

# The study of Logistics service guarantee and Purchase intention in the context of E-commerce

Ye Bihua

## Abstract:

Considering the shopping scenario, logistics service for electric business platform, sellers and consumers the importance of the three parties, through the analysis of our country B2C (logistics capability is good, can provide excellent logistics services to ensure sellers, mainly has the proprietary distribution system) and C2C (relatively poor logistics capability, logistics service guarantees the jagged individual sellers) e-commerce logistics services provided by the electric business platform, according to the theory of external cues reference the concept of logistics service guarantee, this paper studies the logistics service guarantees for consumer response (purchase intention) mechanism. Secondly, this paper categorizes the part of the mainstream in our country electric business platform provides all the logistics services to ensure that, and has carried on the detailed classification, respectively is timeliness logistics service guarantee, the quality of logistics service guarantee and value-added logistics services, including timing for logistics service guarantee according to the delivery time, delivery time and delivery time, carried on the detailed classification, and referring to the practical application of logistics guarantee the timeliness, explores the timeliness logistics services to ensure the main can solve the problem, virtual delivery delay of delivery. Finally, the thesis summarizes the research assumptions of the full text, draws a research model, summarizes the research conclusions, innovation points and shortcomings, and puts forward management suggestions from the perspectives of e-commerce platforms, sellers, logistics enterprises and consumers based on the actual phenomena.



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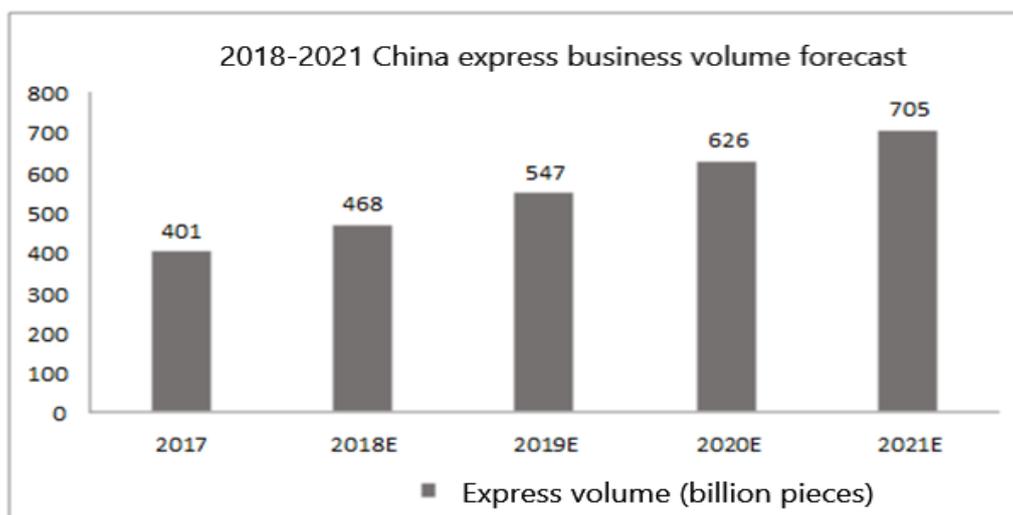
About Author (s)

Ye Bihua, Asia Metropolitan University, Malaysia.

## Introduction

### (1) rapid development of e-commerce market

In recent years, China's e-commerce market has ushered in great changes and high-speed development. With the cooperation of internet technology, third-party payment platform, logistics and distribution services, advertising and marketing and other fields, followed by the continuous introduction of new concepts such as Internet of Things, big data, new retail, cloud computing and so on, consumers have been promoted from traditional physical store shopping to online e-commerce platform for consumption. Under such a wave of the times, the development of China's online shopping market has crossed the embryonic stage and gradually developed into maturity, showing a strong market scale and development potential. On August 20, 2018, China Internet Network Information Center (CNNIC) released the "42nd statistical report on the development of China's internet". The report shows that as of June 2018, the number of online shopping users in China reached 569 million, up 6.7% from the end of 2017 and accounting for 71.0% of the total number of internet users. The scale of cell phone online shopping users reached 557 million, an increase of 10.2% compared to the end of 2017, and the usage ratio reached 70.7%. With the growth of user scale, the retail sales of online shopping are also continuous, reaching 7175.1 billion Yuan in 2017, up 19.6% year-on-year. It is expected to maintain a high growth rate in 2018, exceeding 9000 billion Yuan. In the first half of 2018 alone, China's online retail transaction volume reached 4081 billion Yuan, up 30.1% year-on-year, continuing to maintain a steady growth momentum. These data show that online shopping has not only greatly promoted the high-speed growth of China's national economy, but also deeply changed people's traditional living habits and shopping behavior, and has become a life and consumption mode recognized, participated and loved by more and more netizens.



