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# B2C E-Commerce Service Quality Improvement in the Southeastern Provinces of Vietnam

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## Abstract

Online commercial operations are rapidly expanding as a result of the proliferation of smartphones and the internet. Vietnam is also becoming more profoundly and broadly integrated with world trade. As the most dynamic economic region in Vietnam, the situation of the southeastern provinces also has many fluctuations. The Covid-19 epidemic in particular has amplified the impact of e-commerce. The economy would fall into slumber without e-commerce. Additionally, with one of the highest yearly growth rates in Vietnam, southeastern provinces' online retail sector is one of the most active. Consequently, the goal of this study is to raise the caliber of B2C e-commerce services in Vietnam southeastern provinces. 385 online shoppers from five of provinces' most popular e-commerce sites contributed the data. Research findings indicate: Customer satisfaction is positively impacted by eight B2C e-commerce quality parameters.

## 1. Context

According to the World Trade Organization (WTO), "E-commerce includes the production, advertising, sale and distribution of products purchased, sold and paid for on the Internet, but physically delivered, all delivered products as well as digitized information through the Internet". E-commerce participants can be divided into: Government (G-Government), Enterprise (B-Business) and Customers (C-Customer or Consumer). Then, combining these 3 objects will have 9 smaller forms of e-commerce participation: B2C, B2B, B2G, G2B, G2G, G2C, C2G, C2B and C2C (Zorayda, 2003) [13]. One of the most popular types of e-commerce in the world is B2C (Business-to-Consumer), which is a business-to-customer form of business through e-commerce. This is also known as the online retail service of companies over the Internet. In the Vietnam southeastern provinces market, many international and domestic retail groups have entered the e-commerce market. E-commerce has created many opportunities, as well as challenges for businesses (Wu *et al*., 2011) [11].

According to the EBI Report (2019), Vietnam southeastern provinces' e-commerce is developing at a high rate. In 2018, Vietnam southeastern provinces' e-commerce continued to develop comprehensively with a growth rate of over 20%. With high and continuous growth since 2015, business-to-consumer (B2C) e-commerce is expected to reach a total value of 7 billion USD (Vietnam E-commerce Association, 2018) [10]. However, this report also shows that there are still many obstacles for the breakthrough in the coming period. The biggest obstacles include low consumer confidence in online purchases, limited logistics services - last-mile delivery - order fulfillment, especially the digital gap between localities are still very high.

Especially according to Directive No. 16/CT-TTg on urgent measures to prevent and control the COVID-19 epidemic, ensure social distancing, keep a distance between people to minimize the risk of community infection, force people to stay at home, limit going out as much as possible, except for absolutely necessary cases (No. 16/CT-TTg, 2020) [9], which has severely affected commercial activities in general, but it is a great opportunity for the e-commerce sector. According to a report by National Payment Services Joint Stock Company (NAPAS), online domestic card payment in 2017 increased by about 50% compared to 2016 and transaction value increased by 75% (Vietnam National Payment Joint Stock Company, 2017). It is easy to see that the trend of customer's increasingly buying products of higher value in e-commerce.

According to EMarketer (2016) [2], Vietnam southeastern provinces' online retail sales at the time of the survey in August 2016 reached about 1.71 billion USD in total retail sales in the Vietnam southeastern provinces market. This payment value is still small, not commensurate with the potential of the whole market. Specifically, in terms of scale with a low starting point of about 4 billion USD compared to 2015, but thanks to the high average growth rate for three consecutive years, the size of the e-

Commerce market in 2018 reached about 7.8 billion USD. USD. This market includes: online retail, online travel, online marketing, online entertainment and online buying and selling of other digitized products and services.

## 2. Research Methods

Both qualitative and quantitative research was employed by the authors. Firstly, qualitative research was conducted in January 2020 through in-depth interviews with 10 clients (including 5 women and 5 men) in Ho Chi Minh City and Binh Duong province. In which, these 10 customers were selected when they had ever shopped online on all 5 research websites. Each interview lasted 35 minutes with 10 clients ranging in age from 25 to 40 years old. The objective of the in-depth interview process is to examine the relevance of the questionnaire to the e-commerce platform and customer perception in Vietnam southeastern provinces. After the interview, the author group received comments from customers. Since then, the authors have adjusted and completed the questionnaire. The questionnaire consists of the following two parts:

Questions pertaining to consumer personal information, such as age, gender, income, and education, are included in the first section created by the author team.

