



Instituto Universitário de Lisboa

**The Relationship between Return Service Recovery and
Purchase Intention of Consumers in Online Shopping**

HE Qibing

Thesis submitted as partial requirement for the conferral of the degree of

Doctor of Management

Jury:

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Prof. WANG Guofeng, Professor, UESTC

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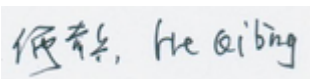
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Abstract

Online shopping has become part of people's life. The growing importance of the e-commerce, requires adequate attention to the recovery of online return service. Service failure can occur due to the difficulties in having a face-to-face contact delivery and the immateriality and intangibility characteristics of the service.

Although the large literature on return policy, there is a lack in understanding the perceived value of the relationship between return policy and others factors. This study aims to deeper this understanding, as well to develop a return service and service recovery framework based on customers' perspective. To accurately verify the suggested conceptual model, a survey was conducted to the customers of the Chinese biggest online stores (Taobao and Jingdong) who had experienced return. The selected customers profile include an high degree education and more than one-year online shopping experience, in order to guarantee that the customers have return experience and know return policy well.

This thesis uses SPSS version 20.0 to conduct descriptive statistics and uses SmartPLS2.0 to carry out the structural equation modeling analysis, validity analysis and path analysis to verify and ultimately determine the model of the relationships of the constructs, namely the online return service recovery and customers' purchase intention in online shopping.

Based on the empirical research results, this thesis puts forward recommendations for improving consumer's willingness to purchase in terms of return service recovery, trust, perceived value, and customers' participation. Also proposes that the return service recovery in online shopping needs the participation of e-retailers and customers to work together to maximize its significance and value.

Keywords: Online return service recovery; Online return service recovery quality; Online buyers' trust; Online customers' participation

JEL: L81; M31

Resumo

Comprar *online* é parte da vida. A crescente importância do e-commerce, obriga a uma atenção adequada à recuperação de serviço de devolução *online*. A falha na prestação do serviço pode ocorrer devido à dificuldade da prestação de serviço face a face, bem como às características de imaterialidade e de intangibilidade do serviço.

Apesar da elevada literaturana política de devolução, ainda não se compreende o valor percebido da relação entre a política de devolução e os fatores do seu contexto. Este estudo pretende aprofundar este conhecimento, bem como desenvolver um modelo conceptual do serviço de devolução na perspectiva do cliente. A fim de testar o modelo conceptual proposto, foi conduzido um inquérito aos clientes das maiores lojas *online* Chinesas (TaobaoandJingdong), que tinham feito devolução. O perfil dos entrevistados inclui qualificação académica de nível superior e ter mais de um ano de experiência em compras *online*, garantindo, assim, que teriam experienciado e conheciam o serviço de devolução.

O *software* SPSS 20.0 foi usado para a análise descritiva e o SmartPLS2.0 para a análise de validade e modelização por equações estruturais das relações entre os constructos, nomeadamente entre a recuperação do serviço de devolução e a intenção de compra online.

Baseada nos resultados obtidos, esta tese sugere recomendações para incentivar a disposição do cliente em comprar devido à forma de prestação do serviço de devolução, à sua confiança, ao seu valor percebido e sua participação, Ainda propõe uma participação ativa entre comerciantes *online* e clientes para aumentar o valor da recuperação de serviços de devolução *online*.

Palavras-chave: Recuperação Do Serviço De Devolução *Online*; Qualidade De Recuperação De Serviços De Devolução *Online*; Confiança Dos Clientes *online*; Participação Dos Clientes *Online*

JEL: L81; M31

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摘要

网上购物已成为人们生活的一部分。电子商务日益重要，需要充分重视网络退货服务补救。由于难以进行面对面的接触传递以及服务的无形性和易逝性的特点，发生失败可能会发生。

关于退货政策，虽然有大量文献，但缺乏对退货政策与其他因素之间关系的感知价值的理解。本研究旨在深化这种理解，并从客户视角出发制定退货服务和补救框架。为了准确验证建议的概念模型，我们对经历过退货的中国最大的在线商店（淘宝和京东）的客户进行了调查。所选客户资料包括高学历和一年以上的在线购物经验，以确保客户有退货经验并了解退货政策。

