e-Service Quality Dimensions and e-Loyalty: Do Gender and Choice of Aggregator have a Say?

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Loyalty has been the central thrust of all marketing efforts as it is one of the key factors for winning the market share (Jarvis and Mayo, 1986). Loyalty becomes more important when there are large number of sellers and shoppers have an opportunity to choose (Dick and Basu, 1994). Research has shown that service quality influences loyalty (Kuo, Hu, and Yang, 2013) and linking individual dimensions of e-service quality and loyalty could increase the diagnostics of customer loyalty (Bloemer, de Ruyter and Wetzels, 1999). Thus, research is required on dimension level e-service quality and loyalty model. Further, studies also suggest that loyalty varies depending on the socio-demographic profile of the customer (Bryant and Cha, 1996; Mittal and Kamakura, 2001). This study attempts to examine the relationship of service quality dimensions with loyalty in an online retailing environment and examine the moderating effect of gender and choice of aggregator on the relationship of dimensions of service quality and loyalty.

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e- Loyalty

Loyalty in an online retail shopping environment is the customer's favourable attitude toward an e-business which influences repurchase intentions of the consumer (Anderson and Srinivasan, 2003). Neal (1999) defined e-loyalty as the proportion of times a purchaser chooses the same product/service compared to the total number of purchases made by the purchaser in the specific category under the same circumstances. Riel, Liljander, and Jurriens (2001) opined that old customers buy more than new customers, thus e-loyalty helps in reducing the operating cost of the firm. Therefore, businesses are more interested in keeping long-term relationships with their customers rather than just accumlating occasional exchanges (Beatty et al. 1996).

e-Service Quality and its Dimensions

The replacement of interpersonal interactions with human-machine interactions makes electronic service quality different from traditional quality. In online retailing, technology plays a central role between the company and the customer, which helps in developing dynamic and interactive relationships (Dabholkar, Shepherd, and Thorpe 2000). Research has tried to identify the important dimensions of e-retailing service quality. Security/privacy, website design/functionality, reliability, responsiveness, and information are the most common dimensions which are reported by the researchers (Goel, 2017). After reviewing extant literature, this study has identified three important dimensions of e-service quality - function, privacy, and reliability - for assessing the level of service quality of online retail shoppers in the Indian context.

Privacy dimension is related with the security of credit card payment and the privacy of shared personal and financial information (Wolfinbarger and Gilly, 2003 ; Kim, Jin, and Swinney, 2009). Collier and Bienstock (2006) added that privacy also includes providing the visual signals to online buyers so that they can have a comfort of being on a secured connection. Privacy also helps in building the trust over the retailer (Kim, Jin, and Swinney, 2009). Hence, we propose following hypothesis:

H: There is positive relationship between privacy and loyalty.

Reliability is related with the performance and dependability of the website in e-retailing context (Long and McMellon, 2004).According to Wolfinbarger and Gilly (2003), when customers receive the same product they ordered, the product matches the information shared about it on the website, and the right product is delivered within the promised time

frame, the website is perceived as reliable. On the other hand, failure in delivering within the promised time, not informing the customer about delays in service delivery, and apprehensions related to delivery of product which is not exactly same as ordered by the customer or levying some additional hidden charges negatively affect loyalty (Yang and Jun, 2002). The ability to assess relevant information in a given purchase situation by the customer and relying upon that available information to make the purchase decision are also important elements of online retail quality (Janda, Trocchia, and Gwinner, 2002). Bauer, Falk and Hammerschmidt (2006) also are of the view that reliability is a strong predictor of overall quality which is an antecedent of loyalty. Therefore, the next hypothesis is:

H_2:There is a positive relationship between reliability and loyalty.

The functional aspect of the website is equally important. It helps in providing unique experiences to the customer through easy navigation, information search, and order processing (Wolfinbarger and Gilly, 2003). For internet retailing, the website should be able to download fast and have visual appeal (Francis, 2007). Lee and Lin (2005), add that the website should be customer friendly, readable, tidy, and visually appealing. Difficulties in navigating the website which is poorly designed have been viewed as a barrier for online purchase (Bellman, Lohse, and Johnson, 1999). Therefore, valid navigation links on each page of the website and useful navigation buttons have been identified as important elements while measuring website functionality. The following hypothesis has been formulated:

H_3: There is a positive relationship between function and loyalty.

