF = 1.452, GFI = 0.907, AGFI = 0.880, CFI = 0.943, RMSEA = 0.037, NFI = 0.842, TLI = 0.932, IFI = 0.945, PCLOSE = 1.000) indicated a good fit. Furthermore, as part of measurement model analysis, we used reliability, convergent validity, and discriminant validity to examine the strength of measures of constructs used in the proposed model ([Fornell, 1987](#)).

The reliability was measured with the values of Cronbach's Alpha and composite reliability (CR). Cronbach's alpha ≥ 0.70 ([Hair et al., 2010](#)) and CR ≥ 0.70 ([Fornell & Larcker, 1981](#)) is considered as a minimum threshold for assessing reliability of a construct. Cronbach's alpha and CR values as low as 0.6 are considered acceptable in social sciences ([Bagozzi & Yi's, 1988](#); [Nunnally & Bernstein, 1994](#)). As shown in [Tables 2 and 3](#), the value of Cronbach's Alpha and CR exceeds the required minimum threshold of 0.60 respectively, thus indicating that all first order construct are reliable.

Further, first order construct validity was examined to assess the measurement model. Convergent and divergent/discriminant validity was assessed to establish construct validity of all first order variables. Average variance extracted (AVE) and factor loadings were used to establish convergent validity. The value of AVE should be greater than 0.5 for all the constructs in order to achieve the convergent validity ([Fornell & Larcker, 1981](#)). AVE values of all the first order constructs exceeds the required threshold of 0.50 indicating the convergent validity of first order constructs. For further evidence of convergent validity, significant factor loadings ≥ 0.5 of all measurement items are recommended ([Steenkamp & van Trijp, 1991](#)). All factor loadings were significant and above recommended threshold providing evidence of convergent validity. For establishing

Table 2 Confirmatory factor analysis.

Variable	Codes	Factor loadings	SMC	Mean	SD	α
Utilitarian attributes (UT)	Product information					
	PI1	0.62***	0.38			
	PI2	0.60***	0.36	3.66	.919	.697
	PI3	0.59***	0.35			
	Monetary savings					
	MS1	0.68***	0.46			
	MS2	0.50***	0.25	3.628	.923	.600
	MS3	0.55***	0.30			
	Convenience					
	CONV2	0.51***	0.26			
	CONV3	0.61***	0.38	3.886	.908	.701
	CONV4	0.52***	0.28			
	Perceived ease of use					
	PEOU2	0.60***	0.35			
	PEOU3	0.60***	0.36	3.777	.888	.745
	PEOU5	0.60***	0.36			
Hedonic attributes (HD)	Role					
	RO1	0.72***	0.52			
	RO2	0.71***	0.50	3.602	.947	.726
	RO3	0.63***	0.40			
	Best deal					
	BD1	0.70***	0.48			
	BD2	0.62***	0.39	3.716	1.009	.713
	BD3	0.70***	0.50			
	Social					
	SO1	0.68***	0.46			
	SO2	0.66***	0.44	3.435	1.017	.696
	SO3	0.65***	0.43			
	Cognitive attitude (CAOS)					
	CAOS3	0.65***	0.43			
	CAOS4	0.69***	0.44	3.534	.985	.679
	CAOS5	0.63***	0.36			
	Affective attitude (AAOS)					
	AAOS2	0.77***	0.57			
	AAOS3	0.64***	0.41	3.566	.916	.735
	AAOS4	0.67***	0.45			
	Purchase intention (PIOS)					
	PIOS1	0.59***	0.35			
	PIOS2	0.70***	0.48	3.770	.915	.703
	PIOS3	0.70***	0.49			

Note: SMC = squared multiple correlation; SD = standard deviation; α = Cronbach's alpha.

*** $p < 0.01$.

discriminant validity, we used three methods. First, we compared square root of AVE with the square of inter construct correlation coefficients. Square root of AVE should exceed inter construct correlation values to establish discriminant validity (Fornell & Larcker, 1981). The results in showed that all the constructs pairs meet this requirement except the values mentioned in bold text indicate that the discriminant validity was established, but, in a weak sense as mentioned in Table 3. The next step was to examine the correlation confidence interval between the two constructs. Results showed that correlation confidence interval values of all the constructs was less than 1.00, which indicated that all constructs were considerably different from one another

thus confirming that the discriminant validity was achieved. Third, strong and significant factor loadings ($FL \geq 0.50$) of measurement items on their respective latent constructs rather than other constructs were observed indicating further evidence of discriminant validity (Fig. 1).

