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Relationship between Product Characteristics and Customer Purchase Intention in Cross-Border Online Shopping: Focus on Chinese Consumers

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Abstract

Purpose: This study explored the relationship between product characteristics and customer purchase intention in cross-border online shopping. **Research design, data, and methodology:** Through literature review, the research model of product characteristics and consumers' purchase intention is constructed, and trust is taken as a medium variable. Based on the survey data of Chinese consumers, empirical analysis and hypothesis verification are conducted. This study used SPSS version 21 to confirm the reliability and validity of the research model. To confirm the media effect of the model in this study, the Sobel Test was used. **Results:** The results of hypothesis identification of this research model showed that 8 of the 11 hypotheses were adopted and 3 were rejected. Results confirmed the relationship between product characteristics (specification, diversity, reputation, novelty, quality) and customer purchase intention. **Conclusions:** The result from this study had particular theoretical significance for improving the research on cross-border online shopping systems to improve the safety and satisfaction of customers in cross-border online shopping.

Keywords: Cross-border Online Shopping, Customer Purchase Intention, Product Characteristics, Comparative Advantage

JEL Classification Code: B17, B27, C12, F1, F2

1. Introduction

In the 21st century, computers and mobile phones are gradually being used by most people, and the network is also fully covered. There is also the expansion of multinational enterprises, and the integration of production and sales has begun to accelerate the process of global integration. The global flow of information and goods will be more complimentary, resulting in increasingly frequent cross-border trade. With the deepening of globalization in recent years, consumers' consumption habits and behaviors have

also changed. With the advent of wise shopping, people can purchase foreign products and services. Baek (2019) believes that cross-border shoppers often look for lower prices or a greater variety of products and better service than in their city or country. In recent years, the cross-border e-commerce industry has developed rapidly, and more and more people choose cross-border online shopping. With the emergence of new channels like cross-border shopping platforms, distances and boundaries between countries are blurring. In the era of the digital economy, cross-border e-

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commerce platforms, merchants and consumers rely on modern information networks to connect.

This paper takes the cross-border online shopping of Chinese consumers as a reality, and based on the literature review, with consumer trust as a mediator, this paper builds a model of the impact of product characteristics on customers' cross-border online shopping intention and conducts empirical analysis based on the survey data of valid questionnaires to determine the research results. Then, the innovation points and research contributions of this paper are put forward. The research conclusions have many applications for value for the healthy development of cross-border e-commerce and, also have potential guiding significance for how to improve consumers' willingness to purchase.

2. Background

2.1. Cross-border Online Shopping

With economic globalization and the widespread popularity of e-commerce, cross-border e-commerce has developed rapidly (Cheng et al., 2019). Cross-border e-commerce refers to an international business activity in which transaction entities belonging to different customs borders reach transactions through e-commerce platforms, conduct online payment and settlement, and deliver goods and complete transactions through cross-border logistics. Wang (2108) believes that cross-border e-commerce originates from developing and integrating e-commerce, economic globalization, and international trade. He also pointed out that cross-border e-commerce plays a vital role in cross-border e-commerce transactions. It is a place for commodity transactions and a medium for transaction subjects to communicate messages. It is critical in cross-border e-commerce activities (Wang, 2018).

2.2. Customer Purchase Intention

Hshbein (1978) defines intention as the subject's possible subjective needs, and the specific size can be measured by some actions it takes. Dodds (1991) believes that the intention to purchase is the probability that customers will subjectively consume a particular product. Ajzen (1991) defines purchase intention as the customer's intention to purchase a particular product. Spears and Singh (2004) define purchase intention as "a conscious plan made by an individual to purchase goods."

Regarding the influencing factors of customers' purchase intention, different scholars have put forward some opinions from different perspectives. Furnham and Valgeirsson (2007) claimed that religious beliefs affect consumers'

willingness to purchase products. Zeugner-Roth et al. (2015) claimed that consumers' social identity has seriously affected their ethnocentrism and cosmopolitanism, further affecting their willingness to buy foreign and domestic products. Akkaya (2021) used the AIO (Asynchronous I/O) scale method to analyze the influence of brand value on customers' purchase intention. Allison et al. (2021) explored the influence of colors in web advertisements on customers' buying attitudes and purchase intentions. Ning et al. (2021) clarified the relationship between consumers' perceived value and repeated purchase intentions in the sharing economy.

