

Research on the Influence of Transportation Services Quality on Purchasing Intention of Customer in E-Commerce - Evidence from Purchasing Intention of Vietnamese Consumer in Cosmetic Industry

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Abstract

E-commerce is playing an increasingly important role in transforming the mode of economic development, promoting industrial upgrading, and promoting modernization of circulation. On the one hand, e-commerce breaks down the space-time barriers of trade, on the other hand, e-commerce provides enterprises with rich information resources and unlimited business opportunities. E-commerce has become a trend leading Vietnam's economic development. In recent years, the online cosmetics industry has gradually risen in the Vietnamese market, but due to the unique characteristics of cosmetics, such as the largest number of bottles, it has higher requirements in terms of logistics and distribution. To ensure the integrity of the product. At the same time, in the context of e-commerce, customers are increasingly concerned about the quality of logistics services. Complaints about customer logistics services mainly include "low logistics distribution efficiency", "poor overall quality of distribution personnel", "broken products and packaging", etc. These phenomena have reduced customer satisfaction to a certain extent. The quality of logistics services is an important factor to improve customer satisfaction, economic profit and the competitiveness of e-commerce companies. Therefore, this article starts from the perspective of market segmentation in the e-commerce environment. In order to study the influence of logistics service quality on customers' willingness to repurchase and its mechanism, we chose cosmetics as the research object. This article takes Vietnamese consumers as the research object to study the influence of logistics service quality of online shopping cosmetics on customer satisfaction and customer repurchase willingness. Based on combing related theories, it correlates with logistics service quality, customer satisfaction, and customer repurchase willingness. The literature is reviewed to further clarify the basic research elements of this article and the relationship between them. Secondly, through a large number of reviews of the literature, the conceptual model and related assumptions of this study are proposed. This paper uses empirical research methods, collects data by using questionnaires, uses SPSS and SPSS software to conduct empirical analysis of sample data, tests conceptual models and hypotheses, and finally concludes that the quality of logistics services for online cosmetics purchases is related to customer satisfaction and customers. Impact of repurchase will. The main findings of this study are: In the context of online cosmetics purchases, although the reliability, timeliness, empathy, information, economy, and after-sales service of logistics service quality are significantly related to customers' willingness to repurchase and customer satisfaction However, only the timeliness, information, and after-sales service of logistics services can significantly positively affect customers' repurchase willingness, and the after-sales service of logistics services has the greatest impact. The results also show that customer

satisfaction plays an intermediary role in the quality of logistics services and customers' willingness to repurchase. The research conclusions provide suggestions for the development of Vietnam's online cosmetics companies in terms of logistics services.

Keywords

Logistics service quality, customer satisfaction, and customer repurchase.

1. Introduction

As an important industry in the modern service industry, e-commerce is known as the "chaoyang industry and green industry", showing the characteristics of "three high, three new", the "three high" means high human capital content, high technology content and high additional Value; "Three New" refers to new technologies, new formats and new ways. E-commerce integrates business flow, logistics, capital flow, and information flow. It has the advantages of globalization of the market, continuous transactions, low cost, and intensive resources. It has become a strategic focus of global industrial development. According to the latest report from Q & Me, a market research institute in Vietnam, from 2014 to 2018, the scale of e-commerce transactions in Vietnam has been increasing year by year, from \$ 3 billion in 2014 to \$ 6.8 billion in 2018. And it is estimated that by 2020, the scale of e-commerce transactions in Vietnam will reach 10 billion US dollars. Specifically, 80% of Vietnamese residents have experienced online shopping. From the perspective of online shopping frequency, 65% of people purchase at least once a month, and those aged 30-39 have the highest frequency of purchase; From the perspective of online shopping consumption, 70% of consumers spend over 700,000 VND per month on online shopping.

E-commerce is playing an increasingly important role in transforming the mode of economic development, promoting industrial upgrading, and promoting modernization of circulation. On the one hand, e-commerce breaks down the space-time barriers of trade, on the other hand, e-commerce provides enterprises with rich information resources and unlimited business opportunities. E-commerce has become a trend leading Vietnam's economic development.

According to the latest report from Q & Me, a market research institute in Vietnam, about 44% of online consumption is cosmetics. This shows that people's consumption habits have also changed to some extent, and gradually shifted from offline consumption to online consumption. Data show that Vietnamese people choose online shopping factors including product quality. Among them, 49% of respondents believe that logistics service capacity will affect their online shopping willingness.

