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Customer Satisfaction towards Online Shopping at Electronics Shopping Malls in Vietnam- A Conceptual Model to Enhance Business Success through Efficient Websites and Logistics Services

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Abstract

Along with the development of electronic commerce, e-consumers have become more important than ever before, requiring retailing marketers to appeal to this target group. In this study, the authors aim to measure customer satisfaction towards online shopping process and home delivery service, and seek to empirically establish a practical online service model for shopping malls selling electronics devices in Vietnam. The theoretical framework is drawn out, and questionnaire items are designed based on the factors chosen. The data are carried out by using multiple statistical analyses, including exploratory factor analysis, reliability analysis, mean point value, and multiple linear regressions. The regression analysis results show that the most significant factors affecting customer satisfaction towards online shopping activities are product feature satisfaction, tangibility, empathy, effectiveness and understandability. This study provides significant suggestions for Vietnamese mall owners to relieve consumers' security concerns about online shopping and to raise their belief in the trustworthiness of e-service provided.

Keywords: Electronic commerce; Customer satisfaction; Online shopping; Logistics services

Introduction

The internet era largely contributes to the development of electronic commerce since thousands of companies are nowadays formed to sell goods and services over the internet [1]. Companies like Nike, Disney, Coke, and Toyota are all well-established brands over the internet that drive customer to easily search for and find their desirable products [2].

Many experts assumed that e-commerce currently represents a growing piece of the overall commerce pie and its share is expected to increase steadily in the near future [3-5] so that shopping mall owners must not simply provide customer the access to their desired but also give them the opportunities to experience products, and understand their social motives and experiential needs as well [6]. For example, in response to changing consumer needs, malls have expanded to provide more various kinds of services and entertainment. Especially, most of malls have e-shopping portals and home delivery services that aim to serve young people and busy customers [7]. Along with the development of electronic commerce, e-consumer, a distinct group of customers who turns to choose web-pages to purchase products, has become an important object than ever before and require retail marketers to appeal [8].

Travica [9] supposed that one of the major challenges and the most advantages to development of e-commerce is logistics service. Logistics service or door-to-door home delivery service is considered as a vital component in improving the convenience of online transactions and the physical distribution of goods [10]. This concept has recently become a growing reality in every country all over the world, allowing shippers to outsource logistical activities that had previously had to be conducted in house. Obviously, e-consumer requires home reliable delivery services that make it easy for them to purchase products from their own home and then have them delivered 'right to the door'. Therefore, shopping mall owners need to effectively build and expand the integrated system of e-shopping and logistics in order to gain the loyalty of e-consumer.

A report from the Vietnam E-commerce and Information Technology Agency (VECITA) found that 57 percent of the Vietnamese population has bought goods or services online. Ninety-six percent of Vietnamese people consider buying goods online as common. By VECITA's previous estimates, the e-commerce market is currently worth $700 million and will grow to $1.3 billion by 2015. It is vital that Vietnam has one of the most bullish e-commerce markets in the Asian region through that estimation of VECITA.

The authors have found that along with the development of e-commerce, it has been extremely raising a competitive market of malls that sell electronics appliances in big cities of Vietnam from the last decade till now. Leading of the electronic markets are popular websites like Media Mart, Nguyen Kim, Thien Hoa, Pico, Cho Lon and HC. But of this group, Nguyen Kim has played a decisive role in making e-commerce acceptable and widespread in Vietnam. It is also very well-known for its B2B and B2C e-commerce service. Besides, group buying sites and social networks are very popular in Vietnam, including leaders such as Hotdeal.vn, Muachung.vn, Cucre.vn, Cungmua.com and Mhommua.com as well as Facebook and ZingMe. Malls that sell electronics appliances (as listed above) also link to these sites to promote their products.

The authors explored that very few studies have examined the needs of e-consumers with respect to e-shopping for electronics and appliances merchants in the Vietnamese market. Hence, this study aims to establish a new e-service model for electronic shopping malls in Vietnam. Through this study, customer' voice and their concerned about e-shopping process integrated with home delivery services are noticed and carefully presented. The paper also proposes

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some suggestions for the mall owners to improve the operations of researching malls in Vietnam.

Literature Review

The concepts of e-commerce

The highly advanced technology that appears in the Internet nowadays is amazing and helps firms to do businesses effectively because this powerful tool provides unlimited opportunities for both companies and customers [11]. Tian and Stewart [12] described e-commerce as the transaction of goods and services through electronic communications. According to the study of Gunasekaran [13], e-commerce is defined as four perspectives:

(1) Communication perspective: e-commerce is the deliverer of information, products/services or payments over telephone lines, computer networks or any other electronic means

(2) Business process perspective: e-commerce is the application of technology towards the automation of business transactions and work flows

(3) Service perspective: e-commerce is a tool that addresses the desire of firms, consumers and management to cut service costs while improving the quality of goods and increasing the speed of service delivery

(4) Online perspective: e-commerce provides the capacity to buy and sell products and information on the Internet as well as other online services

There are two basic type of e-commerce: business-to-business (B2B) and business-to-consumer (B2C). B2B e-commerce refers to the sale of products and/or services, or information exchange among two or more businesses through electronic technology, usually with the use of Internet, in a public or private exchange [14]. In B2C, companies sell products and services directly to consumers.