2.3. In the Chinese Market

China is one of the largest cross-border e-commerce markets. Chinese cross-border online shoppers have demonstrated strong purchasing power and have become a new source of revenue for global retailers (Azoya, 2015; McKinsey & Company, 2016). China's cross-border e-commerce can be divided into B2B, B2C, and C2C trade modes and mainly into B2B and B2C. Among them, the B2B model of cross-border e-commerce is the mainstream of foreign trade. With the development of mobile Internet technology, the popularization of smartphones, the rise of online shopping, and the gradual improvement of online payment and logistics systems, the B2C and C2C models of cross-border e-commerce retailing have grown enormously. Based on the research needs, it is necessary to define some preconditions for cross-border online shopping: This paper studies cross-border online shopping in the direction of import. According to data from iiMedia Research, in 2021, the two major platforms for cross-border e-commerce in China are Tmall Global and Kaola Haitao, accounting for 26.7% and 22.4% of the market. The market share of JD.com International, Suning International, and Vipshop International is more than 10%. As a new form of international trade, cross-border e-commerce has shown strong development vitality in recent years. The advantages of cross-border e-commerce have become more prominent during the global epidemic. As of the first quarter of 2021, the epidemic situation in China is stable. According to iiMedia Research, China's import and export of goods trade is 8.47 trillion yuan, a substantial year-on-year increase of 29.2%. The latest data shows that nearly 40% of Chinese users in 2021 said their purchasing power has increased, and 65.3% of users believe that their frequency of using cross-border e-commerce platforms has increased.

The continuous upgrading of domestic consumer consumption makes consumers' growing higher-level consumer demand in sharp contrast with the insufficient supply of high-quality domestic products and low consumer trust. As a result, more and more consumers with specific

purchasing power are looking for overseas products. The trend of consumers purchasing imported products from overseas through cross-border e-commerce has become increasingly apparent, and the size of the cross-border e-commerce market is showing a surge. Nevertheless, at the same time, the consumer experience urgently needs to be improved. How to provide consumers with high-quality services and improve consumer satisfaction is more urgent. There are many research results for online shopping in the general sense, which involve all aspects of the online shopping process. In traditional online shopping research, academics have achieved fruitful results but are still developing. However, the cross-border e-commerce industry needs deeper exploration. From a theoretical point of view, empirical research on cross-border online shopping still needs in terms of product characteristics. This paper takes the products provided on the cross-border online shopping platform as the object of investigation and based on existing mature and complete online shopping research, studies the impact of product characteristics on customers' purchase intentions in cross-border online shopping.

2.4. Comparative Advantage Theory

In modern international trade, cross-border online shopping is always influenced by the theory of comparative advantage. As a classic international trade theory, comparative advantage theory is closely connected with many factors, such as price and quality. Nevertheless, some new factors in cross-border online shopping, separated from theory, will impact customers' purchase intentions, such as specification, diversity, reputation and novelty in this paper.

Comparative Advantage Theory refers to an international trade theory based on the relative differences in production costs among countries to carry out the international specialized division of labor and obtain benefits through free trade. The theory of Comparative Advantage is the doctrine of David Ricardo, the English classical economist (Ricardo, 1817). In 1817, Ricardo proposed the Theory of Comparative Advantage, also known as the Theory of Comparative Cost, based on Smith's Theory of Absolute Advantage. Ricardo proposed that, in his masterpiece *On the Principles of Political Economy and Taxation*, the basis of international trade is the relative difference (rather than the absolute difference) in production technology and the resulting difference in relative costs. Each country's resource and production advantages constitute its comparative advantage, and each has its advantages in resources, geographical location, and population. The theory holds that each country does not necessarily produce a variety of commodities but should concentrate on producing products with the most significant advantage or minor disadvantage and conduct international trade.

Through specialization and international exchanges, the international division of labor thus formed is beneficial to all trading countries. This theory provides a theoretical basis for countries to participate in the international division of labor and international trade and becomes the cornerstone of international trade theory. It has a rational, scientific component and a historically progressive significance.