Due to the unique characteristics of cosmetics, such as the largest number of bottles, it has higher requirements in logistics and distribution. It must be delivered promptly and promptly, and the integrity of the product must be guaranteed. At the same time, in the context of e-commerce, customers are increasingly concerned about the quality of logistics services. Complaints about customer logistics services mainly include "low logistics distribution efficiency", "poor overall quality of distribution personnel", "broken products and packaging", etc. These phenomena have reduced customer satisfaction to a certain extent. The quality of logistics services is an important factor to improve customer satisfaction, economic profit and the competitiveness of e-commerce companies. Therefore, this article starts from the perspective of market segmentation in the e-commerce environment. In order to study the influence of logistics service quality on customers' willingness to repurchase and its mechanism, we chose cosmetics as the research object.

With the development of e-commerce, the sales of the cosmetics industry in Vietnam have gradually shifted from offline sales to a combination of online and offline sales. Sendo is a Vietnamese shopping website that sells fashion and cosmetics products. Yes24 is a Vietnamese

online retailer that started out selling fashion products and cosmetics. Of course, some platforms such as Shopee, Lazada, and Tiki also play the role of selling cosmetics. According to data, 52% of customers on the Shopee platform will buy cosmetics; 37% of customers on the Lazada platform will buy cosmetics; on Tiki Relatively few customers buy cosmetics on the platform. As we all know, Vietnam's cosmetics have attracted a large number of local customers and many tourists, which has played an important role in the development of Vietnam's national cosmetics industry.

The earliest research on the quality of logistics services can be traced back to the theory proposed by Perreault (1974) that logistics activities generate time, space and shape to increase the value of products. La Londe & Zinszer (1976) defines the quality of logistics services as: ① ensuring that the needs of customers are met; ② performance measurement with the goal of achieving customer satisfaction; ③ the philosophy (culture) of company commitment. This definition gets rid of the original analysis only from the product operation level to a higher marketing level, and defines the quality of logistics services as the purpose of meeting customer expectations.

Foreign scholars' research on the components of logistics service quality is currently divided into two directions. One is to study the components of logistics service quality from the perspective of enterprises, and the other is to study from the perspective of customers.

Research on the components of logistics service quality from the perspective of enterprises

Research on the components of logistics service quality based on customer perspective.

Logistics in e-commerce transactions is a necessary way to realize the transfer of non-virtualized products. The quality of logistics services will directly affect consumers' willingness to buy online and repurchase. Therefore, the e-commerce consumer behavior model regards logistics services as a very important part of the characteristics of the e-commerce system. Most of the characteristics of cosmetics are difficult to transport, so the level of logistics services is higher, and the quality of logistics services directly affects consumer satisfaction. The special characteristics of cosmetics, resulting in changes in the environment during any link in production, processing and distribution, may affect product quality, and then affect consumers' willingness to buy. Therefore, the packaging of logistics, the measures in the shipping process, and the time spent in shipping are all factors that affect consumers' willingness to buy. Good packaging will properly protect cosmetics, reduce damage, loss and possible quality degradation during transportation, and timely and fast logistics services are also important guarantees to meet consumer needs and ensure product quality.

Yang Yongqing (2014) believes that the quality of delivery services and the service quality of logistics personnel have a significant impact on customer shopping satisfaction. Information service quality and service standardization only have a positive effect on customer satisfaction, and customer satisfaction has a significant positive effect on repurchase intentions. Shi Ye (2015) reviewed and combed related research, and analyzed the influence of online experience and logistics experience on consumers' repurchase willingness in the context of Chinese culture, and found that online experience and logistics experience had a significant positive correlation with repurchase intentions. Li Yuping (2015) established and verified a conceptual model of the relationship between online shopping customer satisfaction, purchase experience, and attribution due to repeated purchase intentions, and found that in an online environment, when customer satisfaction is high, customers with high purchasing experience will Attribute satisfaction to yourself and logistics. When customer satisfaction is low, customers with high purchasing experience attribute this emotion to logistics. Chen Xiaoqiang (2018) verified through experiments that the logistics service indicators such as convenience of return and exchange, timely reminding of logistics progress, and fast logistics have a significant positive impact on purchase intention.

