Analyzing Mediators of the Customer Satisfaction - Loyalty Relation in Internet Retailing

Simona VINEREAN[1*] and Alin OPREANA[2]

[1]The Economic University of Bucharest
[2]Lucian Blaga University of Sibiu

This study explores the customer satisfaction – loyalty relation in the context of online shopping by introducing various mediators, such as trust, attitude, hedonic value, and utilitarian value. For data collection, we used an online consumer survey in relation to Internet retailing. In this paper we found empirical evidence that loyalty and satisfaction have a reciprocal relationship, but that mediators exist between satisfaction and loyalty. The findings of this study have consequences for customer relationship management, particularly in terms of retention, of the satisfied consumers in an e-shopping environment.

Keywords: Attitude, Hedonic Value, Utilitarian Value, Trust, Customer Satisfaction, Customer Loyalty, Mediation.

JEL Classification: M31

1. Introduction

The rapid growth of online transactions in service industries raises important research questions about the levels of satisfaction and loyalty in the online environment, and this relationship with regard to other possible mediators that consumers might experience when they engage in e-shopping.

Online, a competing offer is just a few clicks away. Because of these properties of the Web, many managers fear that the online medium may induce lower customer satisfaction and loyalty compared to the offline medium, and that increased satisfaction with a service may not lead to higher loyalty when that service is chosen online compared to the offline environment, the online environment offers more opportunities for interactive and personalized marketing (Wind and Rangaswamy, 2001). These opportunities have direct influence customer satisfaction and loyalty and should be studied especially in conjunction with other factors that have an impact on a company's bottom line. Managers are concerned about how the online medium influences satisfaction and loyalty and the relationship between satisfaction and loyalty.

Typically, online customers can more easily compare alternatives than offline customers, especially for functional products and services, when utilitarian value can be emphasized. A new exciting offer can be presented on the Internet, and as consumers become fascinated in their buying experience, they experience hedonic value. Nowadays, consumers are bombarded with paid or organic marketing information about brands and companies especially in the online environment, and thus they can have their attitudes shaped in

new and more diverse ways. Nonetheless, in this digital world, trust is a major aspect that needs consideration from marketers to explore the premises of this concept in e-shopping.

These issues lead to the development of the three research questions to be examined here: (1) Is customer satisfaction the only predictor of loyalty? (2) Is there a possible mediator between customer satisfaction and loyalty? (3) What is the effect of each possible mediator on the customer satisfaction–loyalty relation? (Chen, 2012, p. 202) (4) Does trust matter when considering an e-tailer or are consumers interested in various online retailers? (5) Is attitude a good mediator for customer satisfaction–loyalty relation? How do the hedonic and utilitarian values influence this relationship? Significantly, the consistent concluding remarks in the relevant studies state that these variables remain to be studied as mediators in terms of the customer satisfaction–loyalty relation. To answer these questions, we develop a set of hypotheses based on conceptual frameworks. To test the hypotheses, we use regression analysis with mediation in the e-shopping context, considering the satisfaction – loyalty relation.

Satisfaction and loyalty are not surrogates for each other (Bloemer and Kasper 1995; Oliver 1999). It is possible for a customer to be loyal without being highly satisfied (e.g., when there are few other choices) and to be highly satisfied and yet not be loyal (e.g., when many alternatives are available). Firms need to gain a better understanding of the relationship between satisfaction and loyalty in the online environment to allocate their online marketing efforts between satisfaction initiatives and loyalty programs (Shankar, et al., 2003).

2. Theoretical Development of Concepts and Hypotheses

2.1. Customer Satisfaction and Customer Loyalty

Customer satisfaction refers to 'the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience' (Oliver, 1980). Bloemer and de Ruyter (1998) consider customer satisfaction to a particular brand as the experience consumers feel after the consumption of a brand and a subjective assessment of the clients, regarding the extent to which brand performance fulfilled their initial expectations (Vinerean, 2013, p.82-83). Oliver (1997) argued that even a loyal consumer is vulnerable to situational factors (e.g., competitors' coupons or price cuts), and so satisfaction is not likely to be the sole (reliable) predictor of loyalty (Reichheld, 1996).

In the e-commerce context, satisfaction is defined as the contentment of the consumer with deference to his/her previous purchase experiences with an e-commerce firm (Anderson and Srinivasan, 2003). By satisfying customer needs and wants, a company creates the most prominent condition in gaining customer loyalty. Moreover, satisfaction can improve customer loyalty in both the online and offline contexts, and the positive relation between satisfaction and loyalty can be stronger online than it is offline (e.g., Shankar et al., 2003), due to the highly customizable ways of interacting with customers.