International trade refers to the exchange of goods and services by countries worldwide. It is the main form of interconnection between countries based on the international division of labor and reflects the economic interdependence of countries worldwide. In essence, cross-border e-commerce is a form of international trade, and the development of cross-border e-commerce has also had a profound impact on international trade. In the context of the Internet environment, cross-border e-commerce is no longer limited by geographical, form, time, and space constraints. Because of the comparative advantages between different countries, consumers purchase products and services through cross-border online shopping platforms.

2.5. Building Hypotheses

2.5.1. Specification

The study by Powers et al. (2007) examines the standardization of global products from five dimensions: commonality of product, commonality of pricing, commonality of advertising and promotion, commonality of distribution, and overall international product standardization and argue that global product standardization represents a combination of the previous four dimensions. Influenced by them, specification in this study refers to the description of a specific form of a product conforming to a standard. Specifically, it can be described as the definition and concept of the product can be clearly expressed, the production process, performance, and structure of the product are reasonable and scientific, and the planning, design, and characteristics of the product meet the standards, to meet the needs of consumers, create a sense of trust, and enhance consumer purchase intention. The study by Hsee et al. (2009) showed that specifications still affect customer preference even if specifications carry little or no new information. In the current cross-border e-commerce industry, implementing product specifications can increase consumers' trust in products in cross-border online shopping.

H1a: The degree of product specification will positively affect trust in cross-border online shopping.

H1b: The degree of product specification will positively affect customer purchase intention in cross-border online shopping.

2.5.2. Diversity

Fisher (1999) believes that product diversity refers to the number of products consumers face in a certain period and the speed of replacement between new and old products. Product diversity refers to different numbers of products in a specific product, such as different brands of the same product (Lancaster, 1990). Martin (1996) and others further classified diversity, believing that variety can be divided into spatial diversity of products at different points in time and generational diversity of products of different generations in the future. Individual consumers are more willing to try and use more diverse products (Iyengar et al., 2001; Kahn et al., 2004). Thus, the hypotheses are made as follows:

H2a: The degree of product diversity will positively affect trust in cross-border online shopping.

H2b: The degree of product diversity will positively affect customer purchase intention in cross-border online shopping.

2.5.3. Reputation

Reputation is generally defined as consumers' cumulative opinions, perceptions, and attitudes toward products (Weigelt & Camerer, 1988; Fombrun & Shanley, 1990; Fombrun et al., 2000; Hatch & Schultz, 2001). Scholars believe that developing a corporate reputation and actively promoting it is necessary for modern business (Gray & Balmer, 1998). Studies have shown that reputation positively impacts customer loyalty and perceptions of product quality (Purohit et al., 2008; Henard et al., 2010). Customers have lower attitudes and purchase intentions toward products after receiving information about negative reputations (Jung & Stock, 2016). A good corporate reputation will make consumers love and recognize the product, enhance their willingness to buy, and ultimately choose the company's products. Based on the above, the hypotheses are as follows:

H3a: The degree of product reputation will positively affect trust in cross-border online shopping.

H3b: The degree of product reputation will positively affect customer purchase intention in cross-border online shopping.

2.5.4. Novelty

According to Novelty Categorization Theory (Forster et al., 2010), a stimulus or an event is novel if it does not fit into a person's existing mental categories. Therefore, Sung et al. (2016) see novelty as a conflict between stimuli and expectations, something that has not been experienced

before, or a lack of familiarity. In this study, the novelty of products in cross-border online shopping refers to the characteristics of products that customers are unfamiliar with, have not been exposed to, or cannot buy within the country. Cross-border online shopping is a consumption fashion. Fashion is a desire for new things, new experiences, and a sense of satisfaction that breaks current lifestyles (Won & Kim, 2020). To meet their spiritual needs, people experience new product designs and service methods, and they will purchase through cross-border online shopping, an emerging online shopping method. Based on the above research, the following hypotheses are made:

H4a: The degree of product novelty will positively affect trust in cross-border online shopping.

H4b: The degree of product novelty will positively affect customer purchase intention in cross-border online shopping.

