Impact of E-logistics Service Quality on Customer’s Satisfaction and Loyalty: Evidence in Hanoi, Vietnam

Ta Thi Yen¹, Nguyen Thi Thuy Trang², Tran Tuan Anh³*
Hanoi University of Natural Resources and Environment, Hanoi, Vietnam

ABSTRACT: The study assesses service quality and customer loyalty among logistics service providers, with customer satisfaction acting as a moderator between these factors. The survey questionnaire was used to acquire 401 data points from Vietnamese consumers. Least-squares technique was used to examine the data (PLS-SEM). According to the findings, service quality characteristics such as customer service, product quality, information quality, delivery service, perceived pricing, and reverse logistics all have a beneficial impact on customer loyalty via customer satisfaction. According to the findings, customer pleasure is directly related to client loyalty. According to the report, service providers should modernize and improve the quality of their services.


Submitted: 03-06-2022; Revised: 12-06-2022; Accepted: 23-06-2022

*Corresponding author: nnc.hunre@gmail.com
INTRODUCTION

"E-logistics" is no longer a foreign notion in our culture or a new field in our country. The trend of online business or online sales has brought economic efficiency to many company lines in Vietnam in the era of digital technology 4.0 and the rapid expansion of the Internet.

With the help of digitization and information technology, the e-logistics business is rapidly developing with new models and participants, and supply chains are gradually shifting toward a more contemporary direction. The e-logistics business is growing increasingly active, particularly in the light of the COVID-19 outbreak. Using digital technologies and creating new distribution channels is becoming a viable business strategy. Viet Nam overcome obstacles and created new possibilities from market demand by altering customers' purchasing behaviors, shifting from conventional purchasing habits to purchasing products via e-logistics.

Many individuals transact e-logistics on smartphones, thanks to the strength of a young population and a high number of smartphone users. In 2019, the e-logistics market in Vietnam grew at a quick pace, with 35.4 million users generating more than $2.7 billion in revenue. According to the 2019 Southeast Asian e-logistics research by Google, Temasek, and Brain Company, the average growth rate of Vietnam's e-logistics is 29 percent from 2015 to 2025. The COVID-19 epidemic triggered major disruptions to the economy in 2020. Because of the increasing expansion of e-logistics, Vietnam has emerged as one of the most promising marketplaces in the ASEAN area. Vietnam's e-logistics size is expected to reach 43 billion USD by 2025, placing it third in ASEAN.

Wicks and Roethlein (2009) have shown that an organization that consistently satisfies its customers will maintain higher gains and greater profits through increased customer loyalty. Accordingly, most businesses have always strived to win customers' hearts by providing customers with the best benefits so that they become loyal customers to the business's brand. Customers form their preferences regarding perceptions and attitudes about competing brands in their minds, so when customers have a good perception of a brand, they will always choose that brand as a priority in their purchasing decisions. Businesses must find ways to meet customer satisfaction comprehensively by understanding and capturing customer needs; How do customers make their purchasing decisions and see if they are satisfied with what the business offers? Therefore, customer satisfaction and loyalty are also considered practical competitive tools.
LITERATURE REVIEW

E-logistics service quality and satisfaction

Service quality is assessed based on the actual performance of the service through the unique attributes of the service in specific contexts. In contrast, customer satisfaction is evaluated according to the overall experience. services, of which service quality is an aspect. (Oliver, 1993).

The causal link between service quality and customer happiness is the topic of controversy and contention in the service literature (Bahia & Nantel, 2000). Some scholars suggest that customer satisfaction is an antecedent of service quality (Bitner et al., 1990; Carman, 1990; Parasuraman et al., 1985), while others argue that service quality is an antecedent of customer satisfaction (Bitner et al., 1990; Carman, 1990; Parasuraman et al., 1985). (Amin & Isa, 2008; Cronin et al., 2000; Kashif et al., 2015; Sheng and Liu, 2010; Yap et al., 2012).