本文采用 SPSS 20.0 进行描述性统计，利用 SmartPLS2.0 进行结构方程建模分析，有效性分析和路径分析，验证并最终确定构造关系模型，即网络退货服务补救和客户在网上购物的购买意向。

基于实证研究结果，本文提出了网络退货服务补救，信任，感知价值和客户参与方面提高消费者购买意愿的建议。还建议在在线购物中的退货服务补救中需要电子零售商和客户的共同参与，以最大化其重要性和价值。

关键词：网络退货服务补救；网络退货服务补救质量；网络买家信任；网络顾客参与
JEL: L81; M31

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List of Abbreviations

Abbreviation	Full Name
B2C	business to customer
B2B2C	business to business to customer
O2O	online to offline
B2B	business to business
C2C	customer to customer

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Chapter 1: Introduction

1.1 Raise of problem

1.1.1 Practical background

On December 2017 the number of people buying products online in China was close to 533 million, with annual growth of about 14.3percent. The number of people who use mobile phone client-side to buy online products was 506 million, accounting for 67.2%, and the annual growth rate was 14.7% (China Internet Network Information Center [CNNIC], 2018). The expansion of network user scale creates favorable conditions for the development of e-commerce in China and provides great development opportunities.

Relevant data for 2016of iResearch shows that in the third quarter of this year, China's online shopping turnover is 1.15 trillion, with growth close to 23.6%, up 2.6%, and its growth trend was very smooth (iResearch, 2016). The national bureau of statistics reported in 2016 that domestic retail sales in the third quarter of the year were 8.2 trillion Yuan, while online shopping accounted for 13.9% of retail sales in the quarter. All of these data shows that online shopping has been deeply rooted in the hearts of the people and integrated into Chinese life, creating a huge source of income for society.

From the perspective of the industry situation of China's online shopping market, the online shopping market has stepped into a growth stage. The scale of B2C trade is expanding unceasingly, e-commerce model has expanded the B2B2C mode after the implementation of open platform strategy as well as O2O mode with the integration of online and offline from the initial modes of B2B, B2C, C2C.E-commerce industry in China has developed into complete multi-domain synergistic developing ecological system which covers information technology, online trading, logistics, financial payment, online advertising, and other areas. Among them, in the third quarter of 2016, the increase of B2C

online shopping by 30 percentage points was much higher than that of C2C. The expansion of the industrial situation has expanded the online shopping to more traditional industries, promoted the transformation of traditional industries, and promoted online shopping to penetrate into traditional industries.

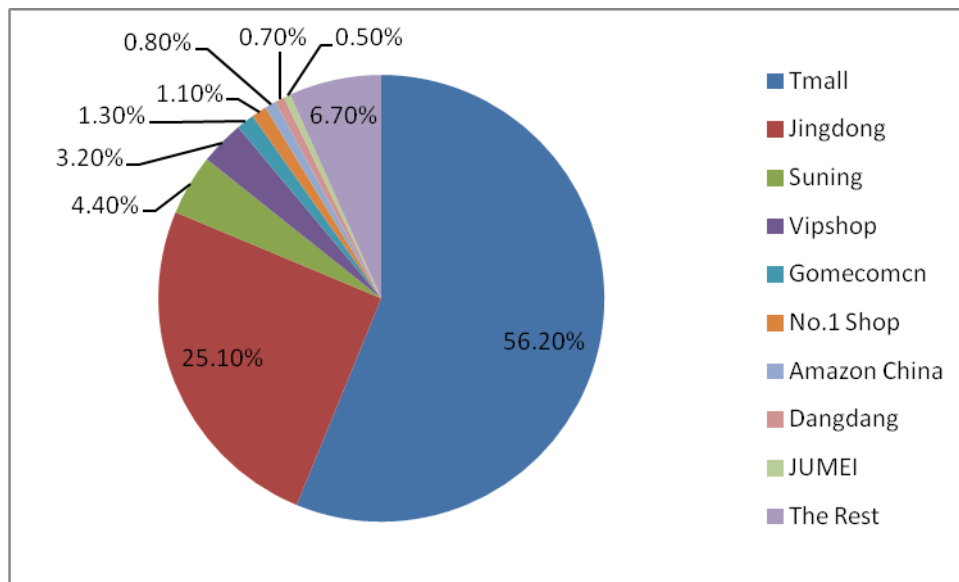


Figure 1-1 2016Q3China market share of transaction scale on b2c shopping website.

