St. Petersburg University

Graduate School of Management

Master in Management

# Research on the influencing factors of customer satisfaction in cross-border e-commerce

Master's Thesis by the 2nd year student
Concentration – MIM
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# ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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## **АННОТАЦИЯ**

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	трансграничной электронной коммерции. В этой статье сначала предлагается исследовательский вопрос, каковы факторы удовлетворенности и как следует установить модель, а затем использовать метод обзора литературы, чтобы понять эмпирические исследования удовлетворенности, а затем выдвинуть гипотезы на этой основе, затем использовать анкеты				
	для сбора квитанций, использовать SPSS для анализа данных и получить пять факторов, влияющих на удовлетворенность потребителей трансграничной электронной коммерции: - приграничные платформы, популярность услуг и трансграничные платежи, удобство, степень и безопасность, логистика и воспринимаемая ценность.				
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### **ABSTRACT**

Master Student's Name	Xue Ying				
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Master Thesis Title	Research on the influencing factors of customer satisfaction in				
	cross-border e-commerce				
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and	influence customer satisfaction in cross-border e-commerce. This				
main results the research	paper first proposes the research question, which factors influence				
	customer satisfaction, and how the model should be established.				
	Then use the literature review method to sort out the empirical				
	model about customer satisfaction, and puts forward hypotheses on				
	this basis. Next is use questionnaire to collect data and SPSS to				
	analyze the data. It is concluded that the five factors that affect				
	customer satisfaction in cross-border e-commerce are: the				
	reputation of cross-border platforms, services, and cross-border				
	payment convenience and safety, logistics, and perceived value.				
Keywords	Cross-border e-commerce, customer satisfaction, reputation,				
	service, cross-border payment, logistics, perceived value				

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#### INTRODUCTION

In recent years, cross-border e-commerce has shown a very hot trend. The transaction volume is expected to increase from 400 billion USD in 2016 to 1.25 trillion USD in 2021, and cross-border e-commerce sales also account for 22% of the total e-commerce in 2022. At the same time, there are many articles about cross-border e-commerce, mainly focusing on cross-border logistics, cross-border services, cross-border transactions, etc., but few studies focus on customers, so this article decided to focus on customer satisfaction.

There are very few studies on the influencing factors of cross-border e-commerce customer satisfaction, which are mainly based on the e-commerce satisfaction model. Therefore, after sorting out the relevant literature, two research questions are drawn: 1. Which factors can be included in the e-commerce satisfaction model? 2 In which way the customer satisfaction model can be established? Therefore, the goal of this paper is to expand along these two issues.

First of all, let's start with the definition of satisfaction. There are two definitions of satisfaction. One is the actual psychological feeling of customers, and the other is defined as the difference between customers' actual feelings and expectations. Factors affecting customer satisfaction can be divided into psychological factors, such as expected expectations, customer needs, fairness in the purchasing process, and actual factors, such as services, products, corporate image, and so on. On this basis, Sweden, the United States, Europe and other countries have successively proposed SCSB, ASCI, ESCI and other models to summarize the factors affecting customer satisfaction. With the development of e-commerce, the research on customer satisfaction in e-commerce has also become more and more. There are some influencing factors that have been studied a lot, such as web design, payment security, product quality, etc., and some less mentioned factors, such as playfulness, Enjoyment, Entertainment, Interactivity. The literature in the context of cross-border e-commerce is mainly based on the above two research models.

Therefore, this article decided to change the way of thinking and use the method of customer journey mapping to analyze all the touchpoints of customers' cross-border purchases, and divide the customer purchase process into four stages: Awareness, Interest, Action, and

Advocacy. Awareness means that customers begin to realize the need for cross-border purchases, so the reputation of cross-border e-commerce platforms at this stage will affect their choices; Interest means that customers begin to browse the web and experience on the web platform. At this stage Service is the most important factor affecting customer satisfaction; Action includes two actions: customer payment and platform delivery. The convenience of payment, security and logistics speed, price, quality and service; Advocacy refers to customer income. After the arrival of the product evaluation, at this stage, satisfaction is the main factor. In conclusion, by analyzing the purchase process, five factors that affect customer satisfaction can be proposed: the reputation of cross-border e-commerce platforms, services, payment, logistics, and perceived value.

Based on the literature review and analysis of the cross-border purchase process, the following hypotheses are proposed:

H1: The cross-border e-commerce platforms reputation has a positive effect on customer satisfaction.

H2: The cross-border e-commerce platforms service has a positive effect on customer satisfaction.

H3: Customer' perceived value in cross-border purchases has a positive effect on customer satisfaction.

H4: Cross-border payment has a positive effect on customer satisfaction.

H5: Cross-border logistics has a positive effect on customer satisfaction.

In this paper, the method of questionnaire survey is used to collect data, and the data analysis method of SPSS is used to test the hypothesis. The questionnaire structure mainly consists of two parts. The first part is basic information, such as gender, age, monthly income, length of experience in cross-border purchases, frequently used cross-border e-commerce platforms, product types and product values purchased, language and exchange rate pairs. The second part focuses on 5 influencing factors, and then combines relevant literature and questionnaires to put forward 19 questions to investigate these 5 factors. Then, through social media such as WeChat,

TIKTOK distributed it to people with cross-border purchase experience, and finally received 327 questionnaires.

In the data analysis part, descriptive statistics are first carried out on the questionnaire data. It can be seen that the cross-border purchasers are characterized by high education, high income, younger age, more women than men, and more cautious purchases. It can be concluded that the reputation of cross-border platforms and the perceived value of customers have a greater impact on customer satisfaction, while the impact of the other three factors is less obvious.

Through the above research, targeted suggestions can be put forward. For example, the reputation of cross-border e-commerce can deepen the customer's impression through social media marketing, and the perceived value can improve the ability of website selection, improve product quality, improve product information, design Beautiful website; for service needs, understand the needs and pain points of customers, add feedback buttons on the e-commerce website, provide training for employees; for logistics, can speed up logistics, increase cooperation with third-party logistics companies, or build local warehouses; for payments, develop firewall technology to prevent external network users, establish a security application protocol system to remove security obstacles.

The innovation of this paper is to use the method of customer journey mapping to analyze the whole process of cross-border purchase, and obtain 5 factors that affect customer satisfaction. However, there are still some shortcomings in this paper. For example, some influencing factors are not included in the model, and the data sources are mainly from Chinese customers. Future research can improve these.

#### CHAPTER 1 THEORETICAL BACKGROUND

#### 1.1 Research background and research significance

Now that globalization has gradually matured, economic and trade exchanges between countries have become more frequent, and customers are increasingly buying goods across borders. According to research, Global cross-border e-commerce transactions are expected to grow from 400 billion USD in 2016 to 1.25 trillion USD in 2021. By 2022, business-to-customer (B2C) crossborder online sales are expected to account for 22% of the total electronic commerce (e-commerce) worldwide (Forrester Research, 2019). The development of cross-border e-commerce has experienced from the 1.0 era of business development through exhibition channels, the 2.0 era of Internet B2B (business-to-business) platform interaction, the 3.0 era of digital marketing channels, to today's Internet big data and cloud computing. The era of foreign trade 4.0. The rapid development of cross-border e-commerce has played a role in promoting economic integration and trade globalization. On the one hand, more and more local enterprises break through the barriers between countries and go overseas, making international trade move towards borderless trade; It can shorten the distance between customers and improve the efficiency of enterprises, so as to obtain more lucrative profits. Finally, from the perspective of customers, cross-border e-commerce makes customers do not have to travel thousands of miles overseas, nor do they have to find products that are not guaranteed by purchasing agents, but can buy high-quality, low-cost and reliable products through cross-border e-commerce. Foreign products have greatly improved customer satisfaction.

Research on cross-border e-commerce pays more attention to the total trade volume and future development trends of cross-border e-commerce, but few scholars study the satisfaction of customers in the process of cross-border e-commerce purchases. The role of customers in the entire purchase chain is very important, and it is the determinant of whether the purchase can occur. Customers are satisfied with products and services, which can increase the word-of-mouth effect of products and influence friends around them to use products; it will also increase customer loyalty, increase customer repurchase rate, and retain more customers with less marketing costs;

There is also increasing brand awareness and reputation, enabling customers to market products themselves. Therefore, it is extremely important to study the influencing factors of customer satisfaction in cross-border e-commerce.

