Developing Brand Trust and Loyalty in E-Commerce: Examining the Role of Service Quality, Website Quality, and Reliability Using SEM

Muhammad Thalib PK*

Research Scholar, Research Department of Commerce, Farook College (Autonomus)., University of Calicut, Kerala, India.

T Mohamed Nishad

Professor, Research Department of Commerce, Farook College (Autonomus)., University of Calicut, Kerala, India.

*Corresponding Author Email: thalibpkvtk@gmail.Com

Abstract: *Customer loyalty is a critical aspect of any company. Online purchasing is now fast catching up with traditional shopping. Several elements contribute to customer loyalty, such as building confidence in a brand or a certain product. The purpose of this study is to study role of service quality, website quality, and reliability in developingbrand trust in online shopping and to study the relationship between brand trust and Loyalty. The primary data were collected through the structured questionnaire from the respondents which consists of 248 online shoppers across Kerala. Structural Equation Modeling was used to test the hypotheses. The study results that service quality, website quality, and reliability all contribute to online shoppers' trust in e-commerce firms and play a big part in converting them into loyal customers*

Keywords: Brand Loyalty, Brand Trust, E-Commerce, Online shopping, Structural Equation Modeling (SEM).

INTRODUCTION

The Indian e-commerce business has been on an increasing track, and by 2034, it is likely to surpass the United States to become the world's second-largest e-commerce market (IBEF, 2021). E-commerce alters the business model by encouraging producers, distributors, and customers to use the Internet as a method of communication and transaction, laying the groundwork for a new competitive strategy. In e-commerce, Customers need utilitarian benefits, such as price comparison, as well as hedonic benefits, such as visually appealing website designs, to enjoy the online buying experience(Bilgihan & Bujisic, 2015).

The process of purchasing goods and services from sellers who sell on the internet is known as online shopping(Haque & Mazumder, 2020). Online shopping can provide better product selection, accessibility and convenience since there is no restriction on space and time(Haque & Mazumder, 2020). However, because there is no physical context in e-commerce, it is more difficult to establish a social relationship between enterprises and customers (Schijns, 2003).

Despite the benefits of online shopping, people are still hesitant to make purchases from websites due to a variety of concerns including the authenticity of the website, product quality, security and privacy of personal information, as well as post-purchase service and trust (Shah Alam & Mohd Yasin, 2010). Because there is no direct interaction and consumers must provide personal information to complete the purchase, trust is recognised as one of the most important criteria in online shopping. Consumers may avoid e-vendors due to a lack of trust. In the absence of face-to-face interactions, customers often rely on cues such as website layout, online reviews, and secure payment systems to evaluate the credibility of an online store. Additionally, consumers seek reassurance through detailed product information, clear return policies, and responsive customer service to reduce perceived risk and enhance their confidence in online transactions. The level of trust or loyalty that can be exploited to promote customer retention is of importance to marketing managers. Customers' propensity to acquire a product is largely determined by their trust in the company. Trust is a key antecedent for doing business online since it makes it easier for internet companies to act opportunistically. Loyal customers are hesitant to change websites and always intend to buy from the same site(Flavián et al., 2006).

Several studies have found that website technology factors and service quality have a significant role in influencing customer e-satisfaction and e-loyalty, as measured by the customers' attitude, behaviour, and psychological state as a result of their online shopping experiences (Anderson &

Srinivasan, 2003). Although there is a vast body of evidence that supports the idea that better levels of overall customer satisfaction lead to higher levels of loyalty in the e-commerce setting(Haque & Mazumder, 2020). This paper aims to study the factors affecting in making customer trust in online shopping and to study the relationship between customer trust and Customer Loyalty.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Service Quality

Online shopping is a multi-step process that may be broken down into sub-steps such as navigation, information search, online transactions, and consumer engagement (Lee & Lin, 2005). Rather than assessing each phase individually, consumers often perceive and evaluate the online shopping experience as a unified process. The perceived quality and effectiveness of this digital service journey is commonly referred to as e-service quality(Santos, 2003). Quality e-services can boost e-commerce's competitive advantages by increasing attractiveness, hit rate, client retention, stickiness, and positive word-of-mouth (Santos, 2003).