Moderating Role of Gender on the Relationship between Dimensions of e-Service Quality and e-Loyalty

Demographic variables such as gender, income, and family size have significant direct effect on online purchase intentions (Kim and Kim, 2004). O'Cass and Carlson (2010), supported the positive influence of customer's gender on loyalty. Moderating effects of consumer's demographics (age, gender, and education) on loyalty were found in the sample collected by Roman (2010). Slama and Tashlian (1985) found that women were more involved in purchasing activities and more influenced by personal interaction in comparison to males. Based on above argument the following hypotheses are framed:

H_{4a}. There is a significant variation in reliability and e-loyalty between males and females.

H_{4b} There is a significant variation in function and e-loyalty between males and females.

H $_{4c}$. There is a significant variation in privacy and e-loyalty between males and females.

Moderating Role of Choice of Aggregator on the Relationship between Dimensions of e-Service Quality and e-Loyalty

Availability of plenty of information at minimal cost is empowering consumers and has ignited the competition among e-retailers (Moon and Philip, 2011). Moreover, the rapid growth experienced by the Indian e-commerce sector has made it necessary for e-commerce companies to evaluate their service quality (Rao and Rao, 2013). With intense competition among internet shopping sites, quality of sites will become important for survival and success (Yoo and Donthu, 2001). Competition between different websites is high not only to attract users' attention but to make them revisit. Pricing alone cannot be helpful in gaining competitive advantage (Park et al., 2011). Therefore, it is essential to provide well- perceived service quality for satisfying the customers and building long-term relationship by acquiring the loyalty of consumers (Bai, Law, and Wen, 2008). Research is required for validating the relationship between the website specific quality and loyalty (Fassnacht and Koese, 2006). Hence, the study proposes the following hypotheses

H $_{5a}$. There is a significant variation in the relationship between privacy and e-loyalty of selected online retail aggregators.

H $_{5b}$: There is a significant variation in the relationship between reliability and e-loyalty of selected online retail aggregators.

H $_{5c}$: There is a significant variation in the relationship between function and e-loyalty of selected online retail aggregators.

Figure 1: Conceptual Framework for the study
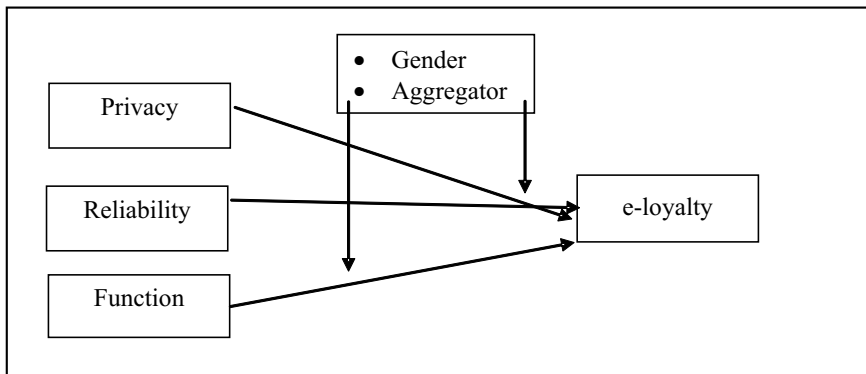
METHODOLOGY

Scales from extant literature were adapted and further used as the source for measuring dimensions of service quality and loyalty. This measuring instrument consisted of 16 items which were used to reproduce four constructs: reliability (3 statements; adopted from Aladwani and Palvia, 2002), function (5 statements; adapted from Collier and Bienstock, 2006; Parasuraman, Zeithaml, and Malhotra, 2005), privacy (3 statements; adopted from Janda, Trocchia, and Gwinner, 2002), and loyalty (5 statements adopted from Parasuraman, Zeithaml, and Malhotra, 2005). Respondents were asked to indicate their level of agreement with each of the original statement on a five-point Likert scale ranging from 1 (strongly disagree) to 5 to (strongly agree).

The sample consisted college going students living in the National Capital Region (NCR), who had successfully completed at least one transaction from any of the two online retailing websites operating in India, Amazon and Flipkart. These websites were chosen for the study as they are top two online retailers operating in India. Convenience cum snowball sampling was used for the study. There were 240 valid questionnaires, which were considered suitable for the study. In the sample, 41 per cent were females and 59 per cent were males. 60 per cent respondents gave their responses for Amazon and 40 per cent were Flipkart users.

Table 1 shows the alpha values and composite reliability values of the constructs. Both look at the reliability of the data. The recommended value of alpha is more than .06 (Ngobo, 2004).The thumb rule for composite reliability (CR) is greater or equal to .70 (Fornell and Larcker, 1981). In the present study, the reliable score or alpha meets the minimum requirement, suggesting internal consistency and confirming data reliability.