#### 1.2 research questions

When conducting research on the influencing factors of cross-border e-commerce customer satisfaction, the most important question is which factors should be included in the model. The selection of influencing factors is related to the construction of the X variable in the model, which is very important. Therefore, this is the first problem to be solved in cross-border e-commerce customer satisfaction research. In addition, there are many research models on the influencing factors of satisfaction, and how the model should be established is also very important, which is about the establishment of the model and the research on innovative points.

#### 1.3 research gap

There are many studies on customer satisfaction by scholars in various countries, but they are limited to the research of ordinary transactions or the research of domestic e-commerce, or customers of a certain website, certain services, certain institutions, and certain industries. Satisfaction research. This paper focuses on the research on customer satisfaction in cross-border e-commerce. Moreover, research in the field of cross-border e-commerce is also focused on how to expand trade volume or logistics, information security, payment security, etc., and less attention is paid to customer research. Therefore, this article is the first to study cross-border e-commerce from the perspective of customers, or to extend the influencing factors of customer satisfaction of e-commerce to cross-border e-commerce, and verify it with data. This is the first innovation of this article.

At this stage, the research on the influencing factors of customer satisfaction is to use the literature review method to select factors, while this paper analyzes the customer purchase process and extracts the influencing factors of customer satisfaction at each stage in cross-border e-commerce. That is to say, this article will use the method of customer journey mapping in digital websites to analyze the purchase process of customers in cross-border e-commerce, so as to obtain

the influencing factors that affect customer satisfaction at each stage, and finally combine in series to get Influencing factors of customer satisfaction in the whole process of cross-border e-commerce.

#### 1.4 Research methods

The research methods of this paper mainly include literature review method, questionnaire survey method and empirical analysis method. The literature review method is to sort out and summarize all previous articles on customer satisfaction, mainly including traditional customer theory, customer theory in the context of e-commerce, and customer theory in cross-border e-commerce. Literature review is very important for the selection of influencing factors and the establishment of models. The questionnaire survey method is used to investigate and analyze the influencing factors and obtain the data used in the research. The empirical analysis method is to obtain the sample distribution through descriptive statistics after the data in the questionnaire survey is recovered, and perform quantitative analysis such as correlation analysis and regression analysis on the screened sample data to verify whether the model assumptions are valid, and finally obtain a correction. The latter model of influencing factors.

The specific arrangement of the chapters of this paper is as follows: first, the research background and significance of cross-border e-commerce, as well as the specific research issues and innovations of the article are proposed; then a literature review is conducted, including the theory of customer satisfaction, customer theory and customer theory under cross-border e-commerce; model construction and research hypotheses based on literature review; followed by an overview of research design and data analysis methods; followed by data analysis and hypothesis testing on the collected data to obtain Influencing factors that affect satisfaction factors; finally, the conclusions and the insufficiency of the research are presented.

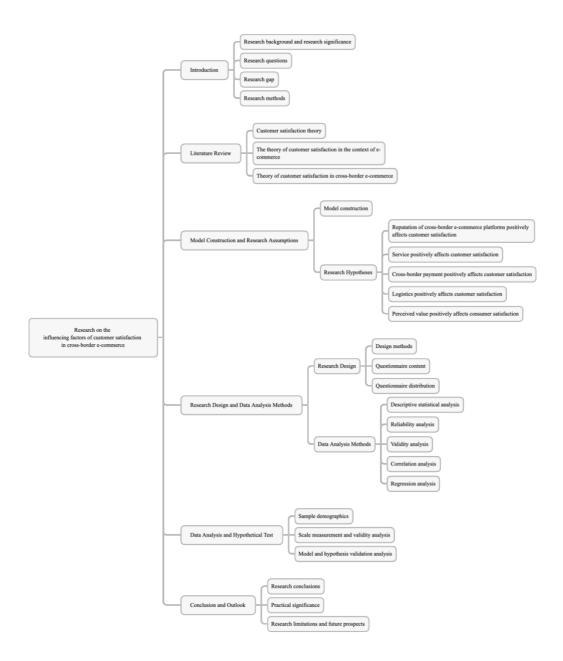


Figure 1.1 Framework of the thesis

#### **CHAPTER 2 LITERATURE REVIEW**

#### 2.1 Literature review of customer satisfaction

#### 2.1.1 Development of the Definition of Customer Satisfaction

Cardozo first introduced the concept of customer satisfaction to the field of marketing in 1965. He believed that good customer satisfaction would increase customer repurchase behavior, which would further affect the purchase of other products. Since then, the problem of customer satisfaction has received great attention. Many scholars have been involved in this field and have made extensive and in-depth research on customer satisfaction, including the definition of customer satisfaction, the analysis of factors affecting customer satisfaction, The establishment of customer satisfaction model, the measurement of customer satisfaction, and the interpretation of the marketing effect produced by customer satisfaction, etc.

The definition of satisfaction has not yet been determined, but it is mainly divided into two types. One is that customer satisfaction is caused by the difference between the actual experience and its expectations. The satisfaction difference theory is determined by the direction and size of the difference, and the difference is the result of comparing customers' actual experience (i.e., product performance) with the initial expectation of whether the product meets their needs. Another view is that customer satisfaction is the customer's after-the-fact feelings or psychological process. That is, customers will compare the cost (such as money, time, energy, etc.) of purchasing a product with the benefits obtained from using the product.

At present, business management academia mostly adopts the definition of customer satisfaction put forward by American scholar Oliver (1981): customer satisfaction is the psychological reaction after the customer's needs are satisfied, and it is the characteristics of the product or service, whether the product or service itself can be related to consumption or not. Provide judgments on matters that make customers happy and meet customer needs. He believes that customer satisfaction is mainly determined by three types of customer evaluations: (1) customer impression after consumption, customer's overall evaluation of this consumption situation, and customer's emotional and mental changes caused by this, such as happiness,

Depressed and so on. (2) Customer expectation-actual performance comparison result, that is, Gu Rong compares the actual performance of the product or service he actually feels with a certain expected standard to judge whether the actual performance meets or exceeds his own expectations.

(3) The customer's attribution to the consumption result, that is, the customer's judgment on the cause of the consumption result.

#### 2.1.2 Research on influencing factors of customer satisfaction

The research on the factors affecting customer satisfaction can be divided into two aspects. From the perspective of customer psychology, the advertisement of the product, the information collected before the purchase, the process of purchasing the product, and the product purchased will affect Gu Rong's attitude towards the product. Therefore, many scholars believe that factors such as expectations, customer needs, perceived performance, fairness, customer desires, and attribution can affect customer satisfaction. Such as Oliver <1980), Bettman (1986) and other related literature.

From the practical point of view of customers, Taiwan scholar Zhang Baiqing (1994) proposed that there are three factors that affect customer satisfaction: goods, services and corporate image. Among them, services and commodities are direct elements, and corporate image is an indirect element. Zeithanl and Bitiner (1996) pointed out that service consideration and customer satisfaction can be regarded as a separate service contact transmission level, and can also be regarded as a whole level, and satisfaction is generally considered to have a wider connotation than service quality, Therefore, service quality is one of the components of customer satisfaction. Zeithaml & Berry (2000) further researched and put forward the structure diagram of "customer's perceived quality and customer satisfaction", in which the factors affecting customer satisfaction are service quality, price, product quality, personal factors and situational factors. Service quality reflects the customer's perception of several special aspects of service: reliability, responsiveness, assurance, empathy, tangibility, and satisfaction has a richer meaning, service quality, price, product quality, personal factors and Situational factors all have an impact on satisfaction.

Regarding the influencing factors of customer satisfaction, some scholars put forward more extensive content, such as Sun 1995 pointed out that customer participation (that is, the importance of personal choice when purchasing) is an important factor affecting customer satisfaction. Customer satisfaction is also linked to culture through various values.

#### 2.1.3 Customer Satisfaction Model

The development of the customer satisfaction model was first proposed by Claes Forell Sweden in 1992. He stated that customer expectations and perceived value have a promoting effect on customer satisfaction, and customer satisfaction will affect customer complaints and customer loyalty. Later scholars believed that "perceived quality" should also be included in the model, so American scholar Fornell proposed the ASCI model in 1996, which added the impact of perceived quality on customer satisfaction. The model believes that customer satisfaction is determined by customers' expectations of service quality, perception of quality and value perception; if customers are not satisfied with service quality, they will complain. The ESCI model has also been proposed in Europe, which removes the factor of customer complaints, because the survey results of customers in Norway show that complaint handling has no significant effect on customer satisfaction or customer loyalty. At the same time, the model adds the factor of corporate image, which refers to the associations related to the organization in the customer's memory, and these associations will affect people's expectations and the judgment of satisfaction.