H1: Enhanced e-service quality has a significant positive impact on customer trust.

Website Quality

A company's website serves as its public face to the world. The website is the first point of interaction between a business and a customer. Many studies investigating the impact of website quality on user perceptions have discovered that website quality can have a considerable impact on online merchant trust (Pavlou & Gefen, 2004). As a result, the website's appeal is an important predictor of trust, which has a significant impact on the motivation to use the website in the future (Hampton-Sosa & Koufaris, 2005).

Website design comprises navigation, in-depth information, and order processing, among other aspects of the customer's engagement with the website.Previous research has discovered a substantial positive association between perceived website quality and first trust in a company (Koufaris & Hampton-Sosa, 2004).

H2: Good website quality is positively related to customer trust.

Reliability

Many Internet users are hesitant to shop online because they are concerned about the security of doing business over the Internet. One of the most pressing customer issues is security, or how confident customers are that the site is safe to use and that their personal information is secure (Zeithaml et al., 2000).In addition to transactional risks, consumers may also be discouraged by privacy-related concerns such as tracking via web cookies or receiving unsolicited emails.It has been discovered that reliability aids in the development of trust and increases the likelihood of customers making repeat purchases (Swaid & Wigand, 2009). Researchers have also discovered that the biggest predictor of online pleasure, usefulness, and e-trust is reliability (Giovanis & Athanasopoulou, 2014).

H3: High reliability is positively related to customer trust.

Customer Trust

Trust is generally important in the adoption of new technologies including the Web and e-commerce (Gefen,

2000). In the context of Internet shopping, trust is more important than in traditional retailers. The reason for this is because of the particular characteristics of the online shopping environment, which lead to increased uncertainty and risk in online purchasing decisions(Haque & Mazumder, 2020). To reduce uncertainty and dangers, trust is crucial (Pavlou, 2003).Consumer trust in a website can be strengthenedby improving security and minimising perceived environmental threats.When customers believe that the technology used is reliable, they have a high level of trust in online sellers. Users' impressions of website security and competence in handling their personal information are linked to online trust(Reichheld & Schefter, 2000). The importance of trust as a precursor of loyalty has been proposed.

Customer Loyalty

Customer retention and loyalty are linked to a company's long-term growth and profitability, because higher customer retention rates can lead to higher earnings (Torres-Moraga et al., 2008). It is claimed that loyal clients are more likely to visit their favourite websites than non-loyal customers. Furthermore, loyal clients spend more money on the products and services of the companies to whom they are loyal (Molinillo et al., 2017).

Customer loyalty is defined by(Chang & Chen, 2009) as "a client's favourable attitude toward an e-commerce website that predisposes the customer to repeat their purchasing behaviour."The success of e-commerce models or websites is thought to be dependent on customer loyalty(Reichheld & Schefter, 2000).

H4: Increased customer trust significantly enhances customer loyalty.

METHODOLOGY

Sampling And Questionnaire Design

A structured questionnaire was developed and partly adapted from Haque and Mazumder (2020) for this study. The questionnaire was distributed to the respondents between 18 and 60 years old.. To encourage participation and ensure accuracy, the questionnaires were self-administered by the researchers, and respondents were assured that their responses would remain confidential. Out of 300 questionnaires distributed, 248 were fully completed and used for data analysis.

The first section of the questionnaire collected demographic data including gender, age, educational qualifications, and personal income. The second section comprises 13 closed-ended questions designed to capture respondents' basic choices and preferences. All items within the questionnaire were measured using a multi-item five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

The Construct of Customer Loyalty

Table 1. The Variable Name, Description and The

Variable Name	Description	Sources
Service Quality	Customer perceptions of the virtual marketplace's excellence and quality of e-service delivery.	Santos (2003)
Website Quality	Website design comprises navigation, in-depth information, and order processing, among other aspects of the customer's engagement with the website.	Wolfinbarger and Gilly (2003)
Reliability	The degree to which the site constantly performs as expected, with no broken links or dead ends.	Goode and Harris (2007)
Customer Trust	Trust is an important factor in building and maintaining relationships	Singh and Sirdeshmukh (2000)
Customer Loyalty	Customer loyalty refers to a customer's desire to conduct more business with a particular vendor and to recommend that company to others.	Gefen (2002)