**Figure 0-1 Forecast of China express business volume in 2018-2021**

However, the new round of e-commerce battles are always full of variables, data from the second quarter of 2019 alone show that the entire e-commerce business has delivered results that exceeded expectations. Ali's revenue and profit both exceeded expectations, with strong momentum in the e-commerce business and a ringgit rebound in profitability driven by new business efficiencies; Jingdong, known for its excellent logistics services in the e-commerce session, saw a rebound in active user growth and record profits in a single quarter. In China's online shopping industry chain, the rapid development of online shopping market brings opportunities to e-commerce enterprises, while the express delivery industry has become the biggest beneficiary, and the business scale is also showing a high-speed growth. By 2017, it

has reached 42.3 billion pieces, and it is expected that the express delivery business volume will exceed 80 billion pieces by 2020, and it is expected to exceed 200 billion pieces by 2025 (as shown in Figure 1-1). According to the China Express delivery Development Index report released in May 2019, China's express delivery Development Index is 198.4, up 17% year-on-year, showing a trend of stable development and continuous improvement. The service quality index, development capacity index and development scale index are 257.1, 169.2 and 212.4 respectively, up 10.6% , 23.8% and 24.2% respectively compared with the same period last year, indicating that China's express delivery market has achieved steady improvement in all aspects in terms of scale, quality and development capacity. As an important part of China's logistics industry, express industry not only promotes the development of social economy and improves people's material living standards, but also plays an important role in the exchange and dissemination of international culture (Yuan, 2010). As a fast and advanced mode of postal transportation, express delivery service has grown into a huge industry after more than 40 years of growth and development after entering China at the end of the 20th century. According to statistics, China is the fastest growing region in the global Express industry, with a growth rate of more than 20% . At present, there are more than 1.5 million people working in express delivery companies nationwide, with an annual turnover of more than 60 billion Yuan, and two major express delivery markets have been formed, namely, the International Express delivery market and the domestic Express delivery market (Zhou, 2011). Especially in recent years, with the continuous development of e-commerce, express delivery industry has entered a period of rapid development. Express delivery service has become the main logistics distribution service selected by major e-commerce enterprises at present. Consumers are no longer limited by time and space, the business scope of enterprises has been expanded, and the traditional sales and shopping methods have been fundamentally changed. At the same time, the development of the logistics industry has been strongly driven by the development of precise distribution modes such as "door-to-door". For example, B2c mode, as the best e-commerce mode in the current development situation, its service effect is also most affected and restricted by logistics distribution. As the end-user of the supply chain, B2C consumers have low single purchase volume and low product price, while focusing on high quality delivery is their biggest consumption characteristic, and the high service price and low delivery efficiency are corresponding to such consumption. The gap between the existing service quality and consumer expectations greatly limits the rapid development of B2C e-commerce in China. In the past, many merchants on B2C platforms paid more attention to the quality of their products and web pages. However, as B2C e-commerce gradually presents the characteristics of diversified products sold and personalized customer needs, it also puts forward the requirements of timeliness and customizability for the corresponding logistics services. B2C e-commerce logistics distribution has the characteristics of wide coverage, multi-variety, small batch and so on. The guarantee of logistics service directly affects consumers' perception of service quality, and has a more obvious subsequent impact on consumers repurchase willingness.

## **(2) Logistics service is of great significance**

E-commerce and express Logistics are important parts of modern service industry, which are closely related to people's livelihood. E-commerce maximizes the convenience of consumers, allowing them to complete the shopping process without leaving home, thus saving time and labor. The level of logistics service is an important embodiment of the market competitiveness of e-commerce enterprises, and improving the quality of logistics service is an effective means for enterprises to improve performance and increase market share. At the same time, logistics, as the only link of direct contact between e-commerce enterprises and consumers, its service quality directly affects consumers' perception of e-commerce

enterprises' service quality and their subsequent repeated purchase willingness. In the whole process of online shopping service, consumers only need to use mobile phones, computers and other networking equipment to quickly and conveniently select and compare various commodities, consult and place orders, purchase and pay, etc., but e-commerce logistics service cannot only rely on the network. Although the network can realize the circulation of information flow and capital flow, but the circulation of online shopping commodities cannot be separated from the logistics distribution, and the logistics service is the real direct contact with consumers in order distribution.

The development of e-commerce industry has been improving in various aspects such as improving consumption experience, improving distribution efficiency, and pushing digital accurate advertisements. The development trend of the industry will change from rough and rapid development to fine and differentiated development. Logistics service is not only an important bridge to realize the transaction between sellers and consumers, but also an important means to improve the high market competitiveness of online sellers and e-commerce platforms. China's e-commerce logistics mode can be divided into two categories according to the characteristics of logistics services provided by the current mainstream e-commerce platform. One category is sellers with good logistics capacity and excellent logistics service guarantee, mainly B2C e-commerce websites with self-supporting distribution systems, such as Jingdong, Suning and Tmall supermarkets, which have strong order processing, packaging, delivery and logistics distribution capacity and can provide logistics services accurate to the hour. The other category is sellers with relatively poor logistics capacity and uneven logistics service guarantee, mainly individual sellers on the C2c e-commerce platform. In the delivery time to provide 3 days, 7 days or even 45 days delivery service, the delivery time may reach 7-9 days of logistics services, and even with delayed shipments, false shipments problems.