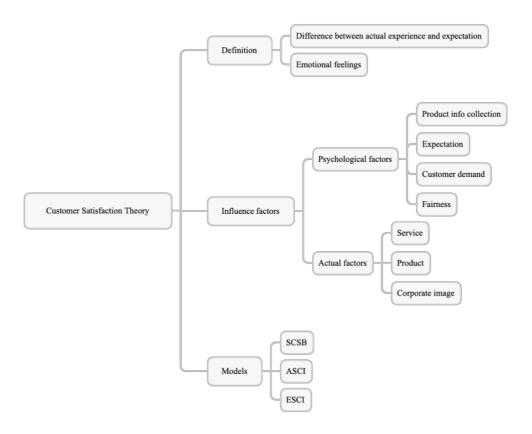


Figure 2.1 Framework of the customer satisfaction theory

#### 2.2 Literature review of e-commerce customer satisfaction

With the rapid development of the e-commerce market, there are more and more studies on the influencing factors of e-satisfaction. Six dimensions emerged across multiple research models, including design, convenience, transaction, security, information or content, and functionality or usability. For example, Szymanski and Hise pioneered the concept of e-satisfaction and established a model. The study found that in the four dimensions of convenience, product type and description, website design, and financial security, the impact of convenience on customer satisfaction The most obvious, followed by website design. Heiner used the research framework and research method of Szymanski and Hise to study the customer satisfaction of online shopping in Germany.

To a lesser extent, dimensions of interactivity (Barnes & Vidgen, 2002), customization (Srinvasan, Anderson, & Ponnavolu, 2002), fun (Liu & Arnett, 2000), and entertainment (Chen & Wells, 1999) are considered Determined as a dimension of electronic satisfaction. For example, Kim and Lim studied the customer satisfaction model of online shopping, and added factors such as entertainment, speed, information quality, and reliability into the customer satisfaction model through factor analysis.

In addition to the continuous expansion of the model, there is also the continuous refinement of the model. For example, the factors that affect web design are constantly being studied. Michael T. Elliott & Paul Surgi Speck have studied the model of web page features on customer attitudes, where web page features specifically include ease of use, product information, entertainment, trust, customer consultation, 6 factors such as traffic. There are also service factors added to the original model. When Piruni A. Deyalage & Dushyantha Kulathunga built the customer model, they added customer service factors to the model to expand the model. Xiaoni Zhang proposed a model of factors affecting e-service satisfaction, The results showed that user satisfaction with e-services is correlated with perceived convenience, users' skills and experiences, and perceived security. Influencing factors include Website Design, Navigation, Personalization.

The above model ignores the emotional component of the website and only informs the rational component of the website, which reduces the universality and applicability of the model. For example, on affective dimensions, such as playfulness and enjoyment and entertainment, research on interactivity is rare. But a customer-centric view of marketing provides a broader explanation of a website's functions, features, and characteristics. To integrate customer perspectives into electronic satisfaction measures, many studies have drawn inspiration from the marketing literature. For example, in 2020, Li Man talked about Community Shopping. Compared with traditional B2C cross-border e-commerce, community shopping modes regress the product recommendation of merchants by gathering users in a community and sharing product experience through users. This mode increases the number of users, the adhesiveness, and deepened the understanding of the product through word of mouth. Finally, Akshay Anand's research is the most

comprehensive of all e-satisfaction studies, and he examines the role that customer perceptions of online convenience, merchandising, serviceability, site design, and financial security play in e-satisfaction assessment. And finds that convenience, site design, and security are the dominant factors in customer assessments of e-satisfaction.

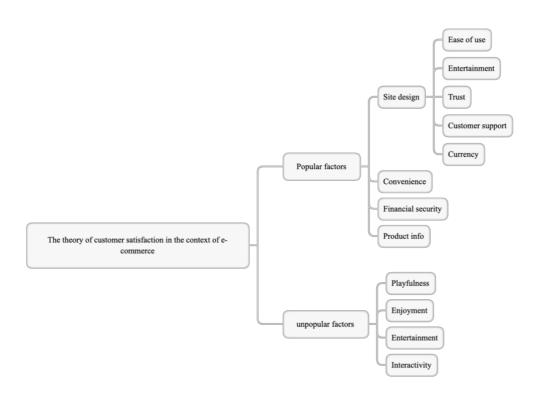


Figure 2.2 Framework of the customer satisfaction theory in the context of e-commerce

# 2.3 Literature review of cross-border e-commerce customer satisfaction

A search for "cross-border e-commerce customer satisfaction" on Science Direct and Google Scholar turned up very few articles. For example, in 2012, Gao Xiang conducted an empirical study on cross-border e-commerce customer satisfaction based on ECSI, and obtained a relationship model between corporate image, customer expectations, perceived quality, perceived value and customer satisfaction; From the perspective of service and commodity personalization, the influencing factors of customer satisfaction of imported cross-border e-commerce are studied by partial least squares method. The extrinsic variables of the satisfaction model, while customer

trust and customer expectations serve as mediating variables. The corporate image and network security directly affect customer trust, and mediate customer satisfaction through customer trust; customer evaluation directly affects customer expectations and mediates customer satisfaction.

There are also some articles that customer satisfaction is not the main research object. For example, in 2019, when Yin Ma proposed the key factor of continuous intention of cross-border e-commerce, customer satisfaction is an intermediate variable, and its influencing factors include:

word of mouth, perceived value, website design quality, trust, perceived risk and the uncertainty avoidance index; and in 2021 Hamed Taherdoost and Mitra Madanchian proposed cross-border e-commerce e-service satisfaction factors including Performance, security, training, quality, user friendly, trust and design.

As can be seen from the literature on cross-border e-commerce customer satisfaction, the current number of studies is very limited. And most of the models are based on the satisfaction model or the e-commerce satisfaction model, and do not create innovative influencing factors. Of course, this is also the main purpose of this paper, to build a new and creative cross-border e-commerce customer satisfaction model.



Figure 2.2 Framework of the customer satisfaction theory in the context of cross border e-commerce

#### CHAPTER 3 MODEL CONSTRUCTION AND RESEARCH ASSUMPTIONS

#### 3.1 Model construction ideas

At present, the models of cross-border e-commerce customer satisfaction are mainly based on the e-commerce customer satisfaction model, or the model is constructed on the basis of ASCI, so there are few studies on this aspect. And some unique factors in cross-border e-commerce are not shown in the model, such as logistics and cross-border payment; in addition, the construction of the model is not comprehensive, and the factors are simply inserted into the model for satisfaction There are problems with degree analysis, logic and correlation. Therefore, this paper uses the method of customer journey mapping to analyze the whole process of cross-border e-commerce customer purchase, and analyzes the customer satisfaction at each stage by analyzing the touchpoints at each stage.

#### 3.2 Theoretical Model

#### 3.2.1 Theoretical Model Construction

Traditional customer satisfaction research is limited to a single channel or platform, but Customer Journey Map can analyze all touchpoints of a customer's buying process. Customer journey maps analyze the sequence of activities of customer groups and the correct switching of customers from one touchpoint to another. These are very helpful with customer use of omnichannel strategies, quality of customer experience at each stage of the buying process, and satisfaction with each buying process. Generally, the customer journey can be divided into five steps, Awareness, Consideration, Purchase, Retention, and Advocacy, but there are also articles that divide the customer journey into the initial contact, orienting the customer, interaction, retention and advocacy. There is also a focus on online shopping The customer journey map divides the shopping process into five stages: Motivation, search for websites, browses the sites, evaluates products, and pay.

On the basis of customer journey mapping literature, we can see that the customer journey map of e-commerce divides the customer journey into 5 stages: Awareness, Interest,

Action, Advocacy. The corresponding stages and touchpoints in cross-border e-commerce, as well as the influencing factors of customer satisfaction are explained as follows:

- (1) Awareness: This stage corresponds to the Motivation of customers in cross-border purchases. At this stage, customers begin to understand why they would choose to buy cross-border rather than domestically, which may be due to lower prices or better quality. At the same time, we will also consider those platforms for cross-border e-commerce that are trustworthy. The factor that affects customer satisfaction at this stage is Corporate Reputation.
- (2) Interest: This stage corresponds to the browses the websites of customers in cross-border purchases.