Reliability And Validity

To assess the internal consistency of the constructs, Cronbach's alpha was computed for the overall questionnaire and for each specific dimension. The overall reliability was found to be .86, which exceeds the conventional acceptable level of .70, indicating that non-response bias did not adversely affect the measurement of the constructs. Table 2 summarizes the reliability analysis of the key constructs of this study i.e., service quality, website quality, reliability, customer trust, and customer loyalty. For example, the service quality construct was measured through items such as product variety, timely delivery, ease of product exchange, and refund processes which had a Cronbach's alpha of .73. Website quality and reliability have Cronbach's alpha of .72 and .78 respectively. And the customer trust construct, assessed using items focused on the security and trustworthiness of online transactions, yielded an alpha of .90, while the customer loyalty construct, which included indicators for repeat purchasing and willingness to recommend, resulted in an alpha of .83. These findings support the conclusion that improvements in service quality, website quality, and reliability are associated with increased customer trust in online purchasing (Haque & Mazumder, 2020).

Table 2. Reliability analysis of building customer loyalty among online buyers.

| Construct	Items	Items	Cron-bach's α
Service Quality	A variety of branded products are available on e-commerce websites	4	.73
	Product delivery on time		
	E-commerce websites provide the exchange of products.		
	E-commerce websites provide refunds very easily.		
Website Quality	E-commerce websites are user-friendly	3	.72
	E-commerce websites are simple to navigate		
	E-commerce websites have detailed product description		
Reliability	The E-commerce website has high payment reliability	2	.78
	I am willing to use my credit/debit card/UPI number to purchase on this website		
Customer Trust	E-commerce transactions are safe and secure	2	.90
	E-commerce transactions are trustworthy		
Customer Loyalty	I shall continue to purchase the product online	2	.83
	I shall recommend others to purchase a product online		
		13	**.86**
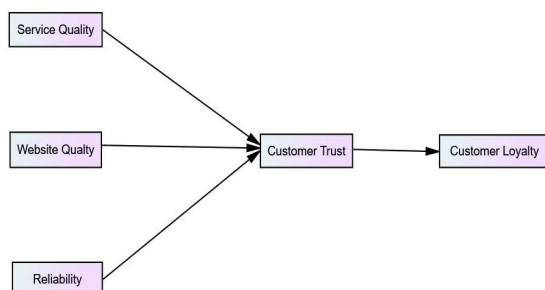
Figure 1. The Conceptual Model

RESULTS AND DISCUSSION

Demographic Analysis

Table 3 shows the percentage distribution of respondents by demographic and socioeconomic category. A significant portion of the sample, approximately 76% of responders, are between the ages of 26 and 40. Roughly 14% of respondents were under 25, and 10% of respondents were over 40. A substantial percentage of the sample (61%) had postgraduate or above degrees, indicating that they were a reasonably well-educated population. Subsequently, 16% had completed their study up to the graduate level, and 23% were undergraduates.

Table 3. Percentage Distribution of Selected Demographic and Socioeconomic Variables.

Variable Name	Description	Percentage
Gender	Male	40.9
	Female	59.1
Age (Years)	Below 25	13.6
	26-40	76.1
	Above 40	10.2
Education	Under Graduation	22.7
	Graduation	15.9
	Post-Graduation	61.4
Personal Income	Below 20000	43.2
	Rs.20001 – Rs.40000	34.1
	Above Rs.40000	22.7

