

Logistics Service Quality on Customers' Repurchase Intention and Word of Mouth: Taking Cross-Border E-Commerce Platform as an Example

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Abstract: Cross-border e-commerce relies heavily on logistics and customer satisfaction is the goal pursued by e-commerce enterprises. However, due to factors such as high transportation costs, lengthy transportation cycles, and information discrepancy, customers who shop on cross-border e-commerce platforms have a less than satisfactory shopping experience. In addition, there is a scarcity of academic research on the impact of logistics service quality on consumer repurchase intention and word-of-mouth in the cross-border online shopping environment. To fill this gap, this paper constructs a cross-border logistics service quality model with consumer satisfaction, behavioral intention and word-of-mouth. Through structural equation modeling, 344 consumers with cross-border shopping background were surveyed. The results indicated that logistics service quality positively affects customers' repurchase intention and word-of-mouth. Customers' repurchase intention were further boosted by positive word-of-mouth. Finally, theoretical and practical suggestions and future research directions are discussed.

1 INTRODUCTION

Big Data and the Internet of Things have brought about tremendous changes in e-commerce. Various forms of information sources have improved customers' online shopping performance, leading to a wide spectrum of e-commerce transactions (Fu et al., 2020). With its convenience and interactivity, lower cost, and higher level of customization and personalization (Chen et al., 2018), e-commerce has provided enormous business potential and revenue development for organizations. In 2022, global e-commerce sales will attain a new high, winning \$5 trillion for the first time. E-commerce will then account for one-fifth of all retail sales and will reach \$7 trillion by 2025, according to eMarketer.

Despite the growing number of online shoppers, cross-border e-commerce platforms still confront certain hurdles as compared to traditional company models (Ren et al., 2020). Cross-border commerce service quality is one of the most important aspects influencing the success or failure of online supply chains. It is much cheaper to induce customers to repurchase goods than to generate a whole new customer for e-commerce firms (Meilatinova, 2021), and customer satisfaction is one of the important

indicators to make customers' intention to repurchase and positive word-of-mouth evaluation. Furthermore, in the cross-border shopping environment, the level of logistics service quality will in turn bring different levels of satisfaction to customers.

Unfortunately, existing research has not thoroughly investigated the overall and consumer perceived the level of quality of the logistics service for international online commerce (Huma et al., 2019; Uvet, 2020). From the perspective of the shopping model, finding and checking product information, together with completing orders online, are all components that constitute the key link in the customer's perceived experience. Logistics services play an essential role in online purchasing as well (Gajewska & Zimon, 2018). From the perspective of consumers' behavior, services in logistics that are prompt, reliable, safe, and superb will optimize the shopping experience for customers, which will elevate the level of satisfaction that customers are experiencing, as well as generate better word-of-mouth (Gajewska et al., 2019). The quality of the logistics service has been demonstrated to be an essential element in a number of published research,

and these studies have concluded that this factor positively leads to customer satisfaction. However, there has been relatively insufficient investigation into the role that international logistics services participate in online business (Van Asch et al., 2020).

Accordingly, this research aims to examine how consumers' satisfaction, repurchase intention, and word-of-mouth are modified by the quality of the logistical services they encountered when undertaking cross-border e-commerce transactions. On the one hand, it will be advantageous for the cross-border e-commerce platform to improve the overall quality of logistics services in order to increase consumer satisfaction. On the other hand, it will be advantageous for the cross-border e-commerce platform to receive timely feedback from consumers which will in turn improve the relationship with consumers, promote the increase of product repurchase rate, and maximize customer value.

2 LITERATURE REVIEW AND HYPOTHESIS

2.1 Logistics Service Quality

With the continuous expansion of information and communication technology (ICT), it is becoming increasingly acknowledged that one of the most efficient strategies for gaining and sustaining a competitive edge is to pay to raise the service quality delivered through online commerce (Özkan et al., 2019). Service quality is a prerequisite for assessing whether a firm will earn a profit and keep consumers, and it is also a company's primary competitive edge over its competitors.