When customers decide to stay on the platform, they will consult the customer service for information about the product. At this time, the attitude of the customer service and the speed of response will affect the customer's satisfaction. This is service.

- (3) Action: Actions at this stage correspond to two objects, one is the customer's payment purchase, and the factors that affect satisfaction are the convenience of cross-border payment and the security of cross-border payment; the other action is The delivery of the platform, the influencing factors at this stage are the transportation cost, transportation speed and transportation quality.
- (4) Advocacy: Finally, it is the behavior of customers after purchase, which corresponds to the perceived value in cross-border e-commerce. Due to the long return and refund cycle for cross-border purchases, the role of perceived value is more important. Whether the quality of the product, packaging and other actual conditions are consistent with those in the cross-border e-commerce platform, this is a very important factor affecting satisfaction.

	AWARENESS	INTEREST	ACTION		ADVOCACY
	Motivation	Browses the sites	Payment	Transportation	Evaluates products
Touchpoints	the products are not provided in home country     the products are cheaper in the target country     impression of famous cross border e-commerce platform	1 Customer service is very friendly 2 Customer service responds quickly	1 Can it jump directly from the shopping page to the payment page? 2 the platform can ensure the security of customer e- wallets	1 Logistics speed 2 Transportation cost 3 Transport quality (goods are not damaged, etc.) 4 Service attitude of logistics companies	1 Is the product quality consistent with the product information? 2 It's worth the time and effort.
corresponding factors influence CS	44 Reputation	Service	Financial convenience and security	44 Logistics	Perceived Value
Customer Satisfaction					

Figure 3.1 Cross-border purchase process analysis

#### 3.2.2 Variable Description

According to the relevant literature, combined with the characteristics of this study, the variables involved in the above model are explained as follows:

- (1) Dependent variables: corporate reputation, service, perceived value, payment, logistics. Among them, corporate image refers to the impression left by different cross-border e-commerce platforms when customers decide to buy. It can also be said to be reputation and reputation. Of course, word of mouth is also a very important aspect; When purchasing, the attitude of the merchant, the speed of response, etc.; perceived value refers to the difference between the actual product situation and customer expectation; payment refers to the convenience and security of the payment method when purchasing cross-border, that is, cross-border e-commerce The degree of cooperation between the platform and the local payment system and the security of the customer's electronic wallet, etc.; logistics refers to the transportation method from the cross-border e-commerce platform to the customer, specifically including the establishment of overseas warehouses, the help of customs clearance companies, and international logistics companies. cooperation, etc.
- (2) Dependent variable: customer satisfaction. Customer Satisfaction (Customer Satisfaction), also known as Customer Satisfaction Index. It is the abbreviation of the customer satisfaction survey system for service industries. It is a relative concept and is the degree of matching between customer expectations and customer experience. In other words, it is an index obtained by customers by comparing the perceived effects of a product with their expectations.

#### 3.3 Research Hypotheses

When customers have needs for products, they will choose different cross-border e-commerce platforms to buy. However, different e-commerce platforms have different reputation and reputation, which will have a certain effect on customers' initial choice and satisfaction. For example, in 1998, Eugene believed that word-of-mouth has a positive effect on customer satisfaction when studying word-of-mouth and customer relations, but dissatisfied customers are

more likely to participate in the evaluation of the platform; in 2019, Wedhia proposed that corporate image has a positive value and significant effect on customer satisfaction satisfaction. Based on the above literature, this paper believes that the reputation and reputation of cross-border e-commerce platforms have a significant relationship with customer satisfaction, and proposes the following research hypotheses: H1: The reputation and reputation of cross-border e-commerce platforms are positively correlated with customer satisfaction.

Because of the unquantifiable, virtualized nature of services, services are often overlooked when customers shop online. Especially in cross-border e-commerce purchases, it is more complicated. The language of web page design and the communication between customer service and customers are all part of service quality, which have a direct impact on customer satisfaction. In 2006 Hibrework found that the characteristics and behaviors of customer-contact employees play an important role in on-line service encounters. It also revealed a percentage decrease in satisfactory incidents, a percentage increase in unsatisfactory incidents, and a percentage increase in unsatisfac- tory incidents involving employee characteristics and behaviors as service encounters move from a bricks-and-mortar environment to an electronic context. This suggests that customer-contact employees may not be well equipped to deal with on-line customers; effectiveness was suggested by Tianxiang Sheng in 2010, requirement fulfillment, system accessibility, and privacy are the four dimensions of e-service quality. The results indicate that efficiency and fulfillment have positive effects on customer satisfaction, and fulfillment and privacy have positive effects on customer loyalty. However, the remaining factors have no significant effect on either customer satisfaction or customer loyalty; in 2011 Adam Finn studied the quality of electronic services and customer satisfaction A non-linear positive relationship between satisfaction, although traditional research suggests a linear positive relationship; 2012 Farnaz indicated that efficient and reliable services, fulfillment, security/trust, site aesthetics, responsiveness/contact, and ease of use constitute e-SQ for internet banking services in Iran; A significant positive relationship exists between e-SQ and e-CSI in the internet banking. The regression analysis performed showed that security/trust, site aesthetics, and ease of use of the internet banking services have positive effects on e-CS; in 2019 Paulo Rita showed that three

dimensions of e-service quality, namely website design, security/privacy and fulfilment affect overall e-service quality. Mean- while, customer service is not significantly related to overall e-service quality. Overall e-service quality is sta- tistically significantly related to customer behavior. Based on the above literature, this paper believes that there is a significant relationship between the service of cross-border e-commerce platforms and customer satisfaction, and proposes the following research hypotheses: H2: The service of cross-border e-commerce platforms is positively correlated with customer satisfaction.

Cross-border payment is very important in cross-border e-commerce and is an important part of it. When customers select products and are ready to pay, the convenience and security of payment are very important. Moreover, cross-border payment is different from electronic payment, because it involves the cooperation between e-commerce websites and local payment systems, so it plays a very important role in customer satisfaction. In 2015, Fatemeh concluded that there is a positive and significant relationship between using e-payment tools and customer satisfaction; in 2017, Enock James stated that the free nature of online payment services and the friendliness of web pages would increase user satisfaction; in 2018, Md. Shamim Hossain showed that mpayments have an enormous impact on customer satisfaction and purchase intention. The findings of this study also showed that m-payments influence perceived flow, which, in turn, influences online shoppers' satisfaction and purchase intention; 2019 Wu Junyi study The system efficiency, system availability, responsiveness, liaison and privacy of payment methods all affect customer satisfaction and are positively correlated. After stepwise regression analysis, it can be found that the important factors affecting satisfaction are system availability, system efficiency and privacy. Sex; 2021 Sunny Sun show in the hospitality industry that mobile payment-related usability on customer satisfac- tion is transmitted by mobile payment-related attitude, subjective norms and perceived behavioral control. Based on the above literature, this paper believes that there is a significant relationship between cross-border payment and customer satisfaction, and proposes the following research hypotheses: H3: Cross-border payment has a positive relationship with customer satisfaction.

Logistics is a very important part of cross-border e-commerce. As a transportation service for products after online shopping, the length of delivery time, whether the service information is updated in time, whether the product packaging is complete, and whether the products are well protected are the best logistics service quality. An important consideration is the only way to deliver products to customers, especially in the case of cross-border e-commerce, where logistics often span several countries. For example, Sino-Russian trade can transport goods through land border ports, but some companies choose to transit through Hong Kong in order to save costs. Not only that, but also involves the establishment of warehouses in various places, the opening of customs clearance companies, and the cooperation between logistics companies in various countries. Therefore, the factor of logistics is very important, and there are many articles on the relationship between logistics and cross-border e-commerce, and customer satisfaction. For example, Mahendra Sharma in 2014 indicated that flexible logistics competences as well as capabilities of the firm are important to generate customer satisfaction; in 2019, Angeline proposed that logistics service quality consists of five dimensions: information quality, ordering procedure, timeliness, order situation and order discrepancies handling. In 2019, Lin Xiaofang proposed that customers' evaluation of products or services in the later stage will be affected by the quality of logistics services, and timely, reliable, safe and perfect logistics services will be optimized. Customer shopping experience, enhance customer satisfaction; In 2020, Hasan Uvet indicated that there are significant relationships between the Timeliness, Order Condition, Personnel Contact Quality, Operational Information Sharing and perception of Customer Satisfaction in logistics services; In 2021, Jasminea Burity proposed that logistics efficiency affects consumption found that post-purchase shipping and tracking have an impact on customer satisfaction in both China and Taiwan; in 2021 Yugang He believes that In the long-run, international logistics has a positive and significant effect on cross- border e-commerce trade. However, in the short-run, international logistics has a negative and significant effect on cross-border e-commerce trade. Based on the above literature, this paper believes that there is a significant relationship between cross-border logistics and customer satisfaction, and proposes the following research hypotheses: H4: There is a positive relationship between cross-border logistics and customer satisfaction.

