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Investigating the Mediating Role of Customer E-Satisfaction on E-Service Quality and E-Loyalty: An Empirical Evidence of Indian Online Shopping

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ABSTRACT

The proliferation of the online shopping market in India has thrown open a multitude of new opportunities and avenues for marketers and consumers alike. In a country like India, it implies a major transition from shopping a touch and feel real experience involving physical activity to a virtual passive activity. The advantages that online shopping offers can very well allure a vast customer base to switch over from the traditional shopping modes. In this context of burgeoning online shopping, marked by rapidly evolving customer dynamics, marketers are greatly interested in fathoming the same. Customer dynamics here are represented by the concepts of 'electronic-service quality', 'customer e-satisfaction' and 'customer e-loyalty' each of which leads to the other in that order. Every business fundamentally aims to bolster these very concepts, instill 'loyalty' through 'satisfaction' by offering 'quality' in the product and service repertoire.

The paper attempts to study these concepts as comprising marketing objectives in online shopping in the Indian context. The data is collected online using a questionnaire which delves into customer opinion on online shopping. The study empirically reaffirms the role of Customer E-Satisfaction as a mediator between E-Service Quality (E-S-QUAL) (A. Parasuraman, Zeithaml, & Malhotra, 2005) and Customer E-Loyalty in online shopping environment.

Keywords: E-SERVQUAL, Mediation, Customer Satisfaction, Online Shopping, E-S-QUAL.

1. INTRODUCTION

Driven by Information Technology era, the Business-to-Consumer (B-to-C) online market has picked up momentum and is forging ahead at a tremendous pace. This dynamism poses even greater challenges to

e-marketers in meeting customer expectations. It is then imperative for e-marketers to probe deeply into and understand online marketing. One of its aspects is that online marketing today has evolved into the preferred alternative channel for most sellers. And even more so in the Indian context. The estimates on the size of Indian online markets warrant research in this direction. According to Indian leading Venture Capital firm Accel Partners, Indian e-commerce will quadruple from a \$2 billion Industry in 2013 to nearly 8.5 Billion by 2016 (Travel, ticketing, and online food ordering excluded) at a CAGR of 63% (Prabhudesai, 2014).

Other authors too assert this saying, “As an emerging economy, India presents a potential market for e-retailers. Understanding the online purchase intentions of the Indian market can help online retailers in segmenting and targeting decisions” (Khare & Rakesh, 2011, p. 227). The Indian retail and consumer goods industry is the fastest emerging markets and is estimated to grow 40 percent till 2019, exclusively in the online shopping market (PTI, 2015). This again implies a great potential for online shopping. Alongside this phenomenon, the increase in consumerism is also demanding marketers to deliver quality products and services at cheaper prices and much faster. But with these, the challenge of satisfying the customer also intensifies given that online shopping mode is a vastly different landscape and experience from that of physical shopping.

As the challenge intensifies, so does the need for greater attention towards consumer behavior relating to service quality by firms, customer satisfaction & loyalty in an online shopping context. Especially in India where a potential for staggering growth exists as mentioned before. Considering these, this paper attempts to study the relationship between the service quality, satisfaction and customer loyalty in Indian online shopping context.

2. RELATED LITERATURE REVIEW

The SERVQUAL model introduced by Parasuraman *et. al.*, in 1985, simplified the concept of service quality. Service quality is defined as the contrast between customer perceived expectations and the firm’s actual service delivery and execution (A. Parasuraman, Zeithaml, & Berry, 1985, 1988). The popular definitions do not do full justice to the vast and multi-dimensional concept of Service Quality. In spite of the difficulties and complexities attached to defining and measuring service quality, its eminence in various business aspects has compelled practitioners and academicians alike to explore it. The meaning of service quality is difficult to understand owing to its intangibility which is quite a different characteristic from that of product quality. But when observed in a relationship with constructs such as customer satisfaction, it offers deep insights into the more complex concept of consumer behavior. Literature reveals much about service quality and related constructs.