In online buying, information quality is defined as "the simplicity and accessibility of locating items and places" (Choi et al., 2019) as well as the availability of credible information, pricing, and product specs. Online buying can be influenced by digital marketing campaigns that result in purchasing decision (Depari, 2020). According to (Alemu, 2016), information quality indicates how buyers view information offered by online merchants regarding things that customers can purchase. She concluded that there is a considerable positive association between information quality and consumer happiness.

Product quality refers to a product's capacity to meet the demands and expectations of customers (Hondoko, 2016). Product quality is regarded as the cornerstone for increasing consumer pleasure (Bei & Chiao, 2001). Product quality encourages people to purchase online more frequently (Olasanmi, 2019) and has a favorable influence on customer satisfaction (Hondoko, 2016; Razak, Nirwanto, & Triatmanto, 2016). Product quality is measured using the following metrics: product quality resemblance to store-bought items (Vasic, Kilibarda, & Kaurin, 2019) and the availability of genuine product quality reviews.

Delivery service is seen as a driving factor in customer satisfaction by (Hedin, Jonsson, & Ljunggren, 2006). Delivery service refers to the supplier's ability to give the requested goods to the client at the specified time and place at the lowest possible cost (Vasic et al., 2019). According to Ziaullah, Feng, and Akhter (2014) and (Hondoko, 2016), delivery service has a beneficial impact on online consumer happiness. The delivery service will be assessed based on its adherence to the delivery time specified by the client, its accuracy in delivery location, and the cost of the delivery service. Customers may be charged additional shipping expenses, resulting in a final product price that is the same as or greater than the offline price (Choi et al., 2019).
Customer service is the responsiveness of an online shop to a customer's request (Rajendran et al., 2018). Customer service may impact a customer's purchase choice and, ultimately, their degree of happiness (Kaošká, 2010). After-sales assistance or other logistical services conducted on behalf of the client following the completion of a transaction are examples of customer service (Choi et al., 2019). Customer service has a favorable influence on customer satisfaction, according to Liu, He, Gao, and Xie (2008); this finding was verified by Rajendran et al (2018). Customer service is evaluated based on the convenience with which it may be reached, the quality of employee contacts, and the capacity to handle customer problems.

Reverse logistics refers to after-sales activities that oversee processing client returns owing to unequal criteria from the customer's perspective (Rajeendran et al., 2018). Client service is improved through proper management of customer returns (Lysenko-Ryba, 2017). According to Revindran et al. (2020), reverse logistics has a major impact on online shopper satisfaction. Reverse logistics will be evaluated based on the convenience of collection, the availability of a clear return policy, and the presence of return costs (Cao, Ajjan, & Hong, 2018).

Thus, the author proposes the following research hypothesis:

**H1:** Delivery service has a positive impact on customer satisfaction using e-logistics service

**H2:** Information quality has a positive effect on customer satisfaction using e-logistics service

**H3:** Product quality has a positive impact on customer satisfaction using e-logistics service

**H4:** Customer service has a positive impact on customer satisfaction using e-logistics service

**H5:** Reverse logistics has a positive impact on customer satisfaction using e-logistics service

**H6:** The perceived price has a positive impact on customer satisfaction using e-logistics service

E-logistics service quality and loyalty

Customer loyalty usually involves a customer's willingness to continuously purchase goods or services with a good mentality and attitude towards the goods or the company providing the goods or services. Loyal customers tend to repurchase products, purchase from among product lines, recommend products to others, and can point to the quality of products produced by other similar companies. When customers evaluate the service quality well, the relationship between the store and the customer becomes closer. Customers will buy again,
buy more, and can accept high prices without switching to another store. This leads to customer loyalty to the company.

Many recent studies have linked service quality with customer satisfaction. Research by Curry and Sinclair (2002) also shows that if the service provided meets the customer's expectations, this will lead to customer satisfaction and vice versa will lead to customer dissatisfaction. Wicks and Roethlein (2009) showed that increased customer satisfaction increases loyalty, and increased loyalty leads to an increase in repeat purchases and a decrease in customers switching to other stores. According to Al-Wugayan et al (2008), there are more and more studies showing that satisfaction is not a predictor of loyalty, a customer may be satisfied with a service but disloyal. Therefore, loyalty is essential for the organization because retaining its old customers will save money compared to finding new customers. In addition, customer retention will be related to the company's profitability.