Source: iResearch (2016)

The Q3China market share of transaction scale on B2C shopping website in 2016 is shown in Figure 1-1. At present, Tmall (China's largest business-to-consumer shopping site) and Jingdong (China's largest self-operated e-commerce company) are the bellwethers in the field of B2C, and the level of market competition is very high. In the early days of e-commerce, the competitive advantage with traditional industries mainly lies in "price driven". Compared with the traditional enterprise, E-commerce enterprises has the advantages of low inventory costs and low marketing costs. In addition, the process of e-commerce businesses is from retailers directly to the final customers, saving part of middle costs, so that in the early stage e-commerce has a price advantage compared with the traditional companies. With the development of e-commerce environment, China's e-commerce enterprises have shifted from simple price competition to service competition. Most of the e-commerce enterprises pay more attention to the detailed and humanized

aspects, such as web page optimization, customer service level improvement, return mechanism and after-sales service perfection, logistics delivery speed promotion to improve consumers' shopping experience and increase their willingness to shopping.

Considering the features such as the intangible and perishable nature of service, it is impossible to predict and measure it accurately, and all the e-commerce service enterprises are faced with the service failure caused by service sales. The service of e-commerce is in a constantly changing state, and any interaction with customers is accompanied by the possibility of service failure because of no face-to-face contact, logistics, and no assurance and product warranties and so on. Internet is flourishing; online shopping has become a very important part of people's life. According to the consumer's complaints analysis issued in the first quarter of 2017 by the State Administration of Industry and Commerce, it showed that online shopping complaints continue to maintain rapid growth, and year-on-year growth in complaints was of 42.8%. In the cases of complaint, the quality, agreement and after-sale appear more often, accounting for more than half of the complaints. In terms of type, the number of service complaint is on the rise.

The demand of customers in online shopping is changeable, and e-commerce brings new shopping environment to customers. For online shoppers, shopping has changed the traditional form of consumption and added color to their life. It should be paid attention that the online products cannot be seen directly, so consumers also cannot predict whether the purchased products are appropriate or not, and they cannot ensure the quality of the product, it is easy to cause return behavior. Su (2009) proposed that the return rate of online retail was higher than that of traditional retail stores.

At present, scholars' research on the dimension of the network return policy focuses on the single dimension of return refund (Su, 2009), and the research on the relationship between return policy and other factors basically does not take into account the role of perceived value, and lacks customer perspective and comprehensiveness. As an important part of e-commerce services, return service has great significance in whether e-commerce enterprises can meet the demand of the consumers, increase the consumers' satisfaction with

the enterprise, enhance consumers' trust, acquire consumers' recognition, and, in turn, increase consumers' purchase intention. It is an important part of the enterprises' strategy to win the market. Companies that implement successful return can reduce customers' churn and deepen the relationship between them and customers.

1.1.2 Theoretical background

Since the development of the theory of consumers' behavior in 1950s, many scholars have expanded and revised it. Different researchers have also discussed consumers' behavior from the perspectives of rationality, attitude, society, trait, behavior and situation. In addition, relevant theories of online shopping behavior are studied by rational behavior theory, planned behavior theory and technology acceptance model. Today, the online shopping is developing so fast, and user's behavior has become regular. If the enterprise can grasp the rule, or know a little, they will be deeply affected by it in terms of development.

Return service is a refinement of customers' relationship. Online retailers need to study how to timely and fairly provide service that customers feel comfortable and effective from the return policy formulations, as well as return service implementations to maintain the good relationship between them and consumers and to create opportunity for consumers' purchase intention and repurchase intention. Maxham and Netemeyer (2002) suggest that companies should compensate for reduced repurchase intentions if they are able to take effective measures to make customers feel fair in the event of a service failure. However, authors like (Maxham & Netemeyer, 2002) often ignore the important role of perceived value in the relationship between return service recovery and repurchase intention. When we review the literature of the return policy, it is found that scholars (Heiman, McWilliams, & Zilberman, 2001) have made some progress in return issues, but they mainly pay attention to the discussions on the relationships between return policy and purchase decision, purchase intention, product evaluation, and cost and profit. Meantime, they do not integrate return policy, perceived value and purchase intention together. In addition, researches on return policy and purchase intention are not profound enough, and the looseness degree of

return policy is studied only by one single dimension, for example, return refund (Su, 2009). It is lack of a comprehensive return service framework based on the perspectives of customers and service recovery. The main evaluators of return service are customers. When the customers perceive the value of return service, the return service is effective. Return service is not only about the recovery of the service failure, it is also an important opportunity for online retailers to improve the relationship with customers and stimulate the customers' new purchase intention.