Perceived value, that is, customer perceived value (Customer Perceived Value), is the overall evaluation of the utility of a product or service after weighing the perceived benefits and the cost of acquiring the product or service. The customer-perceived value reflects the customer's subjective perception of the value of the products or services provided by the enterprise, which is different from the objective value of the products and services. In the early rise theory of customer perceived value, scholars' research on perceived value is generally in terms of quality dimension and value dimension. Later, scholars divided the dimensions into three dimensions: functional value, emotional value, and social value. Taking into account the rational and emotional factors in the customer decision-making process. The functional dimension is mainly measured from several aspects such as product quality, attributes, practicability, and price. The emotional dimension represents the emotional response of customers to the purchased goods and the service experience they receive. The social dimension of purchasing products improves self-confidence and is appreciated by others Wait. There is a lot of literature on the impact of perceived quality/value on customer satisfaction. Most scholars agree that perceived quality has a positive effect on customer satisfaction. For example, in 2005, Rodoul concluded that perceived product quality has a direct positive effect on customer satisfaction when he studied the Purchase intentions initial model; The perceived quality of banking has a positive effect on customer satisfaction. However, some scholars believe that there is no relationship between perceived quality and customer satisfaction. For example, Cronin and Taylor in 1994 indicated that perceived quality would not affect customers' purchase intentions when they tested the SERVQUAL model; in 2001, Llusar showed that SAT acts as a mediating variable on the relationships between FPQ and PI, but there is no proof of the existence of interaction between FPQ and SAT. Based on the above theories, this paper believes that there is a significant relationship between the perceived value of cross-border purchases and customer satisfaction, and proposes the following research hypothesis: H5: There is a positive relationship between the perceived value of customers in cross-border purchases and customer satisfaction.

#### Assumptions

- H1: The cross-border e-commerce platforms reputation has a positive effect on customer satisfaction.
- H2: The cross-border e-commerce platforms service has a positive effect on customer satisfaction.
- H3: Customer' perceived value in cross-border purchases has a positive effect on customer satisfaction.
- H4: Cross-border payment has a positive effect on customer satisfaction.
- H5: Cross-border logistics has a positive effect on customer satisfaction.

Figure 3.3 Assumptions

#### CHAPTER 4 RESEARCH DESIGN AND DATA ANALYSIS

#### 4.1 Study Design

#### 4.1.1 Design Ideas

Whether the questionnaire design is effective is crucial to the whole research process and conclusion. Therefore, before the questionnaire, sufficient preparatory work is required to ensure the final scientific nature of the questionnaire. Before designing the questionnaire, the author read a large number of references and used previous research results to preliminarily determine the research variables. On the basis of each research variable, second-level sub-questions are designed for the investigators to answer, making the questionnaire more detailed.

#### 4.1.2 Questionnaire structure

The whole survey questionnaire has two parts: the first part includes the gender, age, education, monthly income of the respondents, which products have been purchased on which cross-border e-commerce platforms, what is the value of the purchased products, language and exchange rate for customers to purchase 10 items such as influence, the purpose is to count the basic demographic characteristics and cross-border shopping characteristics of the respondents; the second part is the central part of the questionnaire, which consists of measurement items of independent variables and dependent variables, a total of 6 variables and 20 questions The answer options are set using a five-point Likert scale, from 1 to 5, representing strongly disagree, disagree, uncertain, agree, and strongly agree. Please refer to the appendix for details of the questionnaire.

#### 4.1.3 Questionnaire distribution and recovery

After the questionnaires of this study were designed on the questionnaire website, they were all distributed and filled out online. The official questionnaire will be distributed on May 14, and the deadline for filling out is May 19. During this period, the author mainly invited users to fill in the questionnaire by sharing the link to fill in the questionnaire in social software. In order

to obtain more effective questionnaires, the author shared the links with friends of different age groups and occupations, and the friends shared them with their respective circles of friends. At the same time, when selecting the target group, try to select people with online shopping experience.

In the end, a total of 327 questionnaires were returned. In order to ensure the validity of the questionnaire data, the following criteria were used to eliminate invalid questionnaires: ① the answers to all items were the same; ② the online filling time was less than 30 seconds; ③ other answer sheets with obvious logical loopholes. According to the above criteria, a total of 0 questionnaires were removed, and 327 available questionnaires were obtained, with an effective rate of 100%.

#### **4.2 Data Analysis Methods**

For the corresponding survey data obtained from the above-mentioned recovered questionnaires, this study will analyze the specific data, and the analysis methods used mainly include:

- (1) Descriptive statistical analysis: carry out descriptive statistics on the personal basic information of the respondents, mainly including gender, age, online shopping experience, online shopping frequency and monthly average monthly consumption, etc. The main indicators of each variable analyzed include frequency and percentage, etc.
- (2) Reliability analysis: In this paper, the Cronbach a coefficient is used to analyze the reliability of the scale. Reliability analysis can be used to test the stability and reliability of the questionnaire. Among several methods of reliability analysis, this paper adopts Cronbach's Alpha coefficient test method, which is the most popular in empirical research. According to Cronbach's Alpha reliability test standard, when Cronbach's Alpha≥0.70, it belongs to high reliability; 0.35≤Cronbach 's Alpha < 0.70, it is acceptable, and Cronbach's Alpha ~ 0.35 is low confidence. In actual research, if Cronbach's Alpha is greater than 0.7, it is considered that the reliability coefficient is higher than the standard value, and the reliability level is acceptable.

- (3) Validity analysis: Exploratory factor analysis was used to verify the construct validity of this paper. Firstly, the maximum variance method of factor rotation is used to judge whether the research data is suitable for factor analysis by KMO test and Bartlett sphericity test. When these two indicators meet the standards, further exploratory factor analysis can be performed on the obtained data. And through the correlation coefficient and VAVE test validity analysis results, and then extract the common factor, calculate the factor loading coefficient.
- (4) Correlation analysis: Correlation analysis is a statistical method to study the strength of the correlation between the variables in the model. In the research of correlation analysis, the correlation coefficient is mostly used for analysis. The correlation analysis of this study The Pearosn correlation coefficient was used.
- (5) Regression analysis: Regression analysis can be used to determine the quantitative relationship between the interaction of variables. Regression analysis can determine which independent variables will have an impact on the results of the dependent variable, and whether these effects are positive or negative and the magnitude of the effects can be determined by regression analysis. In the analysis of the results of this study, the observed Sig. value and the standardization coefficient were selected to judge and explain the regression results.

#### CHAPTER 5 DATA ANALYSIS AND HYPOTHESIS TESTING

The statistical analysis software SPSS was used for data analysis in this study, and the analysis methods used included descriptive statistics, reliability analysis, validity analysis, correlation analysis and multiple regression analysis, and finally came to a verified and reliable conclusion.

#### 5.1 Sample demographics

The function of descriptive statistics is to summarize the overall status and generic relationship of variables. In this study, descriptive statistics are mainly carried out on the demographic characteristics and cross-border online shopping characteristics of respondents. The main indicators for analyzing these characteristics are sample number, percentage, etc. Through descriptive statistical analysis, we can have a preliminary understanding of the basic characteristics of customers on cross-border e-commerce platforms and their shopping habits, which can be the basis for subsequent analysis.

In terms of gender, among the 327 respondents, the number of male and female respondents was 136 and 191, accounting for 41.6% and 58.4%, respectively. It can be seen that more women than men make cross-border purchases, which is also in line with people's perceptions, so the survey is representative.