Research on service quality typically uses the SERVQUAL scale, which encompasses the following five subscales: tangibility, reliability, responsiveness, safety, and empathy (Parasuraman et al., 1988). The theoretical groundwork for future logistics service quality scales was established with the introduction and implementation of the SERVQUAL scale (Mentzer et al., 1999). Mentzer et al. (2011) in subsequent academic research and practice, have validated the modified LSQ scale. The modified LSQ scale is widely utilized in the logistics services industry and has been shown to be a valid research tool in subsequent academic study and practice. (Saura et al., 2008; Rao et al., 2011; Uvet, 2020).

Logistics service providers are the service providers directly facing customers in the cross-border e-commerce platform, and the quality of

logistics services will influence consumers' judgment of items or services at a later stage (He, 2021). In other words, logistics is a key part of running and managing cross-border e-commerce. It also contributes significantly to enhancing corporate performance and providing an edge over the competition. Increased customer satisfaction is the result of fast cross-border logistics times, excellent after-sale support, the prevention of damage to shipped goods by efficient freight forwarders, and affordable logistics prices. As a result, consumers are more likely to return to the same international e-commerce website in the future.

2.2 Customer Satisfaction

Cardozo (1965) was the first to provide a concept of "customer satisfaction" in the business world, which he considered as a psychological condition generated by comparison. Based on a merger of the business-to-consumer e-commerce setting, Anderson & Srinivasan (2003) established B2C model customer satisfaction as an overarching feeling of contentment with one's B2C online shopping experiences. Existing studies on user satisfaction in cross-border e-commerce platforms mostly use empirical and textual analysis to investigate the antecedent variables that influence satisfaction and the impact of satisfaction on other outcome variables (Pham & Ahammad, 2017).

As consumption escalates, the higher consumers' expectations of service, the more businesses with superior service quality and service experience will win consumers' goodwill. In a highly competitive climate, a company's ability to survive its business depends on consumer satisfaction and sustained shopping intention (Haming et al., 2019). Consumers are often prone to the psychology of consumer consistency and are reluctant to easily transform their identified consumer relationships. Once they have made multiple purchases on an e-commerce platform and have a good impression, they are likely to become "repeat customers" and are unwilling to switch to other shopping platforms.

2.3 Repurchase Intention and Word of Mouth

Stauss (1997) established the initial description of eWOM as "information about goods or services that consumers share and exchange over the Internet." The development of Internet has expanded the transmission of eWOM through online communication, allowing consumers to share their ideas and experiences on the Internet platform,

culminating in "Internet Word of Mouth." Customer comments, for example, can be disseminated online to other consumers (Tran & Strutton, 2020). This can lead to an informative flow of data for keeping tabs on logistics service quality, drawing attention to the weak spots in the architecture of business processes, and serving as a foundation for future choices aimed at enhancing the efficiency and effectiveness of these logistic service systems.

The previous studies have employed an experimental method to look at how various aspects of eWOM influence customers' decision to make a purchase. When shopping online, customers rely heavily on the opinions of other customers and recommendations from other customers (Hu et al., 2006). Existing studies have shown that the quality and quantity of online word-of-mouth has an important impact on purchase intention. Research conducted by Tien et al. (2019) on the electronic word-of-mouth of cosmetic users in social networking sites demonstrated that electronic word-of-mouth makes a significant contribution to

customers' desire to make a purchase. Based on social communication theory, Al-Gasawneh & Al-Adamat (2020) discovered that electronic word of mouth plays a mediating function in marketing and greatly influences customers' propensity to purchase green products.

The following assumptions are derived from the aforementioned literature, and the corresponding research model is presented in Figure 1

H1: Logistics service quality has a positive effect on customer satisfaction.

H2: Customer satisfaction has a positive effect on repurchase intention

H3: Customer satisfaction has a positive effect on word-of-mouth

H4: Cross-border logistics service quality has a positive effect on consumers' repurchase intention.