Customer loyalty to a particular company is the result of the satisfaction felt after the act of consumption of a particular marketing offer. Thus, customer loyalty is considered by some authors to be a higher state than customer fidelity to a company, namely it reflects a state that can be obtained by exceeding customers' initial expectations through superior company performance. Jacoby and Chestnut (1978) investigate the psychological sense of loyalty, considering the three elements of the human psyche (affective, conative, and cognitive) as the factors that influence directly (however with different intensity levels) customer loyalty to a particular brand. The authors introduced a second dimension for explaining and understanding loyalty (in addition to the behavioral dimension), namely attitude (Vinerean, 2013, p.82-83).

Oliver and Swan (1989) define customer loyalty as a deeply held commitment to re-patronize or re-purchase a preferred product, service or brand consistently in the future, despite situational influences and marketing efforts of competitors having the potential to cause switching behavior and influence the buying decision.

In the online context, Srinivasan et al. (2002) defined loyalty online as e-loyalty with a particular emphasis on the behavioral dimension of this construct as a favorable attitude of a customer for a web retailer that results in repeat buying behavior. Chen (2012, p. 203) considered that customer loyalty refers to how customers have favorable attitudes toward target e-retailers, shown through repeat purchase intentions and behaviors.

Thus, the following hypothesis is derived:

H1: Satisfaction directly and positively influences behavioral loyalty of consumers to purchase using services online.

2.2. Mediators

Various empirical studies have shown a direct link between customer satisfaction and loyalty (e.g., Chen, 2012, p. 205). In addition, Chen (2012) examined how four mediating variables (commitment, trust, involvement and perceived value) have an impact in the customer satisfaction–loyalty relation, in an e-setting. Chen's study suggests that perceived value proves to be a complete mediator of satisfaction and loyalty, while commitment, trust and involvement each prove to be partial mediators of satisfaction and loyalty (Chen, 2012, p. 208).

2.2.1. Trust

Trust has been defined as 'the expectations held by the consumer that the service provider is dependable and can be relied on to deliver on its promises' (Sirdeshmukh et al., 2002, p. 17). Trust is considered one of the most important factors that can determine the success of a business relationship (Hunt, 2006) and McKnight et al. (2002) show that trust is the foundation of e-commerce and is the most important factor in the success of online vendors. Based on previous research, this study defines trust as being a belief in the e-retailer's ability (including e-retailer dependability, competence, integrity and benevolence) to fulfil its obligations in a commercial relationship with its customers (Chen, 2012, p. 204). Past studies have shown that there is a greater willingness to buy from an online retailer if trust is present (e.g., Luarn and Lin, 2003) and Pavlou (2003) empirically proved that trust and satisfaction are positively related. Trust is also a fundamental factor influencing online purchase intentions (Schlosser et al., 2006) and in this study we aim to explore the mediating role of trust in relation to satisfaction and loyalty.

Therefore:

H2. Trust acts as a mediator variable between customer satisfaction and customer loyalty in an e-shopping context.
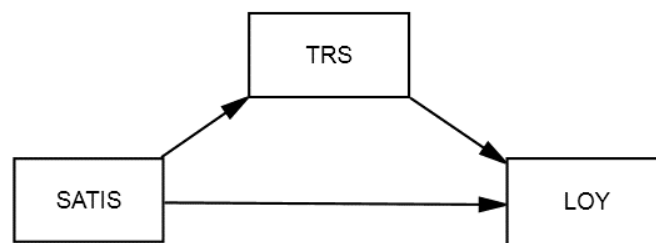

Figure 1. Conceptual model 1: Trust as a mediator in the satisfaction-loyalty relation

2.2.2. Attitude

Attitude refers to a person's favorable or unfavorable evaluation regarding a specific target behavior (Davis et al., 1989, p.985; Fishbein and Ajzen, 1975). Brand attitudes and satisfaction are regarded as distinct concepts in the customer satisfaction literature (e.g., Oliver, 1980, 1997; Yi, 1990). According to Oliver (1981), customer satisfaction is relatively transient and is consumption specific, whereas attitudes are relatively enduring. Westbrook and Oliver (1981) argued that satisfaction is an evaluation of the totality of the purchase situation relative to expectation, whereas brand attitude is a liking for the product that lacks this element of comparison (Suh and Youjae, 2006, p. 147).

Various empirical research have examined the relation between attitude and behavioral intentions and according to the theory of reasoned action, brand attitudes are a function of beliefs that a brand has desirable or undesirable attributes and evaluations of these attributes (Ajzen and Fishbein, 1980). Nonetheless, Suh and Youjae (2006, p.145) examined how involvement moderates the effect of brand attitudes in the customer satisfaction-loyalty relation. Past studies suggest the possible mediating role of attitude in the customer satisfaction–loyalty relation.