Thus, the author proposes the following research hypothesis:

H7: Delivery service has a positive impact on customer loyalty using e-logistics service
H8: Information quality has a positive effect on customer loyalty using e-logistics service
H9: Product quality has a positive impact on customer loyalty using e-logistics service
H10: Customer service has a positive impact on customer loyalty using e-logistics service
H11: Reverse logistics has a positive impact on customer loyalty using e-logistics service
H12: The perceived price has a positive impact on customer loyalty using e-logistics service

Satisfaction and Loyalty

Many research has presented empirical evidence to support the premise that customer happiness is positively related to repurchase intent and loyalty (Aksoy, 2014; Amin et al., 2013; Sharifi and Esfidani, 2014; Zeithaml et al., 1993). In the banking industry, Amin et al. (2016) discovered a substantial link between online customer happiness and online customer loyalty. Customers who are pleased with their online banking experience are more likely to have a continuous connection with online banking in the future and to exhibit more loyal behavior (Baker & Levy, 1992; Wong and Zhou, 2006).

Customers, on the other hand, may complain about service and spread unfavorable WOM (Caruana, 2002). They will change service providers (Amin et
al., 2011; Cheema et al., 2010; Wirtz et al., 2007). If internet banking does not give customers with outlets, developing connections with clients becomes more difficult (Amin et al., 2013; Bloemer et al., 1998; Levy, 2014). As a result, clients who are pleased with their bank's internet banking service will be quite loyal to it. As a result, customer happiness is seen as a critical factor of online consumer loyalty (Amin et al., 2013; Bloemer et al., 1998). As a result, the author suggests the following study hypothesis:

**H13: Customer satisfaction positively affects customer loyalty using e-logistics services.**

![Research Model](image)

**Figure 1. Research Model**

**METHODOLOGY**

**Research Sample**

Our objective is to see how service quality affects e-logistics client loyalty. We did literature research to find concepts and gaps in the service quality framework. To better understand e-logistics service quality in Vietnam, we selected the key elements of the service quality framework and developed research questions. First, ten experts were given questionnaires to see how well they understood the issue. We then utilized the final questionnaire form to gather data after making changes based on feedback from the participants in the two sessions.
According to Hair et al. (2014), the research sample is critical in ensuring the research's quality. In the PLS path model, the minimum sample size should be ten times the maximum number of arrowheads pointing to a latent variable (Hair et al., 2014). Consumers provided us with 419 survey questions to use as examples. 401 survey questions have analytical value after filtering the data, accounting for 95.5 percent of the total. The information provided by respondents is shown in Table 1.

### Data Analysis Techniques

Our findings offer empirical support for a theory that defines essential characteristics of service quality and describes the link between service quality, satisfaction, and loyalty. After the survey questionnaires were collected, the data was encrypted, cleaned, and loaded into SPSS for reliability and EFA discovery factor analysis. Then, we employed a comprehensive, valid, and trustworthy tool (SPSS 26 and SmartPLS 3.0 software) to assess rigorous statistical tests, such as convergence validity, discriminative validity, reliability, and AVE, to investigate and validate the proposed hypothesis.
DATA ANALYSIS

Reliability and Validity of Model

The existence of convergent and discriminant validity determines to construct validity, which indicates how well the assessment items connect to the constructs. We employed three tests to verify convergent validity: item reliability, composite reliability, and AVE. Cronbach's alphas also show that composite dependability is appropriate, with values over 0.6 indicating. Table 2 shows that all our constructions' composite reliabilities were over 0.7, and their Cronbach's alphas were above 0.6. The AVE ratio is the number of variances captured by a construct's items to the number of variations attributable to measurement error. The clash recovered for each construct was more than the suggested value of 0.5. (Hair et al., 2016). As a result, we concluded that all our constructs had sufficient convergent validity.