Customer satisfaction with the quality of website

A key aspect in customer satisfaction is the way a customer can attain satisfaction or dissatisfaction with a company's product or service. Satisfying customers depends on the balance between customers' expectations and customers' experiences with the products and services [15]. Because a website is an important part of the effective connection between a company and customers, managers always make efforts to offer and guarantee the quality of company's website to satisfy customer.

Comparing customers' expectations and their perceptions of actual performance can be done by making use of the SERVQUAL scale of Berry, [16]. This scale has been developed for the service sector. It has five generic dimensions or factors and is stated as follows:

(1) Tangibles: Physical facilities, equipment and appearance of personnel

(2) Reliability: Ability to perform the promised service dependably and accurately

(3) Responsiveness: Willingness to help customers and provide prompt service

(4) Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence

(5) Empathy: Caring and individualized attention that firms provide its customers

Some aspects of the tangible factor like the visual aspects of the equipment (i.e. the website), the speed of informative transaction, etc. are the only visual contact between a customer and an organization. Therefore, the need to have well-functioned and good-looking websites is paramount. There are a great number of customers who abandon their shopping carts on the Internet because they get frustrated with the technology or the design and layout of the website interface. While young people may be attracted by attractive graphics, sounds and a high-speed interface, older people do not want blinking texts that are hard to read or animations that distract from the use of the website [17].

One of the important aspects of the reliability factor is giving dependable and accurate service guarantee the ability to perform the promised service. Some organizations found out the hard way that there are also a lot of customers shopping via the Internet because of convenience considerations. If customers cannot trust an organization to do what they ask, those customers will be unhappy.

One of the necessary aspects in the responsiveness factor is the ability of giving prompt service. The amount of time it takes to download a web page appears to be of great importance to the users of the Internet. It is very important for organizations to have a website that is quick, but on the other hand users expect web sites to be visually appealing. The design department of a company wants web pages to be easily recognizable by adding company and product logos as well as other graphics. However, these graphics add to the overall size of web pages and thereby increase the download time for Internet users.

Some aspects of the assurance factor are 'knowledge to answer questions', 'employees can be trusted' and 'feel safe in your transactions with employees'. Customers expect that web shops have rich and relevant product information that can satisfy their need [18]. Besides, users are very concerned about missing credit card information given over the Internet; or selling or sharing of personal information by web site owners [19].

In the dimension of empathy, the idea is that the more a web site is tailored to a particular customer's needs, the more likely that customer will return again and again. The latter possibility of asking users of a website questions via a virtual assistant will enable companies to tailor their offerings to the wishes of the user to prevent customer dissatisfaction. The most advanced technologies in this area aim to create a face-to-virtual-face interaction. A friendly looking face of a virtual assistant on your screen is supposed to make customers feel more comfortable. With the use of artificial intelligence, the virtual assistant can suggest products or services that might be of interest to a customer based on previous purchases and on reactions to the questions of the virtual assistant.

Logistics service quality

While internet era assists the development of electronic commerce, the logistics services will take the role of establishing and enhancing brand relationships between business and customers. The past literature divided "business" into "shipper" (e.g. suppliers, manufacturers, wholesalers, and retailers) and "logistics service provider" (e.g. freight carriers, warehouse firms, and third party logistics). Coyle [20] defined logistics service provider as an organization performs part of or all of the logistics functions of a company. Bagchi and Virum [21] define logistics service as the connection between customers and providers, and fulfill several logistic needs. The logistics management task normally has five components:

(1) Storage facilities include warehouses, distribution centers,

stock rooms of retail stores, and so on. Retailers manage these facilities to enable them to keep stock in anticipation of or to react to, demand for products

(2) Inventory: All retailers hold stock to some extent. The question for retailers is the amount of stock or inventory (finished products and/or component parts) that has to be held for each product, and the location of this stock to meet demand changes

(3) Transportation: Most products have to be transported in some way at some stage of their journey from production to consumption. Retailers therefore have to manage a transport operation that might involve different forms of transport, different sizes of containers and vehicles and the scheduling and availability of drivers and vehicles

(4) Unitization and packaging: Consumers generally buy products in small quantities. They sometimes make purchase decisions based on product presentation and packaging. Retailers are concerned to develop products that are easy to handle in logistics terms, do not cost too much to package or handle, yet retain their selling ability on the shelves

(5) Communications: To get products to where retailers need them, it is necessary to have information, not only about demand and supply but also about volumes, stock, prices and movements. Retailers have thus become increasingly concerned with being able to capture data at appropriate points in the system and to use that information to have a more efficient and effective logistics operation. It should be clear that all of these elements are interlinked

Methodology

Research design

This empirical study was conducted by using survey to get e-customers' ideas about online shopping activities performed at e-portal of malls that sell electronics appliance in Vietnam. A questionnaire was developed to collect information from customers at big sites like Media Mart, Nguyen Kim, Thien Hoa, Pico, Cho Lon and HC.