Second order measurement model

The commonly used method to approximate second order constructs is the repeated indicator approach where the higher order constructs are measured by using items of all its lower order constructs (Lohmöller, 1989). This process is better performed when the lower order constructs contain equal number of items. In second order CFA, two

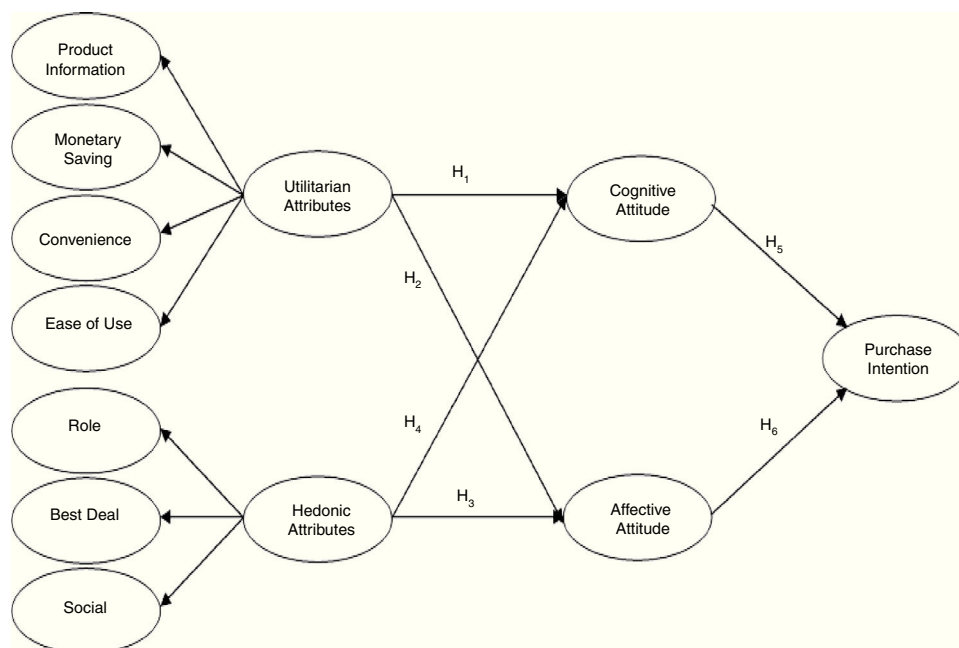


Figure 1 Conceptual model.

variables utilitarian attributes (UT) and hedonic attributes (HD) were modeled as higher-order reflective constructs while cognitive attitude (CAOS), affective attitude (AAOS), and purchase intentions (PIOS) were modeled as first-order constructs. Product information (PI), monetary savings (MS), convenience (CONV), and perceived ease of use (PEOU) were modeled as lower order constructs of utilitarian attributes (UT); whereas role (RO), best deal (BD), and social (SO) were employed as lower order constructs of hedonic attributes (HD) as shown in Fig. 2.

Various items had factor loadings less than minimum recommended threshold value ($FL \geq 0.5$) and fit indices indicated a poor fit. In re-specification, we eliminated items with factor loadings below 0.5 (Kline, 2015). After deleting the problematic items, the model fit indices indicated a satisfactory fit for the model; $CMIN/DF = 1.424$, $GFI = 0.901$, $AGFI = 0.882$, $CFI = 0.943$, $RMSEA = 0.036$, $NFI = 0.833$, $TLI = 0.936$, $IFI = 0.944$ and $PClose = 1.000$. Finally, all the path coefficient of the second-order reflective constructs on the first-order constructs exceed 0.76 for utilitarian attributes (UT) and 0.79 for hedonic attributes (HD) and are significant ($p < 0.01$).

Composite reliability (CR) and average variance extracted (AVE) of higher order variables is used to examine the reliability of the higher order constructs. The composite reliability (CR) of utilitarian attributes and hedonic attributes are 0.930 and 0.894 respectively, which are well above than the required acceptance thresholds of 0.70 providing evidence of reliable second order constructs (Wetzels, Odekerken-Schröder, & Van Oppen, 2009). The AVE value of utilitarian attributes and hedonic attributes is 0.780 and 0.738 which were well above than the minimum acceptance level of 0.50 as shown in Table 4, providing the evidence of reliable reflective second order constructs (Wetzels et al., 2009).