1.2 Research steps and research method

Figure 1-2 shows the steps of this study:

Firstly, raise of problem. Based on the review of related research literatures and summary of existing problems, this thesis puts forward the research question, demonstrates the value and significance of studying the problem, defines the concepts involved, and finally introduces research methods and innovation points.

Secondly, literature reviews. The research situation of service recovery, perceived risk, perceived value, return policy and purchase intention and so on is grasped through wide reading of the related literatures, and a clear understanding of the direction of this research is formed.

Thirdly, model building and research hypothesis. After studying the literature and communicating with experts, the research model in this thesis is built and the relevant assumptions are made.

Fourthly, research design. The research variables are measured, the questionnaire is designed, the pre-test is conducted and the data is collected.

Fifthly, data analysis. Carry out the descriptive statistics of demographic characteristics and variables, carry out the reliability and validity analysis, and test the hypotheses and discuss the results in detail.

Finally, conclusion and suggestions. Based on the empirical analysis results, research

conclusions are put forward and related management suggestions are given. At last, the shortcomings and prospect of this thesis are described.

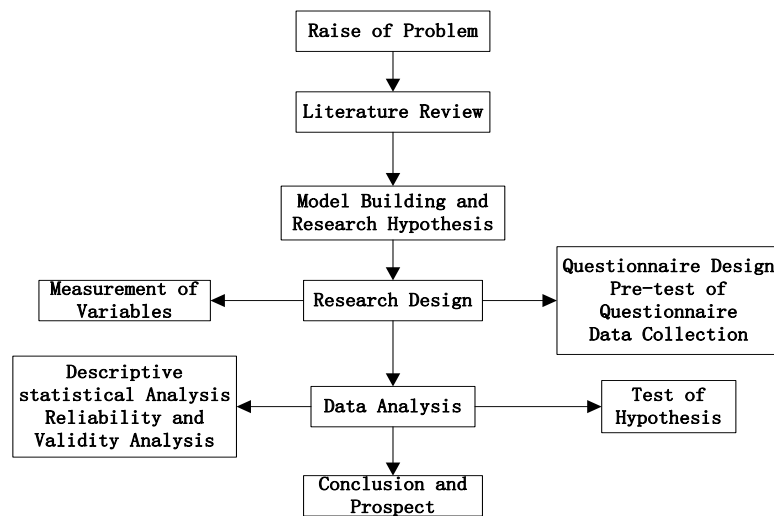


Figure 1-2 The steps of the Research

The arrangement of relevant chapters is as follow:

Chapter1: Introduction

The introduction chapter raises the research question, explains the value and significance of studying this problem, defines the concepts involved, and finally introduces the research methods and innovation points.

Chapter2: Literature Review

The chapter sorts out the predecessors' researches on perceived value, return policy, service recovery and purchase intention and so on. Also clarifies the study direction: to explore the influence of return service recovery, perceived fairness and other factors on perceived value and purchase intention in online shopping.

Chapter3: Model Building and Research Hypotheses

According to the research topic, this part integrates related research theory, such as the theory of service recovery, customers' value theory, perceived risk theory, inconsistent expectation theory, to lay the foundation of this thesis studies. Then, it builds the model of

online purchase model, analyzes the role of variables in the model and finally puts forward research hypothesis.

Chapter4: Research Design

This chapter firstly refers to the related literatures to design the scales involved, and then design questionnaire and conduct preliminary test to find the unscientific question item and uses the final questionnaire to collect data.

Chapter5: Empirical Analysis

This part mainly carries out descriptive statistics on relevant data and analyzes the reliability and validity of the questionnaire, including the test of structural equation for hypotheses and analysis of moderating variables.

Chapter6: Conclusion and Suggestions

According to the analysis of the above, this part summarizes the research conclusion, and gives instructive suggestions for internet retailers and participators, and explains the deficiency and areas for improvement of this thesis.