Hence:

H3. Attitude acts as a mediator variable between customer satisfaction and customer loyalty in an e-shopping context.
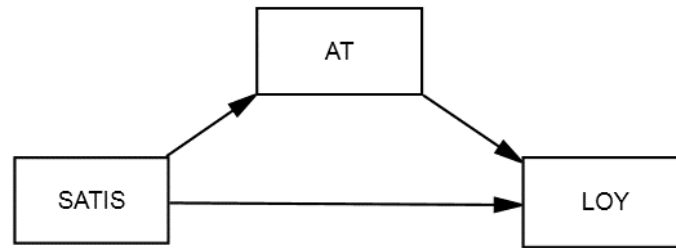
Figure 2. Conceptual model 2: Attitude as a mediator in the satisfaction-loyalty relation

2.2.3. Hedonic Value

Hedonic value associated with online purchases may include involvement, fantasy, escapism, experiences, fun, pleasure pursued for such transactions (Holbrook and Hirschman, 1982). According to Arnold and Reynolds (2003), who examined shopping in physical stores, there are six dimensions of hedonic shopping: (1) Adventure (shopping for stimulation, adventure, and the feeling of being in another world); (2) Social (socializing with friends and family); (3) Gratification (stress relief, alleviating negative mood, treating oneself); (4) Idea (keeping up with trends, seeing new products and innovations); (5) Role (enjoyment derived from shopping for others); and (6) Value (seeking sales, discounts, bargains).

Research shows that when the focus is on joy in the online shopping process, it grows the likelihood of acquiring experiential goods, suggesting that the hedonic performance increases the intensity of online shopping (Liu and Forsythe, 2011). In addition, hedonic value can be identified as being positively associated with customer satisfaction. Most satisfied customers have a certain level of immersion especially when they are having a pleasant shopping experience. As such, we can assume that as customers experience hedonic motivations in Internet retailing, they may exhibit a certain level of loyalty toward the brand that provides them with such an experience in an online setting. The mediating role of hedonic value in the customer satisfaction–loyalty relation in an e-shopping context remains to be explored.

Therefore, we propose:

H4. Hedonic value acts as a mediator variable between customer satisfaction and customer loyalty in an e-shopping context.
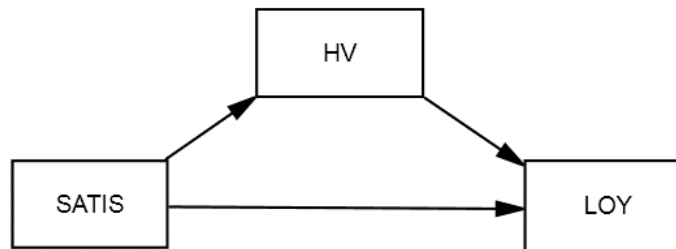

Figure 3. Conceptual model 3: Hedonic value as a mediator in the satisfaction-loyalty relation

2.2.4. Utilitarian Value

With regard to utilitarian motivations, Babin et al. (1994) note that people are concerned with efficiency and achieving a specific end when they shop. Performance factors and functional utility were often associated as being paramount in consumers' purchasing process and determining a certain behavior (Liu and Forsythe, 2011). In this study, we measured how consumers appreciate the functional characteristics of online shopping services: the convenience of e-shopping; the wide range of products available in the electronic environment; and how easily they can compare prices of different products online and obtain information about the available alternatives (Vinerean, 2013, p. 79).

Considering the fact that online purchasing services offer functionalities manageable by consumers, we examine the mediating role of utilitarian value in relation to satisfaction and loyalty, because these relationships have still not been empirically studied in different research settings, such as online shopping services.

Thus, we hypothesize the following:

H5. Utilitarian value acts as a mediator variable between customer satisfaction and customer loyalty in an e-shopping context.
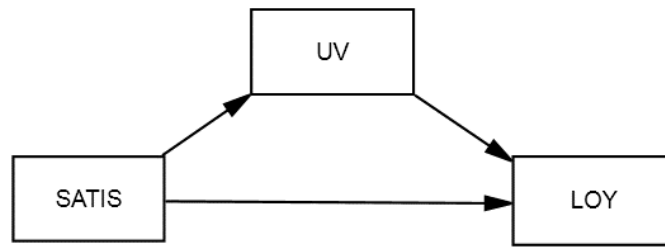
Figure 4. Conceptual model 4: Utilitarian value as a mediator in the satisfaction-loyalty relation

3. Research Methodology

3.1. Research Context

The research setting for this paper refers to online shopping services because more and more consumers tend to use this new e-commerce environment due to its unique benefits for marketers and consumers. This research aims to explore the mediating effects of four variables in the relation between e-satisfaction and e-loyalty. These four mediators are: trust, attitude, hedonic value, and utilitarian value.

The four models are based on a quantitative marketing research from primary sources. One of the most important contributions of a marketing research is to define the marketing research problem that requires the provision of marketing solutions (Malhotra and Birks, 2007, p.15). The problem definition for this conducted research is in regard to the better understanding of the mediating factors of satisfaction and loyalty in relation to online shopping services.