Finally, the discriminant validity among first-order (cognitive attitude, affective attitude, and purchase intentions) and second-order (utilitarian attributes and hedonic attributes) constructs were examined by the correlation matrix as mentioned in Table 4. First method to check discriminant validity is by comparing the square root of AVE values with inter-construct correlations which should be greater than the shared variance between two constructs (Fornell & Larcker, 1981). The constructs in the model meet this requirement except cases which are bold in text indicating the discriminant validity in a weak sense. Second way to determine discriminant validity is by evaluating the correlation confidence interval between two variables. It is recommended that the confidence interval of all constructs should not include a value of "1". All the constructs were below from the required threshold value of 1.00 which confirms that discriminant validity was achieved. Third, strong and significant factor loadings of the second-order reflective constructs on the first-order constructs exceed 0.76 for utilitarian attributes (UT) and 0.79 for hedonic attributes (HD) and are significant ($p < 0.01$), indicating discriminant validity of second order constructs (Tables 5 and 6).

Structural model and hypothesis testing

The relationships between the constructs were tested in a structural model. The results indicates that the structural model was a good fit; $CMIN/DF = 1.460$, $GFI = 0.899$, $AGFI = 0.879$, $CFI = 0.937$, $RMSEA = 0.037$, $NFI = 0.828$, $TLI = 0.930$, $IFI = 0.938$, and $PCLOSE = 1.000$. The results show that the overall model explained 62% ($R^2 = 0.62$, $p < 0.01$) variance in online purchase intentions as shown in Fig. 3. Furthermore, the variance explained in cognitive attitude by its lower order constructs is 66% ($R^2 = 0.66$, $p < 0.01$) which is more than the variance explained in

Table 3 Discriminant validity – first order constructs.

	CR	AVE	cPI	cMS	cRO	cBD	cSo	cPIOS	CAAOS	cCAOS	cPEOU	cCONV
cPI	.717	.549	0.740									
cMS	.618	.555	0.819	0.744								
cRO	.729	.673	0.516	0.550	0.820							
cBD	.715	.656	0.516	0.473	0.685	0.809						
cSo	.703	.641	0.657	0.602	0.772	0.744	0.800					
cPIOS	.703	.542	0.660	0.688	0.490	0.456	0.481	0.736				
CAAOS	.741	.510	0.502	0.512	0.554	0.476	0.600	0.548	0.714			
cCAOS	.794	.531	0.672	0.648	0.603	0.494	0.681	0.742	0.657	0.728		
cPEOU	.748	.580	0.822	0.861	0.585	0.541	0.602	0.594	0.537	0.689	0.761	
cCONV	.691	.525	0.602	0.779	0.349	0.471	0.383	0.526	0.427	0.475	0.774	0.724

Note: AVE = average variance extracted; CR = composite reliability; α = Cronbach's alpha; cPI = product information; cMS = monetary savings; cCONV = convenience; cPEOU = perceived ease of use; cRO = role; cBD = best deal; cSo = social; cCAOS = cognitive attitude; cAAOS = affective attitude; cPIOS = purchase intention.

affective attitude by its lower order constructs ($R^2 = 0.46$, $p < 0.01$). The results clearly suggest that the modified S-O-R model for online shopping proved to be a strong theoretical model with bi-dimensional attitudes. In structural model, all six hypotheses were supported confirming the proposed directions of significant effects.

H₁ predicted that there is a positive relationship between consumer's perceptions of utilitarian attributes (product information, monetary savings, convenience, and perceived ease of use) and cognitive attitude toward online shopping. The results of the study showed a significant positive relationship between utilitarian attributes (UT) and cognitive attitude toward online shopping (CAOS) ($\gamma = 0.52$; $p < 0.05$). Arguments in support for this result can be drawn from researches (Ahn, Ryu, & Han, 2007; Childers et al., 2001; Chiou & Ting, 2011) where utilitarian values have a significant effect on consumer attitude toward online shopping. The consumers who emphasize on detailed product information, buying effortlessly, easy and user friendly website interface, and monetary savings are prone to form a favorable rational attitude toward online shopping websites.