The authors' second section aims to measure client happiness and the quality of business-to-consumer (B2C) e-commerce services. The author team organized the second section's 48 questions into two categories. Group 1's questions on the quality of e-commerce (B2C) services cover eight crucial areas: (1) website design, (2) reliability, (3) fulfillment, (4) confidentiality, (5) responsiveness, (6) personalization, (7) information, and (8) empathy. Group two, including 8 questions about customer satisfaction. Second (quantitative research), the authors used a 5-point Likert scale, in which: 1 = strongly disagree, 2 = disagree, 3 = normal, 4 = agree, 5 = completely agree to quantify e-commerce service quality (B2C) and customer satisfaction when shopping at 5 websites, including three Vietnamese websites: vatgia.com, sendo.vn and tiki. VN; two foreign websites: shopee.vn and lazada.vn. The authors chose these five websites because they had the most transactions over the previous four quarters, according to the research (Vietnam e-commerce map, 2020) [8].

The authors invited friends and clients in Vietnam southeastern provinces to participate in the study and assist in its replication by posting the questionnaire on social networking sites like Facebook and Zalo and sending it to those individuals through email. To gather primary data for this study, the authors used a random sampling technique. The study is done by the author's team using 297 legitimate answer sheets that they have collected as a result.

## 3. Research Results and Discussion

### 3.1 E-commerce service quality (B2C) and customer satisfaction

To evaluate B2C, Parasuraman *et al* (1988) developed the SERVQUAL scale - a measuring tool including 22 components to quantify service quality from the customer's point of view. This study points out five important factors to evaluate service quality including: reliability, responsiveness, assurance, empathy and tangibles. However, SERVQUAL is developed and measures factors in the condition of undeveloped e-commerce, besides the service quality factors are tangible. Therefore, the application of this

model to measure the quality of e-commerce (B2C) services is not appropriate. Zeithaml *et al*. (2002) [12], built the e-SERVQUAL scale to measure the quality of online services perceived by customers. This scale includes seven factors: effectiveness, trust, completion, confidentiality, responsiveness, compensation and communication.

The SERVQUAL scale, a measurement instrument with 22 components to assess service quality from the perspective of the consumer, was created to evaluate B2C (Parasuraman *et al*. in 1988). This study identifies five crucial criteria for judging service quality, including dependability, responsiveness, assurance, empathic response, and tangibles. The service quality elements are tangible, however SERVQUAL is designed and assesses variables in the context of underdeveloped e-commerce. As a result, it is inappropriate to use this model to assess the quality of e-commerce (B2C) services. The e-SERVQUAL scale was developed to assess how customers rate the quality of online services (Zeithaml *et al*., 2002) [12]. Effectiveness, trust, completeness, secrecy, responsiveness, compensation, and communication are the seven components of this measure.

Duong Thi Hai Phuong (2012) [1], in her research, gave the following factors: information about the company and products, perceived ease of use, perceived risks, perceived benefits, purchasing experience and online shopping intention to measure e-commerce service quality through online shopping. Ha Nam Khanh Giao (2017) [3], pointed out: efficiency, responsiveness, reliability, assurance, website quality, ease of use to quantify the quality of e-commerce services in research.

According to Yang and Jun (2002) and Zorayda Ruth Andam (2003) [13], has extended knowledge related to service quality aspects in the context of e-commerce, from different perspectives of two groups: buyers and non-buyers of Internet services [2, 13]. This study has identified six main service quality characteristics that have been pointed out by Internet service buyers, namely: (1) reliability, (2) accessibility, (3) ease of use, (4) personalization, (5) confidentiality, and (6) credibility. Lee and Lin (2005) [6] developed a model to examine the relationship between e-commerce service quality and overall service quality, between customer satisfaction and purchase intention. This study has shown e-commerce service quality (B2C): (1) website design, (2) reliability, (3) responsiveness and (4) trust.

According to the research of Li and Suomi (2009) [7], the research team presented an 8-dimensional scale based on the E-SERVQUAL scale to assess the quality of electronic services: (1) website design, (2) degree reliability, (3) fulfillment, (4) confidentiality, (5) responsiveness, (6) personalization, (7) information, and (8) empathy. The authors claim that many scenarios have been used to study the quality of e-commerce services. Included in this are the caliber of electronic services, online retail services, online shopping services, and online financial services. The majority of the aforementioned research integrate certain website quality elements with the SERVQUAL scale's inherited variables.

***Customer satisfaction:*** According to P. Kotler (1997) [5], customer satisfaction is the result of experiences throughout the shopping process, including specific steps: need perception, information search, evaluation of alternatives, purchasing decision making and post-purchase and consumption behavior. It therefore covers all the reactions

that a buyer may display as well as the various stages in the buying process.