2.5.5. Quality

Quality in this study refers to the ability of a product to satisfy the needs expressed or implied by the overall characteristics it possesses. The emerging problems of product quality and safety have spawned the cross-border online shopping market (Chen, 2017). When rational consumers buy products, they must consider whether the quality of the products can meet their needs and then judge whether to purchase products (Smallwood, 1979). In recent years, large-scale safety accidents have frequently occurred due to product quality problems. Rational consumers will purchase overseas products with guaranteed quality and safety. In this study, quality refers to a product's ability to satisfy the needs expressed or implied by its overall characteristics. Numerous past studies have also shown that perceived product quality impacts customers' purchase intentions (Cronin & Taylor, 1992; Madu et al., 1995; Sweeney et al., 1999; Llusar et al., 2001). Therefore, the hypotheses are made as follows:

H5a: The degree of product quality will positively affect trust in cross-border online shopping.

H5b: The degree of product quality will positively affect customer purchase intention in cross-border online shopping.

2.5.6. Trust

Many researchers have put forward different opinions on the connotation of trust. The definition of trust unanimously recognized by scholars at home and abroad is proposed by Mayer et al.: Trust refers to the willingness of the trusted person (trust) to the trusted person (trustee). In this study,

trust is a psychological state that relies on positive expectations of a person's intentions toward the other. In the context of e-commerce, a trust includes the online consumer beliefs and expectancies of characteristics of the online seller. In marketing, consumer trust is an essential determinant of consumers' buying desires. In the cross-border network environment the information asymmetry, perception of difference, and transact many researchers have put forward different opinions on the connotation of trust. The definition of trust unanimously recognized by scholars at home and abroad is proposed by Mayer et al.: Trust refers to the willingness of the trusted person (trust) to the trusted person (trustee). In this study, trust is a psychological state that relies on positive expectations of a person's intentions toward the other. In the context of e-commerce, trust includes the online consumer beliefs and expectancies of characteristics of the online seller. In marketing, consumer trust is an essential determinant of consumers' buying desires. In the cross-border network environment, the information asymmetry, perception of difference, and transaction virtuality between buyers and sellers in a cross-border network environment make consumers more uncertain and perceive risks than in the traditional trading environment. Since the environment in which trust is created can be uncertain, transactions will begin once both parties trust each other (Das & Teng, 1998). When this uncertainty cannot be reduced through rules and practices, people rely on trust to minimize tension and perceived risk. Therefore, the importance of trust in the environment of e-commerce is higher than that in traditional commerce. Trust, a critical intermediary variable in relationship marketing, is essential in establishing long-term relationships between companies and customers and significantly impacts their behavior (Moorman & Zaltman, 1993). Based on the above analysis, this paper uses consumer trust as an intermediary to study product and service characteristics' influence on consumers' purchase intention in cross-border online shopping. virtuality between buyers and sellers in a cross-border network environment makes consumers more uncertain and perceive risks than in the traditional trading environment. Since the environment in which trust is created can be uncertain, transactions will begin once both parties trust each other (Das & Teng, 1998). When this uncertainty cannot be reduced through rules and practices, people rely on trust to minimize tension and perceived risk. Therefore, the importance of trust in the environment of e-commerce is higher than that in traditional commerce. Trust, as a critical intermediary variable in relationship marketing, plays an essential role in establishing long-term relationships between companies and customers and significantly impacts their behavior (Moorman & Zaltman, 1993). Based on the above analysis, this paper uses consumer trust as an intermediary to study product and service characteristics'

influence on consumers' purchase intention in cross-border online shopping.

H6: Trust will play a mediating role in the relationship between product characteristics and customer purchase intention in cross-border online shopping.

2.6. Research Model

This study studies the influence of product characteristics on customer purchase intention in cross-border online shopping. In addition, it confirms whether trust can mediate the relationship between product characteristics and purchase intention. According to the above analysis, the research model of this paper is developed, as shown in Figure 1.