H₂ proposed a positive relationship between consumer's perception of utilitarian attributes (product information, monetary savings, convenience, and perceived ease of use) and affective attitude toward online shopping. The results of the study showed a significant positive relationship between utilitarian attributes (UT) and affective attitude toward online shopping (AAOS) ($\gamma = 0.26$; $p < 0.05$). Researchers (e.g. Childers et al., 2001; Chiou & Ting, 2011; Van Der Heijden, Verhagen, & Creemers, 2001) found a positive relationship between utilitarian attributes (UT) and attitude toward online purchasing. Our finding suggests that while shopping for apparel products consumers who are motivated by utilitarian/functional considerations are likely to form sensational judgments about online shopping. The consumers who emphasize on detailed product information, buying effortlessly, easy and user friendly website interface, and monetary savings are likely to form a favorable emotional attitude toward online shopping.

H₃ proposed a positive relationship between consumers perception of hedonic attributes (role, best deal, social) and affective attitude toward online shopping. The results of the study indicated that there is a positive relationship between hedonic attributes (HD) and affective attitude toward online shopping (AAOS) ($\gamma = 0.48$; $p < 0.05$). The results are in line with previous studies (Ahn et al., 2007; Childers et al., 2001; Chiou & Ting, 2011; Moon, Rasool, & Attiq, 2015) where similar relationships were found between hedonic attributes and attitude toward online purchasing. Our findings suggests that the consumers who extract enjoyment, pleasure, and satisfaction out of their success in purchasing apparel products at low prices, from purchasing apparels for others (Gifts, etc.), and by sharing their pleasant shopping experience (via social website like Facebook) with others, are more emotionally motivated to shop online.

H₄ proposed a positive relationship between consumers perception of hedonic attributes (role, best deal, and social) and cognitive attitude toward online shopping. The results of the study indicated a positive and significant relationship between hedonic attributes (HD) and consumers cognitive attitude toward online shopping (AAOS) ($\gamma = 0.36$; $p < 0.05$).