Table 2: Construct Reliability and Validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer service</td>
<td>0.844</td>
<td>0.847</td>
<td>0.896</td>
<td>0.682</td>
</tr>
<tr>
<td>Product quality</td>
<td>0.705</td>
<td>0.728</td>
<td>0.813</td>
<td>0.523</td>
</tr>
<tr>
<td>Information quality</td>
<td>0.839</td>
<td>0.841</td>
<td>0.893</td>
<td>0.677</td>
</tr>
<tr>
<td>Delivery service</td>
<td>0.815</td>
<td>0.818</td>
<td>0.878</td>
<td>0.642</td>
</tr>
<tr>
<td>Perceived price</td>
<td>0.839</td>
<td>0.844</td>
<td>0.892</td>
<td>0.675</td>
</tr>
<tr>
<td>Reverse logistics</td>
<td>0.830</td>
<td>0.832</td>
<td>0.888</td>
<td>0.666</td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.821</td>
<td>0.827</td>
<td>0.875</td>
<td>0.585</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.886</td>
<td>0.886</td>
<td>0.913</td>
<td>0.638</td>
</tr>
</tbody>
</table>

We utilized two tests to determine discriminant validity: a comparison of item loadings with item cross-loadings and a comparison of the variance extracted from the construct with shared variance. Each component should have a higher priority on its intended build than on others. Henseler et al. argued that leading coefficients more significant than correlation coefficients in the same column (Fornell-Larcker matrix coefficient) satisfy the criteria (2015). Table 3 revealed that all the items met the criteria for discriminant validity.
Table 3: Discriminant validity (Fornell-Larcker Criterion)

<table>
<thead>
<tr>
<th></th>
<th>Chăm sóc khách hàng</th>
<th>Chất lượng sản phẩm</th>
<th>Chất lượng thông tin</th>
<th>Dịch vụ giao hàng</th>
<th>Giá cả</th>
<th>Hậu cần ngược</th>
<th>Lòng trung thành</th>
<th>Sự hài lòng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chăm sóc khách hàng</td>
<td>0.826</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chất lượng sản phẩm</td>
<td>0.552</td>
<td>0.723</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chất lượng thông tin</td>
<td>0.694</td>
<td>0.592</td>
<td>0.823</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dịch vụ giao hàng</td>
<td>0.635</td>
<td>0.584</td>
<td>0.681</td>
<td>0.801</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giá cả</td>
<td>0.820</td>
<td>0.557</td>
<td>0.782</td>
<td>0.686</td>
<td>0.821</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hậu cần ngược</td>
<td>0.726</td>
<td>0.680</td>
<td>0.666</td>
<td>0.573</td>
<td>0.668</td>
<td>0.816</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lòng trung thành</td>
<td>0.777</td>
<td>0.675</td>
<td>0.679</td>
<td>0.615</td>
<td>0.700</td>
<td>0.837</td>
<td>0.765</td>
<td></td>
</tr>
<tr>
<td>Sự hài lòng</td>
<td>0.831</td>
<td>0.621</td>
<td>0.751</td>
<td>0.682</td>
<td>0.813</td>
<td>0.730</td>
<td>0.773</td>
<td>0.799</td>
</tr>
</tbody>
</table>

PLS Structural Model Results

We then looked at the structural model's overall explanatory ability. The variance was explained by the independent variables as well as the size and strength of its routes, where each of our hypothesis’s correlates to a distinct structural model path. R Square Adjusted was used to assess the model's explanatory power, which was evaluated in the same way as regression analysis. The research found that the structural model explained around 78.2 percent of the variation in Satisfaction and 77.8 percent of the variation in Loyalty, suggesting that the structural model served as an appropriate explanatory model. (see Table 4).
Table 4: R square

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>0.782</td>
<td>0.778</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.785</td>
<td>0.782</td>
</tr>
</tbody>
</table>

We ran the test with sample size Bootstrapping N = 5000 to evaluate the structural model (Henseler et al., 2015). The presented hypotheses are statistically significant at the 99 percent, 95 percent, and 90 percent reliability levels with p-values of 1%, 5%, and 10% respectively.

