

## Research on the Influencing Factors of Customer Satisfaction of Logistics Distribution Service in B2c e-Commerce Environment

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**Keywords:** B2c e-Commerce, Logistics Distribution, Customer Satisfaction, Structural Equation Model

**Abstract:** B2c e-Commerce Logistics Service Quality Can Effectively Measure the Angle of Ascii Interpretation Mode, Refine It Again, Use Structural Equation Model, and Eliminate the Invalid Angle. the Characteristics of B2c e-Commerce Logistics Service Quality Reflect the New Situation. Based on the Characteristics of Logistics, Combined with B2c Environment, This Paper Constructs the Customer Satisfaction Model (Ldcs) of B2c e-Commerce Logistics Service from Multiple Perspectives. the Results Show That Ldcs Model Has a Good Explanation Ability in Meeting Customers' Logistics Service in B2c Environment. from the Model, We Can See the Influence Degree between Potential Variables. and It Helps to Pair B2c Websites. Take out Service is to Further Improve the Quality of Distribution Services.

### 1. Introduction

As More and More Consumers Begin to Shop Online, by the End of 2012, the Number of Online Shopping Users in China Has Reached 247 Million. e-Commerce Has Experienced Explosive Growth in China. the Rapid Development of B2c e-Commerce in China is Also Facing Severe Challenges. in the Early Stage of Development, Network Security, Online Settlement and Logistics Services Are Considered to Be the Three Major Problems Hindering the Development of B 2c e-Commerce. So Far, the Problems of Network Security and Online Payment Have Been Solved Well, But the Logistics and Distribution Services Have Not Been Improved Significantly [1]. This Paper Studies the Influencing Factors of Logistics Service Customer Satisfaction of B2c Website, and Establishes the Structural Equation Model of Logistics Satisfaction. through Data Analysis, the Variables That Affect the Satisfaction Coefficient among Various Potential Variables Are Found. It Can Analyze the Impact of Different Distribution Factors on Customer Satisfaction in the Current e-Commerce Environment, and Also Can Find a Strong Reference and Foundation for e-Commerce Enterprises to Improve the Quality of Distribution Services. on the Other Hand, the Analysis of Data Results Can Improve the Logistics Service Quality of e-Commerce Enterprises [2]. on the Other Hand, e-Commerce Enterprises Can Provide Extended Services, Namely Value-Added Services, Based on the Basic Functions of Logistics Services. through the Model, We Can See the Influence Degree of Each Observation Variable on Each Potential Variable, We Can See the Influence Degree of Each Potential Variable, Improve the Target Delivery Service of the B 2c Website, and Improve the B2c Environment.

### 2. Journals Reviewed

Sangyong Kim and Young Jun Lim (2001) Found That Factors Such as Trust, Entertainment and Information Quality Have an Important Impact on Customer Satisfaction When Customers Choose Websites. There Are Many Detailed Researches on Customer Satisfaction of Logistics Service in China. This Paper Summarizes the Relevant Literature of Logistics Service Quality in B2c Online Shopping Environment, and Divides the Logistics Service Quality into Nine Dimensions from the Perspective of Mentzer, Namely, Order Release Volume, Product Integrity, Communication Quality of Service Personnel, Information Quality, and Order Process. Quality, Order Accuracy, Product Quality, Error Handling Quality and Timeliness; Ren Chunyu (2010) Established a Service Quality

Evaluation Index System for the Logistics Center under the e-Commerce Environment Including Customer Service Indicators. Sequence Processing Index, Information Service Index and Circulation Enterprise Index Are Four Aspects [3]. the Combination of Fuzzy Comprehensive Evaluation Method and Analytic Classification Method is Used for Evaluation. (2007) is the Timeliness of Orders, Evaluation Index System of Packaging Quality, Distribution Rate Punctuation, Halfway Damage Rate, Delivery Accuracy, Personnel Distribution Quality, Safety, Distribution, Price and Timeliness of Problem Handling. in Addition, in Order to Evaluate the Hierarchical Process of Model Analysis, Zhang Zhe (2010) Logistics, Logistics Service Customer's Complete Measurement Index System is Used to Build the Three Parties of Goods Distribution Quality Quality Related to Goods Distribution and Service Quality. in the Existing Research Literature, There Are Many Researches on e-Commerce Logistics Mode and Logistics Satisfaction [4]. However, There Are Few Researches on the Satisfaction of Logistics Circulation in B2c e-Commerce Environment. Therefore, This Paper Uses the Structural Equation Model Method to Build the Customer Satisfaction Structural Equation Model of Logistics Circulation Service in B 2c Environment. This Method Can Not Directly and Accurately Measure the Problem That Potential Variables Not Only Solve, But Also the Direct and Indirect Relationship between Different Factors of Data Output. the Influence Degree of Potential Variables Can Be Seen, and the Improvement of Delivery Service of B 2 C Website Can Be Seen [5]. Quality Provides a Strong Reference and Foundation.