3.2. Measurement and Research Instrument

Six constructs were measured to form these four models. Constructs were measured using multiple-item scales, drawn from pre-validated measured in marketing research and reworded to reflect the context of online shopping. All these dimensions have been previously studied, providing a large pool of existing valid items to use. The participants indicated their agreement with a set of statements using five-point Likert scales (ranging from ''strongly disagree'' to ''strongly agree'') drawn from previously validated instruments, as shown in Table 1.

The items that examined trust were adapted from Pavlou (2003) with a three-item scale. The scales for utilitarian value and hedonic value were previously used in Liu and Forsythe's (2011) study, and each construct was measured with a three-item scale. Attitude for online shopping consisted of five survey items, by extending the work of Hernández et al. (2010). Satisfaction was measured using scale items adapted from Bhattacherjee (2001, pp. 351--370), Zeithaml et al. (2002, pp. 362--375). This scale captured respondents' satisfaction levels along five-point scales anchored between three semantic differential adjective pairs: dreadful / delighted, very dissatisfied / very satisfied, frustrated / contented. Loyalty was measured through five items adapted from Dick and Basu (1994, pp. 99--113), Too et al. (2001, pp. 287--319), and Shankar et al. (2002, pp. 317--330). The psychometric properties of the measures are provided in Table 1.

Table 1. Constructs used in the model

Construct	Denotation	Items	Reference
Trust	TRS	TRS1: This Web retailer is trustworthy TRS2: This Web retailer is one that keeps promises and commitments TRS3: I trust this Web retailer because they keep my best interests in mind	Pavlou (2003)
Utilitarian value	UV	UV1: I enjoy the convenience of shopping online. UV2: I like the fact that you can easily compare different prices online. UV3: I choose online shopping because of the large assortment of products available to me.	Liu, Forsythe (2011).
Hedonic value	HV	HV1: To me, Internet shopping is very pleasant and fun. HV2: I lose track of time when I shop online. HV3: I get excited when I choose from products offered on Internet shopping websites.	Liu, Forsythe (2011).
Attitude for online	AT	AT1: Shopping online saves me time AT2: The Internet is the best place to find bargains	Hernández et al. (2010)

shopping		AT3: The Internet is the best place to buy items that are hard to find AT4: My general opinion of e-commerce is positive AT5: Using the internet to make purchases is a good idea	
Satisfaction	SATIS	SATIS1: My overall satisfaction (e.g. e-store environment, product, service) to online shopping is: Dreadful ----- Delighted (5points) SATIS2: When I consider my experience of online purchasing I am: Very dissatisfied -----Very satisfied (5points) SATIS3: In general, when I think of online shopping, I am: Frustrated ----- Contented (5points)	Bhattacherjee (2001); Zeithaml et al(2002);
Loyalty	LOY	LOY1: I would recommend online shopping on social media websites (blogs, Facebook, Twitter, and others) LOY2: I am proud to tell my family and friends that I buy products online and from my usual e-store. LOY3: For me, online shopping is the best alternative in my consideration. LOY4: I buy online on a regular basis. LOY5: The internet stimulates me to buy repeatedly.	Dick and Basu, (1994) ; Shankar et al., (2002);

3.3. Sample and Data Collection

The primary scope of this study is to examine the mediators that might have the highest impact on the satisfaction-loyalty relation in consumers' online shopping behavior. A web-based consumer survey was used for the data collection. From January to June 2013, an online survey was posted on various forums devoted to online shopping, and members we invited to support this survey. The study used primary data, namely data originated specifically to address the research problem.

The online survey generated 107 usable questionnaires. Table 2 presents the profile of the respondents, as well as the screening questions which show high levels of experience regarding the use of internet in general, and online shopping in particular.

Table 2. Respondents' profile

		Frequency	Percentage (%)
Sex	Male	38	35.5
	Female	69	64.5
	Total	**107**	**100.0**
Country	Australia	7	6.5
	Brazil	2	1.9
	Denmark	3	2.8
	France	3	2.8
	Germany	7	6.5
	Greece	1	.9
	India	5	4.7
	Poland	1	.9
	Romania	21	19.6
	Spain	7	6.5
	UK	14	13.1
	USA	36	33.6
	Total	**107**	**100.0**
Age	18-25	74	69.2
	26-30	21	19.6
	30-40	6	5.6
	Over 40s	6	5.6
	Total	**107**	**100.0**
Experience with Internet	2 - 3 years	5	4.7
	3 - 4 years	1	.9

	4 - 5 years	4	3.7
	5 - 6 years	11	10.3
	Over 6 years	86	80.4
	Total	**107**	**100.0**
Experience with online shopping	I usually just search for information on e-commerce sites, but I never bought anything	2	1.9
	I purchased just once from an web retailer	11	10.3
	I purchased more than once from web retailers	94	87.9
	Total	**107**	**100.0**
Frequency of online shopping in the last year	Once	16	15.0
	2 or 3 times	17	15.9
	4 or 5 times	31	29.0
	6 or 7 times	16	15.0
	7 or 8 times	8	7.5
	More than 8 times	19	17.8
	Total	**107**	**100.0**

4.   Empirical Analysis and Results

4.1. Exploratory Factor Analysis

The empirical analysis for this study started with exploratory factor analysis (EFA), which was used to reduce the number of scales assigned to each elaborated online behavior dimension. EFA was conducted in SPSS, using the Principal Components method, in order to extract the factors and the Schwartz's Bayesian Criterion (BIC) clustering criterion.