### ***Description of research questions***

In January 2018, the State Council issued the "opinions on promoting the coordinated development of e-commerce and express logistics." The opinions pointed out that with the rapid development of e-commerce, some problems have been exposed in the coordinated development of e-commerce and logistics express, such as inadequate infrastructure, difficult access of distribution vehicles, insufficient express terminal service capacity, insufficient coordination and linkage among industries, etc., Which have become important bottlenecks restricting the development of e-commerce. In the 2018 "Double Eleven" online shopping consumer satisfaction survey report, it was pointed out that among the factors affecting consumer experience, 51% of consumers expressed dissatisfaction or general dissatisfaction with logistics. Among them, slow logistics and delayed shipments by merchants are the main reasons for consumers' dissatisfaction, and other logistics problems also include damage or loss of goods caused by logistics reasons, failure or false delivery by merchants, and poor attitude of logistics personnel.

Logistics service, as an additional intermediate link of online shopping different from traditional shopping, has become an important focus of online retailers' attention. In order to occupy a place in the fierce e-commerce competition, how to make consumers believe that e-commerce platform can provide excellent logistics services has become an urgent problem to be solved. At this time, service guarantee, as an effective means that has been confirmed in many industries, has won the favor and wide application of e-commerce industry. Among many e-commerce platforms, Jingdong, which has a huge distribution and logistics system, for example, its logistics services clearly build Jingdong's core competitiveness in the e-

commerce industry. Jingdong has begun to pay special attention to the accurate service of consumers, making great efforts in logistics and distribution, and providing especially considerate services based on the personalized needs of consumers for distribution time. On its website, you can see words and keywords such as "delivery within x days after payment", "delivery on the same day", "delivery on the next day", "regular delivery", "appointment delivery", "As long as payment is made on or before XX: XX, it is promised that delivery will be made before x day x month", "Any breakage will be refunded", "door-to-door delivery", etc. Logistics is closely related to consumers' purchase intention, which has been confirmed by many studies, so with these words and keywords that promise different forms of logistics services, for enterprises, it is to transmit a quality signal to consumers through service guarantee, and for consumers, these service guarantees can enable consumers to freely choose delivery time, delivery mode, etc.

**Based on this, this paper proposes:**

- (1) Is the impact of logistics service guarantee on consumer response significant under e-commerce conditions?
- (2) What should we do to improve consumer response?

**Research Objectives**

From the perspective of consumer behavior, when consumers complete a purchase task, from receiving a large amount of information about the goods to finally making a decision to buy or not, they are essentially influenced by many factors directly or indirectly. So, how does logistics service, as a specific external factor of purchasing behavior in the context of e-commerce online shopping, drive consumers to make consumption decisions, and what kind of cognitive and mechanical operation is behind the generation of consumption behavior? Therefore, the research objectives of this paper mainly include the following points:

- (1) Through literature reading, define and classify logistics service guarantee, and develop the measurement scale, and develop the measurement scale of perceived risk, perceived value and consumer purchase intention based on logistics service under the background of e-commerce online purchase in China.
- (2) Find out measures to improve consumers' willingness to buy.

**Literature Review**

**Purchase Intention**

Bucklin and Siddarth (1998) think that consumer response is the decision-making performance of consumers in choosing brands, determining the frequency and quantity of purchases. Cedric HSI-Jui Wu et al. (2008) believe that consumer response is the brand loyalty and impression evaluation formed by consumers after experiencing a certain consumption process. Holbrook and Hirschman (1982) put forward that there is a response system between consumers and the environment, that is, consumers get the cognition of products or services through information collection and processing, and under this cognition level, consumers will produce internal reactions (internal effects), and the final behavior will occur according to the internal reactions and the role of external environment. Rodolfo and Victor (2001) argue that consumer response can bring more benefits to a company, mainly in terms of: willingness to pay a higher premium for the brand; recommending the brand to others; and buying other products of the brand". Herrero Crespo and Lgnacio Rodriguez (2005), by collecting Spanish mobile phone users' perceptions of business's economic, legal, ethical and charitable behavior, used a structured comprehensive model to prove the direct relationship between social responsibility and overall evaluation services, and clarified that responsible behavior can bring business benefits to enterprises. The research of Zhou, Luo and Xiao (2007) shows that companies' proactive assuming social responsibility in the areas

of donating to charity, public welfare and environmental protection significantly affects consumers' evaluation of company reputation.