Gender	Frequency	Percent	Valid Percent	Cumulative
				Percent
Man	136	41.6	41.6	41.6
Woman	191	58.4	58.4	100
Total	327	100	100	

Figure 5.1 Gender

In terms of age, the largest proportion of respondents in the age range is 31-40 years old, with a frequency of 117, accounting for 35.8%, basically reaching one-third of the total; the second proportion is under 31-40 years old 105 respondents, accounting for 32.1%. The number of people under the age of 25 and 41-60 years old is 50 and 55 respectively, which are similar, accounting

for about 15%. Because cross-border online shopping is an emerging form of consumption, the customer group is relatively young, and this questionnaire is filled out online, so it is difficult to cover users who do not often use smartphones, so the age distribution is in line with the actual situation, the research is representative.

Age	Frequency	Percent	Valid Percent	Cumulative
				Percent
Under 25	50	15.3	15.3	15.3
26-30	105	32.1	32.1	47.4
31-40	117	35.8	35.8	83.2
41-60	55	16.8	16.8	100
Total	327	100	100	

Figure 5.2 Age

In terms of educational background, 71 of the samples have a college degree or below, accounting for 21.7% respectively; the respondents with a bachelor's degree are the most, with a frequency of 151, accounting for 46.2%; the number of respondents with a master's degree or above is 105 people, accounting for 32.1%. According to the above data, cross-border online shopping customers show the characteristics of high educational level. Due to the randomness of research, cross-border e-commerce platforms are a cross-regional consumption method, and customers are more aware of foreign products and cultures. The degree of acceptance is relatively high, and the highly educated population pays relatively high attention to overseas commodities, so the distribution of educational qualifications is in line with the actual situation.

Education	Frequency	Percent	Valid Percent	Cumulative
				Percent
Specialty	71	21.7	21.7	21.7
Bachelor	151	46.2	46.2	67.9
Master	105	32.1	32.1	100
Total	327	100	100	

Figure 5.3 Education

From the perspective of monthly income, the respondents with an average monthly income of more than 10,000 yuan are the most, 115 people, accounting for 35.2%; the number of people with monthly income in the range of 6,001-8,000 yuan and 8,001-10,000 yuan are 65 and 41 respectively. people, accounting for 19.9% and 12.5% respectively. And a total of 106 people with monthly income between 4,500-6,000 yuan, accounting for 32.4%. According to the data, it can be seen that most of the respondents have a monthly income of medium and above, and 67.6% of them have a monthly income of more than 6,000. This is because customers on cross-border ecommerce platforms are relatively pursuing the quality of life and need a certain economic foundation, so the survey is representative.

Monthly	Frequency	Percent	Valid Percent	Cumulative
Income(RMB)				Percent
4500-6000	106	32.4	32.4	32.4
6001-8000	65	19.9	19.9	52.3
8001-10000	41	12.5	12.5	64.8
10000	115	35.2	35.2	100
Total	327	100	100	

Figure 5.4 Monthly Income

From the perspective of cross-border shopping experience, among the 327 sample data, 134 people have less than 1 year of cross-border shopping experience, accounting for about 41%; 82 people have 1-3 years of cross-border shopping experience, accounting for 25.1%; 3 years There are 111 people with the above cross-border shopping experience, accounting for 33.9%.

Experience(Year)	Frequency	Percent	Valid Percent	Cumulative
				Percent
<1	134	41	41	41
1-3	82	25.1	25.1	66.1
>3	111	33.9	33.9	100
Total	327	100	100	

Figure 5.5 Experience

In terms of the value of goods purchased by cross-border e-commerce, there are 182 people with a value of 500-3,000 yuan, accounting for 55.7%; 85 people with a value of less than 500 yuan, accounting for 26%; The value of 3,000-6,000 yuan, 6,000-10,000 yuan and the number of people above 10,000 yuan are very small, and the proportion does not exceed 10%. From the data, we can see that people are still cautious about cross-border purchases, so the value of the purchased goods is not high. So the data is trustworthy.

Product	Frequency	Percent	Valid Percent	Cumulative
value(RMB)				Percent
<500	85	26	26	26
500-3000	182	55.7	55.7	81.7
3000-6000	32	9.8	9.8	91.4
6000-10000	14	4.3	4.3	95.7
>10000	14	4.3	4.3	100
Total	327	100	100	

Figure 5.6 Product value

From the data of cross-border e-commerce platform language on customer satisfaction, 140 people think it has an influence, accounting for 42.8%; 187 people think it has no influence, accounting for 57.2%. It can be seen that both of them have their own opinions. Those who think that they have an impact are the inconsistencies between the languages used by customers and the platform during cross-border purchases, while those who think that they have no impact believe that the platform will set different language choices. So the data is trustworthy.

Language	Frequency	Percent	Valid Percent	Cumulative
				Percent
Yes	140	42.8	42.8	42.8
No	187	57.2	57.2	100
Total	327	100	100	

Figure 5.7 Language

From the impact of exchange rate on cross-border purchase satisfaction, it can be seen that 222 people think it has an influence, accounting for 67.9%; 105 people think it has no influence, accounting for 32.1%. It can be seen that about two-thirds believe that the exchange rate has an impact on cross-border purchases.

Exchange	Frequency	Percent	Valid	Cumulative
Rate			Percent	Percent
Yes	222	67.9	67.9	67.9
No	105	32.1	32.1	100
Total	327	100	100	

Figure 5.8 Exchange Rate

From the perspective of the platforms used for cross-border purchases, the largest number of people use Tmall Global, with 230 people, accounting for 32.8%; followed by cross-border purchases through buyers, with 188 people, accounting for 26.8%; followed by Suning.com And AliExpress, 48 and 19, respectively, accounting for 6.8% and 2.7%; the use of other platforms is very low, accounting for about 1%.

Platform usage	Responses N	Percent	Percent of Cases
Amazon	100	14.20%	30.60%
eBay	10	1.40%	3.10%
Tmall Global	230	32.80%	70.30%
Sunng	48	6.80%	14.70%
AliExpress	19	2.70%	5.80%
Lazada	2	0.30%	0.60%
Shopee	7	1.00%	2.10%
Buyer	188	26.80%	57.50%
Other	98	14.00%	30.00%
Total	702	100.00%	214.70%

Figure 5.9 Platform usage

From the perspective of the categories purchased by cross-border e-commerce, skin care and makeup are the most, with 186 people, accounting for 24.5%; followed by 154 people who buy imported food, accounting for 20.3%; the same number of people who buy electronic products and clothing are 101 people, accounting for 13.3%; other categories accounted for very little, no more than 10%. Customers mainly use cross-border e-commerce to purchase overseas advantageous products, which are popular with customers due to their low prices and good quality. After analysis, it can be seen that the data survey is representative.

Types of goods	Responses N	Percent	Percent of Cases
Clothes	101	13.30%	30.90%
Food	154	20.30%	47.10%
mother and baby	59	7.80%	18.00%
Study	34	4.50%	10.40%
Bags and Shoes	71	9.30%	21.70%
Cosmetics	186	24.50%	56.90%
Electronics	101	13.30%	30.90%
Other	54	7.10%	16.50%
Total	760	100.00%	232.40%

Figure 5.10 Types of goods

To sum up, cross-border online shopping customer groups are characterized by youth, high education, high income, and prudence. The research results in this paper show that more than 90% of cross-border shopping customers are under the age of 40, nearly 80% of customers have a bachelor's degree or above, and more than half of them have a monthly income above the average level. , while the purchase value of goods below 3,000 yuan accounted for 81.7%. On the whole, this questionnaire on the influencing factors of customers' purchase intention in cross-border ecommerce platforms is representative.

#### **5.2 Reliability Analysis**

Reliability analysis is mainly used to analyze the internal consistency of each variable scale. In this paper, Cronbach's alpha coefficient is used to measure the consistency of internal variables of reliability. Generally, if the Cronbach's alpha coefficient (or half coefficient) is above 0.9, the reliability of the test or scale is very good, between 0.8-0.9 indicates good reliability, between 0.7-0.8 indicates acceptable reliability, and between 0.6- Between 0.7 means the reliability is average, between 0.5-0.6 means the reliability is not ideal, if it is below 0.5, it is necessary to consider rescheduling the questionnaire. Perform further analysis on the item total statistics table to see which items exist that lead to the decline of the overall reliability. If the reliability is lower than 0.3 or the value of the "alpha coefficient after deletion of items" is obvious If it is higher than the  $\alpha$  coefficient, the topic can be considered to be eliminated at this time.

## (1) Reliability analysis of the overall scale

Cronbach's	Cronbach's Alpha Based	N of Items				
Alpha	on Standardized Items					
0.939	0.94	19				

Figure 5.11 Cronbach's Alpha

The Cronbach's alpha coefficient value of the model is 0.939, indicating that the reliability of the questionnaire is very good.