H5: Cross-border logistics service quality has a positive influence on consumer word-of-mouth

H6: Word-of-mouth has a positive influence on customers' repurchase intention.

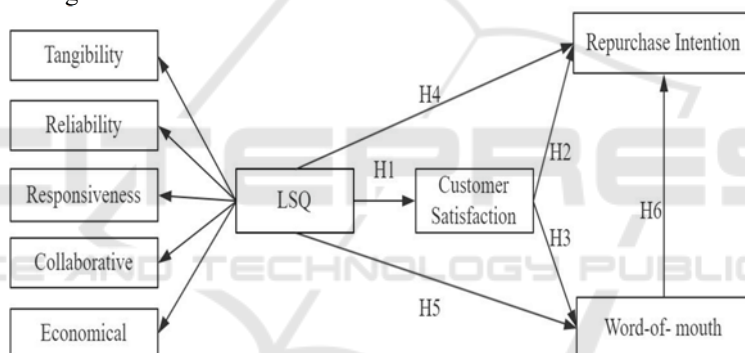


Figure 1: Research model.

3 METHODOLOGY

Five hundred online customers from the Chinese mainland with a background of cross-border shopping. Demographic description is shown in table1. The questionnaire designed based on prior scholarly research and employing a seven-point Likert scale was used to gather the data for this investigation. 15 items in 5 dimensions were adopted to measure logistics service quality (Mentzer et al., 1998), whereas 3 items in 9 were applied to measure

customer satisfaction (Stank et al., 2003), repurchase intention (Jones et al., 2000), and word of mouth (Kamtarin, 2012). The questionnaire comprised 30 items in total. A total of 500 questionnaires were randomly distributed nationwide through online research, and 344 valid questionnaires were selected according to the questionnaire criteria, with a valid return rate of 68.8%, meeting the statistical analysis criteria. The structural equation model's reliability test, validity test, and correlation analysis were conducted using SPSS27.0 and AMOS28.0.

Table 1: Population descriptive statistics.

Variables	Category	Number of people	Percentage (%)
Gender	Man	161	47
	Woman	183	53

Age	Under 25 years old	29	8
	25-30 years old	85	25
	30-35 years old	51	15
	35-40 years old	65	19
	40-45 years old	57	17
	45-50years old	38	11
	Over 50 years old	19	6
Education	High School	106	31
	University	108	31
	Master	89	26
	PhD	41	12
Income	Less than 1500 yuan	30	9
	1501-3000 yuan	28	8
	3001-4500 yuan	61	18
	4501-6000 yuan	47	14
	6001-7500 yuan	96	28
	7501-9000 yuan	82	24
Frequency of shopping per month	Once a day or more	24	7
	1-2 times per week	104	30
	3-4 per month	149	43
	Less than 1 time per month	67	19

4 DATA ANALYSIS

4.1 Convergent Validity

Constructs' convergent and discriminant validity in the model were evaluated using SPSS27.0. The Cronbach's alpha value was more than the threshold level of 0.7, indicating that the questionnaire items were reliable. Validation factor analysis (CFA) was then conducted using Amos 28.0 for all the constructs to derive the standardized loadings for each indicator. In accordance to that, the combination reliability (CR) as well as the average variance extracted (AVE) were evaluated. As indicated in Table 2, the

convergent validity of the model's potential constructs was determined by evaluating the entire model.

In this research, the Cronbach's alpha for all constructs were fluctuated from 0.847 to 0.918, exceeding the acceptable level of 0.7 (Nunnally, 1978), reflecting that the questionnaire scales were reasonably well set and reliable. The CR for all constructs was within the range of 0.840 and 0.917, which was significantly higher than the standard value of 0.7 (Vinzi et al., 2010). The AVE for each construct ranged from 0.636 to 0.788, which was higher than the acceptable value of 0.50 (Hair et al., 1998) and suggested that the scale exhibits a satisfactory convergent validity.

Table 2: Convergent validity analysis.