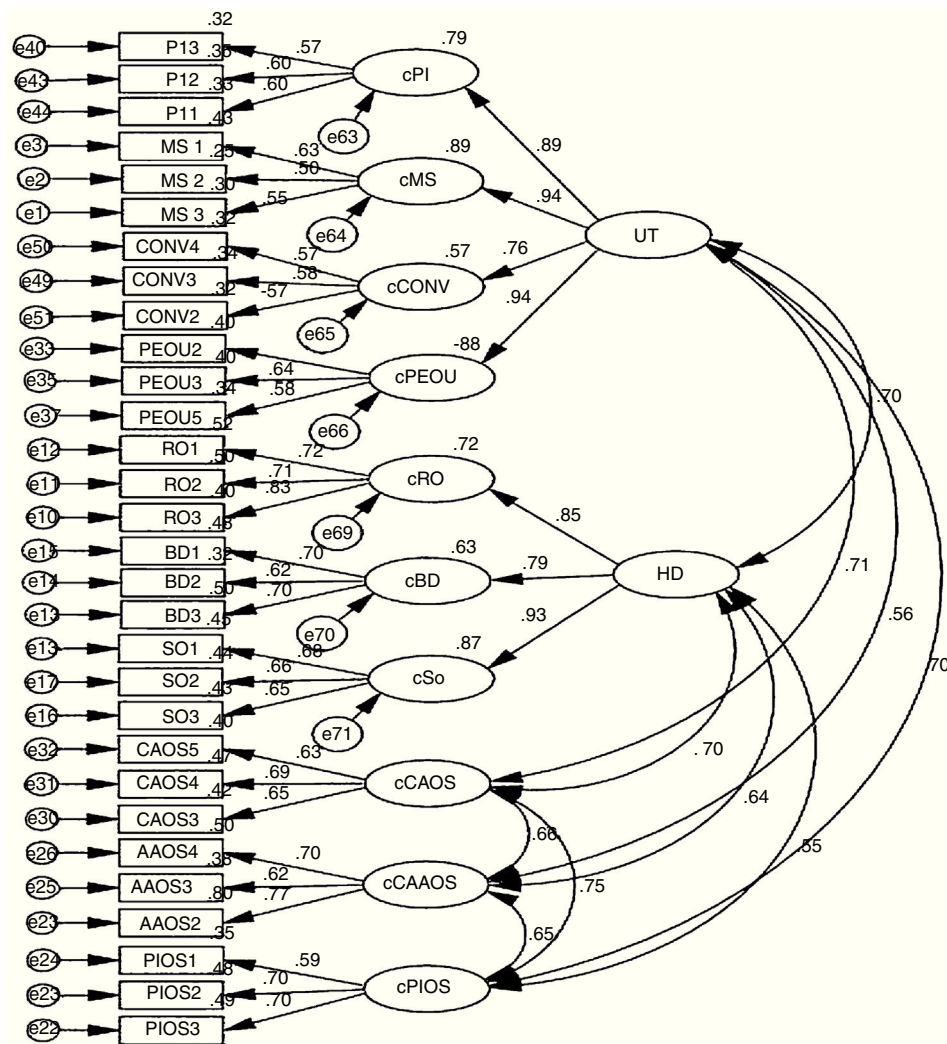


Figure 2 Measurement model. *Note:* UT = utilitarian attributes; HD = hedonic attributes; cPI = product information; cMS = monetary savings; cCONV = convenience; cPEOU = perceived ease of use; cRO = role; cBD = best deal; cSo = social; cCAOS = cognitive attitude; cCAAOS = affective attitude; cPIOS = purchase intentions.

Previous researches have shown that shopping enjoyment is very important and it can have a significant impact on attitude toward online shopping (Novak, Hoffman, & Yung, 2000). Consumers who take pleasure and satisfaction in their success in purchasing apparel products at low prices, from purchasing apparels for others (Gifts, etc.), and by sharing their pleasant shopping experience (via social website like Facebook) with others, are more rationally motivated to purchase online.

H₅ proposed a positive relationship between consumer's cognitive attitude and purchase intention toward online shopping. In results, a positive and significant relationship between cognitive attitude (CAOS) and purchase intention toward online shopping ($\gamma = 0.70$; $p < 0.05$) was found. Many studies have found significant positive relationship between attitudes and purchase intentions of consumers (Ajzen & Fishbein, 1980; Kim & Park, 2005). Results suggest that cognitive attitude is

Table 4 Correlation statistics.

		1	2	3	4	5
1	Utilitarian attributes	1				
2	Hedonic attributes	.626**	1			
3	Cognitive attitude	.602**	.604**	1		
4	Affective attitude	.474**	.627**	.519**	1	
5	Purchase intention	.560**	.471**	.525**	.432**	1