Delivering service quality at low web prices and web presence is an essential strategy for success for web-based companies and calls for crafting an appropriate strategy (Zeithaml, Parasuraman, & Malhotra, 2002). There is a significant positive relationship between overall service quality and customer satisfaction (Jun, Yang, & Kim, 2004). According to R. E. Anderson and Srinivasan (2003), satisfaction is a key determinant of customer e-loyalty in online services. While studying the Satisfaction-Loyalty relationship, satisfaction is identified as the important antecedent of loyalty (R. E. Anderson & Srinivasan, 2003; Hsiu-Fen, 2008). According to Tam (2004), customer satisfaction, service quality, and perceived value are the sources of

competitive advantage. Hence delivering consistent service quality is the major challenge for the marketers (A Parasuraman, Leonard, & Zeithaml, 1981; A. Parasuraman et. al., 1985, 1988).

In the context of e-commerce, the definitions and relationships among these construct seem to be echoed. *e-satisfaction* is defined as “the contentment of the customer with respect to his or her prior purchasing experience with a given electronic commerce firm” (R. E. Anderson & Srinivasan, 2003, p. 125). Whereas, “*e-loyalty* is defined as the customer’s favorable attitude toward an electronic business resulting in repeat buying behavior” (R. E. Anderson & Srinivasan, 2003, p. 125).

There are other aspects too to customer satisfaction in online shopping. According to Schimmel and Nicholls (2002), access to the internet, security, customer service, shipping and return policy are some of the major factors that motivate a customer to shop online. Alongside these, online purchase intention is strongly influenced by perceived usefulness, ease of use, & trust in the e-vendor (Gefen, Karahanna, & Straub, 2003). Indian consumer behavior is marked by its complexity and coupled with these aspects, it deals out a great challenge to marketers in Indian online retailing. Moreover, the relative little evident on Indian consumer behavior with respect to online shopping (Kenneth, Mahesh, Shainesh, David, & Matthew, 2012) does not support further understanding.

According to E. W. Anderson, Fornell, and Lehmann (1994), quality has a positive impact on customer’s satisfaction, and profitability of the firm. Quality that exceeds expectations of customer has a higher impact on customer satisfaction and their repurchase intentions (E. W. Anderson & Sullivan, 1993). Satisfaction is the major antecedent in determining customer loyalty, however, it becomes less significant in the presence of other mechanisms (Oliver, 1999). Loyalty, on the other hand, is explained as the psychological state that a customer has because of the relationship with the firm and the benefits he receives (Caruana, 2004).

3. RESEARCH OBJECTIVES

After reviewing the literature related to e-service quality, the objectives of the present study are proposed as:

- To study the relationship between e-service quality, customer e-satisfaction and customer e-loyalty in Indian online shopping environment.
- To test the mediating role of customer e-satisfaction on e-service quality & e-loyalty.

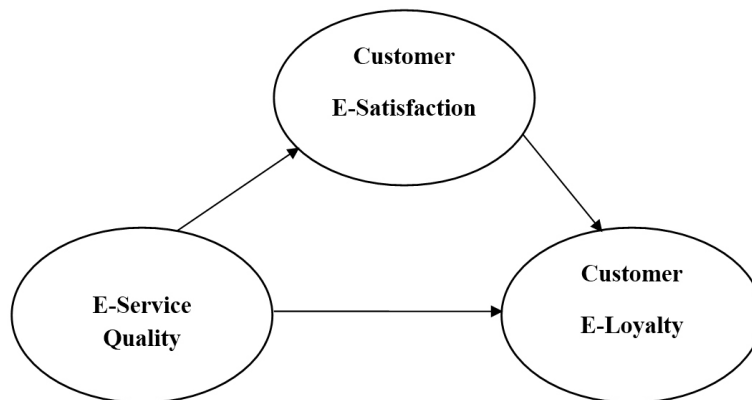


Figure 1: Conceptual model of the study

4. RESEARCH HYPOTHESIS

Based on the research objectives, the hypotheses for the study are formulated. The structural conceptual model showing the relationship between the three constructs under study are shown in Figure 1.

H1: E-SQ has a significant positive effect on Customer E-Satisfaction.

H2: E-SQ has a significant positive effect on Customer E-Loyalty in online shopping context.

H3: Customer E-Satisfaction has a positive significant effect on Customer E-Loyalty in online shopping context in India.