Model Testing

The conceptual framework of the study was evaluated using structural equation modeling (SEM), which analyzed both direct and indirect relationships among the constructs. The model's validity and overall fitness were confirmed through various standardized fit indices. Figure 2 shows the modified conceptual model for this research.
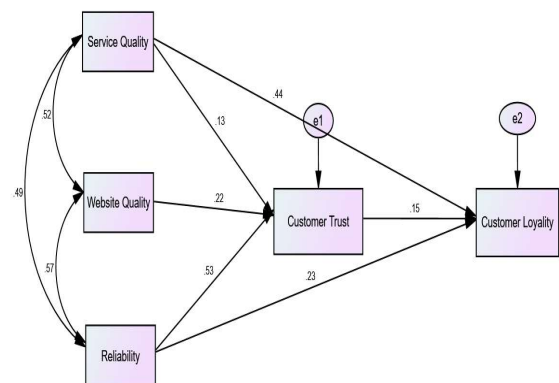

Figure 2. Model Fit

The chi-square value ($\chi^2 = 2.357$) was statistically significant (p < .001), indicating model appropriateness. Additional fit indices further supported the robustness of the model: Normed Fit Index (NFI = 0.996), Comparative Fit Index (CFI = 0.998), Goodness of Fit Index (GFI = 0.996), and Root Mean Square Error of Approximation (RMSEA = 0.074). These values fall within commonly accepted thresholds, confirming the adequacy of the model's fit.Structural equation modelling is used to determine and treat the direct and indirect links between the components in the conceptual model, and Table 4 summarizes the fitness indices in the model.

Table 4. The goodness of fit indices (n = 248).

Name of the Category	Name of Index	Index value	Level of Acceptance
Absolute fit indices	RMSEA	.074	= 0.06
	GFI	.996	= 0.90
Incremental fit indices	NFI	.996	= 0.90
	CFI	.998	= 0.90
	AGFI	.943	= 0.90
Parsimonious fit indices	X^2/df	2.357	= 3

Table 5. Hypothesis confirmation using total population data.

Hypothesis	Path Coefficients	Results
Service quality ? Trust in online purchasing	.131 (p <0.05)	H_1 Accepted
Website quality ? Trust in online purchasing	.223 (p <0.05)	H_2 Accepted
Reliability ? Trust in online purchasing	.527 (p <0.01)	H_3 Accepted
Trust in online purchasing ? Customer Loyalty	.153 (p <0.05)	H_4 Accepted

According to Figure 2, Trust in Online shopping is significantly and positively influenced by service quality (.131, p<0.05), website quality (.223, p <0.05) and reliability (.527, p <0.01). Thus, H1, H2, andH3 are supported. And also Customer loyalty is significantly and positively affected by Trust in online shopping (.153, p<0.05). Based on this result H4 was also accepted.

CONCLUSION AND LIMITATION

Themainobjectiveofthisstudywasto find out the factors affecting in making customer trust in online shopping and to study the relationship between customer trust and customer loyalty.Three significant characteristics elements were included as antecedents of trust in the empirical study. The majority of respondents in various demographic categories were male (59%) and between the ages of 26 and 40 (76%). In the domain of education, 61% of respondents completed post-graduation, which is a significant percentage. Finally, more responders in the income category were below Rs.20000 (43%).

Customers' trust in online buying is built on the quality of service, website quality, and reliability, according to the study's findings. Furthermore, customer loyalty is favourably associated with online buyer trust, and as a result, consumers are more likely to shop online.

Service quality in online shopping is measured by a wide range of products, prompt delivery, and the convenience of exchanging and refunding items. A website's quality is determined by the availability of detailed product descriptions, easy navigation, and a user-friendly interface. Customers are willing to utilise credit cards or debit cards for transaction payments while the e-commerce platform provides high payment reliability. These will result in Customers are more safe, more secure, and trustworthy in their online purchases. And this trust creates a compelling cause to keep the consumer or purchase from the same online platform again in the future.

There are certain limitations in the current research that should be considered in future investigations. This study can only look at a fewaspects of online shoppers' trust and loyalty; many additional aspects can be investigated further. Second, as the study is based on a sample survey, the result may not fit for wide application due to sampling errors.