Table 1: Reliability Scores, Convergent, and Discriminant Validity of the Constructs

Latent Variable	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Maximum Shared Variance (MSV)	Average Squared Variance (ASV)
Function	.693	0.702	.324	.278	.202
Reliability	.785	0.797	.569	.295	.210
Privacy	.784	0.793	.562	.058	.048
Loyalty	.825	0.834	.505	.471	.221

Convergent and discriminant validity was also assessed to check the validity of the scale. Convergent validity examines whether the respective indicators are measuring the constructs. For establishing the convergent validity, loadings of the average variance extracted (AVE) should be more than .50 and values of maximum shared variance (MSV) should be less than AVE. Table 1 shows that AVE for almost all the constructs is more than .50 except for function These values were similar to the results reported by Sahi et al.(2017). Discriminant validity is established to check the extent to which the construct is distinct from the other construct. For achieving discriminant validity there are two necessary conditions. First, AVE > MSV and, second, AVE > ASV. In Table 1 the values of AVE are greater than MSV and the loadings of AVE are also exceeding the values of average squared variances (ASV). Further, from Table 1 it can be observed that the loadings of MSV and ASV are less than AVE. Hence, the reliability and validity of data one assured.

RESULTS

Figure 1 shows the model which was estimated to test the hypothesized relationships among variables. In the model, it has been asserted that dimensions of e-service quality function, reliability, and privacy are the antecedents of e-loyalty which can be moderated by gender and the choice of e-retailing aggregator's website.

The conceptual model is tested using CFA. The ratio of chi square minimum to the degree of freedom CMIN/d.f. is 1.822. Other indices for goodness-of-fit of the present study the such as goodness-of-fit index (GFI) = .886, adjusted goodness-of-fit (AGFI) = .827, normal fit index (NFI) = .804, root mean square error of approximation (RMESA) = .073. This shows a moderate fit of the model. On the basis of the Structural Equation Model (SEM) results, the framed hypotheses have been tested.

The first objective was to find out the relationship between dimensions of e-service quality on e-loyalty. A research model was developed with the help of review of literature and a hybrid scale was used to capture the responses of online shoppers for all the four constructs used for the study. Based on literature, it was hypothesized that all the three factors- reliability, function, and privacy - have significant relationship with loyalty in e-retailing context. Data revealed that there is significant positive relationship of reliability on online customer loyalty while privacy and function did not show any significant relationship with the e-loyalty.

Table 2: Results of Hypotheses Developed for the Study

Hypothesis	Estimates	Critical Ratio	Result
H1: Loy←------ Pri	.091	1.451	Not Accepted
H2: Loy←------ Rel	.320	3.080**	Accepted
H3: Loy ←------ Fun	.173	.957	Not Accepted
**Significant at p<0 .05			

Loy- Loyalty, Pri- Privacy,Rel- Reliability, Fun- Function

The results show that, out of three factors, reliability is the most powerful indicator of loyalty with β value .37. One of the important characteristics of a B2C website is the ease and comfort with which customers are able to gather information and save money (Anderson and Srinivasan, 2003 ; Jarvenpa and Todd, 1997). Romani (1999) also identified that reliability leads towards loyalty. The results of the study support the work of Wang, Sun, and Jha (2009) done in China. In their study they found that website functional aspect might not play a prominent role in affecting loyalty behaviours of novice e-commerce markets. More than 50 per cent respondents in the present study are not frequent buyers and made purchase less than four times a month. Approximately, 40 per cent of the respondents had started online shopping recently, i.e. less than a year. Similarly, privacy in contrast to the prevailing viewpoint, turned out to be insignificant in determining the loyalty as customers are becoming accustomed to online transactions (Yang, Jun, and Peterson, 2004).
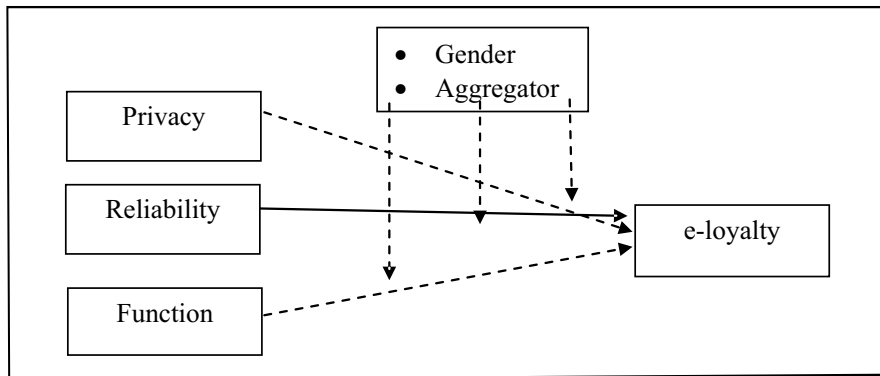
Moderating Role of Gender