**Customer satisfaction and e-commerce service quality research model in Vietnam southeastern provinces**
The authors have inherited the e-SERVQUAL scale to propose a research model on e-commerce service quality (B2C) and customer satisfaction in Vietnam southeastern provinces, including the following factors: (1) website design, (2) reliability, (3) completion, (4) confidentiality, (5) responsiveness, (6) ersonalization, (7) information, (8) empathy and satisfaction. Furthermore, the authors refer to the questionnaire of Li and Suomi (2009) [7] which has been adjusted to suit the conditions of e-commerce and consumers' perceptions in Vietnam southeastern provinces.
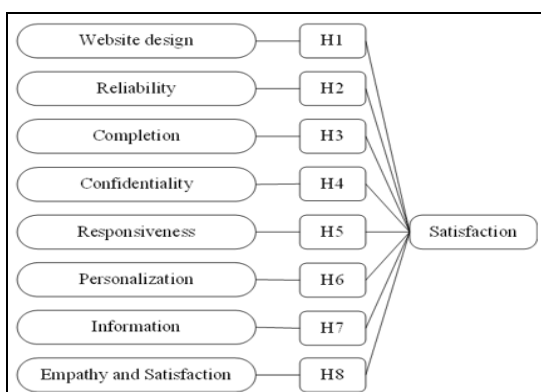


**Source:** Suggested by the author, 2021

**Fig 1:** Research model of e-commerce service quality (B2C) and customer satisfaction in Vietnam southeastern provinces

Hypotheses (Fig 1):
H1: Website design has a positive influence on customer satisfaction.
H2: Reliability has a positive effect on customer satisfaction.
H3: Completion has a positive effect on customer satisfaction.
H4: Confidentiality has a positive effect on customer satisfaction.
H5: Responsiveness has a positive influence on customer satisfaction.
H6: Personalization has a positive effect on customer satisfaction.
H7: Information has a positive influence on customer satisfaction.
H8: Empathy has a positive influence on customer satisfaction.

*Sample characteristics:* According to the research findings, there are 72% more female respondents to the survey than male respondents, who make up a much smaller 28% of the total. The majority of survey respondents (58.6%) are under the age of 30, while 11.1% of those over the age of 40 rarely engage in online shopping. The report also reveals that the majority of survey respondents had a bachelor's degree or above (51.2%), followed by a university degree (27.3%), and the remainder had a master's degree or higher. Regarding income, 52.2% of survey respondents make between 4 and 8 million VND per month, 32.3% make over 8 million VND per month, and the other consumers make less than 4 million. Shopee.vn has the highest consumer

participation rate (35%), followed by tiki.vn (24.2%), lazada.vn (22.2%), vatgia.com (12.8%), and sendo.vn (the remaining websites).
*Scale reliability:* To consider the reliability of the data, the authors use the reliability coefficient (Cronbach Alpha) to evaluate the reliability of the scales. This method helps to remove the observed variables that are not reliable enough (with the total variable correlation coefficient < 0.3). According to Mong Ngoc (2008) [4], the assurance scales must have Cronbach Alpha coefficient ≥ 0.6. The data in Table 1 show that, 08 factors of B2C e-commerce quality with confidence coefficients are all greater than 0.6 and sig is very small. Therefore, these eight factors have a reliable database. Therefore, these eight factors are all used in factor analysis (EFA) (Table 1).

**Table 1:** Reliability coefficient

| Factor | Reliability coefficients | Sig | Mean |
|---|---|---|---|
| Website design | 0.765 | 0.000 | 3.78 |
| Reliability | 0.834 | 0.000 | 3.47 |
| Completion | 0.737 | 0.000 | 3.46 |
| Confidentiality | 0.733 | 0.000 | 3.05 |
| Responsiveness | 0.805 | 0.000 | 3.12 |
| Personalization | 0.719 | 0.000 | 3.85 |
| Information | 0.763 | 0.000 | 3.66 |
| Empathy | 0.743 | 0.000 | 3.65 |

**Source:** Compiled by the author from survey data, 2021

*Factor analysis:* From 08 factors in the scale, the authors conduct exploratory factor analysis. In which, the authors used the method of extracting Principal components with Varimax rotation for analysis, and at the same time removed observed variables with Factor loading value ≤ 0.5 from the scale. As a result, variables PH1 and DC1 have a factor loading factor of less than 0.5, so they have been excluded from the model. The remaining variables all satisfy Bartlett's criteria and the KMO coefficient and the extraction coefficient are over 72%.
*Regression:* In order to investigate the connection between B2C e-commerce service quality and client happiness in Binh Duong province, regression analysis was used. The regression of 8 factors affecting the quality and satisfaction of e-commerce services is analyzed by the author using the Enter technique. The model's fit was assessed using the modified coefficient of determination $R^2$ (Table 2).