Measurement instrument

The questionnaire composed of three sections: (1) Section one collects the demographic information of respondents; (2) Section two collects the response on the seven sub-scales of customer satisfaction (product features, tangible, reliability, empathy, assurance, responsiveness and logistics services); (3) Section three contains one additional question evaluating overall customer satisfaction towards e-service offered by Vietnamese electronics shopping centers.

These items were in the form of five-point Likert scale. Options were ordered as; "Strongly dissatisfied", "dissatisfied", "Undecided", "satisfied" and "Strongly satisfied". The answers were ordered from "Strongly dissatisfied" to "Strongly satisfied" by grading them from 1 to 5.

Data collection

Questionnaire was designed by authors in December 2014 and the process of collecting data was taking place from 1st January 2015 to 31st March 2015. The data was collected during a period of three months by asking customers to either tell or write their replies in response to 350 samples developed by two groups.

For the first group of respondents, at the main gates of Media Mart and Nguyen Kim, the authors physically delivered 150 pieces of questionnaires to customers. There are 130 pieces of that delivered number were collected and used to be analyzed officially (only 20 questionnaires were discarded due to not completed).

Next, the authors created a survey using Google forms and through the apps of social network they delivered the rest of 250 pieces of questionnaires to any have experienced e-shopping at e-portal of Media Mart, Nguyen Kim, Thien Hoa, Pico, Cho Lon and HC. For this second group of respondents, the authors only collected 170 pieces that are good enough to analyze.

Finally, the total number of collected questionnaires in this study is 300 and the response rate is represented at 85.71%.

Method of data analysis

Descriptive statistic: Descriptive statistic is defined as a set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation (or variance), the minimum and maximum variables. Descriptive statistics provides a useful description of the basic features of a collection of the data in a study. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. In this study, the researcher uses percentage and frequency to present the demographic characteristic of respondents.

Questionnaire reliability: Reliability indicates degrees of consistency between multiple measurements of a variable.

Firstly, we consider consistency of the entire scale, which Cronbach's alpha being the most widely used measure. The lower limit for Cronbach's alpha is 0.70, although it may decrease to 0.60 in exploratory research. The present study adopts Peterson suggestions with the value 0.6 deemed the lower limit of acceptability (Table 1). Next, to measure item reliability, we regard on the item-to-total correlation (the correlation of the item to the summated scale score). It is suggested that the item-to-total correlations should exceed 0.3.

Exploratory factor analysis (EFA): In multivariate statistics, exploratory factor analysis (EFA) is a statistical method used to uncover the underlying structure of a relatively large set of variables as shown in Table 2. EFA is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables. It is commonly used by researchers when developing a scale

Cronbach's Alpha	Internal consistency
0.90 ≤ α	Excellent
0.70 ≤ α < 0.90	Good
0.60 ≤ α < 0.70	Acceptable
0.50 ≤ α < 0.60	Poor
α < 0.50	Unacceptable

Table 1: Cronbach's Alpha- rule of thumb.

No.	Parameters	Values
1	Kaiser-Meyer-Olkin (KMO)	≥0.50
2	Bartlett's Test of Sphericity significance	<0.05
3	Eigenvalue	>1.00
4	Total variance explained	≥50%
5	Factor loading	≥0.40

Table 2: Summary of criteria of EFA used in this study.

(a scale is a collection of questions used to measure a particular research topic) and serves to identify a set of latent constructs underlying a battery of measured variables. It should be used when the researcher has no a priori hypothesis about factors or patterns of measured variables. Measured variables are any one of several attributes of people that may be observed and measured. An example of a measured variable would be one item on a scale. Researchers must carefully consider the number of measured variables to include in the analysis. EFA procedures are more accurate when each factor is represented by multiple measured variables in the analysis. There should be at least 3 to 5 measured variables per factor. Our study applied EFA as a highly useful and powerful multivariate statistical technique for effectively extracting information from large bodies of interrelated data. When variables are correlated, we manage these variables by grouping highly correlated variables together, labeling or naming the groups.

Multiple regression analysis: However, under the comparison based on the summary statistics of reliability analysis, it is almost impossible to find out the important role of each factor in forming the overall satisfaction level of the customers. If the role of each factor is unknown, owner of malls cannot concentrate on any priority solutions. To solve this problem, it is suggested to apply regression analysis in this study.

Regression analysis is a statistical tool for getting to know the relationships between variables. Usually, the researcher aims to ascertain the causal effect of one variable upon another. To explore such issues, the researcher assembles data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables (independent variables) upon the variable that they influence (dependent variable). The researcher also typically assesses the "statistical significance" of the estimated relationships, that is, the degree of confidence that the true relationship is close to the estimated relationship.