## (2) Reliability Analysis of Each Variable Subscale

The reliability analysis of each variable subscale is shown in the table below. This paper also analyzes the "Cronbach's Alpha value of the deleted item" of each item. The deleted Cronbach's Alpha value is used to measure the change of the Alpha value of the variable if a certain item is deleted. After deleting an item, if the Alpha value decreases, it indicates that the item contributes to the variable and should be retained.

It can be seen from the reliability analysis results of each variable that the Alpha value of all European variables is above 0.9, and the deleted Alpha value of each variable item item is smaller than the Alpha value of the variable. Therefore, the scale reliability of all variables is very good, and each item is a valid item and should be retained.

Question	Scale Mean if	Scale Variance if	Item-Total	Squared Multiple	Cronbach's Alpha
number	Item Deleted	Item Deleted	Correlation	Correlation	if Item Deleted
Q11	72.37	138.553	0.591	0.477	0.937
Q12	72.2294	137.668	0.616	0.587	0.937
Q13	72.055	137.494	0.672	0.649	0.936
Q14	72.1101	136.111	0.681	0.673	0.935
Q15	72.2691	137.093	0.624	0.615	0.936
Q16	72.1835	135.813	0.698	0.641	0.935
Q17	72.1284	136.75	0.656	0.599	0.936
Q18	71.8899	136.172	0.7	0.669	0.935
Q19	72.2538	136.472	0.631	0.598	0.936
Q20	71.9969	136.696	0.695	0.65	0.935
Q21	72.2018	135.609	0.718	0.622	0.935
Q22	72.2752	136.979	0.613	0.482	0.937
Q23	72.3853	136.176	0.656	0.588	0.936
Q24	72.263	137.164	0.67	0.706	0.936
Q25	72.3119	136.418	0.703	0.775	0.935
Q26	72.3731	136.903	0.65	0.686	0.936
Q27	72.367	137.399	0.641	0.667	0.936
Q28	72.5719	136.626	0.583	0.728	0.937
Q29	72.5535	137.917	0.548	0.709	0.938

Figure 5.12 Reliability Analysis

## **5.3 Validity Analysis**

Validity analysis usually refers to the validity and correctness of the questionnaire, that is, to analyze whether the design of the questionnaire questions is reasonable. The author will test the validity of the recovered data from two dimensions, content validity and construct validity.

## (1) Content validity analysis

Content validity analysis, also known as indicative validity or logical validity, is used to measure whether the items of each variable in the questionnaire can reflect the meaning of the variable. Most of the variables and measurement items in the questionnaire in this paper adopt the content verified by domestic and foreign scholars through empirical research. It can be considered that the content validity of the questionnaire is good.

## (2) Construct validity analysis

The analysis of construct validity in this paper will use the principal component factor analysis method in the most commonly used factor analysis. But before factor analysis, KMO and Bartlett's sphere test are required first. Only after these two tests are passed, the next factor analysis can be carried out. First perform KMO and Bartlett's test:

For KMO test, 0.9 is very suitable for factor analysis: 0.8-0.9 is more suitable: 0.7-0.8 is suitable: 0.6-0.7 is acceptable: 0.5-0.6 means poor: 0.5 should give up, pass KMO The value test shows that there is a correlation between the item variables, which meets the requirements of factor analysis; for Bartlett's test, if the significance is less than 0.05 or 0.01, the null hypothesis is rejected, indicating that factor analysis can be performed. If the null hypothesis is not rejected, Explain that these variables may provide some information independently and are not suitable for factor analysis.

The KMO values of the overall scale and the results of the Bartlett test of sphericity are shown in the table below. It can be seen from the table that the KMO value of the overall scale is 0.928, which is much larger than 0.7, and the significance of the Bartlett sphericity test is 0.000, which is less than 0.05, which indicates that the data of the questionnaire is good, and the next factor analysis can be carried out.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.928
Bartlett's Test of Sphericity	Approx. Chi-Square	4490.44
	df	171
	Sig.	0

Figure 5.13 Validity Analysis

The KMO value test of the overall scale shows that the design effect of the questionnaire is good. After passing the structural validity analysis, the following correlation analysis and regression analysis can be carried out.

### 5.4 Correlation analysis

Correlation analysis is a statistical method used to measure the degree of interdependence between variables. In this paper, the author adopts the most classic Pearson correlation coefficient method in correlation analysis to measure the dependence between variables. The positive and negative and absolute values of the correlation coefficient reflect the direction and magnitude of the relationship between variables. The correlation analysis between each variable is shown in the table below.

		Reputation	Service	Payments	Logistics	PV	Satisfaction
Satisfaction	Pearson	.427**	.393**	.349**	.413**	.719**	1
	Correlation						
	Sig. (2-tailed)	0	0	0	0	0	
	N	327	327	327	327	327	327

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed).

Figure 5.14 Correlation Analysis

According to SPSS data analysis, it can be seen that the five factors of reputation, service, cross-border payment, logistics, and perceived value and the sig.<0.05 of satisfaction are significant. And the correlation coefficients between the five factors and customer satisfaction are 0.427, 0.393, 0.349, 0.413, 0.719, respectively.

## 5.5 Regression Analysis

			A dinata d	Std.		Change	Statisti	es		
Model	R	R Square	Adjusted R Square	Error of the Estimate	R Square Change	F Change	dfl	df2	Sig. F Change	Durbin- Watson
1	.729a	0.531	0.524	0.59394	0.531	72.651	5	321	0	1.943

a Predictors: (Constant), Reputation, Service, Payments, Logistics, Perceived value

Figure 5.15 Table of R Square

R stands for goodness of fit, which is a measure of how well the estimated model fits the observations. The closer its value is to 1, the better the model. The adjusted R-squared is more accurate than the pre-adjusted R-squared. The final adjusted R-squared in the figure is 0.524, indicating that the independent variable can explain 52.4% of the variance in the dependent variable.

Model		Sum of	df	Mean	F	Sig.
		Squares		Square		
	Regression	128.143	5	25.629	72.651	.000ь
	Residual	113.237	321	0.353		
	Total	241.38	326			

a Dependent Variable: Satisfaction

Figure 5.16 Table of ANOVA

Table ANOVA represents the results of the analysis of variance, and the F value is the result of the analysis of variance, which is a general test of the entire regression equation. The F value of this table corresponds to Sig<0.05, so the regression equation can be considered useful.

Model		Unstandardized		Standardized t		Sig.	Collinearity Statistics		
		Coefficie	ents	Coefficients					
		В	Std.	Beta			Tolerance	VIF	
		1	Error						
	(Constant)	0.617	0.205		3.016	0.003			
	Reputation	0.146	0.061	0.132	2.387	0.018	0.477	2.097	
	Service	0.05	0.061	0.049	0.821	0.412	0.415	2.411	
	Payments	-0.105	0.064	-0.104	-1.643	0.101	0.366	2.735	
	Logistics	0.023	0.073	0.021	0.309	0.757	0.326	3.067	
	Perceived	0.695	0.048	0.672	14.423	0	0.674	1.484	
	value								

Figure 5.15 Regression Analysis

b Predictors: Reputation, Service, Payments, Logistics, Perceived value

b Dependent Variable: Satisfaction

b Predictors: (Constant), Reputation, Service, Payments, Logistics, Perceived value

As can be seen from the above table, the reputation and perceived value of cross-border e-commerce platforms are Sig<0.05, indicating that the reputation and perceived value of cross-border e-commerce platforms have the greatest impact on satisfaction; the other three factors have less influence.

# 5.6 Analysis of variance

This chapter analyzes the differences in the influence of factors such as gender, age, education level, and monthly income on customer satisfaction.

An independent sample t-test was performed on gender, it can be seen from the table above that the sig of gender on all factors is > 0.05, and it can be considered that there is no difference in the experience of satisfaction between genders.

Doing One-way analysis of variance on age and education, it shows no difference in satisfaction of age and education.

#### CHAPTER 6 RESEARCH CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Research conclusions

This paper takes cross-border e-commerce as the research object, and studies the factors that affect customer satisfaction. Customs clearance has combed cross-border e-commerce and customer related literature, and concluded that the factors affecting customer satisfaction are: the reputation of cross-border e-commerce platforms, the web design of cross-border e-commerce platforms, services, cross-border payments, logistics, perceived value. The research results of this paper mainly have the following two points:

1 In the past, research on cross-border e-commerce mostly focused on logistics, supply chain, cross-border e-commerce model and talent training, and few articles focused on customer satisfaction in cross-border e-commerce. This article makes up for this gap.