5. METHODOLOGY

The present study aims to measure the relationship between e-service quality, customer e-loyalty, and customer e-satisfaction as mentioned in the purpose of the study. To study e-service quality perceived by the online shopping customer, the E-S-QUAL scale (22-item) for measurement developed by A. Parasuraman et. al., (2005) was adapted without any revisions. The E-S-QUAL scale developed by A. Parasuraman et. al., (2005) is a multi-dimensional scale having four dimensions Efficiency (EFF), Fulfillment (FFM), System Availability (SYA) and Privacy (PRY). For measuring Customer E-Loyalty (CSL), the 5-item scale developed by Gremler (1995) and Zeithaml, Berry, and Parasuraman (1996) was adapted. The Customer E-Satisfaction (CSS) scale of 6-items was adapted from the scale developed by (Oliver, 1980).

All the items are measured on the five-point Likert scale varying from 1 (strongly disagree) to 5 (strongly agree). The respondents are asked to express their preference towards each of the 33 items included in the questionnaire. These responses were then collected using a structured questionnaire which is distributed online.

The designed questionnaire was sent through e-mail to the target respondents composed of different groups like employees of both private and public organizations from various industries, students, business men, academicians spread across the country. A total of 402 responses were received, of which 34 questionnaires were eliminated owing to incompleteness. The final sample size considered appropriate for the study was 368, which exceeded the 1:5 ratio of scale items to the number of observations and thus qualifies for analysis (Bentler & Chou, 1987; Stevens, 1996). This study included a wide range of product category and online shopper profiles. The demographic profile of the respondents is shown in Table 1.

Table 1
Demographic Profile of the Respondents

<i>Variable</i>	<i>Categories</i>	<i>% (sample size of 368)</i>
1. Gender	Male	58
	Female	42
2. Age group	Below 25	13
	25-30	24
	31-35	25
	36-40	21
	41 or above	17

(Contd...)

<i>Variable</i>	<i>Categories</i>	<i>% (sample size of 368)</i>
3. Highest qualification	Graduate	12
	Post-graduate	58
	Doctorate	30
4. Occupation category	Student	25
	Private Employee	50
	Government Employee	18
	Business Owner	7
5. Spending per month (Rs.)	< 2,000	58
	2,000-4,000	23
	4,001-6,000	12
	6,001-8,000	3
	8,001 and above	4

6. DATA ANALYSIS

The results of required sample adequacy for the study are obtained through Kaiser-Meyer-Olkin (KMO) and Bartlett’s tests on the three variables customer e-Satisfaction, e-Service Quality, & customer e-Loyalty. The value of KMO obtained is 0.840 and is significant at p -value < 0.001, suggesting that the sample is adequate to measure the variables.

To test the reliability & validity of measurement scales of the study, an Exploratory Factor Analysis (EFA) followed by a Confirmatory Factor Analysis (CFA) is conducted. The loading of each item of the factors extracted is well above the required minimum value of 0.60. The reliability of the measurement instrument is tested using.

Table 2
Exploratory Factor Analysis (EFA) of the study.

	<i>Variables Description</i>	<i>Factor Loadings</i>	<i>Alpha Value</i>
	Efficiency (EFF) (A. Parasuraman et. al., 2005)		0.874
EF8	This website is well organized.	.761	
EF4	Information at this website is well organized.	.760	
EF3	The website enables me to complete my transactions quickly.	.759	
EF5	The website loads its web pages fast.	.748	
EF2	The website makes it easy to get anywhere on the site.	.744	
EF7	This website enables me to get on quickly with the site.	.653	
EF1	This website makes it easy to find what I need.	.616	
	Fulfillment (FFM) (A. Parasuraman et. al., 2005)		0.876
FF4	The website sends out items ordered by me.	.837	
FF5	The website has stock of the items the company claims to have with them.	.808	
FF7	The website makes accurate promises about the delivery of products.	.797	
FF2	The website accurately promises about the delivery of a suitable time frame.	.782	
FF3	The website quickly delivers what I order.	.743	
FF6	The website is truthful about its offerings.	.687	
FF1	The website delivers orders when promised.	.643	

(Contd...)