**Table 2:** Regression Analysis Results

| $R^2$ | 0,921 | | | |
|---|---|---|---|---|
| Adjusted $R^2$ | 0,855 | | | |
| Durbin-Watson | 1,636 | | | |
| Sig | 0,000 | | | |
| | Regression coefficient | Normalized regression coefficient | Sig | Variance Inflation Factor |
| Website design | 0,112 | 0,113 | 0,021 | 1,134 |
| Reliability | 0,281 | 0,321 | 0,000 | 1,893 |
| Completion | 0,102 | 0,101 | 0,012 | 1,032 |
| Confidentiality | 0,021 | 0,023 | 0,035 | 1,324 |
| Responsiveness | 0,093 | 0,111 | 0,018 | 1,675 |
| Personalization | 0,165 | 0,145 | 0,000 | 1,233 |
| Information | 0,178 | 0,186 | 0,000 | 1,934 |
| Empathy | 0,121 | 0,128 | 0,001 | 2,382 |

**Source:** Compiled by the authors from analytical data, 2021

Table 2 shows Sig = 0.000 of 08 factors in the scale of B2C

e-commerce service quality is consistent with the collected data. The factors in the scale do not have multicollinearity. Moreover, the adjusted $R^2$ coefficient is 0.855, which means that the variables in the model explain 85.2% of customer satisfaction when participating in B2C e-commerce at 5 websites. According to the analysis results of the regression parameters in the model, it is shown that: the significance level of the Sig components is < 0.05, so 08 factors in the e-commerce service quality scale are statistically significant or have a positive impact on customer satisfaction. In which, trust has the greatest impact on customer satisfaction (0.281) and the factor with the lowest impact is security (0.021).

*3.2 Discussion*
In order to effectively improve the quality of e-commerce services from the research results, the authors propose the following solutions:

1.  It is necessary to increase consumer confidence in B2C e-commerce transactions such as: Need to ensure accurate delivery service; provide a clear and simple service delivery process; must keep its promise to provide quality customer service and simple and accurate transaction information.
2.  Improve customer information security: According to this study, security is the most underrated factor by customers. Therefore, e-commerce websites need to: Improve the security of customers' data and at the same time commit to customers about confidentiality; the terms of the transaction need to be clearly stated; In particular, must commit not to sell customer information to 3rd parties.
3.  In this study, feedback is a factor that is underrated by customers. Therefore, to improve the quality of B2C e-commerce services, websites need to: Improve the ability to interact with customers; communicate product or service information accurately; especially to shorten the time of customer complaints.
4.  Moreover, in order to improve the quality of B2C e-commerce services, websites also need to regularly screen for poor quality suppliers, and at the same time add potential and quality suppliers.

## 4. Conclusions and Recommendations
### 4.1 Conclusion
This study shows that the quality of B2C e-commerce services of Vietnamese websites has been meeting the needs of customers when shopping online, especially during the global outbreak of Covid-19. In Vietnam southeastern provinces, thanks to e-commerce, customers can satisfy their essential needs easily while maintaining social distancing. Moreover, the study also shows that: 08 factors in the B2C e-commerce service quality scale positively affect customer satisfaction. At the same time, in order to improve the quality of e-commerce services, e-commerce websites must also improve the trust of customers, increase the ability to interact and react with customers before, during and after purchase.

### 4.2 Suggestion
In order to operate B2C e-commerce more effectively and help consumers optimize transactions and satisfaction:
Government needs more legal regulations to manage the quality of e-commerce services in general and B2C in particular. Moreover, it is necessary to introduce specific sanctions to resolve disputes between enterprises and consumers to enhance trust and transparency. In particular, government needs to encourage and create conditions in terms of capital and legal corridors for businesses to invest in e-commerce; have detailed and clear evaluation criteria for the quality of businesses participating in B2C e-commerce and regularly publish them for consumers to have a reference. Therefore, customers can make more appropriate decisions when participating in e-commerce.
Enterprises need to be proactive to improve their service delivery capabilities such as: (1) businesses need to ensure the reliability of the service delivery process and the information must be simple, clear, and accurate; (2) enterprises need to be honest in the process of providing information about products and services, costs, prices and warranty conditions; (3) nowadays, the trend of personalizing transactions is being appreciated, affecting the depth of customer perception and easily getting customers' attention. Therefore, businesses need to invest in technology and study more closely the psychology of customer preferences to have personalized effects tailored to each customer. In particular, it is necessary to train professional staff when there are questions or complaints from consumers, employees can quickly solve them with an attitude of empathy and sharing.
Consumers also need to improve their own judgment when participating in e-commerce activities. At the same time, they should consult the price and quality of products and services on forums to have a more comprehensive view of the service quality of that website, thereby having successful transactions and minimizing risks when participating in e-commerce.

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