### 3. Research Hypothesis

#### 3.1 Selection of Evaluation Indexes

To establish a scientific and effective evaluation system is to evaluate the customer satisfaction of every B2C e-commerce enterprise logistics service. To find the gap and select the evaluation index is the key to establish the evaluation system. Based on the investigation of this study, as shown in Figure 1, the evaluation index system of three stages of e-commerce logistics and circulation is established.

LDCs structural equation model includes two parts: structural model and measurement model. The structural model includes seven latent variable dimensions, namely perceived reliability  $\xi$  1, customer expectation  $\xi$  2, perceived politeness  $\xi$  3, value-added service  $\xi$  4, customer satisfaction  $\eta$  1, customer complaint  $\eta$  2 and customer loyalty  $\eta$  3.

The trustworthiness of searqual model is the ability to meet the service agreement reliably and correctly reflected in the customer's understanding of service speed, correctness and correctness. Therefore, the cognitive reliability ( $\xi$  1) set in this specification includes four measurable indicators, namely, delivery appropriateness  $x$  1, delivery effectiveness  $x$  2, delivery matching  $x$  3 and tracking order  $x$  4.

Customer expectations. The quality of logistics service in B2C environment is not only related to the quality and intensity of logistics, but also to the emotions and expectations of customers. The customer expectation of ACSI model refers to the quality of customers before purchasing or using specific products or services. Evaluation. There are three observation variables to determine the customer's top period ( $\xi$  2). In addition, it includes the delivery expectation  $x$  5, the delivery product integrity and legality expectation  $x$  6 and the overall expectation of product quality  $x$  7.

refined and courteous. Compared with the traditional shopping process, consumers should not only pay attention to the quality and price of goods, but also pay attention to how e-commerce companies send consumers to buy goods. Deliveryman is the profession of delivering goods to customers. At present, the logistics of various shopping websites and the service attitude of the person in charge of logistics have changed a lot in B 2C environment. In general, the service attitude of self-supporting circulation system is obviously better than that of the third-party logistics. Therefore, the knowledge of professionals on customer attitude, quality and distribution personnel directly affects the customer satisfaction of e-commerce enterprises [6]. In this paper, as the cognition index of boletenese 3, the attitude of the delivery personnel X8, the delivery personnel

actively pay attention to check x9, and deal with x 10 according to the meaning of the delivery personnel.

When choosing the index to measure value-added services, innovation is the main consideration, and meeting customer needs is an important feature of value-added services. Please contact your major e-commerce service provider to provide extended services for logistics and distribution. For example, shopping malls set up self promoting community stations in the last mile of delivery. Customers can pick up the goods according to their own situation, convenient or urgent. Then, return other ship alarms and door air connectors and other added value services [7]. Research on customer satisfaction factors of logistics service in e-commerce environment. Therefore, in this specification, the value-added service ( $\xi$  4) is measured in terms of delivery notice x 11, automatic delivery x 12, return and free exchange x 13.

Customer's pains. If the customer is not satisfied, there may be dissatisfaction, and there are two observation variables to determine customer dissatisfaction [8]. This is a customer's formal and informal complaint. Formal complaints are mainly reflected in the observation variables of customer complaints y 3, and the negative publicity of customers in e-commerce y 4 reflects the complaints of e-commerce. Customers can make complaints by counting the possibility of formal and informal complaints. Structure variable value

Customer loyalty. Customer loyalty  $\eta$  3 is the final dependent variable of the model. It has two observation variables: the possibility of repeated purchase of customer y 5 and the possibility of introducing e-commerce of other y 6. If your customers are satisfied with your products or services, you can recommend your products or services to other customers through repeated purchase or recommendation [9].