	<i>Variables Description</i>	<i>Factor Loadings</i>	<i>Alpha Value</i>
	System Availability (SYA) (A. Parasuraman et. al., 2005)		0.820
SY2	This website launches and runs right away.	.880	
SY3	This website does not crash.	.800	
SY1	This website is always available for business.	.773	
SY4	Pages at this site do not freeze after I enter my order information.	.760	
	Privacy (PRY) (A. Parasuraman et. al., 2005)		0.764
PR1	The website protects all information about my online shopping transactions.	.798	
PR2	The website does not share my personal information with other websites.	.734	
PR3	This website protects information about my credit card.	.683	
	Customer E-Satisfaction (CSS) (Oliver, 1980)		0.819
CS2	My choice to purchase from this website was a wise one.	.780	
CS4	I think I did the right thing by buying from this website.	.753	
CS3	I am satisfied with my decision to purchase from this website.	.745	
CS1	I am unhappy that I purchased from this website.	.698	
	Customer E-Loyalty (CSL) (Gremler, 1995) and (Zeithaml et. al., 1996)		0.814
CL3	I like using this website.	.828	
CL4	I completely believe that this site is my favorite retail website.	.826	
CL2	When I need to make a purchase, this website is my first choice	.753	
CL1	I try to use the website whenever I need to make a purchase.	.731	

Cronbach's alpha value, which is resulted in $\alpha = 0.839$. The resultant value for all measures is well above the minimum standard of 0.7 (Nunnally, 1991), indicating the reliability of the variables used for the study. The results of EFA and Cronbach's alpha reliability values are shown in Table 2.

After eliminating few items with low factor loadings than the recommended values, the predictive validity for four factors (Efficiency, System Availability, Fulfillment and Privacy) of E-S-QUAL, e-satisfaction and e-loyalty is tested using Confirmatory Factor Analysis (CFA). The measurement model of the study is presented in Figure 2. Result for model fit of CFA is $\chi^2 = 662.411$, $df = 360$; $\chi^2/df = 1.84$ at $p < 0.001$; GFI = 0.869; CFI = 0.937; IFI = 0.937; TLI = 0.929; RMSEA = 0.048., which indicate that the predictive model of the study is fit for measurement.

The results of validity test for the study variables are presented in Table 3. The results indicate that the resultant values are of AVE, CR, MSV, and ASV are well above the standards prescribed.

Model Testing: e-Service Quality, Customer e-Satisfaction, and e-Loyalty

The model is tested by Structural Equation Modelling (SEM) technique using SPSS-AMOS. Figure 3 is representing the structural model of Customer e-Satisfaction, e-Service Quality, & e-Loyalty (R. E. Anderson & Srinivasan, 2003). The results of the tested model provide support for the fitness of the sample considered for this study. The resultant goodness-of-fit statistics obtained after testing the model are $\chi^2 = 100.816$, $df = 50$; $\chi^2/df = 2.016$ at $p < 0.001$; AGFI = 0.934; GFI = 0.958; CFI = 0.966; IFI = 0.966; TLI = 0.955; RMSEA = 0.053 (Bentler & Bonett, 1980; Hu & Bentler, 1999; Joreskog & Sorbom, 1988; MacCallum, Browne, & Sugawara, 1996; Satorra & Saris, 1985; Wheaton, Muthen, Alwin, & Summers, 1977).