** Correlation is significant at the 0.01 level (2-tailed).

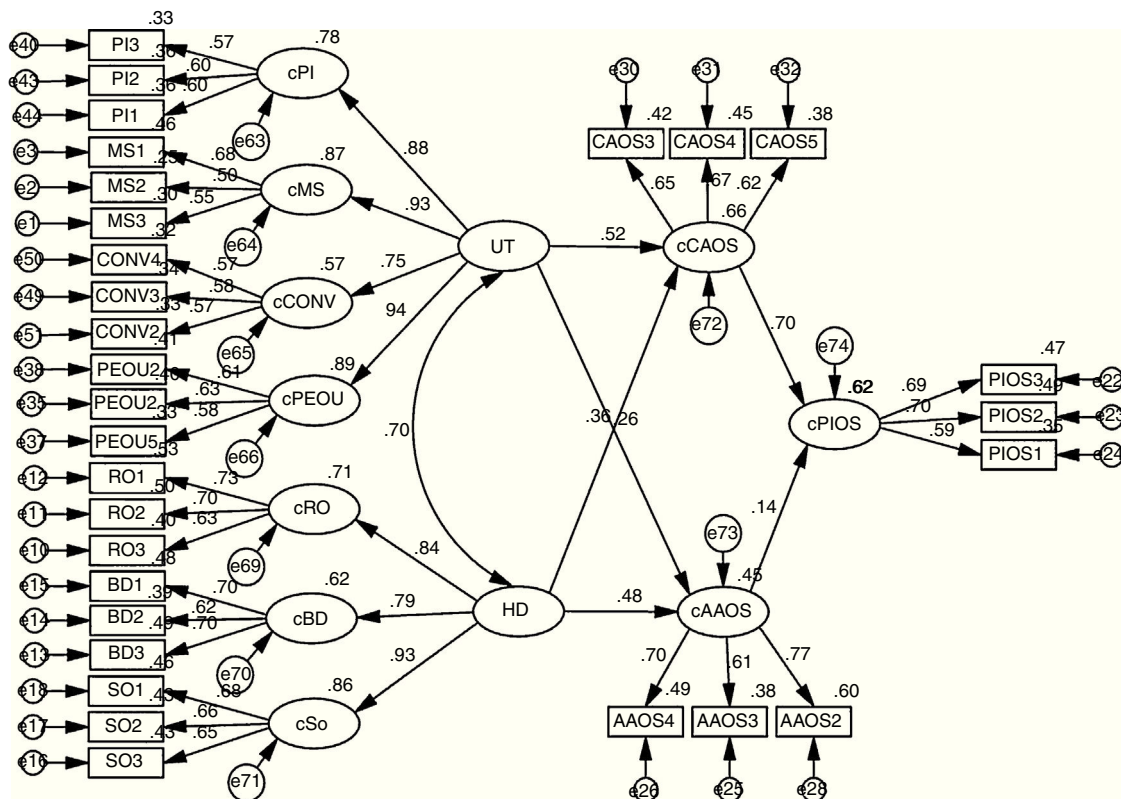


Figure 3 Structural model. Note: UT = utilitarian attributes; HD = hedonic attributes; cPI = product information; cMS = monetary savings; cCONV = convenience; cPEOU = perceived ease of use; cRO = role; cBD = best deal; cSo = social; cCAOS = cognitive attitude; cAAOS = affective attitude; cPIOS = purchase intentions; all paths are significant at $p < 0.05$; $p < 0.10$.

Table 5 Discriminant validity – second order constructs.

Constructs	Mean	SD	CR	AVE	UT	cPIOS	cAAOS	cCAOS	HD
UT	3.73	.909	.934	.780	0.883				
cPIOS	3.77	.725	.703	.542	0.699	0.735			
cAAOS	3.59	.663	.741	.510	0.561	0.550	0.714		
cCAOS	3.60	.668	.794	.531	0.713	0.746	0.659	0.700	
HD	3.58	.991	.894	.738	0.695	0.552	0.638	0.700	0.859

Note: AVE = average variance extracted; SD = standard deviation; CR = composite reliability; UT = utilitarian attributes; HD = hedonic attributes; cCAOS = cognitive attitude; cAAOS = affective attitude; cPIOS = purchase intention.

important to predict purchase intention toward online shopping and consumers are more involved in cognitive judgments while making their online purchase decision.

H₆ proposed a positive relationship between consumer's affective attitude and purchase intention toward online shopping. The results of the study showed that there is a positive relationship between consumers affective attitude

Table 6 Hypothesis results.

Hypothesis	Structural paths	γ	t -Values	p -Values	Decision
H ₁	UT → CAOS	0.52	4.899	0.01	Supported
H ₂	UT → AAOS	0.26	2.496	0.01	Supported
H ₃	HD → AAOS	0.48	4.174	0.01	Supported
H ₄	HD → CAOS	0.36	3.593	0.01	Supported
H ₅	CAOS → PIOS	0.70	6.682	0.01	Supported
H ₆	AAOS → PIOS	0.14	1.657	0.09	Supported

Note: UT = utilitarian attributes; HD = hedonic attributes; CAOS = cognitive attitude; AAOS = affective attitude; PIOS = purchase intention; γ = path coefficients; t -values $\geq \pm 1.96$; all paths are significant at $p < 0.05$; $p < 0.10$.

(AAOS) and purchase intention toward online shopping (PIOS) ($\gamma = 0.14$; $p < 0.10$). Various previous studies have argued a similar relationship (Ajzen & Fishbein, 1980). Our finding suggests consumers who evaluate online shopping activity emotionally are likely to form their purchase intentions. Our findings also confirm that both dimensions of attitude influence online purchase intentions. In addition, the findings confirm that consumers purchase intention toward online shopping are more related to cognitive judgments than that of affective judgments. Consumers rely more on their cognitive judgments than emotional judgments while making their online purchase decision.