2 By borrowing the method of customer journey map, the author summarizes the factors affecting customer satisfaction in cross-border e-commerce into 6 stages. By dividing the stages, all the factors affecting satisfaction can be summarized.

#### 6.2 Recommendations

- (1) Improve the reputation of cross-border e-commerce platforms: By analyzing the existing cross-border e-commerce platforms, it can be seen that the recognition of cross-border e-commerce platforms in the market is still relatively low. At present, in addition to a few cross-border e-commerce giants, small cross-border e-commerce companies have also sprung up, and the cross-border e-commerce brands in the market do not have high brand recognition. Therefore, cross-border e-commerce platforms or websites should take corresponding measures to improve their brand awareness, mainly including improving the positive image of the company through some online or offline promotions, and at the same time increasing the construction of the brand itself, such as providing Product quality assurance, etc.
- (2) Improve the services of the cross-border e-commerce platform: understand the needs and pain points of customers, and add feedback buttons on the e-commerce website; provide training for employees, respond to customer information in a timely manner, and serve customers

more professionally; create a website on the website. FAQ page where customers can search to find answers to their questions.

- (3) Improve the convenience and security of cross-border payment: The conclusion shows that cross-border payment has a positive impact on customer satisfaction. Therefore, cross-border e-commerce platforms should improve convenience, such as cooperating with local payment institutions, simplifying the payment process so that customers can quickly pull up payment software for payment; on the other hand, it should increase the security of customer e-wallets and build security For the online trading platform, strengthen the research and development of firewall technology to prevent external network users from entering the internal network; establish a security application protocol system to remove security obstacles on the road of development.
- (4) Improve the logistics level of cross-border e-commerce: From the research, it can be found that logistics has a significant impact on customer satisfaction. The cross-border e-commerce platform builds its own logistics distribution system and conducts its own distribution business, which is the most effective way to carry out logistics distribution. B2C e-commerce enterprises building their own logistics systems should pay attention to the logistics organization structure and channel extension, especially to strengthen personnel training to ensure the timeliness and service quality of logistics distribution. Under the circumstance that their own strength and logistics capabilities are limited, B2C e-commerce enterprises can also cooperate with third-party logistics, adopting convenience stores, chain operations, etc. to improve the efficiency of logistics and distribution, but it is necessary to strengthen the management and control of this part of the distribution form. Fast and efficient, low cost, and won their full trust, thereby improving customer satisfaction.
- (5) Improve the level of perceived value: Perceived value has a significant positive impact on customer satisfaction, that is, when customers use cross-border e-commerce platforms for shopping, they pay more attention to the economic utility or use of goods purchased on this website. The value is not just the fun in the purchase process. It can be seen that customers' purchase

behavior on cross-border e-commerce platforms may have a certain purpose. Therefore, cross-border e-commerce platforms can appropriately increase the types of cross-border products, not only provide popular products to meet customers' needs for various types of products, but also use beautiful interfaces to make users more pleasant to use.

#### 6.3 Research limitations and future prospects

Through the summary of this research, it can be found that although this research has obtained some valuable results,

Due to the constraints of some factors, the article still has many deficiencies, and these limitations limit the application of this article.

At the same time as the research conclusions are drawn, it is also for the future to further study the purchase intention of customers in cross-border e-commerce platforms.

Provides ideas on the topic.

- (1) This paper studies the influencing factors of cross-border e-commerce customer satisfaction, integrates some existing literature, and adds some new influencing factors, and some other possible influencing factors are not completely included., so the research may have a certain one-sidedness. There are many factors that affect customers' satisfaction with cross-border e-commerce customers. In addition to the factors involved in this article, there may be other factors that affect customer satisfaction. Later research can be further explored on this basis. Other potential factors affecting customers' purchase intentions on cross-border e-commerce platforms.
- (1) The data sources of this article are mainly from Chinese people with overseas life experience, but cross-border e-commerce involves customers and platforms in different countries, but the customer data in China has certain limitations. Future research can collect more data from customers in Europe, the Americas, and other Asian countries, so that the results will be more comprehensive.

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# **APPENDIX 1 Questionnaire**

# Part 1 Basic info

Please tick "√" according to the actual situation
1. Your gender:
□male □female
2. Your age:
$\square$ 25 and below $\square$ 26-30 $\square$ 31-40 $\square$ 41 and above
3. Your educational background:
□Master's degree and above □Undergraduate degree □College degree and below
4. Your monthly income:
□4500-6000 yuan □6001-8000 yuan □8001-10000 yuan □10000 yuan or more
5. How long do you have cross-border shopping experience?
□ Less than 1 year □ 1-3 years □ More than 3 years
□ Less than 1 year □ 1-3 years □ More than 3 years
6. Which cross-border e-commerce platform do you usually purchase goods through? (multipl
choice)
□ Amazon
□ eBay
□ AliExpress
□ Come to Zanda
□Shrimp net
□Tmall International

□Suning overseas purchase
□ Purchasing
7. What kind of products do you usually buy through cross-border e-commerce? (multiple choice)
□Clothing
□Imported food
□Mother and baby products
□ School supplies
□Shoes and bags
□Skin care and makeup
□Electronic digital products
□Other
8. What is the general value of goods purchased through cross-border e-commerce?
□ Below 500 yuan
□500—3000 yuan
□3000—6000 yuan
□6000——10000 yuan
□More than 10,000 yuan
9. Do you think different languages will affect your satisfaction when buying cross-border?
$\Box Yes \ \Box No$
10. Do you think the exchange rate will affect your satisfaction in cross-border purchases?
□Yes □No

Part 2 Cross-border e-commerce customer satisfaction survey (please tick " $\sqrt{}$ " according to the actual situation)

Reputation: Please choose an answer that you think is the most suit	table	acco	rding	g to y	our
own actual situation.					
1. To what extent will the reputation of cross-border e-commerce	1	2	3	4	5
platforms affect your satisfaction					
2. To what extent will the image of the cross-border e-commerce	1	2	3	4	5
platform affect your satisfaction					
3. To what extent will the reputation of the cross-border e-	1	2	3	4	5
commerce platform affect your satisfaction					
Service: Please choose an answer that you think is the most suita	able a	accoi	ding	to y	our
own actual situation.					
4. To what extent will the attitude of customer service affect your	1	2	3	4	5
satisfaction					
5. To what extent will the response speed of the customer service	1	2	3	4	5
affect your satisfaction					
6. To what extent will the professionalism of customer service	1	2	3	4	5
affect your satisfaction					
Cross-border payment: Please choose an answer that you think	c is 1	the n	nost	suita	able
according to your own actual situation.					
7. To what extent will the convenience of cross-border payment	1	2	3	4	5
(the speed of payment software) affect your satisfaction	1	2	)	4	
8. To what extent will the safety factor of cross-border payment	1	2	3	4	5
affect your satisfaction	1	2	)	4	
affect your satisfaction					
Cross-border logistics: Please choose an answer that you think	c is	the r	nost	suita	able
according to your own actual situation.					
9. To what extent does logistics speed affect your satisfaction?	1	2	3	4	5
10. To what extent will the quality of logistics and transportation	1	2	3	4	5
(goods not damaged, etc.) affect your satisfaction					

11. To what extent will the quality of logistics service attitude	1	2	3	4	5
affect your satisfaction					
12. To what extent will the level of logistics freight affect your	1	2	3	4	5
satisfaction?					
Perceived Value: Please choose an answer that you think is the most	st sui	table	acco	ordin	g to
your own actual situation.					
13. The time and effort spent on this cross-border shopping is	1	2	3	4	5
worth it					
14. This cross-border shopping provides you with good value	1	2	3	4	5
15. This cross-border shopping has brought you a good experience	1	2	3	4	5
Customer Satisfaction: Please choose an answer that you think	is 1	the n	nost	suita	able
according to your own actual situation.					
16. How satisfied are you with this cross-border purchase?	1	2	3	4	5
17. After this purchase, how likely are you to choose to purchase	1	2	3	4	5
again?					
18. How likely are you to give the cross-border e-commerce	1	2	3	4	5
platform you used this time to others?					
19. How likely are you to recommend products purchased on	1	2	3	4	5
cross-border e-commerce platforms to others?					