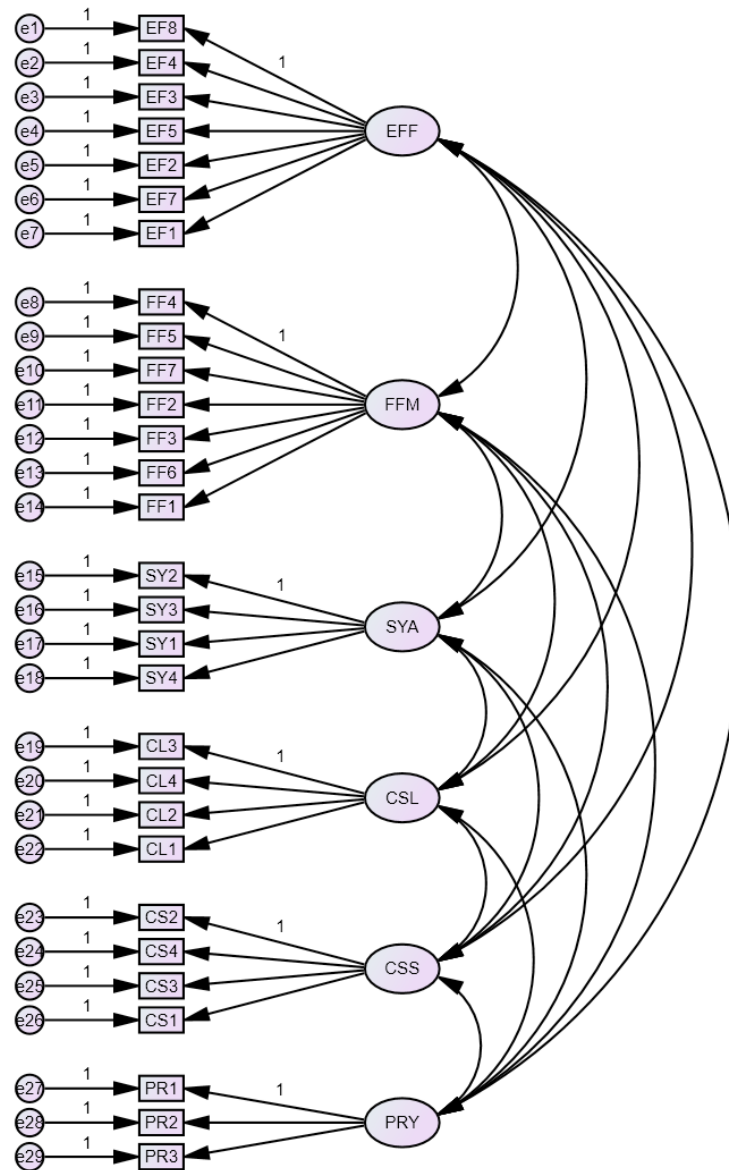


Figure 2: Confirmatory Factor Analysis (CFA) and Measurement Model

Table 3
Validity results of measurement variables

	CR	AVE	MSV	ASV	CSS	EFF	FFM	SYA	CSL	PRY
CSS	0.800	0.520	0.127	0.056	0.721					
EFF	0.876	0.505	0.430	0.172	0.292	0.711				
FFM	0.878	0.511	0.003	0.001	0.049	-0.013	0.715			
SYA	0.812	0.534	0.003	0.001	0.036	-0.025	-0.005	0.731		
CSL	0.817	0.529	0.345	0.152	0.356	0.587	0.039	-0.054	0.727	
PRY	0.776	0.542	0.430	0.157	0.251	0.656	-0.056	-0.051	0.534	0.736

Note: CR = Composite Reliability; AVE = Average Variance Extracted; MSV = Maximum Shared Variance; ASV = Average Shared Variance, values in bold diagonally is the square root of AVE of the corresponding constructs.

Table 4 depicts the results of the regression analysis conducted to test hypothesis H1, H2 and H3, to study the impact of the constructs on each other. As per the results presented in Table 4, it can conclude that H4 is accepted as it is significant at $p < 0.001$, resulting in an impact of 0.328 i.e., there is an impact of E-Service Quality on the customer E-Satisfaction in online shopping context in India. The second hypothesis H2 is also accepted as the results show that there is a positive significant ($p < 0.01$) impact of E-Service Quality on the customer E-Loyalty. H3 is accepted i.e., there is a significant ($p < 0.001$) effect of Customer E-Satisfaction on E-Loyalty exhibited by customer when purchasing products online.