2. Research on Customers' Repurchase Will

Since the research object selected by this research is online shopping consumers, this article's definition of consumers' repeated purchase willingness refers to the views of Seiders (2005), and believes that consumer repurchase willingness refers to the possibility of consumers buying again under the online shopping environment.

Among the existing studies on repurchase willingness, some of them focus on determining the prevariables of repurchase willingness, while other studies focus on the intersection and vertical relationship of these variables. In such literature, most studies have examined the direct or indirect effects of customers' previous experience, perceived value, service quality, and satisfaction on repurchase willingness. Dick (1994) verified the sequence of attitude orientation, consumer loyalty, and repurchase willingness, and pointed out that repurchase willingness was the result of consumer loyalty. In addition, some studies aim to investigate the process by which consumers make choices from many competing products, and have emphasized whether consumers will consider whether they are consistent with their expectations in their evaluations. Recently, scholars have paid more and more attention to the repurchase willingness of online shopping consumers. These studies show that consumers' motivation to choose the same supplier is mainly affected by related profit factors such as online satisfaction, loyalty, and online service quality. On the other hand, consumers are often limited by cost factors, such as conversion costs and risks. Therefore, understanding repurchase will be important for online and offline sellers.

Existing researches on consumers' willingness to repeat purchases are mostly based on the emotional factors such as consumers' own personalities, lifestyles, and values. They have conducted a lot of research in terms of service quality, customer satisfaction, perceived value, consumer trust, and conversion costs.

In the research of Chinese scholars on the willingness to repeat purchases, Chen Mingliang (2003) based on social transaction theory and investment models, taking customer satisfaction, cognitive value, and transfer costs as the determinants of repeat purchases. Huang Jinsong and others attributed the influencing factors of consumers' willingness to repeat purchases to individual-level factors and brand-level factors. Shi Youchun and Liu Chunlin (2005) explored the influence of these factors on repurchase behavior by constructing a repurchase behavior model composed of post-purchase conflicts, customer satisfaction, transfer costs, repurchase willingness, perceived value, and expectations. Li Dongjin et al. (2007) studied the effects of four factors, including perceived value, customer satisfaction, conversion cost, and consumption time interval, on repurchase intentions, using barber services as the research object. Repeat purchase intention is the subjective probability that a consumer will buy a product again from the same supplier. In contrast, the initial willingness to buy refers to the possibility that a potential consumer purchases a product for the first time at a given point in time. Compared with potential consumers, repurchasing customers will have a deeper understanding and evaluation of products or services due to their previous consumption experience. Consumers will update their evaluation of products or services and corresponding standards through subsequent purchases. As a result, consumers' motivations for repeat purchases are different from those for initial purchases. Existing studies on the factors that influence consumers' willingness to repeat purchases are grouped into five categories to illustrate the different motivations for first and second purchases. For example, the characteristics of a website or a store, such as ease of use, layout, and quality of service systems, have an important effect on the initial purchase intention, but the effect on repeated purchase intention is not significant. At the same time, trust and customer service have different effects on both. Although trust plays an important role in initial purchases, trust can only become a basic "health factor" in repeat purchases.

He Dehua (2014) believes that consumers' expectations of the quality of packaging and logistics services significantly affect their online purchase willingness. Li Jie (2005) believes that fast and high-quality logistics services can not only bring direct convenience for consumers to buy products online, but also help consumers to buy products online. Yang Yongqing (2014) believes that the quality of delivery services and the service quality of logistics personnel have a significant positive impact on repurchase intent. Chen Xiaoqiang (2018) verified through experiments that the logistics service indicators such as convenience of return and exchange, timely reminding of logistics progress, and fast logistics have a significant positive impact on purchase intention. The quality of logistics services in this article includes the reliability, timeliness, empathy, information, economy and after-sales service of logistics services.

H1a: In the context of online cosmetics purchase, the reliability of logistics services is positively affecting customers' willingness to repurchase.

H1b: In the context of online cosmetics purchase, the timeliness of logistics services is positively affecting customers' willingness to repurchase.

H1c: In the context of online shopping for cosmetics, the empathy of logistics services is positively affecting customers' willingness to repurchase.

H1d: In the context of online cosmetics purchases, the informational nature of logistics services is positively affecting customers' willingness to repurchase.

H1e: In the context of online cosmetics purchase, the economics of logistics services is positively affecting customers' willingness to repurchase.