In psychology, "will" is a very basic concept, a state of mind that people have before they act. The concept of willingness was first borrowed from psychology. Fishbein (1975) studied willingness from the perspective of probability and argued that if an individual has a very high probability of engaging in a behavior, then it can be summarized as "will". Eagly and Chaiken (1980) argue that an individual has a motivation to do something before performing an act, and this motivation is will, which is very different from attitude. Attitudes themselves are usually emotional and are constrained by environmental factors. Will is the motivation of behavior and a psychological reaction formed in the individual's heart. Willingness to buy is the degree to which people are willing to buy a product or service. Engel, Blackwell and Kollat (1993) define consumer behavior as "expressions and behaviors, including behavioral decision-making processes, for the purpose of acquiring and using goods." In addition, Kotler (1997) defines consumer behavior as "the experience after the purchase and use of a product or service." Boyd and Mason (1999) use the length of time a consumer takes to buy a product as a measure of their consumer willingness. In terms of purchasing intention, Kotler (2000) believes that consumers integrate their personal factors through psychological effects, and then guide their own purchasing decisions and behaviors. Schiffman and Kanuk (2000) use the likelihood of consumers purchasing a particular product as a yardstick. Therefore, if enterprises want to improve consumers' purchase intention, they must deeply understand the influence of product characteristics and service quality on consumers' purchase intention.

### ***Logistics service guarantee***

Service guarantee (also called service promise or service assurance) is an extension of product guarantee in the service field. First proposed by Hart (1988) in the Harvard Business Review and defined in subsequent research, service guarantee is a declaration, statement, or representations that defines the service that customers can expect and how businesses will compensate customers if service failures occur, as is the case with merchant services. With the expansion of the scope and depth of service guarantee research, the definition of service guarantee by domestic and foreign scholars is shown in the table below:

**Table 0-1 Definition of service guarantee**

Author	Definition
Evans et al. (1996)	A service guarantee is a company's policy of committing itself to customer satisfaction in an overt or implicit, advertised or unadvertised manner
Mc Dougall, Levesque, Vander Plaat (1998)	Service guarantees indicate how and what level of service customers can expect, and what compensation measures the company will take if service delivery fails
Hays & Hill (2001)	Service guarantee means that the company promises to provide a certain level of service, and will compensate the customer in some way if the promised level is not reached.
Ji, F. L. (2002)	Service guarantee is a guarantee that the company will provide the customer with the specific content and benefits of the service, as well as the compensation in case of service failure, and make it public to the society.
Liden and Skalen (2003)	Service guarantee as a measure of service quality, compensation measures to be taken when the service quality promised by the company does not meet the standard
Baker and Collier (2005)	Service guarantee as a service guarantee for the customer, under which the customer is compensated (economically or non-economically) when the delivered service does not yet meet the Valid performance standards
Jin et al. (2008)	A service warranty is a statement used by a company to explain in what way the customer to be served can expect the company to remedy a service failure
Jens Hogleve & Dwayne Gremler, D. (2009)	Service guarantee is a commitment explicitly stated by the supplier :(A) to provide a certain level of service to the customer; (B) If the service is not adequately communicated to the customer and the customer's recognition is obtained, compensation shall be provided according to the service guarantee

It can be seen that scholars' expressions of service guarantee are different, and basically express that service guarantee must include service quality commitment (what quality level to achieve) and compensation commitment (compensation standard and mode when service does not reach this level). In order to increase consumer confidence, service guarantees are widely used as a promise between companies and consumers. In order to further enhance the credibility of this promise, the company adds a compensation promise to the service quality promise. In order to increase the completeness of the promise and to prevent fraudulent behavior by using the service guarantee, the service company adds restrictions to the compensation promise according to the characteristics of the service. For enterprises, excellent service quality and excellent commodity quality are the goals to be pursued continuously, and for consumers, they also expect to obtain high-level service, high-quality commodities and good consumption experience from the enterprise.

### **Methodology**

The research methods adopted in this paper mainly include literature research method, experimental method, questionnaire survey method and data analysis method, combining theory with realistic online shopping scenarios, developing qualitative and quantitative indicators, further constructing models and formulating hypotheses for empirical research.

### **Literature research**

This paper, with the help of databases, has reviewed a large amount of relevant literature at home and abroad, systematically sorted out, summarized and concluded the existing research results, and further innovated on the basis of understanding the current research status, further combined with the actual situation, deeply elaborated the characteristics of the service guarantee of the logistics category in the online shopping scenario, summarized the factors influencing consumer behavior in the context of e-commerce and the factors related to consumer purchase intention model. It provides a solid theoretical support for the subsequent model construction, index formulation and questionnaire design.

### **Questionnaire survey**

Based on the research of experts and scholars, the theoretical model based on the research background of this paper is perfected, and the more mature scale in domestic and foreign research is quoted, and the formal questionnaire is revised on the basis of pre-experiment. The methods of questionnaire collection mainly include electronic questionnaire and paper questionnaire, and the original data are obtained after combining the effective questionnaire.

### **Data analysis method**

This paper mainly uses SPSS 22.0 software to process the data of all valid questionnaires, including descriptive statistical analysis, correlation analysis, factor analysis, analysis of variance, reliability and validity test and other data processing methods to verify the reliability of the hypothesis, to test the scientific nature of the model, in order to get the real results.