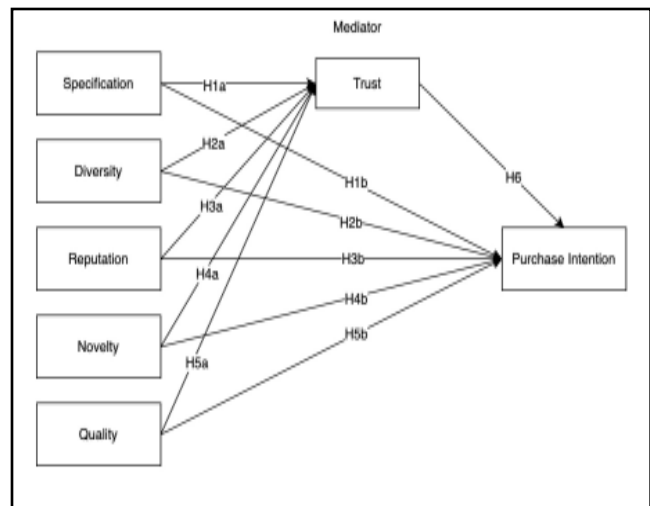


Figure 1: Research Model

3. Empirical Study

3.1. Research Method

3.1.1. Data Collection

This study used the questionnaire survey method to obtain data and validate the model. The questionnaire for this study is divided into three parts. The first part asks questions about consumers' cross-border online shopping experience. The second part is the measurement of product characteristics variables. The third part is the demographic question, which investigates the respondents' basic information, including age, gender, education, occupation, and the number of cross-border online shoppers. The questionnaires were distributed randomly on the Internet to Chinese consumers. Firstly, the pre-test is carried out according to the initial questionnaire, and each variable is preliminarily analyzed through the

obtained data. Then the formal questionnaire is determined according to the analysis results. In the formal investigation of this study, 350 questionnaires were recovered through the Internet. There were 345 valid questionnaires, and the effective questionnaire rate was 98%.

Table 1: Demographics of Respondents

	Items	Frequency	Percentage
Gender	Male	167	48.4
	Female	178	51.6
Age	<20	29	8.4
	20~29	126	36.5
	30~39	103	29.9
	40~49	58	16.8
	>49	29	8.4
Education	High school graduates	31	9.0
	Be at college	98	28.4
	College graduates	136	39.4
	Master graduates	69	20.0
	PhD graduates	11	3.2
Occupation	Student	65	18.8
	Staff	156	45.2
	Civil Servant	47	13.6
	Self-employed Entrepreneurs	6	1.7
	Housewife	63	18.3
	Other	8	2.3
Income (Yuan)	<= 2,000	47	13.6
	2,000 ~ 5,000	126	36.5
	5,000 ~ 10,000	106	30.7
	>10,000	66	19.1
Experience (Months)	<6	57	16.5
	6 ~ 12	69	20.0
	12 ~ 24	70	20.3
	> 24	149	43.2
Frequency (Months)	1 ~ 5	82	23.8
	6 ~ 10	116	33.6
	11 ~ 15	67	19.4
	16 ~ 20	50	14.5
	> 21	30	8.7
Total		345	100

3.1.2. Demographics

As shown in Table 1, there are 167 males, accounting for 48.4%, and 178 females, accounting for 51.6%. The age is mainly concentrated between 20 to 39 years old, accounting for 66.4%. In terms of academic qualifications, the proportion of university students and university graduates is

as high as 67.8%, followed by graduate students, the proportion is 20%. In the sample population, the proportion of staff is as high as 45.2%, followed by students at 18.8% and homemakers at 18.3%. Income is concentrated in 2,000-5,000 yuan (36.5%) and 5,000-10,000 yuan (30.7%) per month. There were 288 respondents with more than six months of experience, accounting for 83.5% of the total respondents with the question "How much experience do you have in cross-border online shopping?" The frequency of the respondents' monthly cross-border online shopping is concentrated 6-10 times (33.6%) and 1-5 times (23.8%). In general, the female sample is slightly higher than the male sample, but it is generally more uniform; the age distribution of the sample is relatively young; the overall educational level is high enough to understand the content of the questionnaire fully; the time for cross-border online shopping is moderate; the monthly cross-border online shopping higher frequency. To sum up, the respondents can better represent the consumer groups who conduct cross-border online shopping, which can lay a good foundation for subsequent research and analysis. The demographic characteristics of this study can be identified in Table 1.