To establish the adequacy of the EFA, we used the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and we obtained high values (between 0.684 and 0.855) that indicate that the factor analysis is relevant for this data analysis. The psychometric properties of the measures developed in the questionnaire are presented in Table 2, and the results for the exploratory factor analysis are shown in Table 3.

Additionally, all the scales of the analysis were checked for internal consistency and reliability through Cronbach's alpha. Reliability is identified by Cronbach's alpha with a minimum of 0.70 (Cronbach, 1970). As shown in Table 3 all values were above the recommended level of 0.7, with values that vary from 0.774 to 0.862.

Table 3. *Descriptive Statistics and EFA Results*

Dimension	Items	Average	Standard deviation	Factor loading	Eigenvalue	% of Variance	KMO	Cronbach's alpha
Trust (TRS)	TRS1	3.94	0.970	0.889	2.252	75.077	0.698	0.832
	TRS2	3.99	0.863	0.895				
	TRS3	3.65	0.881	0.813				
Utilitarian value (UV)	UV1	4.02	0.961	0.792	2.109	78.593	0.684	0.774
	UV2	4.58	0.673	0.847				
	UV3	4.26	0.935	0.875				
Hedonic value (HV)	HV1	3.77	0.957	0.883	2.344	78.147	0.710	0.852
	HV2	3.30	1.253	0.851				
	HV3	3.50	1.200	0.917				
Attitude (AT)	AT1	4.14	0.995	0.823	3.881	77.621	0.824	0.856
	AT2	3.62	1.121	0.879				
	AT3	4.07	0.993	0.806				
	AT4	4.12	0.855	0.812				
	AT5	4	1.037	0.783				
Satisfaction (SATIS)	SATIS1	3.97	0.444	0.832	2.680	89.302	0.794	0.814
	SATIS2	3.98	0.713	0.910				
	SATIS3	3.97	0.806	0.887				
Loyalty (LOY)	LOY1	3.36	1.261	0.878	3.832	76.643	0.855	0.862
	LOY2	3.45	1.215	0.889				
	LOY3	3.71	1.037	0.763				

LOY4	3.65	1.029	0.846				
LOY5	3.21	1.227	0.890				

For this newly proposed model, one factor was extracted for all the dimensions studied. The criteria used to identify and interpret the factors was that each element should have a factor loading greater than 0.7 and Eigenvalues greater than 1 (Field, 2005, p.389-395). Also, the eligibility of the factors can also be observed in terms of the variance explained by each resulted factor, as the variation exceeds 70%. Therefore, all the factors are eligible and can be used in further analysis, namely regression analysis with mediators.

4.2. Regression Analysis with Mediation

In order to study the interrelationships between three variables, we use mediation; this involves a set of causal hypotheses regarding e-satisfaction and e-loyalty in an Internet retailing environment, while observing the mediating effect of various variables. In other words, mediation implies that an initial causal variable *X (satisfaction)* may influence an outcome variable *Y (loyalty)* through a mediating variable *M*. Mediation occurs if the effect of *X (satisfaction)* on *Y (loyalty)* is partly or entirely "transmitted" by *M*. A mediated causal model involves a causal sequence; first, *X (satisfaction)* causes or influences *M*; then, *M* causes or influences *Y (loyalty)*. *X (satisfaction)* may have additional direct effects on *Y (loyalty)* that are not transmitted by *M*. A mediation hypothesis can be represented by a diagram of a causal model (Warner, 2013, p. 645). Figure 5 displays the general mediation regression analysis used for the four conceptual proposed models.

To address the research questions of this paper, we examine the level of the mediating effect of each proposed mediator and whether it is a partial, or a complete, mediator. Several methods to test statistical significance of mediated models have been proposed. In this sense, Sobel test is such an example of method used in this analysis. The Sobel (1982, pp. 290-312) procedure was then used to statistically investigate the effect of the proposed mediator on the predictor–outcome relationship. The following *z* ratio for the Sobel (1982) test can be set up as follows:

$$z = ab/\sqrt{b^2 s_a^2 + a^2 s_b^2}$$

where

a and *b* are the raw (unstandardized) regression coefficients that represent the effect of *X* on *M* and the effect of *M* on *Y*, respectively;

s_a is the standard error of the *a* regression coefficient;