### **Population / Sampling / Unit of Analysis**

The study one adopted the form of on-the-spot investigation and distribution of paper questionnaires, which were mainly distributed near the library, teaching building and canteen of Zhejiang University of Technology, and the distribution objects were college students and graduate students with certain cognitive and basic judgment ability, while ensuring that the surrounding environment was quiet and the subjects would not be disturbed in the filling process. When the subjects have questions, the distributor answers the questions accordingly to ensure the rationality of the research and the accuracy of the data.

Finally, the subjects are thanked and the questionnaire is collected on the spot. The questionnaire was measured using 7-Point Likert Scale. A total of 126 questionnaires were collected, and after eliminating invalid questionnaires that were omitted, incorrectly filled out, or filled out indiscriminately, a total of 120 valid questionnaires were collected, with a valid completion rate of 95.2% and a sample size of 30 persons in each group, totaling 4 groups. (2) Considering that the proportion of the respondents with postgraduate education in Study 1 is as high as 50%, which is quite different from the proportion of education in the actual online shopping situation, so Study 2 adopts the form of electronic questionnaire to distribute online. In the Study 2, on the basis of the questionnaire of the Study 1, the 5-point Likert scale was used to measure the perceived risk and perceived value of possible mediating variables. 118 questionnaires were collected in total, and after eliminating all invalid questionnaires with consistent, inconsistent answers and those with less than 30 seconds to complete, 105 valid questionnaires were collected in total, with a valid completion rate of 88.9%. (3) The Study 3 uses a two-by-two experimental design, uses 5-point Likert scale to measure product involvement, uses 7-point Likert scale to measure purchase intention, and uses the electronic version of the questionnaire to distribute online. In the questionnaire collection, the number of samples was also increased. A total of 236 questionnaires were collected. After all the invalid questionnaires with consistent, inconsistent answers and those with less than 30 seconds to fill in, a total of 225 valid questionnaires were received, with a valid completion rates of 95.34%, and the number of people in each group was 53, 57, 57 and 58, respectively.

### **Sample source**

The respondents of this study come from people who often buy online, such as on-the-job personnel, college students and graduate students of Zhejiang University of Technology.

### **Analysis Unit**

The questionnaire in this study measured all question items for each subject and analyzed all questionnaire data and did not analyze different data units differently. Therefore the data analysis unit is the data as a whole.

## **Findings and Discussion**

### ***Summary of respondents***

- (1) College students and graduate students of Zhejiang University of Technology are distributed, to students with certain cognitive and basic judgment ability;
- (2) on-the-job personnel with online purchasing experience all over the country.

*Test the main effect and exclude the seller's reputation as an interference item -- No matter the reputation is high or low, the impact of logistics service guarantee on the purchase intention is consistent.*

### **Research methods**

#### **(1) Experimental materials**

In the Study 1, a questionnaire survey was conducted by simulating the real online shopping scene, and the subjects were brought into a stronger online shopping scene by displaying the simulated online shopping commodity page, which was close to the actual consumption decision of consumers. The research materials mainly involve the following parts: guidance language, simulated online shopping pictures, questionnaire measurement questions.

As for the experimental materials, the two types of products that are more common and have more transactions in online shopping are clothing and electronics respectively. Considering that most of the subjects participating in the experiment are students in our school, they are

more familiar with the online shopping situation of clothing commodities, and the purchase frequency is higher than that of electronic products, so the experimental material used in Study 1 is "white short sleeve." Based on the simulation presentation operation of shopping pages on e-commerce websites in Yao's (2015) study, this paper believes that store names, commodity brands, presentation methods, and advertising language may have an impact on the subjects, so the commodity patterns and brand names are hidden, and the store names are displayed as "xx clothing", thus preventing the subjects from having too strong subjective preferences or irrelevant variables to interfere with the experimental results and affect the accuracy of data.

## (2) Variable manipulation

The manipulation of the logistics service guarantee is completed by changing the relevant introduction of the distribution service, referring to the research of Chen Zhijin (2007), and combining the actual logistics service guarantee clauses provided by e-commerce platforms such as Suning and JD.com to complete the improvement. The group that provides logistics service guarantee: the delivery method is package shipping, and at the same time note that "delivery within 24 hours, the store will pay 3% of the transaction amount if the delivery is delayed". The group that does not provide logistics service guarantee: the delivery service is only shown as exemption from postage, without any other information.

The manipulation of seller's reputation is based on the research of Duan (2017) and Zou (2014). The former believes that the seller's reputation signal is reflected by the seller's dynamic score, and the store dynamic scores such as "consistent description" and "satisfactory quality" can be regarded as the dynamic reputation signal transmitted by the seller to the consumer. The latter manipulates the high and low reputation through the different presentation methods of the seller's reputation level in the research. This paper combines previous research with reference to the introduction of merchant information given by Taobao, a large e-commerce platform, for manipulation. Among them, the merchant information introduction includes four items of store rating, product description, seller service, logistics service. Store ratings are presented in the form of pictures, product descriptions, seller services and logistics services are presented in the form of scores. Group with high seller reputation: The store was rated three crowns, with 4.8 points for product description, seller service and logistics service, higher than the average of 4.7 points. Group with low seller reputation: The store was rated three love, with 4.6 points for product description, seller service and logistics service, below the average of 4.7 points.