Construct	Item	Factor loading	Cronbach's α	CR	AVE
Tangibility	Tan1	0.829	0.855	0.857	0.667
	Tan2	0.855			
	Tan3	0.763			
Reliability	REL1	0.765	0.847	0.850	0.653
	REL2	0.849			

	REL3	0.809			
	RES1	0.751			
Responsiveness	RES2	0.876	0.867	0.870	0.691
	RES3	0.862			
	COL1	0.749			
Collaboration	COL2	0.832	0.850	0.853	0.659
	COL3	0.851			
	ECO1	0.85			
Economical	ECO2	0.875	0.897	0.899	0.749
	ECO3	0.871			
	CS1	0.774			
Customer Satisfaction	CS2	0.834	0.839	0.840	0.636
	CS3	0.783			
	RI1	0.974			
Repurchase Intention	RI2	0.854	0.918	0.917	0.788
	RI3	0.828			
	WOM1	0.822			
Word of mouth	WOM2	0.848	0.903	0.911	0.774
	WOM3	0.963			

4.2 Discriminant Validity

SPSS27.0 was used to conduct a Pearson correlation analysis between the four constructs (logistics service quality, customer satisfaction, repurchase intention, and word of mouth), and then the results were

compared to the square root of AVE to determine the discriminant validity among all constructs. Table 3 illustrates the overall result. The discriminant validity between the constructs was acceptable since the square root of AVE for each construct was greater than the square root of the correlation coefficient (Fornell and Larcker, 1981).

Table 3: Discriminant validity analysis.

Construct	QLS	CS	WOM	RI
QLS	0.712			
CS	0.352**	0.879		
WOM	0.399**	0.408**	0.797	
RI	0.480**	0.509**	0.544**	0.887

Note: Bold text is square root of AVE

4.3 Model Testing

AMOS28.0 is used to test the hypothesized relationships between latent variables. Figure 2 depicts the structural model. The following are the parameters of model fit: $\chi^2 = 370.065$, $DF = 241$

, $\chi^2/DF = 1.536(< 3)$, $GFI = 0.921(> 0.9)$, $RMSEA = 0.04(< 0.08)$, $NFI = 0.934(> 0.9)$, $NNFI = 0.972(> 0.9)$, $IFI = 0.976(> 0.9)$, (Marsh et al., 1998; McHugh, 2013; Kenny et al., 2015). These indicators all meet the standard values, indicating a good model fit.