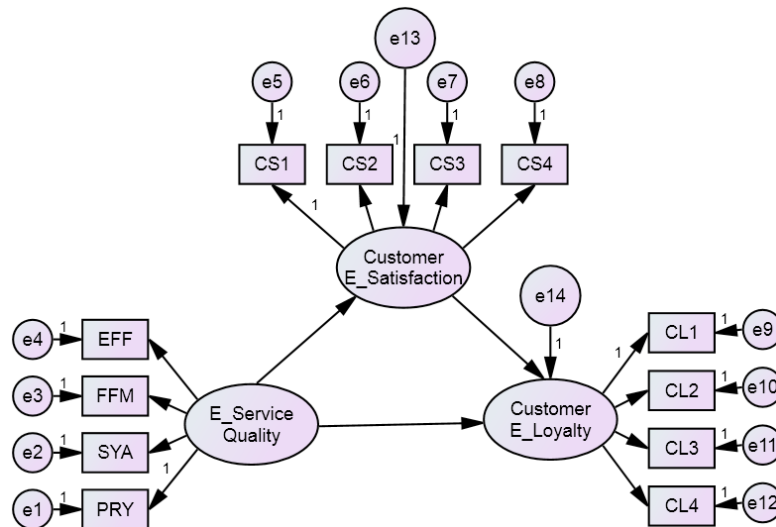


Figure 3: Structural Model

To test the mediating role of E-Satisfaction, the direct relationship between E-Service Quality and E-Loyalty is tested and found to be significant with a regression estimate of 0.676 and is significant at $p < 0.001$. The relationship between E-SQ and E-Loyalty in the presence of E-Satisfaction is also found to be positively significant, indicating that E-Satisfaction is mediating the relation between E-Service Quality and E-Loyalty (Zhao, Lynch Jr, & Chen, 2010). According to Zhao et. al., (2010), a positive significance of the relationship between an independent variable and a dependent variable both in and without the presence of a mediator represents a complementary mediation. Hence we can conclude that Customer E-Satisfaction acts as a mediator and complements the relationship between E-Service Quality and E-Loyalty while shopping online in India. The results of the study are consistent with the observations of the similar studies conducted by Eduard, Carlos, and Miguel (2007), Gwo-Guang and Hsiu-Fen (2005), Hsin Hsin and Hsin-Wei (2008), Srivastava and Rai (2013) and Hsin Hsin, Yao-Hua, and Wen-Ying (2009) in the shopping context in other countries.

Table 4
Standardized Regression Weights

			Estimate	SE	CR	P
Customer E-Satisfaction	< ---	E-Service Quality	0.328	0.022	4.393	***
Customer E-Loyalty	< ---	Customer E-Satisfaction	0.151	0.087	2.524	**
Customer E-Loyalty	< ---	E-Service Quality	0.627	0.036	7.52	***

Note: P (probability) is significant ** at the 0.01 level (two-tailed); *** at the 0.001 level (two-tailed); SE = Standard Error; CR = Critical Ratio.

7. DISCUSSION

From the above analysis and results, we can conclude that there exists a positive significant relationship between the three constructs of the model which were tested. While studying the impact of these on one another, it was found that there exists a strong positive relation between primary independent variable and the dependent variable, there is also a significant impact observed in the presence of another dependent variable which is acting as a mediating variable (Baron & Kenny, 1986; Zhao et. al., 2010). The main objective of the study was to examine whether customer satisfaction acts as a mediator between service quality provided by the online shopping websites and the loyalty customer exhibits while purchasing products online, which has been proved in earlier research as a mediator. The focus of this study was to test the same in the Indian online shopping context which is growing at a phenomenal pace. The study was conducted by adapting a well-developed scale for e-service quality by (A. Parasuraman et. al., 2005) and the results are consistent with a similar study conducted by Srivastava and Rai (2013). The findings of the study contribute to the literature of E-service quality and customer satisfaction. It also provides insights into confirming the earlier findings relating to the mediating role of e-satisfaction, especially in Indian online shopping landscape.

Since there is a mediating effect of customer satisfaction on service quality and loyalty even in the context of online shopping in India, it is evident that service quality plays a major role in turning a customer loyal, satisfaction plays an important role in between to enhance this relationship.

Indian managers give due importance to service quality because it directly influences customer service, which consecutively result in customer loyalty. Therefore, the focus of online marketers should center on service quality parameters, as customer loyalty is known to be generated through service quality. Since service quality generates higher customer satisfaction, it is more important to improve website quality in terms of efficiency and system availability. In the online context, the major concern for the customers is the privacy of their information. With advanced technologies, online marketers need to ensure customers about the information privacy. As the customer perceives online shopping to be more secure, he is more likely to buy repeatedly, maintain a long-term relationship and produce positive e-WoM (electronic-Word-of-Mouth).

Indian online companies should, therefore, concentrate more on dynamics of service quality parameters leading to higher customer satisfaction. Further, highly satisfied customer exhibit positive relationship with the buyers, recommend others about the buyer and remain loyal for a long-term. Hence marketers not only have to enhance the quality of their service but also have to be keen enough on improving those factors influencing customer satisfaction.

8. LIMITATIONS

Online shopping covers a vast variety of product and service categories such as clothing, electronics, ticket booking, books etc. as for this paper, as the context in focus was online shopping, the study could not confine itself to any one or two categories specifically. The study was also not confined to any single shopping website so as to obtain inputs from a wider customer spread with loyalties too spread across shopping sites. The responses are collected by sending the questionnaire through e-mail. The study was conducted for a very short period and with a relatively small sample. Further, the scope of the study can be very much expanded to accommodate larger sample sizes considering specific categories of products or online shopping websites.

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