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Chapter 2: Literature Review

To carry out all-rounded study on online return service recovery, perceived value, perceived risk, purchase intention, online buyers' trust and online sellers' competition and so on, the first thing is to view and get familiar with the related literatures. Based on these, the research topic of this thesis is put forward.

2.1 Return policy

2.1.1 Return policy in retail mode

Smith and Bolton (1999) pointed out that the return would bring about a series of negative effects, such as destroying consumers' information on a company or brand, reducing the competitive capacity of the company and leading to the intervention of management departments. At the same time, he also pointed out that if the return process could be handled from a strategic perspective, the negative impact of the return could be reduced, and even benefits to the company could be brought. The research of Smith and Bolton (1999) on return policies focused on some large companies, but it also had implications for the strategic response to cyber return. For return caused by failed services, enterprises need to formulate a return policy from a strategic point of view in a timely and active manner, provide service recovery for return problem, draw on advantages and avoid disadvantages, and reduce the negative effects of returns to increase the profits and value.

Wood (2001) believed that loose return policies included longer return term, low effort degree, and high refund; strict return policies were on the contrary. Su (2009) conducted a research on the refund policy (full/partial) of product return without product quality issues. Shen, zhang, and Qing (2010) promoted the results of Su and studied how to set a refund for the best amount under the conditions of service. Point of Posselt, Gerstner, and Radic (2008) was that return policy should be considered in terms of time, customers' commitment, and

refund. Combining with the scholar's elaboration of the return policy, this thesis defines the return policy as the description of return conditions, return time, return fees and consumers' effort given by the provider for the return of the product.

2.1.2 Return policy in online retail mode

For the study of online return policy, Suwelack and Kraft (2012) believed that the corresponding rules should be formulated for customers' return, and the return policy needed to be considered from multi dimensions. Cai (2012) divided the factors affecting the return cost of B2C enterprises into return time limit, acceptance time, freight and return utilization. He pointed out that the good return policy was "long return time limit, efficient return service, enterprise freight, loose return utilization limit. Janakiraman, Sydral, and Freling (2015) summarized the divisions of the former studies and divided the return policy into four dimensions, namely return time, and return cost, refund method and consumers' efforts.

Take the following examples of shopping websites in China as examples to compare the current online return policy from return restriction, return time, convenience, and fee and information notification method.

The Table 2-1 shows the details of these websites:

- (1) Jingdong Mall (<http://myjd.jd.com/afs/help/afshelp.action>);
- (2) Tmall (<https://www.tmall.com/wow/seller/act/seven-day?spm=a220m.1000858.a2226n1.2.7c0f3007zqvzTv>);
- (3) JUMEI (http://www.jumei.com/help/refund_policies).

Table 2-1 The return policy list of several major shopping websites in China

	Jingdong Mall	Tmall	JUMEI
Restriction	<p>Time: support "7 days no reason to return";</p> <p>Reason for return: no reason to return;</p> <p>Return conditions: not affecting the secondary sales, except for the goods sold on Duobao Island and the goods which have label not supporting the return without reason.</p>	<p>Time: 7 days, starting from 0:00 of the next day after the buyer signs the goods, the 168 hours is 7 days, and the time for the buyer to sign the goods is based on the time of the logistics receipt.</p> <p>Conditions: support the goods which meet the standards of goods for no reason return for seven days, customers can initiate application of 7 days return goods without reason or exchange goods to the seller</p>	<p>Time: 30 days unconditional return for goods that have been opened</p> <p>Return conditions: customers can return goods after opening, use, and allergies, with free reason for return</p>
Response	<p>Return processing cycle: processing within 7 days;</p> <p>Refund processing cycle: The refund is completed within 7 days from the receipt of the returned goods.</p>	<p>Pick-up service: the order placed before 17:00 will be picked up on the same day; the order placed after 17:00 will be picked up next day.</p> <p>Refund processing circle: under the condition that the order is refunded successfully, the account will be delivered immediately for the Alipay balance payment; within 48 hours for online payment and quick payment of bank card ; within 1-5 days to pay credit card</p>	<p>Refund processing cycle: The immediate arrival for Jumei balance and Alipay / bank card requires 3-7 days transfer time.</p>

Table 2-2 The return policy list of several major shopping websites in China (Continued)