Conclusion

In order to provide a strong theoretical foundation, the stimulus organism response (S-O-R) model was operationalized in this study. While operationalizing *S-O-R model*, current study used bi-dimensional attitude approach which represents cognitive and affective attitudes of consumers toward online shopping. The study explained how consumer's perception of utilitarian and hedonic attributes (S) lead consumer's attitudes (O) and purchase intentions (R) toward online shopping. Results indicated the soundness of the *S-O-R model* in predicting online purchase intentions and dominant role of cognitive evaluations of websites as compared to affective evaluations. According to the empirical investigation of online purchasers of apparel products, the current study found that utilitarian attributes (product information, monetary savings, convenience, and perceived ease of use) are strong predictors of consumers' attitudes which in turn influence their purchase intentions toward online shopping. Consumers make rational and functional evaluations while shopping online for apparel clothing related products as compared to emotional evaluations. Thus, S-O-R model and bi-dimensional approach of attitudes, i.e. cognitive and affective attitudes contributes to a better understanding of consumer's perceptions regarding online shopping.

Implications

Theoretical implications

This study applies a new perspective to predict consumer's purchase intentions and makes three major contributions to the online retailing literature. First, as previous researches lack strong theoretical underpinnings, this study provides a solid theoretical foundation by adapting stimulus organism response (S-O-R) model. The operationalization of the S-O-R model provides better insights in the online retailing literature by considering the step wise process of predicting purchase intentions, where attributes were considered as stimuli, attitudes as organism, and purchase intentions as response. Second, this study provides better understandings to predict consumer's purchase intentions while incorporating dimensions of attitude in the structural model. By incorporating cognitive and affective attitudes, the study helps to better understand consumer's rational and emotional evaluations of online purchase intentions. Third, different underlying proxies of utilitarian and

hedonic attributes are discussed with their individual effects instead of combine effects. By using utilitarian and hedonic attributes as reflective second order constructs, the study provides a higher level of abstraction.

Managerial implications

The study provides several practical implications for online retailers. First, online retailers should emphasize more on functional aspects of their shopping websites as compared to the emotional aspects. Online retailers should provide easy and user friendly website interface. A website layout that is easy to operate encourages consumers to develop purchase preferences as consumers have to invest money. Detailed product information is also an important aspect of online shopping behavior. Detailed information about the products decreases the ambiguity that the consumers may have in relation to the performance of the product. Moreover, detailed information also encourages the consumers to undertake functional evaluations of the product. Saving or discount schemes also enhance the positive evaluations of a product in terms of monetary savings which is one of the most important drivers of online shopping. Retailers should also focus on the online shopping platforms for their business that provides the convenience of time and location to the consumers. By incorporating these functional attributes, online retailers can attract a number of online shoppers to their online shopping websites where they can gain a competitive advantage over their rivals. Second, although, the impact of hedonic attributes of online shopping websites is less prominent than that of utilitarian attributes but online retailers should not ignore the impact of hedonic attributes on consumers which drives them to purchase online. A number of consumers consider shopping a pleasurable experience and extract enjoyment and fun out of this activity. Therefore, online retailers should also provide social interaction, discounted deals and prices, and role shopping on their shopping websites in order to attract more customers.

Limitations and future research

This study provides limitations and future recommendations for researchers. The research design of this study was cross-sectional. Future research should be conducted with the longitudinal research design in order to better investigate causal relationships. The population of the study comprised of young adults. Other categories of consumers (i.e. Professionals, businessmen, Housewives, and Adolescents, etc.) should be included in future research. A non-probability convenient sampling technique was used in this study. Future research should be conducted with the probability sampling technique for a better understanding of research. The sample size of our study was 335. A larger sample size is recommended for better applicability and generalizability of the results (Hair et al., 2010). The current study included online purchasers of apparel and clothing. Future researchers may include other product categories such as electronics, mobile phones, auto vehicles, computers, and laptops, etc. We collected data from only two online retailers (i.e. *Kaymu* and *Daraz*). Future research should include