The basic formulation of regression analysis is as the following:

$$y = a_0 + a_1x_1 + a_2x_2 + \ldots + a_nx_n$$

Where: - y: Dependent variable

- $x_1, x_2, \ldots, x_n$: Independent variables

- a_0: Intercept

- $a_1, a_2, \ldots, a_n$: Regression coefficients

The regression coefficient represents the estimated change in the dependent variable for a unit change of a relevant independent variable while others are kept unchanged. The regression coefficients can be achieved through least squares (LS) method.

The term "least squares" is usually used to solve over-determined or inexactly specified systems of equations in an approximate sense. Instead of finding an exact solution for an equation, it is only necessary to minimize the sum of the squares of the residuals. Nowadays, the least square method is widely used to estimate the numerical values of the parameters to fit a function to a set of data and to characterize the statistical properties of estimates. There are several variations of least squares; such as, its simple version is called ordinary least squares (OLS), a more advanced version is called weighted least squares (WLS), which often outperforms OLS because it can modulate the importance of each observation in the final solution. Recent variations of the least square method are alternating least squares (ALS) and partial least squares (PLS).

The ordinary least square (OLS) method defines the estimate of these parameters as the values which minimize the sum of the squares between the measurements and the model. Let y_i & $\hat{y}_i$ be respectively the measurement and model values of entry i[th]; the residuals of this model is defined as:

$$\varepsilon_i = y_i - \hat{y}_i = y_i - a_0 - a_1x_{1i} - \ldots - a_nx_{ni} \quad \left(i = \overline{1,m}\right)$$

The OLS method is expressed as:

$$\sum_{i=1}^{m} \varepsilon_i^2 \rightarrow \min$$

Nowadays, with the great advances in computer technology and software, the parameters $a_0, a_1, a_2, \ldots, a_n$ in the regression models are easily obtained. After the parameters are determined, it is of great importance to test the significance of the overall model and of each regression coefficients. With the outputs from computer-programs, the significance of the overall model is determined by comparing the significance of F-statistics (F-sig.) in ANOVA statistics with a given significance. If the F-sig. is higher than the given significance, the model is not good enough; or it can be said that the model is not fit to actual data set in the real phenomena. If it is concluded that the model is statistically significant, the model is confidently said to be not specific to just this sample but would be expected to be significant in multiple samples from this population. The given significance level is usually chosen at 0.05 (or 5%).Whereas, a variable is said to be statistically significant if the T-statistics significance is not greater than a given significance. The given significance level is actually the probability that a decision to reject a certain hypothesis will be made when it is in fact true and should not have been rejected. If a variable in the regression model is said not to be statistically significant, it should be dropped out from the model.

The parameters $a_0, a_1, a_2, \ldots, a_n$ are often referred to as the metric regression coefficients. It is often difficult to say which of the independent variables has the most influence in determining the value of the dependent variable, because the value of the regression coefficients depends on the choice of units to measure the variable itself. When there is a need to figure out which of the independent variables with different units of measurement has greater impact on the dependent variable, the regression coefficients must be standardized. The standardized regression coefficient represents the change in dependent variable for a change of one standard deviation in an independent variable. The standardized coefficients can be easily recognized from the coefficient output window of SPSS.

Based on the above-mentioned basics on regression analysis, it is therefore strongly suggested to apply regression analysis to this study to find out the importance role of each factor to the overall satisfaction level.

Data Analysis and Results

Description of the sample

A description of the sample can be seen as Table 3.

Building the research model that effectively measures e-service for shopping online and home delivery services for malls that sell electronic applicants in Vietnam

Explore factor analysis for the measurement scales: Table 4 shows the KMO value for three scales (product features, online sale process satisfaction, and after sale service satisfaction) in this analysis is 0.703, 0.825, and 0.858 respectively with the significances of Bartlett's Test of

	Category	Frequency	Percentage
Gender	Female	83	28.7
	Male	206	71.3
Education	College's	47	16.3
	Bachelor's	137	47.4
	Master's	69	23.9
	Ph.D.	36	12.5
Age	<20	88	3.04
	21~35	152	52.6
	36~45	28	9.7
	46~55	9	3.1
	Above 55	12	4.2
Income	$ 300USD- $ 50 USD	67	23.2
	$50USD-$1000USD	88	30.4
	Above $1000USD	21	73
Have you ever gone to shopping online?	1 to 3 times per year	9	3.1
	3 to 5 times per year	219	75.8
	Every month	61	21.1
Products/Merchants	Clothes	100	33.3
	Electronics Applicants	94	31.3
	Cosmetic Products	24	8.3
	Food	64	22.1
	Others	7	2.3
Amount of online time per day	1 hour-2 hour per day	25	8.3
	5 hour-6 hour per day	132	44
	All day	143	47.7
Total		300	100%

Table 3: Statistics of the sampled respondents' characteristics.