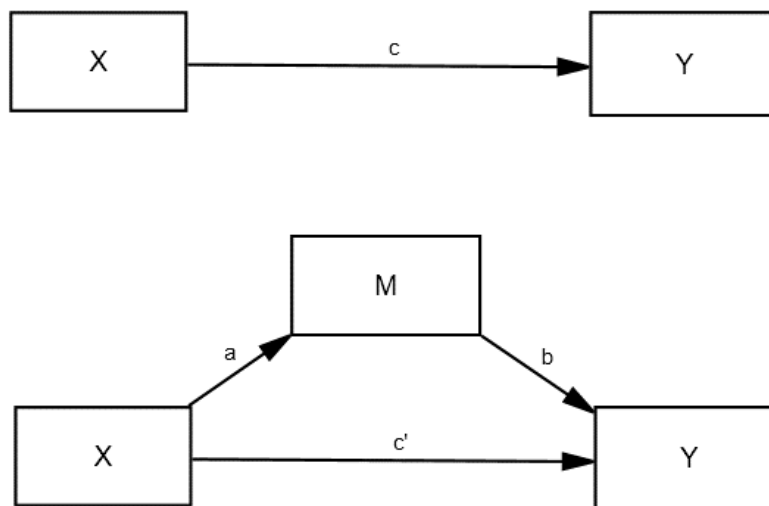s_b is the standard error of the *b* regression coefficient.

Figure 5. General model for regression analysis with mediator (Adapted from Warner, 2013, p. 647)
Note: Top panel: The total effect of satisfaction (X) on loyalty (Y) is denoted by c. Bottom panel: The path coefficients (a, b, c') that estimate the strength of hypothesized causal associations are estimated by unstandardized regression coefficients.

The coefficients in Figure 5 decompose the total effect *(c)* into a direct effect *(c')* and an indirect effect *(a × b)*. When ordinary least squares regression is used to estimate unstandardized path coefficients, *c = (a × b) + c'* (Warner, 2013, p. 647); the total relationship between satisfaction (X) and loyalty (Y) is the

sum of the direct relationship between satisfaction and loyalty and the indirect or mediated effect of satisfaction on loyalty through each of the four mediators: trust, attitude, hedonic value, utilitarian value.

A procedure to test mediators that was suggested in past studies (Barron and Kenny, 1986; Caruana, 2002; Chen, 2012, p.206) was adopted. Following Barron and Kenny (1986), this study presents four regression models (Models 1, 2, 3 and 4), as shown in Table 2-5, to provide evidence from testing the mediation strength of the four mediator variables (i.e., trust, attitude, hedonic value, and utilitarian value) between satisfaction (independent variable) and loyalty (dependent variable) in an Internet retailing environment.

First, a regression is run to predict *Y (loyalty)* from *X (satisfaction)* and this step provides information that can help evaluate how much controlling for the *M* mediating variable reduces the strength of association between *X* and *Y* (Warner, 2013, p. 651). Table 4 shows the regression coefficients part of the output in SPSS. The unstandardized regression coefficient for the prediction of *Y (loyalty)* from *X (satisfaction)* is $c = 0.622$; this is statistically significant, $t(105) = 8.146$, $p < .001$. Thus, the overall effect of *satisfaction* on *loyalty* in Internet retailing is statistically significant.

Table 4. Regression analysis for the satisfaction-loyalty relation on e-shopping

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.587	.736		.220	.740
	SATIS	.622	.076	.622	8.146	.000

a. Dependent Variable: LOY

Next, a regression is performed to predict the mediating variable *(M, trust)* from the causal variable *(X, satisfaction)*. The first column of Table 5 provides all the information regarding this regression. For the data, the unstandardized path coefficient was 0.497 with $p = 0.001$. In Model1, Regression Equation1 (E11) shows that satisfaction (independent variable) has a significant influence on trust.

Finally, a regression is performed to predict the outcome variable *Y (loyalty)* from both *X (satisfaction)* and *M (trust)* (Warner, 2013, p. 652; Table 5). This regression provides estimates of the unstandardized coefficients for path *M (trust)* → *Y (loyalty)* and also path *c'* that shows the direct or remaining effect of *X* on *Y* when the mediating variable has been included in the analysis. The last column of Table 5 displays the path between trust and loyalty (path b from Figure 5), which is 0.245, $p = 0.345$ and path $c' = 0.621$, $p < .001$ (following the relationships presented in Figure 5 and adapted for each model). These unstandardized path coefficients are used to label the paths in a diagram of the causal model. Regression Equation 2 (E12), showing satisfaction plus trust (independent variables), indicates that trust does not have a significant impact on loyalty.