the fans of frequently used online famous retailers (i.e. www.homeshopping.pk, www.yavvo.com). This study was composed of Facebook users who are connected to apparel retailers through retailer's Facebook pages. Other social media platform can be used for a better understanding of online shopper behavior. Furthermore, this study can be conducted in other countries as well in order to further increase the generalizability of results. This study incorporated limited number of online shopping website's attributes. Future research should include other utilitarian motivations such as desire for control, autonomy, broad selection and availability, economic utility, customized product and service, ease of payment, home environment, lack of sociability, and anonymity (Martínez-López et al. (2014). Other hedonic motivations should also be included in further studies such as exploration, visual attraction, escape, intrinsic enjoyment, hang out, relaxation, self-expression, adventure, gratification, idea and entertainment (Arnold & Reynolds, 2003; Martínez-López et al., 2016). In addition, further study should analyze mediating effects of cognitive and affective attitude on purchase intentions. Current study did not include any moderating variable; therefore the moderating variables (i.e. industry type, trust, perceived risk, and purchase frequency, online shopping experience, etc.) can be included in future researches.

Funding

This study did not receive any funding from any organization.

Conflict of interest

The authors declare that there are no conflict of interest.

Ethical approval

This article does not contain any studies with animals performed by any of the authors.

Informed consent

Informed consent was obtained from all individual participants included in the study.

Acknowledgement

The authors wish to thank Amna Farooq, MBA student at Air University School of Management for her assistance during this research.

Appendix A.

Product information (PI) was adapted from Yang et al. (2005).

1. Online shopping websites provide relevant information about the product features.
2. Online shopping websites provide accurate information about the product features.

3. Online shopping websites provide up to date information about the product features.
4. Online shopping websites provide customize information about the product features.
5. Online shopping websites provide valuable/technical tips or specification of products or services.

Monetary savings (MS) three items were adapted from Rintamaki et al. (2006).

1. I was able to get everything I needed through online shopping websites.
2. I was able to shop without disruption or delays through online shopping websites.
3. I was able to make my purchases convenient and cheaper through online shopping websites.

Four items of convenience (CONV) scale were adapted from Childers et al. (2002).

1. Using online shopping websites would be convenient for me to shop.
2. Online shopping websites would allow me to save time when shopping.
3. Using online shopping websites would make my shopping less time consuming.
4. Online shopping websites would allow me to shop whenever I choose.

Perceived ease of use (PEOU) five items adapted from Davis (1989).

1. I would find online shopping websites based shopping easy.
2. I would find interaction through the online shopping websites clear and understandable.
3. I would find online shopping websites to be flexible to interact with.
4. It would be easy for me to become skill full at using the online shopping websites.
5. I would find online shopping websites are easy to use for shopping.

Role (RO) three items were adapted from Arnold and Reynolds (2003).

1. I like shopping on online shopping websites for others because, when they feel good, I feel good.
2. I enjoy shopping on online shopping websites for my friends and family.
3. I enjoy shopping on online shopping websites around to find the perfect gift for someone.

Best deal (BD) three items were adapted from Arnold and Reynolds (2003).

1. For the most part, I go to shopping on online shopping websites when there are sales.
2. I enjoy looking for discounts when I shop on online shopping websites.

3. I enjoy hunting for bargains when I shop on online shopping websites.

Social (SO) three items were adapted from Arnold and Reynolds (2003).

1. I do shopping on online shopping websites with my friends and family in order to socialize.
2. I enjoy socializing with others when I shop on online shopping websites.
3. Shopping on online shopping websites with others is a bonding experience.

Cognitive attitude (CAOS) five items were adapted from Voss et al. (2003).

1. Shopping on online shopping websites are effective.
2. Shopping on online shopping websites are helpful.
3. Shopping on online shopping websites are functional.
4. Shopping on online shopping websites are necessary.
5. Shopping on online shopping websites are practical.

Affective attitude (AAOS) five items were adapted from Voss et al. (2003).

1. Shopping on online shopping websites are fun.
2. Shopping on online shopping websites are exciting.
3. Shopping on online shopping websites are delightful.
4. Shopping on online shopping websites are thrilling.
5. Shopping on online shopping websites are enjoyable.

Purchase Intention (PIOS) three items adapted from Ramayah and Ignatius (2005).

1. I intend to use online shopping websites (e.g. purchase a product or seek product information).
2. Using online shopping websites for purchasing a product is something I would do.
3. I could see myself using the online shopping websites to buy a product.

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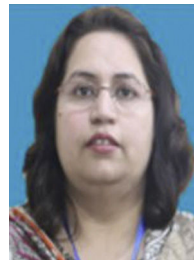
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