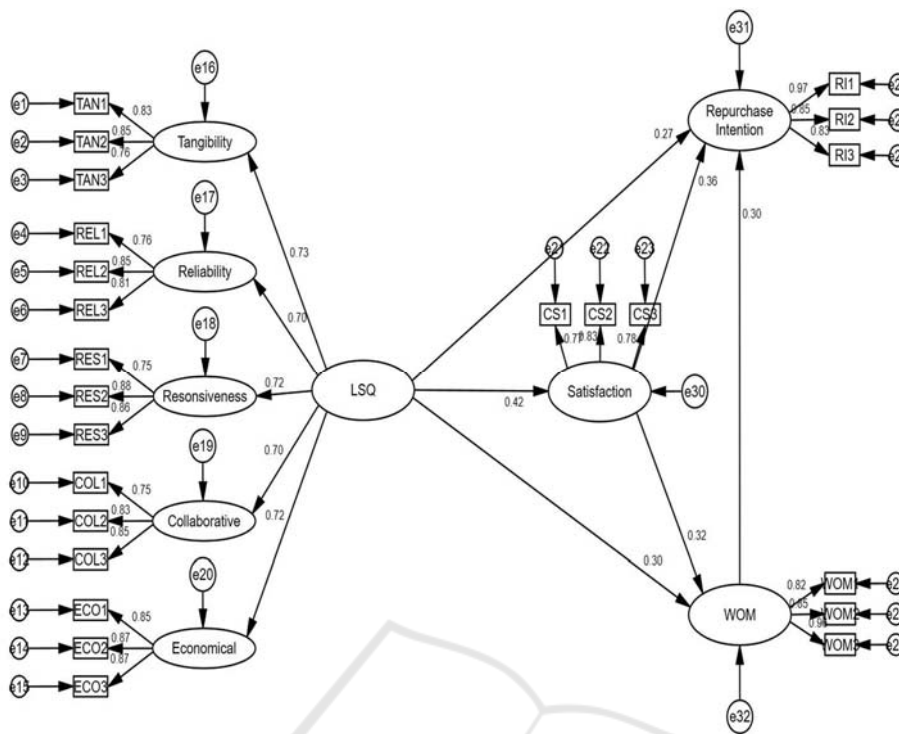


Figure 2: Results.

The overall model is tested for path coefficients, as shown in Table 4. At the 0.001 threshold of significance, the findings reveal a significant and positive relationship among the four main constructs, which support H1, H4, H5. Customer satisfaction has

a favorable influence on repurchase intention and WOM, which support hypothesis H2, H3. WOM has a positive effect on repurchase intention, therefore hypothesis H6 is supported.

Table 4: Path coefficient table.

Path relationship	Standardization factor	Standard errors	T value	P	Conclusion
QLS<--->Satisfaction	0.424	0.096	5.919	***	Support
QLS<--->Word of mouth	0.302	0.102	4.466	***	Support
QLS<--->Repurchase intention	0.272	0.102	4.709	***	Support
Satisfaction<--->Word of mouth	0.317	0.073	4.933	***	Support
Satisfaction<--->Repurchase intention	0.356	0.073	6.42	***	Support
Word of mouth<--->Repurchase intention	0.3	0.06	5.835	***	Support

5 CONCLUSION AND RECOMMENDATIONS

5.1 Result

This paper builds a conceptual model between cross-

border logistics service quality, customer satisfaction, repurchase intention, and word-of-mouth. SPSS27.0 was implemented to validate the presented hypothesis and model to confirm that logistics service quality and customer satisfaction had a favourable effect on repurchase intention and word-of-mouth in the scenario of cross-border e-commerce platform

shopping. Meanwhile, it also proves that customer word-of-mouth has a positive effect on repurchase intention. It was further found that consumer word-of-mouth has a helpful effect on the intention to repurchase. Among them, the quality of cross-border logistics service has the greatest explanatory power on customer satisfaction, reaching 42%. It indicates that in the process of purchasing on cross-border e-commerce platforms, consumers are primarily concerned about commodity logistics information, platform feedback, logistics time, and logistics costs.

5.2 Implications

Cross-border e-commerce has its own distinctive features, elevating the importance of cross-border logistical connections. Customers' positive impressions of the platform's cross-border logistics services will lead to the development of a desire to make repurchase behavior. This means that online stores must prioritize the convenience and ease of their customers' purchasing experiences and strive to improve the standard of their logistics service. For instance, cross-border e-commerce businesses can construct a real-time sharing platform for the visualization of logistics information in order to make the information of the commodity transportation more transparent and efficient. These businesses can also make an accurate prediction and analysis of customers' consumption behavior through big data, and they can prepare goods for domestic bonded warehouses in advance in order to improve the timeliness of cross-border logistics and transportation, which allows these businesses to more effectively meet the needs of their customers.

5.3 Limitations and Future Research

The scope of this investigation has several restrictions. Firstly, because the dimensions of cross-border e-commerce logistics service quality perception are relatively complex, further improvement is still needed. The industries of cross-border e-commerce, such as mother and child, cosmetics, clothing and baggage, are not divided down into their component parts in this study. It would be interesting to investigate how different types of cross-border e-commerce are affected by the quality of the cross-border logistics service in future studies. Secondly, due to cost and time constraints, the questionnaire was only sent online to collect data, and thus the sample size of this investigation is limited. Future research can extend the sample size and quality to generate more exact suggestions for

enhancing cross-border e-commerce logistics service quality.

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