First, let the subjects read a short text introduction to help the subjects understand the logistics service guarantee. The introduction is as follows: "logistics service guarantee refers to what kind of logistics service the e-commerce platform promises to provide to consumers. If the logistics service does not meet the promised standard, the platform may give customers compensation such as points, coupons, refunds, etc." Then the subjects were told to buy a white short sleeve from the internet, and the subjects were asked to simulate the actual online shopping scene, and browse the designated commodity information in the simulated e-commerce online shopping page, which included commodity pictures, seller's shop scores, commodity prices, logistics services, etc. After browsing the simulation online purchase page, answer the relevant questions about purchase intention. Finally, the subjects were asked to provide basic demographic information, including gender, age, education background, average number of online purchases, monthly income.

#### (4) Data collection

In the Study 1, the paper questionnaire was distributed in the form of on-the-spot investigation. The distribution places were mainly near the school library, teaching building and canteen, and the distribution objects were college students and graduate students with certain cognitive and basic judgment ability. At the same time, the surrounding environment was relatively quiet, and the subjects would not be disturbed in the filling process. When the subjects have questions, the distributor answers the questions accordingly to ensure the rationality of the research and the accuracy of the data. Finally, the subjects are thanked and the questionnaire is collected on the spot. The questionnaire was measured using 7-Point Likert Scale. A total of 126 questionnaires were collected, and after eliminating invalid questionnaires that were omitted, incorrectly filled out, or filled out indiscriminately, a total of 120 valid questionnaires were collected, with a valid completion rate of 95.2% and a sample size of 30 persons in each group, totaling 4 g

### Data analysis

#### (1) Demographic differences

Firstly, carry out descriptive statistical analysis on the data to obtain the statistical results (see Table 4-1). From the statistical results, it can be seen that the number of female samples in Study 1 accounts for 57.5% of the total sample, much higher than the 42.5% of male samples. However, considering that women are the main group of online shopping consumption behavior, the difference between male and female proportions is within an acceptable range. The age is mainly concentrated in 21-25 years old, accounting for 69.2% of the total sample number. From the perspective of education level, the education level is highly concentrated in undergraduate and graduate students, accounting for 45% and 52.5% of the total sample number respectively. The combination of education and age indicates that the respondents are generally younger college students, which is consistent with the basic characteristics of online shoppers. From the average number of online shopping, we can see that the respondents' online shopping experience is generally rich, which shows that the respondents are familiar with the online shopping situation, which meets the experimental requirements of Study 1.

**Table 0-1 Results of descriptive statistics for the sample of Study 1**

criptive statistics of the sample (N=120)			
Projects	Category	Sample size	Percentage (100%)
Gender	Male	51	42.5%
	Female	69	57.5%
Age	20 years old and below	22	18.3%
	21-25 years old	83	69.2%
	26-30 years old	10	8.3%
	Over 30 years old	5	4.2%
Education background	High School and below	1	0.8%
	Senior and Specialist	2	1.7%
	Undergraduate	54	45.0%
	Graduate student and above	63	52.5%
Average number of online purchases	Basically no online shopping	2	1.7%
	1-2 times a month	46	38.3%
	3-6 times a month	54	40.0%
	More than 6 times a month	18	15.0%
Average monthly consumption amount	Less than 1500 RMB	40	33.3%
	1501-3000 RMB	63	52.3%
	3001-6000 RMB	15	12.5%
	6001RMB or more	2	1.7%

(2) Independent variable manipulation test

In order to verify the successful manipulation of logistics service guarantee, independent sample t-test is conducted. The results are shown in table (4-2), which shows that the subjects in Study 1 have significant differences in logistics service guarantee and the manipulation of logistics service guarantee is successful.

**Table 0-2 Results of the independent variable manipulation test in Study 1**

Variables	Levene's test for equivalence of variances		Grouping	Average value	Standard deviation	Significance	T
	F	Significance					
Service Guarantee	10.475	.002	No	3.80	1.55	.000	-
			Yes	4.78	1.01		4.116

The seller's reputation was manipulated into two levels: high seller's reputation and low seller's reputation. In order to measure whether the subjects' perception of the seller's reputation was consistent with the manipulation target, a measurement question is set in Study 1: "For you, is this seller a high- or low-reputation seller? For sellers in the low reputation group - the store rating is three love, baby description, seller service, logistics service scores 4.6, below average 4.7, the subjects who think this reputation is high is 0%, for sellers in the high reputation group - the store rating is Three crowns, baby description, seller service, logistics service scored 4.8 points, higher than the average level of 4.7 points, the subjects who think that this reputation is high is 56/60%, those who think the reputation is high choose 1, those who think the reputation is low choose 0, three subjects chose 0. A chi-square test of the results showed that there was a significant difference between the subjects' high and low reputation of the sellers, which indicates the success of the manipulation of the sellers' reputation.