H1f: In the context of online shopping for cosmetics, the after-sales service of logistics services is positively affecting customers' willingness to repurchase.

3. Empirical Research Design

Regarding the sample size, the research in this article determines the sample size of this study according to the sample requirements proposed by the predecessors. Anderson and Curbing (1988) proposed that the validity of statistical conclusions should be kept above 150 samples. Grouch (1983) pointed out that the ratio of sample size to the number of items in the questionnaire must reach 5: 1 to be considered as the standard, but it is better to reach 10: 1. Respondents to the dissertation have previously visited e-commerce sites, as this is the most likely target for online shopping. Online shopping can be broken down into two steps, the first step of which is to accept the use of the Internet, and the second step of shopping. Internet users, especially those who have visited online shopping sites, are likely to become potential online shopping consumers in the future.

This study investigates Vietnamese consumers and the author himself is now in China, using some software online (WeChat, Facebook, Email to conduct a survey of Vietnamese consumers).

4. Analysis of Samples

The sample of the formal study randomly distributed questionnaires to consumers from all over Vietnam who have purchased cosmetics online. Among them, we also circumvented the investigators who had been investigated in the pre-test. Similarly, in the formal survey process, the author still stated the purpose of the survey and made a brief explanation of the questionnaire, and then the respondent completed the questionnaire independently. A total of 387 formal surveys were collected. In order to ensure the validity of the data, we first processed the questionnaires that were collected, including removing the questionnaires with serious omissions and obvious regularity of the answers. A total of 53 invalid questionnaires were removed. In the end, a total of 334 valid questionnaires were obtained.

The sample characteristics of this article are analyzed based on the valid questionnaires obtained, as shown in Table 4.1. From Table 4.1, we can see that in terms of gender, men accounted for 10.48% and women accounted for 89.52%; in terms of age, consumers aged 26 to 35 were the most, reaching 50.6%, and consumers aged 25 and below, which is 38.02%. In terms of education level, the undergraduates are up to 57.78%, followed by masters and 22.75% or above. In terms of the history of online cosmetics purchases, 1 year and below were the most, at 66.47%, followed by 1-2 years, at 18.26%. In the past year, the frequency of online cosmetics purchases was lower than the monthly average of 79.94%. In terms of average spending amount, 101-250 yuan was the most, 64.37%. See the table sample characteristics for details.

Linear regression analysis is a statistical method for studying the linear and causal relationships between variables, including univariate linear regression analysis and multiple linear regression analysis. This research is based on the theoretical model. The following analysis will be performed.

Regression analysis of logistics service quality and customers' willingness to repurchase

Build the model: customer repurchase willingness = $b_0 + b_1 * \text{reliability} + b_2 * \text{timeliness} + b_3 * \text{empathy} + b_4 * \text{information} + b_5 * \text{economics} + b_6 * \text{after-sales service}$

Multivariate stepwise linear regression analysis was used to regress the factors of customer repurchase willingness, reliability, timeliness, empathy, informativity, economy, and after-sales service. The regression results are shown in the table: R is 0.719, and R is 0.517, and the adjusted R-squared is 0.508, which indicates that the various indicators of logistics service quality as independent variables can explain 50.8% of customers' repurchase willingness variation. The standard estimated error is 0.587. The significance Sig is 0.000, which means that the overall regression effect of the model is significant. However, from the significance of the indicators in the table, the Sig. Value of reliability, empathy, and economics is greater than 5%, so reliability, empathy, and economics have no significant positive impact on customers' willingness to repurchase. relationship. That is to say, the original hypothesis was rejected, H1a: In the context of online cosmetics purchase, the reliability of logistics services is positively affecting customers' willingness to repurchase. H1c: In the context of online shopping for cosmetics, the empathy of logistics services is positively affecting customers' willingness to repurchase. H1e: In the context of online cosmetics purchase, the economics of logistics services is positively affecting customers' willingness to repurchase.

Table 1. Model significant analysis

model	R	R square	Adjust R square	Standard Estimated Error	Change statistics				
					R side changes	F change	df1	df2	Sig.
1	0.719a	0.517	0.508	0.587	0.517	58.354	6.000	327.000	0.000
a. Predictors: (constant), reliability, timeliness, empathy, information, economy, after-sales service.									