Table 5: Hypothesis result.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>P Values</th>
<th>Hypothesis result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Delivery service → Satisfaction</td>
<td>0.025</td>
<td>Supported</td>
</tr>
<tr>
<td>H2 Information quality → Satisfaction</td>
<td>0.005</td>
<td>Supported</td>
</tr>
<tr>
<td>H3 Product quality → Satisfaction</td>
<td>0.020</td>
<td>Supported</td>
</tr>
<tr>
<td>H4 Customer service → Satisfaction</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H5 Reverse logistics → Satisfaction</td>
<td>0.012</td>
<td>Supported</td>
</tr>
<tr>
<td>H6 Perceived price → Satisfaction</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H7 Delivery service → Loyalty</td>
<td>0.544</td>
<td>Rejected</td>
</tr>
<tr>
<td>H8 Information quality → Loyalty</td>
<td>0.508</td>
<td>Rejected</td>
</tr>
<tr>
<td>H9 Product quality → Loyalty</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H10 Customer service → Loyalty</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H11 Reverse logistics → Loyalty</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H12 Perceived price → Loyalty</td>
<td>0.448</td>
<td>Rejected</td>
</tr>
<tr>
<td>H13 Satisfaction → Loyalty</td>
<td>0.016</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Based on the results of the direct relationship analysis from Table 4, it indicates that the hypothesis (H7, H8 and H12 is rejected, H1,H2, H3, H4,H5, H6, H9, H10, H11 and H13 are accepted)

CONCLUSION

This study has identified the factors affecting customer loyalty when buying products in the electronic market by applying qualitative and quantitative research methods with 401 observed samples to test a linear structure. Based on the research results, some suggested governance implications for businesses doing business in the electronic market are as follows:

In the complicated situation of the Covid-19 epidemic, freight forwarding activities face many difficulties due to social distancing directives and blockade
of areas. Therefore, businesses selling domestic goods on the electronic market should take measures to avoid risks arising when transacting online. Domestic sales enterprises need to have links with shipping businesses to minimize the delay of delivery staff. Companies need to promptly grasp changes in the delivery process so that goods can reach consumers promptly and safely. In addition, businesses selling on the electronic market need to ensure the quality of goods to reduce customers' fears by choosing reputable suppliers or inspecting goods before delivering them to customers. The prolonged Covid-19 epidemic will make the Vietnamese economy decline, so many customers also reduce their income in life. Specifically, domestic businesses should have an online sales consulting program on the online trading floor, consult through the customer care system, and increase staff arrangements to answer questions and complaints of customers. Thereby, businesses will increase customers' trust in both pressures from the epidemic and reduce frustration when not being taken care of immediately or adequately after purchase. In addition, businesses need to provide sufficient information about the origin of the product to create trust and reduce anxiety for customers when buying products of unknown origin or confused with products originating from developing countries—epidemics such as China and India.

In addition, electronic market management enterprises in coordination with retailers should prioritize buying and selling domestic products on the electronic market. In addition, to carry out consumer behavior education, e-logistics platforms should have promotions for domestic’s goods. Enterprises doing business in the electronic market need to strengthen the quality and offer reasonable prices to promote customer loyalty to Vietnamese goods in the electronic market. Because of the impact of the Covid-19 pandemic, the issue of social distancing led to a change in the time to access shopping on the online market. Therefore, businesses need to expand the most reasonable advertising and marketing time frames to increase access to domestic products to customers in the best way.
REFERENCES


Lysenko-Ryba, K. (2017). The Impact of Reverse Logistics on Customers
Satisfaction Re-verse Logistics Is One of Many Lines of Research in the Area of Supply Chain Manage. *Przedsiębiorczość i Zarządzanie*, 18, 137-146.