Criteria	Product Features	Online Sale Process Satisfaction	After Sale Service Satisfaction
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.703	0.825	0.858
Bartlett's Test of Sphericity Approx.Chi-Square	641.077	2.879E3	1.317E3
df	21	325	55
Sig.	0	0	0
Cumulative %	58%	-	-

Table 4: KMO and Bartlett's test.

Sphericity are all 0.000. Therefore, it can be concluded that using EFA in this study is appropriate.

The statements from A1-A7 (product features); B1-B26 (online sale process satisfaction); C1-C11 (after sale service) are analyzed with EFA approach to find out which elements influence customer satisfaction towards online shopping at electronics shopping centers in Vietnam. The variables named A7, B1, B7, B14, B17, B23, and C1 are impossible to test for internal consistency because factor loadings < 0.5. Therefore, these variables are dropped out from this analysis. After these variables are omitted, the process is done similarly. Final results can be obtained from Tables 5 and 6. The Eigen values for components are all greater than 1 and these factors account for more than 50% of the total variance. This suggests that the scale items are one-dimensional. Exploratory factor analysis (EFA) result is shown as Table 5.

Reliability analysis: In order to analyze the data from the survey, it is important to check the consistency of the variables or items. Encoded data will be done with SPSS software to check questionnaire reliability. The results are shown in Table 7.

Mean value comparison

The summary of mean value in Table 8 shows that among08 factors, factor that makes customer most satisfied towards e-shopping process at electronics shopping malls isTangible_FAC2 because it has the highest mean score of 3.794 points.

Regression analysis

Tables 4 and 7 provides the R and R^2 value. The R value is 0.745, which represents the simple correlation and, therefore, indicates a high degree of correlation. The R^2 value indicates how much of the dependent variable can be explained by the independent variable. In this case, 55.5% can be explained, which is very large. Table 9 indicates that the regression model predicts the outcome variable significantly well. P<0.0005 which is less than 0.05 and indicates that, overall, the model applied is significantly good enough in predicting the outcome variable.

ANOVA as in Table 10 indicates that the regression model predicts the outcome variable significantly well. The sig. column indicates the statistical significance of the regression model that was applied. Here, Sig. F Change is less than 0.05 and indicates that the model applied is significantly good enough in predicting the outcome variable. Moreover, the significance level of F-statistics is too small compared to the given significance. Therefore, it can be concluded that the regression model is good enough to use in this study.

Based on Table 11, with the given significance of 5%, Reliability, Assurance, and Responsiveness are considered not statistically significant since its significance is greater than the given one. Therefore, Reliability, Assurance, and Responsiveness are to be dropped out of the regression model. The 05 factors of Product Satisfaction, Tangible, Empathy, Effective and Understandable are statistically significant in this regression model because p<0.05 and they have significantly effect on the overall satisfaction level of customer towards e-shopping process at electronics shopping malls.

Product Satisfaction has the highest value of standardized coefficient "Beta" than others (1.302), thus Product Satisfaction has the stronger impact on the overall satisfaction level of customer. Reliability, Assurance, and Responsiveness don't have any effect on the overall satisfaction level of the overall satisfaction level of customer towards e-shopping process at electronics shopping malls. These findings are the foundations for shopping malls owners to perform proper strategies to make their customers more satisfied.

Main Findings

The results extracted from exploratory factor analysis (EFA) and reliability analysis draw on the final research model for the current study shown as Figure 1. These steps on the analysis pointed out that

Variables	Rotated Component Matrix		
		Component	
	Statements	1	2
A3	Product appearance	0.856	--
A4	Product price	0.83	--
A6	Product warranty	0.704	--
A5	Product packing	0.543	--
A1	Referral product	--	0.504
A2	Product quality	--	0.625

Table 5: Rotated component matrix (1).