Table 2. ANOVA values

Anovaa						
Model	sum of square	df	Mean square	F	Sig.	
1	return	120.846	6	20.141	58.354	.000b
	Residual	112.865	327	.345		
	total	233.712	333			
a. Dependent variable: customer repurchase willingness						
b. Predictors: (constant), after-sales service, reliability, timeliness, empathy, economy, information.						

Table 3. Significance of each indicator

Coefficient a						
model		Non-standardized coefficient		Normalization coefficient	t	Sig.
		B	Standard error			
1	(constant)	.838	.186		4.515	0.000
	reliability	.054	.055	0.049	.985	0.325
	Timeliness	.145	.056	0.131	2.581	0.010
	Empathy	.146	.082	0.134	1.778	0.076
	Informative	.045	.089	0.039	.505	0.016
	Economical	.022	.077	0.022	.280	0.779
	After sales service	.505	.075	0.543	6.768	0.000
a. Dependent variable: customer repurchase willingness						

Therefore, after excluding reliability, empathy, and economics, the analysis results show that R is 0.715, the R side is 0.515, and the adjusted R side is 0.506, which indicates that the indicators of logistics service quality can be explained as independent variables of 50.6. % Of customers have a repurchase variability. The standard estimation error is 0.589. The significance Sig is 0.000, which means that the overall regression effect of the model is significant.

Model summary									
model	R	R square	Adjust R square	Standard Estimated Error	Change statistics				
					R side changes	F change	df1	df2	Sig.
1	0.715a	0.511	0.506	0.589	0.511	114.771	3.000	330.000	0.000
a. Predictors: (constant), time, informational, after-sales service.									

Anova ^a						
model		sum of square	df	Mean square	F	Sig.
1	return	119.336	3	39.779	114.771	.000b
	Residual	114.375	330	.347		
	total	233.712	333			
a. Dependent variable: CHONGGOU						
b. Predictors: (constant), time, informational, after-sales service.						

Coefficient a						
model		Non-standardized coefficient		Normalization coefficient	t	Sig.
		B	Standard error			
1	(constant)	0.908	0.178		5.097	0.000
	Timeliness	0.178	0.054	0.161	3.306	0.001
	Informative	0.093	0.058	0.082	1.610	0.008
	After sales service	0.531	0.044	0.571	12.180	0.000
a. Dependent variable: customer repurchase willingness						

As can be seen from the table, the regression equation that can be obtained from the inspection results is: customer willingness to repurchase = 0.161 * timeliness + 0.082 * informational +

0.571 * after-sales service. It can be seen from the regression equation that the timeliness, informativeness, and after-sales service of logistics services have a positive impact on customers' repurchase willingness, thereby validating the research hypotheses H1b, H1d, and H1f. Among them, after-sales service in logistics service quality has the biggest impact on customers' willingness to repurchase, which indicates that for Vietnamese consumers, after-sales services in the context of online cosmetics purchases can best promote customers' willingness to repurchase.

5. Conclusion

5.1. Discussion of Research Results

This study takes Vietnamese consumers as the research object and studies the influence mechanism of the logistics service quality of online shopping cosmetics on customer satisfaction and customer willingness to repurchase based on the consumption scenarios of online shopping cosmetics. By reviewing domestic and foreign literature and referring to previous research models, a research model of the three main variables of logistics service quality, customer satisfaction, and customer repurchase willingness was constructed. Among them, the logistics service quality of online cosmetics purchase is an independent variable, customer repurchase willingness is a dependent variable, and customer satisfaction is an intermediate variable. And, logistics service quality includes 6 indicators: reliability, timeliness, empathy, information, economy, and after-sales service. Use SPSS17.0 statistical analysis software to conduct empirical analysis on 334 valid questionnaire data, verify the research hypothesis, and discuss and analyze based on the empirical research results, and propose management recommendations for online cosmetics companies in Vietnam.

5.2. Practical Significance

Through analysis, it is found that with the development of technology and the improvement of the consumption level of Vietnamese people, for Vietnamese consumers who purchase cosmetics online, the reliability, economics and empathy of logistics services no longer affect their satisfaction and repurchase willingness. Important factor too. And it was found that after-sales service has the biggest impact on both customer satisfaction and customer willingness to repurchase. This shows that the after-sales service in the quality of logistics services has significantly affected the online cosmetics market in Vietnam.

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