Table 5. Regression model 1 for the mediating effect test of trust

Variable	Model 1: Trust	
	E11: TRS →SATIS	E12: TRS + SATIS → LOY
Independent variable (Satisfaction)		0.621 ($p < 0.001$)
Mediator variable (Trust)	0.497 ($p < 0.001$)	0.245 ($p =0.345$)
R²	0.247	0.387
Std. Error of the Estimate	0.085	0.088
F	34.451	32.862
Sobel test for mediating effect	Test statistic	Std. Error
	2.5136 ($p=0.011$)	0.048

For the mediating effect of trust on the satisfaction – loyalty relationship, the test statistic for the Sobel test is 2.51, with an associated *p*-value of 0.011. The fact that the observed *p*-value does fall below the established alpha level of .05 indicates that the association between the independent value (satisfaction in e-commerce environment) and the dependent value (in this case, the loyalty of e-customers) is increased significantly by the inclusion of the mediator (in this case, trust in Internet retailing) in the model; in other words, there is evidence of mediation, and thus hypothesis 2 is not supported. In this case, trust does not do a very good job in predicting loyalty in e-commerce setting.

The same line of analysis is accomplished for all other mediation variables considered: attitude (Table 6), hedonic value (Table 7), and utilitarian value (Table 8).

The results of the interrelationships when considering hedonic value as a mediator are presented in Table 6. The R^2 of both equations are statistically significant, though their values are rather moderate (particularly in in the attitude - satisfaction equation).

Table 6. Regression model 2 for the mediating effect test of attitude

Variable	Model 2: Attitude	
	E21: AT →SATIS	E22: AT + SATIS → LOY
Independent variable (Satisfaction)		0.548 ($p < 0.001$)
Mediator variable (Attitude)	0.480 ($p < 0.001$)	0.155 ($p = 0.005$)
R^2	0.231	0.406
Std. Error of the Estimate	0.086	0.086
F	31.474	35.489
Sobel test for mediating effect	**Test statistic**	**Std. Error**
	1.715 (p=0.068)	0.043

The Sobel test performs a statistical test to see if the indirect path from the independent value to the dependent value is statistically significantly different from zero. This is the same idea as the test providing support for partial mediation. The test statistic is equal to 1.715, with standard error 0.043 (Table 6). The statistical significance is equal to 0.068. Assuming we had set our alpha at 0.05, technically, we would not reject the null hypothesis of no mediation. However, the 0.05 level is an arbitrary cut-off value, and 0.068 is very close to it, therefore in this case there is some evidence for partial mediation of attitude on the satisfaction – loyalty relationship in an e-setting. The product 0.480×0.155 is 0.074 and this value estimates the strength of the mediated or indirect effect of satisfaction on loyalty, that is, how much of the increase in customer loyalty occurs as satisfied people have a positive attitude towards online shopping. The 0.548 value estimates the strength of the direct (also called partial) effect of satisfaction on customer loyalty in Internet retailing, that is, any effect of satisfaction on loyalty that is not mediated by attitude. Further, the sum between 0.074 and 0.548 provide the total relationship between satisfaction and loyalty, considering the mediated effect of attitude.

The results of the interrelationships when considering hedonic value as a mediator are presented in Table 7. The R^2 of both equations studied in these models are strong and statistically significant, denoting that these two variables (hedonic value and satisfaction) do a good job of predicting variance in customer loyalty in an e-setting.

Table 7. Regression model 3 for the mediating effect test of hedonic value

Variable	Model 3: Hedonic Value	
	E31: HV →SATIS	E32: HV + SATIS → LOY
Independent variable (Satisfaction)		0.156 ($p < 0.001$)
Mediator variable (Hedonic Value)	0.675 ($p < 0.001$)	0.691 ($p < 0.001$)
R^2	0.455	0.647
Std. Error of the Estimate	0.072	0.079
F	67.769	95.477
Sig.	0.000	0.000
Sobel test for mediating effect	**Test statistic**	**Std. Error**
	6.395 ($p = 0.001$)	0.072

For the mediating effect of hedonic value on the satisfaction – loyalty relationship, the test statistic for the Sobel test is 6.395, with an associated *p*-value of 0.001. These results indicate that the interrelationships are significant in the model and there is a relevant evidence of mediation. Hypothesis 4 is supported at a 0.005 level and hedonic value is a mediator worth considering when trying to influence the satisfaction and loyalty in Internet retailing.

The results of the interrelationships when considering utilitarian value as a mediator are presented in Table 8. The R^2 of the utilitarian value – satisfaction relation is rather small, and this coefficient increases when both variables display their impact on loyalty.

Table 8. Regression model 4 for the mediating effect test of utilitarian value

Variable	Model 4: Utilitarian Value	
	E41: UV →SATIS	E42: UV + SATIS → LOY
Independent variable (Satisfaction)		0.536 ($p < 0.001$)
Mediator variable (Utilitarian Value)	0.515 ($p < 0.001$)	0.167 ($p = 0.006$)
R^2	0.265	0.408
Std. Error of the Estimate	0.084	0.088
F	37.914	35.787
Sobel test for mediating effect	Test statistic	Std. Error
	1.812 ($p = 0.070$)	0.047

Regarding the mediating effect of utilitarian value on satisfaction and loyalty, the test statistic for the Sobel test is 1.812, with an associated *p*-value of 0.070 (Table 8). In this case, utilitarian value is not a strong mediator for this proposed model and thus hypothesis 5 is not supported.