Variables	Rotated Component Matrix							
	Statements	Component						
		1	2	3	4	5	6	7
B2	Information is found with a minimum of clicks	0.68	--	--	--	--	--	--
B3	Links are provided to true pages on related products	0.622	--	--	--	--	--	--
B4	Easy to find relevant information	0.649	--	--	--	--	--	--
B5	It is easy to print from the Web	0.535	--	--	--	--	--	--
B6	Access is fast	--	0.791	--	--	--	--	--
B8	Registration process details are retained securely	--	0.771	--	--	--	--	--
B9	A complete overview of the order is presented	--	0.728	--	--	--	--	--
B10	Tax and/or other charges are clearly detailed	--	0.73	--	--	--	--	--
B11	Different payment options are stated clearly	--	0.725	--	--	--	--	--
B12	Potentially range of high quality products at competitive prices	--	--	0.715	--	--	--	--
B13	Creation of a pleasurable e-shopping experience	--	--	0.674	--	--	--	--
B15	Customer service center were available at convenient times.	--	--	0.6	--	--	--	--
B16	Navigation is consistent and available on every page	--	--	0.555	--	--	--	--
B18	Helpful answer to the client's request of technical information	--	--	--	0.725	--	--	--
B19	The privacy policy is accessible	--	--	--	0.767	--	--	--
B20	Guarantees about the privacy of personal information	--	--	--	0.777	--	--	--
B21	External validation of trustworthiness is important	--	--	--	0.886	--	--	--
B22	Queries or complaints are resolved within 24 hours	--	--	--	--	0.74	--	--
B24	Graphics and animation do not detract from user	--	--	--	--	0.703	--	--
B25	Return policy is reasonable	--	--	--	--	0.653	--	--
B26	Efficient contact changes in prices, products, delays	--	--	--	--	0.65	--	--
C10	Online support for after-sales service	--	--	--	--	--	0.862	--
C11	Free or reasonable delivery cost	--	--	--	--	--	0.77	--
C3	Firms capacity to deliver products without damage during the transport	--	--	--	--	--	0.752	--
C4	Firms capacity to accept the exact quantities requested in the order	--	--	--	--	--	0.718	--
C6	Not to have difficulties in the order due to the limit of the maxi quantity	--	--	--	--	--	0.651	--
C7	The time between the order and the delivery by the firm is reasonable	--	--	--	--	--	0.568	--
C2	Delivery staff is friendly and helpful	--	--	--	--	--	--	0.732
C8	Deliveries neatly without delays	--	--	--	--	--	--	0.723
C9	Efficient communication between customer and transporter	--	--	--	--	--	--	0.552
C5	Shipments rarely contain wrong items, low numbers of defects	--	--	--	--	--	--	0.506

Table 6: Rotated component matrix (2).

08 factors (1) Tangible, (2) Reliability, (3) Empathy, (4) Assurance, (5) Responsiveness, (6) Product Satisfaction, (7) Understandable, and (8) Effective are necessary to build on the research model to measure customer satisfaction in the case of research. Based on the findings of this research, we can conclude that most of the customers in this survey feel satisfied with e-shopping activity at electronics shopping malls in Ho Chi Minh City. The summary of mean value in Table 8 revealed that Tangible makes customers most satisfied because it has the highest mean score 3.794 (the Likert scale 1~5).

Through multiple linear regressions indicated that the 05 factors of (1)Product Satisfaction, (2) Tangible, (3) Empathy, (7) Understandable, and (8) Effective are statistically significant in this regression model because $p < 0.05$ and they have significantly effect on the overall satisfaction level of customer towardse-shopping process at electronics shopping malls.In the below section, we will deeply discuss implications for shopping mall owners to improve 05 factors (Product Satisfaction, Tangible, Empathy, Empathy to deliver, and Efficiency to deliver) to give possible solutions for improving these factors.

Suggestions

From a managerial perspective, customer satisfaction can be enhanced by increasing quality of e-service encounters and updating the layout and design of service frequently. Simply and effectively, listening to customer demands and resolving problems are critical to retaining loyal customers. Shopping mall management should manage frontline service staff how to be responsive and energetic in their customer interactions. In addition, it is worth considering technology investments (i.e. Internet, mobile phone and personal portable devices) instead of the traditional textual messages with simple visual cues and signs to improve communication with customers.

Shopping mall owners should provide better product information, which leads to improved customer satisfaction and loyalty. Sometimes, customers have complaints about product returns because of bad product information. For example:

(1) A product specification in your catalog was wrong or obsolete

(2) The price on your web site was different from the price on the shelf

(3) The size or color of the product they received wasn't as advertised

So that shopping mall owners should guarantee all the information customers ever see about your products will be accurate, up-to-date and reliable. Better product information leads to better customer

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Product Satisfaction_FAC1:Alpha=0.745				
A1	17.2664	9.196	0.382	0.741
A2	17.3702	10.644	0.314	0.748
A3	16.9516	8.046	0.706	0.643
A4	16.9827	7.927	0.684	0.647
A5	16.9239	10.112	0.403	0.73
A6	17.2907	8.526	0.451	0.723
Tangible_FAC2: Alpha=0.726				
B2	11.2907	8.686	0.303	0.652
B3	11.3529	9.403	0.417	0.646
B4	11.391	12.482	0.491	0.637
B5	11.4948	7.077	0.649	0.773
Reliability_FAC3: Alpha=0.700				
B6	14.6298	7.019	0.463	0.648
B8	14.8685	6.747	0.527	0.62
B9	14.8235	6.347	0.601	0.585
B10	14.6644	7.078	0.465	0.647
B11	14.7716	8.205	**0.237**	0.734
Empathy_FAC4: Alpha=0.758				
B12	11.1488	4.203	0.486	0.742
B13	11.1765	4.194	0.568	0.694
B15	11.0623	4.218	0.595	0.68
B16	11.0519	4.202	0.58	0.688
Assurance_FAC5: Alpha=0.800				
B18	10.4325	4.892	0.567	0.775
B19	10.3979	4.907	0.64	0.736
B20	10.436	4.601	0.683	0.713
B21	10.5363	5.5	0.571	0.77
Responsiveness_FAC6: Alpha=0.613				
B22	10.1661	2.299	0.287	0.629
B24	10.2249	2.022	0.528	0.438
B25	10.1972	2.353	0.359	0.568
B26	10.3426	2.254	0.419	0.525
Understandable_FAC7: Alpha=0.641				
C2	10.7751	3.189	0.362	0.61
C5	10.3287	3.145	0.331	0.63
C8	10.5467	2.513	0.492	0.517
C9	10.2353	2.444	0.506	0.505
Effective _FAC8: Alpha=0.871				
C3	17.5779	13.245	0.822	0.823
C4	17.609	13.295	0.762	0.832
C6	18.0381	12.537	0.664	0.855
C7	17.782	14.206	0.618	0.857
C10	17.4913	14.716	0.626	0.856
C11	17.4187	14.96	0.571	0.865