3.2. Research Result

3.2.1. Reliability and Validity

This study used SPSS version 21 to confirm the reliability and validity of the research model. The measurement items of specification, diversity, reputation, novelty, quality, trust, and purchase intention, which are the main factors of this study, were constructed by referring to items and variables that were sufficiently verified in previous studies. Reliability indicates whether the same measured value can be obtained by repeatedly measuring the same concept, confirming the accuracy and consistency of the concept to be measured. For reliability verification, the internal consistency of the items was confirmed with Cronbach's alpha coefficient (Hair et al., 2006). As a result of the analysis, all Cronbach's alpha values were above 0.7, confirming that the measured variables of this study had high consistency. Validity checks whether the concept to be measured is accurately measured. Exploratory factor analysis was performed using the orthogonal (Varimax) rotation method to verify the conceptual validity of the measurement items of the measurement variables. Factor analysis was performed based on the Eigenvalue of 1.0, and the factor loading was 0.5 or more. The explanatory value of the independent variable's cumulative variance (the rolling sum of squares loading) was 55.0%. The reliability and validity verification results are shown in Table 2.

Table 2: Validity Analysis

Construct and Items	F.L.*	α**
<Specification>		
· P&S*** are highly standardized.	.728	.769
· P&S can be clearly defined online.	.741	
· Specifications for P&S are trustworthy.	.646	
· P&S characteristics can be easily defined.	.678	
· P&S have well-known specifications.	.738	
<Diversity>		
· A variety of P&S are provided.	.720	.791
· A wide range choice are available.	.750	
· Offerings satisfy individual needs.	.692	
· Offerings satisfies customers' different needs.	.746	
· Personally preferred items can be found.	.727	
<Reputation>		
· Many Well-known P&S are provided.	.733	.775
· P&S have high reputation.	.739	
· P&S have good brand image.	.672	
· P&S are reputable.	.705	
· P&S are regularly purchased items.	.715	
<Novelty>		
· Novel P&S are found.	.756	.809
· Novel designs and functions can be found.	.744	
· Novel P&S are worth buying.	.722	
· New P&S are introduced.	.712	
· P&S novelty increase values.	.760	
<Quality>		
· Offerings' quality is acceptable.	.713	.775
· Offerings' quality is relatively high.	.754	
· Quality of P&S meets expectations.	.701	
· Quality of P&S increase values.	.717	
· P&S have fine workmanship.	.706	
<Trust>		
· Trusted P&S can be provided.	.715	.759
· P&S are generally trustworthy.	.709	
· The exchange policies of P&S are trustworthy.	.670	
· Buying P&S is reassuring.	.702	
· P&S can deliver on what they promise.	.708	
<Purchase Intention>		
· There is an intention to use it for a long time.	.731	.810
· There is an intention to this way of shopping.	.745	
· It is possible to recommend to others.	.697	
· Cross-border online shopping will be used as one of the ways to purchase P&S.	.758	
· There is an expectation to continue to buy P&S in the future.	.755	
Eigen Value	2.6~2.9	
Variance (%)	7.4~8.2	
Total Variance: (55.0)		

Note: * Factor Loading, ** Cronbach's α, ***Products and Services

Table 3: Discriminant Validity Analysis

Construct	M*	SD**	1	2	3	4	5	6	7
Specification	3.9	.72	1						
Diversity	3.8	.76	.05	1					
Reputation	3.8	.77	.12	.13	1				
Novelty	3.8	.80	.06	.23	.20	1			
Quality	3.8	.74	.06	.07	.05	.07	1		
Trust	3.9	.79	.10	.20	.15	.02	.13	1	
Purchase Intention	3.8	.82	.27	.03	.07	.15	.13	.16	1

Note: * Mean, ** Standard Deviation

3.2.2. Common Method Bias

Common method bias is a severe problem because systematic error variance appears within structural relationships and distorts the relationship between concepts (Hair et al., 2006). Podsakoff et al. (2003) argue that 25% of the variance of the metrics surveyed in social science research is likely to be the systematic error variance. Systematic error variance causes errors by contracting or expanding the relationship of the structure and reducing the problem of same method bias. It is necessary to control the cause of method bias in the questionnaire design and collection process (Podsakoff et al., 2003).