Nonetheless, the ANOVA values for each model report a significant F statistic, indicating that using the models is better than guessing the mean.

5. Conclusion

5.1. Theoretical Contributions

In this paper, we asked: how is the relationship between customer satisfaction and loyalty in the online environment different in relation to different mediators? This study contributes to the existing knowledge of customer satisfaction and customer loyalty by providing insight into online satisfied consumers' loyalty behavior through an examination of the four influential variables of attitude, trust, hedonic value and utilitarian value, and their mediating effects on the formation of the customer satisfaction– loyalty relation.

Through this study we aimed to address the identified gaps in the existing knowledge of customer satisfaction and customer loyalty in the e-shopping context and outline the results of the proposed research questions. The findings indicate that customer satisfaction leads to loyalty. Additionally, there are mediators that have an impact on the main relationship explored in this paper.

These results indicate another role of attitude and hedonic value in the formation of customer loyalty. Moreover, the factors of commitment, trust, involvement and perceived value are each found to have a different degree of mediation on the customer satisfaction–loyalty relation.

As discovered in this paper, customer satisfaction is not the only predictor of loyalty and there are other possible mediators that should be considered by online marketers. As Chen (2012) discovered that perceived value is a complete mediator of satisfaction and loyalty, while commitment, trust and involvement each prove to be partial mediators of satisfaction and loyalty, this study explored other mediators: attitude, hedonic value, utilitarian value and trust.

In the introduction section of this paper, we asked if trust matters when considering an e-tailer, and the answer of the empirical analysis showed that it did not; consumers seem interested in various online retailers, and thus the idea of customer loyalty is not easy to achieve in an ever-changing environment. We also asked whether attitude is an important mediator in this relationship and the result supported hypothesis 3, particularly because consumers can form their attitudes from various online sources, such as corporate or paid, organic and those based on friends' recommendations.

Additionally, it is important for managers to understand how customers perceive hedonic value, and then adopt their perspectives and insights in creating and delivering online services that reflect fun and exciting shopping experiences. In this study, customers determine utilitarian value by product and service pricing, the time and effort they put into online shopping, and the rating of their overall on-line shopping experience. However, utilitarian value did not prove to be an important mediator in this research.

Moreover, this paper echoes Chen's (2012, p.208) call for a further study of constructs related to satisfaction and loyalty in order to improve the knowledge of motivation in the loyalty formation process,

particularly in the online environment. This study contributes in this research direction and brings new insights by identifying the variables of hedonic value and attitude as mediators of the customer satisfaction–loyalty relation in the Internet retailing context, which also leads to a more comprehensive understanding of online consumer behavior.

5.2. Managerial Implications

This study not only confirms the causal sequence between customer satisfaction and loyalty in the online context, but also clarifies the essentiality of customer satisfaction in the formation of e-loyalty and ways to approach it in terms of enhancing online marketing programs. Based on our study, we recommend the following strategies and tactics for online service providers of e-commerce:

Use the online medium to reinforce loyalty. Satisfaction builds loyalty, which further reinforces e-satisfaction. E-shopping marketers should consider promoting special loyalty-enhancing initiatives tailored developed for particular and targeted online customers to reinforce their overall satisfaction. Managers should be aware of the importance of on-line shopping in targeting satisfied customers and taking initiatives to recognize and high-light customer interests (Chen, 2012).

Enhance the interactivity and fun elements of the website. Our results show that a higher level of elements associated with hedonic value increased online service satisfaction, which, in turn, has a mutually reinforcing relationship with loyalty. Managers need to maintain advanced online technologies to ensure user-friendly searching, requiring less time and effort by customers (Chen, 2012).

Make the website as easy to use as possible. This tactics is necessary for online marketers because it improves customer attitude and satisfaction. The design of the website should encompass easy access to all the relevant information about the products and should be searchable and usable from every user-interface and device (particularly mobile devices) available in order to provide the convenience that online shopping has over traditional purchasing. In this sense, managers should consider the impact of these mediators when managing customer satisfaction for customer loyalty in order to improve the performance of their online shopping sites.

5.3. Limitations and Extensions

Our research has some limitations that should be addressed by future research. A major limitation is that we had a general approach in our survey and the study should be extended to provide a more focused view in relation to a particular e-tailer.

Considering the fact that this study implied an international sample, the size of the sample is relatively small, and thus could have impacted the results and the unsupported hypotheses, particularly the one that examined trust as a mediator of the customer satisfaction-loyalty relation. As with most online consumer surveys, the sample was skewed toward younger, more educated demographics. Nonetheless, such consumers are the main target audience for online marketers (Opreana, 2013 (a), p.; Opreana, 2013(b), p. 26), however, a larger sample size might have resulted in stronger results for these models.

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