Table 7: Reliability test.

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
FAC1	3.426	3.187	3.633	0.446	1.14	0.04	6
FAC2	3.794	3.682	3.886	0.204	1.055	0.007	4
FAC3	3.693	3.571	3.81	0.239	1.067	0.014	4
FAC4	3.703	3.637	3.761	0.125	1.034	0.004	4
FAC5	3.484	3.398	3.536	0.138	1.041	0.004	4
FAC6	3.389	3.301	3.446	0.145	1.044	0.006	3
FAC7	3.49	3.187	3.727	0.54	1.169	0.058	4
FAC8	3.531	3.145	3.765	0.619	1.197	0.051	6

Table 8: Summary item statistics for the whole scale.

Model	R	7	Adjusted R Square	Std. Error of the Estimate	Sig. F Change
1	.745[a]	0.555	0.543	0.66383	0

Table 9: Model summary.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	154.197	8	19.275	43.74	.000[a]
	Residual	123.387	280	0.441		
	Total	277.585	288			

Predictors: (Constant), Product Satisfaction, Tangible, Empathy, Responsiveness, Reliability, Assurance, Effective and Understandable; Dependent Variable: DV (Overall Satisfaction).

Table 10: ANOVA.

Model		Unstandardised Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Predictors	(Constant)	0.867	0.425		2.041	0.042
	Effective	-0.141	0.028	-0.304	-5.063	0
	Understandable	-0.133	0.017	-0.598	-8.032	0
	Product Satisfaction	0.363	0.024	1.304	15.436	0
	Tangible	-0.055	0.021	-0.121	-2.604	0.01
	Reliability	-0.022	0.016	-0.065	-1.415	0.158
	Empathy	0.058	0.021	0.156	2.845	0.005
	Assurance	0.002	0.019	0.006	0.106	0.915
	Responsiveness	0.003	0.028	0.005	0.111	0.912

Table 11: Coefficients.

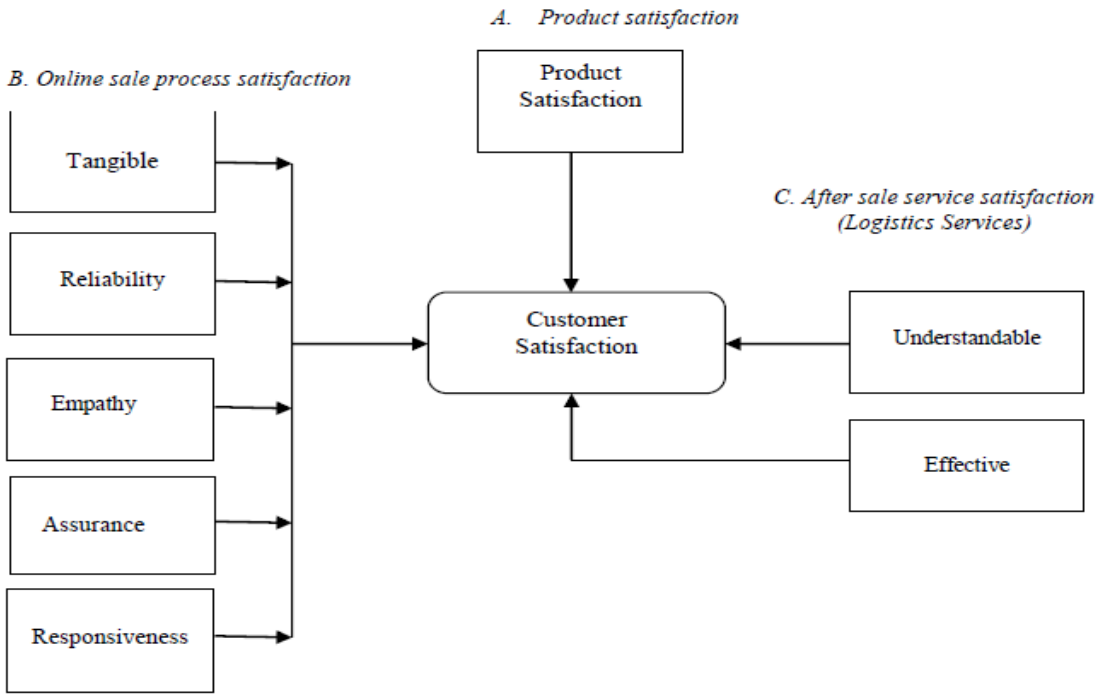

Figure 1: Final research framework.

satisfaction, so malls should have specific group or team carefully works on this and takes responsibility for only this. This team should always check accurate search results across mall's e-commerce site; determine stock-outs and faster order fulfillment; have sales and suitable marketing campaigns tailored to specific customer needs; etc.