(3) Hypothesis test

Taking logistics service guarantee and seller's reputation as independent variables and consumer's purchase intention as dependent variables, data analysis is carried out through SPSS, and the descriptive statistical results are obtained as follows (Table 4-3). The results show that M (Purchase intention of goods under the condition of providing logistics service guarantee)=4.54 and M (Purchase intention of goods without the condition of providing logistics service guarantee)=3.66 under the condition of high seller's reputation, and M (Purchase intention of goods under the condition of providing logistics service guarantee)=3.21 and M (Purchase intention of goods without the condition of providing logistics service guarantee)=2.40 under the condition of low seller's reputation.

**Table 0-3 Description of statistical results of Study 1**

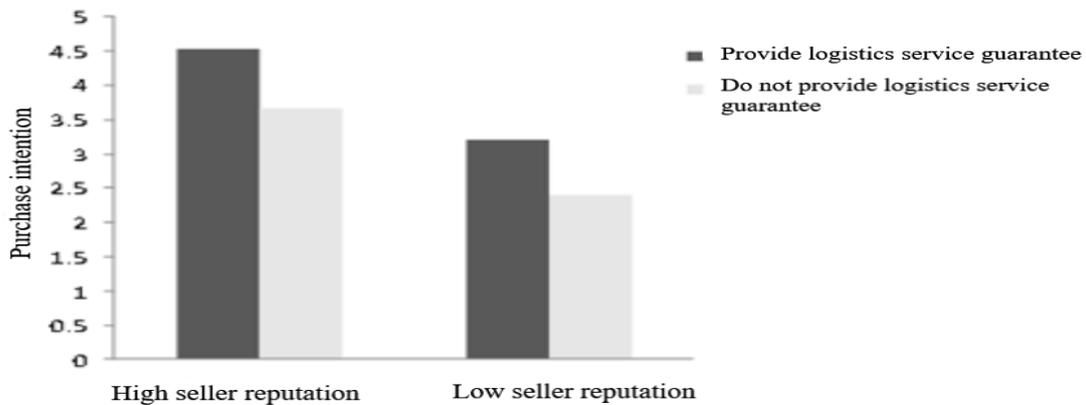
Variables	High seller reputation (M)	Low seller reputation (M)	Total
With service guarantee	4.54	3.21	60
No Service Guarantee	3.66	2.40	60
Total	60	60	120

This paper uses SPSS23.0 to test the direct effect of logistics service guarantee and seller's reputation on consumer's purchase intention, and then verifies hypothesis h1. As shown in Table 4-6, service guarantee has a significant positive effect on consumer's purchase intention (F=39.172, p <0.001), seller's reputation has a significant positive effect on

consumer's purchase intention ( $F=16.891$ ,  $p < 0.001$ ), and there is no interaction between service guarantee and seller's reputation ( $F=0.035$ ,  $p=0.851$ ), but both of them have significant effects on consumer's purchase intention. A simple effect analysis is performed and the results are shown in Figure 4-4

**Table 0-4 ANOVA results of the effect of seller reputation\*service guarantee on purchase intention in Study 1**

Source of variation	Class III sum of squares	df	MS	F	Significance
Calibration Model	71.988a	3	23.996	18.700	.000
intercept	1430.601	1	1430.601	1114.84	.000
Seller's reputation	50.268	1	50.268	39.172	.000
Service Guarantee	21.675	1	21.675	16.891	.000
Seller's Reputation* Service Guarantee	.045	1	.045	.035	.851
Error	148.856	116	1.283		
Total	1651.44	120			
Corrected Item-Total Correlation	220.84	119			



**Figure 0-1 Results of a simple analysis of Study 1**

Logistics service guarantee significantly affects consumers' purchase intention. The Study 1 explores the influence of seller's reputation and logistics service guarantee on consumer's purchase intention. The results show that logistics service guarantee has a significant main effect on consumer's purchase intention, and seller's reputation has a significant main effect on consumer's purchase intention. The specific results are as follows: regardless of seller's reputation, the seller who provides logistics service guarantee has a significant increase in consumer's purchase intention. The results of data analysis confirm our Hypothesis 1, test the main effect, eliminate the interference item of seller's reputation, and the impact of logistics service guarantees on purchase intentions is consistent regardless of reputation.

**Conclusion**

(1) through literature reading, the logistics service guarantee is defined. Logistics service guarantee refers to the logistics service promised by e-commerce platform to consumers. If the logistics service guarantee does not meet the promised standard, the platform may give consumers a solution. Based on the previous scholars and according to the actual situation, this paper revised the measurement scale of perceived risk, perceived value and consumer purchase intention based on logistics service in the context of e-commerce online shopping in China.