In this study, the same method bias was confirmed using Harman's Single Factor Test (Harman's Single Factor Test) among the methods for checking the same method bias (Podsakoff et al., 2003). If only one factor with an Eigen Value of 1.0 or higher is derived through factor analysis or the variance is concentrated on one factor, it is considered to have the same method bias (Podsakoff et al., 2003). As a result of confirming the same method bias through the exploratory fact or analysis results, the Eigen Value of each factor was 2.6~2.9, and the ratio of variance explaining each factor was 7.4~8.2. Therefore, it is interpreted that there is no concern about the exact method bias as the dispersion ratio is evenly distributed.

3.2.3. Multiple regression analysis

The results of hypothesis identification of this research model showed that 8 of the 11 hypotheses were adopted and 3 were rejected. From the assumptions adopted, specification, variety, reputation, and quality have an impact on trust, and trust has an impact on purchase intention.

Therefore, assumptions 1, 2, 3, 5, and 6 are adopted. Novelty does not affect trust, so hypothesis 4 is rejected. Specification, novelty, and quality directly affect purchase intention. Therefore, assumptions 7, 10, and 11 are adopted. The hypothesis identification of adoption and rejection can be confirmed in the hypothesis identification results of Table 4.

Table 4: Hypotheses Testing Results

Hypothesis		Standard β	t	Test Result
H1a	Specification	.089	1.69*	Accept
H2a	Diversity	.185	3.43***	Accept
H3a	Reputation	.123	2.28**	Accept
H4a	Novelty	-.057	-1.04	Reject
H5a	Quality	.122	2.33**	Accept
a → Trust				
H1b	Specification	.274	5.28***	Accept
H2b	Diversity	-.028	-.52	Reject
H3b	Reputation	.005	.10	Reject
H4b	Novelty	.132	2.47**	Accept
H5b	Quality	.142	2.75***	Accept
b → Purchase Intention				
H6	Trust	.163	3.06***	Accept
c → Purchase Intention				

Path a: R2=0.067, F=5.943 (0.0), VIF 1.01 ~ 1.09, Durbin-Watson 1.92
 Path b: R2=0.100, F=8.630 (0.0), VIF 1.01 ~ 1.09, Durbin-Watson 2.05
 Path c: R2=0.024, F=9.376 (0.0), Durbin-Watson 2.01

Note: * p<0.1, ** p<0.05, *** p<0.01

3.2.4 Mediating Effect

The mediating effect refers to the effect of a third variable or concept intervening between the independent and dependent variables. Complete mediation only pays attention to indirect effects. When independent variables impact dependent variables through parameters, mediation effects will occur. To confirm the media effect of the model in this study, the Sobel Test (Sobel, 1982) was used. Sobel identification can use the standard error of the direct effect to obtain the standard error of the indirect effect and the standard error to calculate the statistic (Sobel, 1982). The Z value should be calculated directly using SPSS version 21 for verification. The formula proposed by Sobel is as follows:

$$Z = \frac{a \times b}{\sqrt{(a^2 \times SEb^2) + (b^2 \times SEa^2)}}$$

The identification results of media effects on trust can be summarized into three types. First, diversity and reputation have no direct impact on purchase intention but indirectly through trust as a medium. This can be explained as trust plays the role of complete mediation between independent and dependent variables (Baron & Kenny, 1986).

Second, directly and indirectly, quality affects purchase intention, with trust as the medium. Therefore, trust plays the role of partial mediation between independent variables and purchase intention. Third, both specification and novelty directly affect purchase intention. However, according to the survey, using trust as a medium will not

indirectly impact purchase intention. Therefore, trust does not mediate between independent variables (specification and novelty) and purchase intention. The media effect analysis results can confirm the influence relationship through the hypothesis verification results of Table 5 and the media effect verification results of Table 5.