As the results of regression analysis pointed out that the two factors related to website efficiency and significantly affected on the overall satisfaction level of customer towards the online shopping process are (1) Tangible (the appearance of the websites; information is found with a minimum of clicks; links are provided to true pages on related products and services; it is easy to find relevant information, it is easy to print from the web, etc.) and (2) Empathy (websites with potentially range of high quality products and services at competitive prices the provision of caring; creation of a pleasurable e-shopping experience; navigation is consistent; standardized and available on every page individualized attention to customers; customer service center were available at convenient times). Malls owners should care about these above quality dimensions that measure the effect of websites on customer overall satisfaction. Moreover, businesses need to understand what retain customer to the websites and what keeps them coming back.

The growth of e-commerce has forced online retailers and delivery companies to address many issues about how they organize and operate their home delivery systems and the level of customer service they are aiming to provide. Among various potential strategies, as a way of eliminating redundant delivery attempts, an additional new service option called 'station-to-station service' can be introduced to the existing door-to-door delivery systems. The idea stems from customer dissatisfaction under a circumstance in which a customer cannot take its shipment at a time period convenient to the delivering company. The station-to-station service proposed could be a new option given to customers. In this strategy, carriers use 24-hour convenient stores or gas stations as local pick-up and delivery stations in their distribution system, which may be viable if appropriate partnerships between the trucking industry and other industries can be established. As an alternative, offices and apartment buildings can be designed or remodeled with secure delivery boxes for the occupants to allow package delivery firms to leave personal shipments with one-stop delivery. Shipments can be delivered at the workplace or the apartment whether the recipient is on site or not. Providing alternative service option to the system will enhance customer satisfaction and also enable carriers to more flexible operate their vehicles. Eventually it will help in alleviating traffic congestion in urban areas by eliminating redundant delivery attempts, consequently decreasing a number of truck trips.

Home deliveries that are damaged or faulty cause significant costs to supply chain partners both in terms of providing replacement goods, the fulfillment and transport costs of distributing these replacements and removing the damaged goods. In this strategy, service providers should ensure the processes of communicating before, during and after the delivery. If the items are damaged, delivery person should call your supplier immediately and report the problem immediately. Besides, the order should detail the invoice and delivery address, the date and the date required, contact details, the products required, quantity, price each and total price. It is better to give customer a chance to let service provider to know if something went wrong in the process but on the other side of that, reinforces the point in their minds if the delivery was successful.

Contributions

Based on the findings in this study, the researcher identified the needs of consumers with respect to e-shopping for electronics and appliances merchants in Vietnamese market. This study, which draws on e-service quality measurement scale for online shopping, home delivery service and seeks to empirically establish a new service model for electronics shopping centers. The study also contributed to other future researches in this field and carried practical significance.

The result of this research demonstrated that there are 05 factors strongly impacted on customer satisfaction: (1) Product satisfaction, (2) Tangible, (3) Empathy, (4) Principal to deliver, and (5) Efficiency to deliver. Although the conceptualization and dimensionality of SERVQUAL have been subjected to some severe criticisms, there is a general agreement that the five dimensions are reasonably accurate predictors of perceived service quality [22-24].

During the study, customer' voice about e-shopping integrated with home delivery service is noticed and carefully presented. In the above section, the author also proposed suggestions for owners of Vietnamese electronics shopping centers to improve the operations of home delivery services through efficient logistics service, to relieve consumers' security concerns and to raise consumers' belief in the trustworthiness of e-services.

Future Researches and Limitations

There are some limitations of methodology adopted in this research and future researches recommended. First, it was difficult to motivate respondents to provide true personal information and opinion on each question.

Second, this survey is also limited because it investigates the situation of restricted amount of respondents. It is highly recommended that future researches consider a broader demographic profile representing multiple types of customer. Next, it was complicated to distinguish respondents from different areas of Vietnam. Consumer preferences and attitudes in different regions may have different evaluations significantly.

Fourth, in this thesis, the authors have used single case study of investigating malls in Vietnam to explore the logistic service development for e-commerce and its related benefits. However, single case study may not be representative. Therefore, further researches are suggested to study more different companies in the same industry so that comparisons can be made and a comprehensive conclusion can be drawn. Finally, the researcher is lack of some experience and knowledge in this field. However, the findings of this research are the foundation for further study.

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