In case of female respondents, only reliability dimension has significant positive relationship with loyalty. As far as male respondents are concerned, on the basis of p-value, they found reliability as an important dimension of e-service quality. For male respondents, privacy is also found to have significant positive relationship with loyalty. However, on the basis of z-score, no moderation effect of gender is found regarding the relationship between dimensions of e-service quality and loyalty. Table 3 depicts the values showing the results of the hypotheses developed while examining the moderator effect of gender affecting satisfaction. These results confirm the results of previous studies (Barrera, Garcia, and Moreno, 2014; Ulbrich, Christensen, and Stankus, 2011). Hence it leads to non-acceptance of hypotheses H_{4a}, H_{4b}, and H_{4c} framed for the study.

Table 3: Results of Hypotheses (Gender as Moderator)

Hypotheses	Estimates (Females)	Estimates (Males)	Estimates (overall)	Z-Scores	Result
H4a. There is a significant variation in the privacy and loyalty between males and females.	.065	.110	.091	0.218	Not Accepted
H4b. There is a significant variation in the reliability and loyalty between males and females.	.334**	.367***	.320**	0.004	Not Accepted
H4c. There is a significant variation in the function and loyalty between males and females.	.149	.149	.173	0.435	Not Accepted
Significance at: .05** and .001***					

Figure 2: Outcome Model of the Study

MODERATING ROLE OF AGGREGATOR

In the case of aggregator as a moderator, reliability dimension is equally important for the shoppers irrespective of the choice of aggregator. Table 4 shows that the other two dimensions of service quality, privacy, and function, are not found to have any significant effect on loyalty. Z-scores in Table 4 suggest that there is no moderation effect of aggregator on the relationship of dimensions of service quality and loyalty. The results of the present study confirm the findings of Kwon and Lennon (2009). Therefore the H5a, H5b, and H5c hypotheses framed for the study are not accepted.

Table 4: Results of Hypotheses (Choice of Aggregator as Moderator)

Hypotheses	Estimates (Amazon)	Estimates (Flipkart)	Estimates (overall)	Z-Score	Result
H5a. There is a significant variation in the privacyand the e-loyalty of selected online retail aggregators.	.117	.062	.091	-0.541	Not Accepted
H5b. There is a significant variation in the function and the e-loyalty of selected online retail aggregators.	.163	.086	.173	-0.389	Not Accepted
H5c. There is a significant variation in the reliability and the e-loyalty of selected online retail aggregators.	.303[***]	.463***	.320***	1.060	Not Accepted
Significance at .001 [***]					

CONCLUSION

This study has empirically investigated the moderating role of gender and retail aggregator on the relationship of e-tailing quality dimensions on loyalty. First, data were collected from real consumers based on their real transaction experiences. This gives the results more generalizability than studies whose subject are not engaged in real transactions. Managers can avoid unneccessary and expensive programmes based on the privacy or function dimensions, because these dimensions have not been found to have significant relationship with loyalty. Marketers can avoid introducing loyalty programmes on the basis of gender or aggregator as no moderation effect was found. With high awareness level among consumers, future it will not be a resource for businesses waiting to be claimed (Hagel III and Rayport, 1997). Customers can demand value in exchange of that. Therefore, marketers need to be selective and skill-ful to use customer's information.

LIMITATIONS OF THE STUDY

The study has many caveats that provide directions for future investigations. This study was confined to measure the moderation effect of gender and choice of aggregator on the relationships of dimensions of service quality and loyalty. Future research can focus on researching feature level preferences among masses by providing ranks so that better insight can be provided by pinpointing important aspects of the e-service quality. Further, gender and choice of aggregator are not the only basis on which marketing strategies should be

based. Other demographic variable like age, income, marital status, religion, education level, etc. could be considered while conducting future research. Similarly, more specific retailer's website characteristics such as customer service, pricing, website design, etc. as moderator could be included in the research. In a strict sense, the sample is taken from Delhi/ NCR region, and generalization to a wider population or service sector should be done with caution.

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