Table 5: Mediating Effect

Path	Coefficient	Z value	Test Result
Specification → Trust → Purchase Intention	0.01	1.47	Direct Only
Diversity → Trust → Purchase Intention	0.03	2.28**	Complete Mediation
Reputation → Trust → Purchase Intention	0.02	1.83*	Complete Mediation
Novelty → Trust → Purchase Intention	-0.00	-0.98	Direct Only
Quality Trust → Purchase Intention	0.02	1.84*	Partial Mediation

Note: * p<0.1, ** p<0.05, *** p<0.01

4. Summary and Discussion

Cross-border online shopping is gradually being accepted and used by consumers. This study conducted a questionnaire among Chinese consumers who have used cross-border online shopping or have experience in cross-border online shopping. Based on the existing research, this paper constructs and verifies the research model of the influence of product characteristics on consumers' purchase intention in cross-border online shopping and focuses on the influence of product characteristics on consumers' purchase intention, with trust as a mediator in cross-border online shopping. Existing studies mainly studied websites and marketing characteristics, while this study focused on product characteristics not covered in previous studies. The research conclusions are as follows:

First, in addition to diversity, reputation and quality, both specification and novelty directly impact customers' purchase intention. Trust does not mediate between independent variables (specification and novelty) and purchase intention. Compared with cross-border online shopping, in traditional offline shopping, consumers can truly feel and experience the product before purchasing. However, cross-border online shopping has certain limitations. The specification of products in cross-border online shopping can weaken consumers' doubts and hesitations to a certain extent, increasing their willingness to buy. The novelty of products can cater to the individual needs of consumers, thereby resonating with consumers and attracting consumers to buy. The more scientific, reasonable,

and standard-compliant the functions of products, the higher the degree of adoption of new concepts and new experiences for products, and the higher the willingness of customers to conduct cross-border online shopping.

Second, the diversity and reputation of product characteristics, although not directly affecting purchase intentions, positively impact purchase intentions through the complete medium of trust. Although the diversity and reputation of products are attractive to customers, this is very limited because the uncertainty and risk of cross-border online shopping can make customers look on the sidelines instead of buying them. In this case, as customers' trust in products and services increases, their concerns may also be eliminated, acceptance and adoption of products will increase, and purchase intentions will increase.

Third, quality, directly and indirectly, affects purchase intention under the influence of trust as the partial medium. Trust is the core of consumers' acceptance of products in their purchasing decisions and the key to attracting consumers. Even with high-quality products, a lack of trust is essential in consumers shopping less. Therefore, trust can also play the role of partial mediation between quality and purchase intention.

5. Conclusion

The characteristics and innovations of this study are mainly reflected in two aspects. First, many scholars have analyzed domestic online shopping platforms in previous research on the relationship between consumers' purchase intentions. However, at present, only some scholars have studied the influence of consumers' purchase intention on cross-border online shopping platforms and can fully explain them. Through research and modification, the research model in this paper can better explain the relationship between product characteristics in cross-border online shopping on consumers' purchase intention. Second, this study proposes the specification variable for the first time according to product characteristics in cross-border online shopping. Furthermore, it explained and studied the specification and successfully confirmed the influence of specification on consumers' purchase intention. In conclusion, the research on the specification, diversity, reputation, novelty, quality, trust, and purchase intention of products in this paper can serve as a reference for the related research on cross-border online shopping in the future and contribute to the vigorous development of cross-border online shopping.

Although some meaningful conclusions have been obtained, due to the limitations of the research ability of this paper, this study still has some things that could be improved, such as the survey sample having certain limitations and the respondents quickly influencing it. In addition, the results

show that product diversity and reputation have no significant impact on purchase intention. Compared with the diversity and reputation of products, customers are more inclined to judge the characteristics of products themselves and choose practical purchase intention as much as possible. To confirm the media effect of trust, it is necessary to use Structural Equation Model to verify. Moreover, there are few studies on the purchase intention of product characteristics in cross-border online shopping, and the references need to be more comprehensive. This would also have implications for this study, leading to limitations. In addition, the factors affecting consumers' cross-border online shopping include product characteristics, consumer attributes, and macro-level political, economic, and social factors. For product characteristics, we can research different product types or conduct in-depth research on product characteristics and service characteristics. Cross-border online shopping is a shopping method that has emerged rapidly in recent years. It is the key to improving consumers' willingness to buy and promoting the development of cross-border e-commerce. Although this paper has successfully obtained conclusions through case studies, many problems still need to be studied and discussed.

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