REFERENCES

1. Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and e-loyalty: A contingency framework. *Psychology and Marketing*, *20*(2), 123–138. https://doi.org/10.1002/mar.10063

2. Bilgihan, A., & Bujisic, M. (2015). The effect of website features in online relationship marketing: A case of online hotel booking. *Electronic Commerce Research and Applications*, *14*(4), 222–232. https://doi.org/10.1016/j.elerap.2014.09.001

3. Chang, H. H., & Chen, S. W. (2009). Consumer perception of interface quality, security, and loyalty in electronic commerce. *Information & Management*, *46*(7), 411–417. https://doi.org/10.1016/j.im.2009.08.002

4. Flavián, C., Guinalíu, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information & Management*, *43*(1), 1–14. https://doi.org/10.1016/j.im.2005.01.002

5. Gefen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, *28*(6), 725–737. https://doi.org/10.1016/S0305-0483(00)00021-9

6. Giovanis, A. N., & Athanasopoulou, P. (2014). Gaining customer loyalty in the e-tailing marketplace: The role of e-service quality, e-satisfaction and e-trust. *International Journal of Technology Marketing*, *9*(3), 288. https://doi.org/10.1504/IJTMKT.2014.063857

7. Hampton-Sosa, W., & Koufaris, M. (2005). The Effect of Web Site Perceptions on Initial Trust in the Owner Company. *International Journal of Electronic Commerce*, *10*(1), 55–81. https://doi.org/10.1080/10864415.2005.11043965

8. Haque, U. N., & Mazumder, R. (2020). A Study on the Relationship Between Customer Loyalty and Customer Trust in Online Shopping: *International Journal of Online Marketing*, *10*(2), 1–16. https://doi.org/10.4018/IJOM.2020040101

9. IBEF, I. B. E. F. (2021). *E-Commerce industry in India.*

10. Koufaris, M., & Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers. *Information & Management*, *41*(3), 377–397. https://doi.org/10.1016/j.im.2003.08.004

11. Lee, G., & Lin, H. (2005). Customer perceptions of e service quality in online shopping. *International Journal of Retail & Distribution Management*, *33*(2), 161–176. https://doi.org/10.1108/09590550510581485

12. Molinillo, S., Gómez-Ortiz, B., Pérez-Aranda, J., & Navarro-García, A. (2017). Building Customer Loyalty: The Effect of Experiential State, the Value of Shopping, and Trust and Perceived Value of Service on Online Clothes Shopping. *Clothing and Textiles Research Journal*, *35*(3), 156–171. https://doi.org/10.1177/0887302X17694270

13. Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce*, *7*(3), 101–134. https://doi.org/10.1080/10864415.2003.11044275

14. Pavlou, P. A., & Gefen, D. (2004). Building Effective Online Marketplaces with Institution-Based Trust. *Information Systems Research*, *15*(1), 37–59.

15. Reichheld, F. F., & Schefter, P. (2000). E-Loyalty: Your Secret Weapon on the Web. *Harvard Business Review*, *78*(4), 105–113.

16. Santos, J. (2003). E service quality: A model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, *13*(3), 233–246. https://doi.org/10.1108/09604520310476490

17. Schijns, Dr. J. M. C. (2003). Loyalty and Satisfaction in Physical and Remote Service Encounters. *Consumer Behavior in Interactive Environments (Relationships, Satisfaction, and Loyalty)*. DMEF Educator's Conference.

18. Shah Alam, S., & Mohd Yasin, N. (2010). What factors influence online brand trust: Evidence from online tickets buyers in Malaysia. *Journal of Theoretical and Applied Electronic Commerce Research*, *5*(3). https://doi.org/10.4067/S0718-18762010000300008

19. Swaid, S., & Wigand, R. T. (2009). Measuring the quality of E-service: Scale development and initial validation. *Journal of Electronic Commerce Research*, *10*(1), 13–28.

20. Torres Moraga, E., Vásquez Parraga, A. Z., & Zamora González, J. (2008). Customer satisfaction and loyalty: Start with the product, culminate with the brand. *Journal of Consumer Marketing*, *25*(5), 302–313. https://doi.org/10.1108/07363760810890534

21. Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2000). A Conceptual Framework for Understanding E-Service Quality: Implications for Future Research and Managerial Practice. *Marketing Science Institute*, *00*–115.