Table 1 Questionnaire Reliability Analysis

Latent variable	Observed variable	Cronbach's a
Perceptual reliability	x 1 -x 4	0.843
Customer expectation	x 5 -x 7	0.816
Perceived politeness	x 8 -x 10	0.878
Value added service	x 11 -x 13	0.801
Customer satisfaction	y 1 -y 2	0.875
Customer loyalty	y 3 -y 4	0.794
Customer complaints	y 5 -y 6	0.733
Aggregate table	-	0.856

### 3.2 Model Hypothesis

Stank (2003) from the interview of customers, the service provider has a high professional knowledge ratio and a good understanding of customer needs, which can better meet customer needs, establish a good relationship with customers, and promote logistics companies to learn the best. Establish the best method of operation. Wolfingbarger (2003) other reliability refers to the correctness of e-commerce enterprises, provides goods and services, and confirms that the delivery time reaches the specified time. The empirical study of e-commerce service quality points out. Service reliability has a great influence on customer satisfaction and customer loyalty. Parasol Institute (2001) found reliability of customer satisfaction. Significant positive effect. This paper presents the following assumptions:

H1: perceived reliability has a significant impact on B2C e-commerce customer satisfaction.

Fornell et al. (1992) had an impact on customer satisfaction. In the ACSI model of customer satisfaction, two variables, customer expectation and perceived quality, were proposed. Li Xiang (2012) established the DCS model, and believed that customer satisfaction and perceived quality had an important impact on customer satisfaction. Based on the above indicators, the impact of value-added services on customers is also based on the level of perception, so we make the following assumptions

H2: customer expectation has a significant impact on B2C e-commerce customer satisfaction;

H3: perceived politeness has a significant impact on B2C e-commerce customer satisfaction;

H4: distribution value-added service has a significant impact on B2C e-commerce customer

satisfaction.

Table 2 Analysis of Model Parameter Results

hypothesis	Standardized regression coefficient	P value	No support assumption
H1	0.48	P<0.001	yes
H2	0.10	P=0.003	yes
H3	0.23	P=0.007	yes
H4	0.24	P<0.001	yes

#### 4. Verification of Hypothesis Model

The questionnaire was designed according to 19 observation variables of the model. Questionnaires were used to conduct satisfaction and likelihood surveys. This survey took college students and staff as the objects, and conducted 264 questionnaires. The main force of online shopping group is the recovery rate of 229 questionnaires, 86.74%, 207 valid questionnaires, 78.41%. After data collection, SPSS 18.0 and Amos 17.0 are processed, the reliability, appropriateness and LDCs model are tested.

#### 5. Reliability and Validity Test

Reliability is the stability of measurement results, i.e. researchers make different measurements (different forms or different times) for the same or similar objects (or groups). The measured observation value includes the actual value and error value. The higher the reliability, the lower the error value.

##### 5.1 Reliability and Validity Test

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Through the data reliability analysis of SPSS, trust level analysis usually indicates that when the a coefficient of Cronbach of the observed variable data is greater than 0.7, the data has good reliability, and the coefficient is close to 1, so the reliability is high. It can be seen from table 1 that the coefficients of each observation variable of conchach are more than 0.7, and the overall cronbacha coefficient is 0.856. The research scale shows good internal consistency.

Validity test. Using factor analysis in SPSS18.0, the total kmo coefficient of the scale is 0.821 (> 0.8), and Bartlett's sphericity test is also significant.

##### 5.2 Fit Test

Using arm 17.0 to analyze the scale factor, the causality diagram is obtained. According to the optimal method and covariance matrix, the structural equation is analyzed. Fig. 3 shows the output. Whether the relationship between the two variables is true or not depends on the direction of effective test and the direction of structural parameters (positive and negative signs). If the structural parameters pass the validity test and are positive (negative) values, then the two variables are positive (negative) related.