(2) A theoretical model of logistics service guarantee, seller's reputation, product involvement, perceived risk, perceived value and consumer's purchase intention is

constructed. Logistics service guarantee is regarded as independent variable, purchase intention is regarded as dependent variable, perceived risk and perceived value are regarded as mediating variable, and product involvement is regarded as moderating variable. The hypothesis of the theoretical model is tested by empirical data. The result shows that the hypothesis model is valid, which improves the theoretical model of consumer behavior to a certain extent and enriches the research in the fields of service guarantee, perceived risk, perceived value, product involvement and so on.

(3) According to the unique characteristics of China's e-commerce industry, the logistics service guarantee information is classified. There are three types of logistics service guarantee: the first is quality, which is mainly that e-commerce platforms or sellers promise to consumers that logistics will not cause deterioration, decay and damage of commodities, which is often seen in the damage package compensation of fresh commodities; The second type is value-added, mainly e-commerce platforms or sellers provide consumers with high-quality services related to logistics, such as door-to-door exchange, timed delivery, seven-day no-excuse returns, freight insurance, etc.; the third is the timeliness, mainly the e-commerce platform or seller promises to consumers for logistics will not exceed the agreed period, common in the agreed delivery time, arrival time, etc.

(4) According to the research results, the high-quality logistics service guarantee provided by the merchants can improve the consumer's purchase intention, and the merchants can reduce the consumer's perceived risk, improve the perceived value and promote the consumer's consumption to a certain extent after providing a series of service guarantees. For example, damage package compensation, seven-day unreasonable return, 72-hour delivery and other logistics service guarantees can reduce the consumer's perceived risk and improve the perceived value, thus enhancing the consumer's purchase intention.

Based on the hypothesis test results, the research results are discussed in depth:

(1) Logistics service guarantee and seller's reputation affect purchase intention

This conclusion is consistent with the previous research results on the application of service guarantee in the field of travel industry and hotel industry (Hocutt & Bowers, 2005; Tsaur & Wang, 2009). The service guarantee provided by enterprises also has an impact on the purchase intention (Jia, 2008), and the high reputation seller has an impact on the purchase decision of consumers (Duan, 2019). Based on the theory of external cues, consumers will make consumer decisions according to the seller's reputation and logistics service guarantee when purchasing online. However, the results of Study 1 are different from those of previous studies, which believe that when the seller's reputation is low, consumers will have doubts and worries about the seller's travel service (Meyer, Gremler & Hogreve, 2014). Under the e-commerce online shopping scenario, logistics service guarantee and seller's reputation have a strong impact on consumer's purchase intention, even the logistics service guarantee provided by low reputation sellers can also have a good impact on consumer's purchase intention. The possible reason from the theory of external cues is that although the reputation of the seller on the e-commerce platform is not high, the consumer thinks that the seller is a novice seller on the e-commerce platform, or is still willing to believe that the logistics service guarantee provided by the seller is recognized by the e-commerce platform, so the external cues obtained by the consumer are still positive.

(2) Logistics service guarantee affects purchase intention through perceived risk and perceived value

The Study 2 shows that logistics service guarantee further affects purchase intention through perceived risk and perceived value, which is consistent with the conclusion of most studies (Jin, 2007). External cues can affect purchase intention, and perceived risk plays a mediating role (Li, 2015). Consumers do not make a single decision judgment when facing service

guarantee, but directly compare perceived gains and losses brought by service guarantee, forming a judgment based on perceived value to help make purchase decision, and perceived risk can also have a direct impact on purchase intention without being the antecedent of perceived value (Wu, 2010). The results are explained by the perceived value-related theory. When a seller provides logistics service guarantee, consumers believe that the seller provides additional value in addition to the product, such as better shipping time, the store has better service capability, and shopping in the store with logistics service guarantee will lead to a more pleasant transaction, etc., All of which affect the purchase intention from the perspective of perceived value; while the theory of perceived risk explores the results, when the seller does not provide logistics service guarantee, consumers' uncertainty about the online purchase behavior will rise, including uncertainty about shipping time, delivery time and arrival time, and even concerns about the quality of the seller's service, etc., further weakening consumers' willingness to shop due to many risk-related considerations.

(3) Product involvement moderates consumer's perceived risk and perceived value of logistics service guarantee.

The moderating effect of product involvement degree in Study 3 is consistent with the conclusions of many scholars. Many studies have shown that product involvement degree can negatively moderate the impact of perceived risk and positively moderate the impact of logistics service guarantee on perceived value (Richins & Bloch, 1986; Liu, 2014; Wang, 2016). Based on the results of this study, the application of product involvement-related theory in the field of consumer decision making is considered. Compared to low-involvement products such as short sleeves, books, and laundry detergent, consumers are more concerned about consumer decisions and thus search for more relevant information when purchasing high-involvement products such as computers, cell phones, and headphones. Based on their more active and proactive search for relevant information, consumers will care more about the seller's provision of logistics service guarantee cues. Combined with the findings of Study 2, this results in lower perceived risk and higher perceived value.

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