According to table 2, after correction, the  $\chi$  square value of the model is 336.6, the degree of freedom is 142, the matching index GFI is 0.916, and the approximate error RMS index is 0.045. In order to achieve the suitability of the model, the basic elements of the model indicate that the LDCs structural equation model shows good suitability. From the results of Amos output, as shown in Table 3, the P values of all observed variables are below 0.05. The estimated load coefficient of the observed variables basically meets the requirements, and the model shows good convergence performance.

## **6. Analysis and Enlightenment of Ldcs Model Results**

### **6.1 Analysis of Model Results**

As can be seen from table 3, the assumed h1-h5 is supported. Moreover, perceived reliability, perceived etiquette norms, value-added services and customer expectations have an important impact on customer satisfaction. Through the overall correlation analysis of the project, exploratory factor analysis, regression analysis, reliability, appropriateness inspection, the hypothesis of other process validation was indirectly verified. The results are as follows.

The perceived reliability has a direct positive impact on the customer satisfaction of B2C e-commerce logistics service; perceived etiquette has a direct positive impact on the customer satisfaction of B2C e-commerce logistics service; value-added service has a positive impact on the customer satisfaction of B2C e-commerce logistics service; customer expectation has a direct positive impact on the customer satisfaction of B2C e-commerce logistics service Ring;

Customer satisfaction directly affects customer loyalty of B2C e-commerce. Looking at the standardized solution of the model (Figure 3), we can find the main factors affecting satisfaction: from the standardized regression coefficient, the regression coefficient of "distribution reliability" recognized by consumers is 0.48. Customer satisfaction increased by 0.48 units due to the perceived quality change of each unit. In contrast, consumers' expectations have less impact on satisfaction. At the same time, the regression coefficient of satisfaction to loyalty is 0.41, which shows that consumers' satisfaction is more faithful. The influence of customer satisfaction on customer dissatisfaction is generally negative. Customer satisfaction refers to customer satisfaction with products or services.

### **6.2 Inspiration and Suggestions for Management Practice**

However, it can be seen from the observation indicators of customer forecast that customers have high expectations for the accuracy and integration of goods distribution. The above matters indicate the time when customers pay attention to logistics. The timeliness and high speed of delivery is an important factor to improve customer satisfaction with delivery service. Enterprises can have more than one delivery time in a day, and will increase the delivery rate in the evening. On the other hand, the delivery reliability of the goods is high, which has a great impact on the quality of customers. The direct quality judgment of customers is to judge whether the goods are damaged. The load rate of order tracking is 0.63 and 0.60 respectively. This has a great impact on the customer's trust, so it is necessary for B2C enterprises to strengthen the management of these aspects. In the aspect of perception of pollighthness, the attitude of dispatched employees is higher than other indicators, which has the greatest impact on perceived etiquette norms. Therefore, the attitude of supply staff to customers is also very important to customer satisfaction. From the current situation, e-commerce has lower requirements for the qualification of distribution personnel, and lower requirements for the training of distribution personnel. Such a dispatch team aims to complete the basic distribution, but cannot complete the distribution under special circumstances. B 2C's website must focus on training delivery personnel. On the other hand, improve the communication ability and personal quality of distribution personnel, and require them to maintain a good corporate image in the process of distribution. Satisfy, make competition in a better position.

## **7. Conclusion**

Based on the core concepts and architecture of ACSI model and SERVQUAL model, this paper analyzes the impact of logistics service quality on customer satisfaction in B2C e-commerce environment, puts forward research hypotheses, and uses structural equation model to verify the hypotheses. Finally, the LDCs model is established. The results show that the model is reasonable and the reliability and fitting effect of the structural equation model are acceptable. The analysis of structural equation model shows that the improved model can explain the actual customer satisfaction evaluation of B 2C logistics service. You can also see the effect of each observation

variable on each potential variable. The degree of influence between B2C websites is helpful to improve the delivery service and the quality of delivery service. The structural relationship model of customer satisfaction in logistics service is dynamic. The construction and improvement of the model, according to 1 survey data is not enough. The following research is based on the correctness and evaluation value of the model. Object extends to the logical allocation of B2B, B2C, and other web sites. It can improve the quality of e-commerce logistics services.

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