	Jingdong Mall	Tmall	JUMEI
Convenience	Pick-up service or Mail	Pick-up service or Mail	The customer fills in the return application—waits for confirmation from the customer service staff—sends back the returned product—Customer service staff returns refund after receiving return goods
Fee	Pickup costs: buyers bear the fee for personal reasons; Refund: Full Freight: no return freight	Freight: If the buyers bear postage, the buyers only bear the return postage; if the buyers do not bear postage or the buyers bear the postage with condition , the buyers' partial return does not satisfy the postal condition, the buyers bear all postage; If the product is flawed, or if the product is inconsistent with the store's commitment, consumers will not be required to bear the freight of return. Compensation: Tmall judges that the buyers' application of“7 days no reason to return” to be established according to related regulations, and has the right to notify Alipay company sellers to directly deduct the corresponding amount paid to the buyer from their Alipay account.	Refund: full Freight: Jumei bears the fee
Notification	Web Page	Web Page	Web Page

Through the comparison of the return policies of several major shopping websites in China, it can be seen that the return policies of Chinese network providers are relatively clear, and most websites allow 7 days no reason to return the products without affecting the secondary sales. There are differences in terms of conditions, costs, response time, and cycle time which reflect the looseness of online return policies. At present, the dimensional

division of return policy by scholars mainly focuses on the timeliness, convenience, economy, and restriction of return policies (Posselt et al., 2008). In addition, considering the information asymmetry and hysteresis of network services, whether the return information is transparent or not may have an impact on the return service and consumers' behavior. Roca et al. (2006) studied users' online continuous use willingness on the basis of expectation inconsistency theory and technology receiving models. The results showed that perceived usefulness, information quality, consistency affect users' satisfaction and thus influence their willingness to use continuously. This thesis believes that the dimensions of network return policy also need to be added the transparency of the return information.

To sum up, the online return policy is an important strategy that network providers offer remedial services. Combining with scholars' division of return policies, with reference to the network e-commerce service recovery policy and the characteristics of online policy of e-commerce website in China, this thesis divides the dimensions of the online return policy into return policy restriction, timeliness, convenience, economy and transparency of return information to examine the degree of looseness of online return policy. According to online policy of current e-commerce websites and related literature, the restriction of the return policy specifically refers to the time limit and reason for the return, such as the 7-day return or no reason to return. Timeliness mainly refers to the sellers' time of refund and the response time of pick-up. Convenience mainly refers to whether the return is convenient to save the customers' energy and time (Chuan, 2010). Economy mainly refers to whether the seller bears the freight, whether the sellers provide full refund and freight insurance or whether the seller provides other forms of economic compensation. Return information transparency refers to whether the information is clearly communicated to the customers. Therefore, the convenience of return is directly proportional to the repurchase intention.

2.1.3 Related research on return policy

(1) Research on relationship between return policy and purchase decision.

The impact of the return policy on customer purchases is unquestionable. The specific

research is mainly reflected in decision-making, time and repurchase. Through the endowment effect and experimental research, Wood (2001) confirmed the signal effect of product quality conveyed by the return policy. If the return policy was loose, the purchase decision time of the customer was shortened and the return decision would not be affected. Maxham and Netemeyer (2002) analyzed the sales data of e-businessmen and proposed that the sellers' burden of freight would prompt the customers to generate repurchase behavior. On the contrary, it would have a negative impact on the customers' purchase, that is to say, the relationship between possibilities of the customers' repurchase and the sellers' commitment to freight was great. Many researchers suggested that if the return policy was loose, then it meant that the product was of high quality and the merchant was trustworthy so that the customers' perceived risk would be relieved and their purchase behavior would be stimulated (Pei, Paswan, & Yan, 2014). Therefore, the looseness degree of policy has a certain effect on the purchase and repurchase of customers.

(2) Research on relationship between return policy and product evaluation.

The return policy will also have an impact on the customers' attitude towards the goods. The point of Wood (2001) was that customers' perception was biased and the stricter the return policy was, the higher the customers' evaluation was. This was due to the fact that this kind of return policy would increase the threshold of return; if there was no threshold, the customer would not be affected by cognitive interference to raise his opinion on product. However, this study was relatively inadequate and did not investigate the role of other factors in the relationship between the two. Some scholars enriched this study and proposed the concept of merchant recommendation. When the merchant recommendation was added, the customers' evaluation was relatively higher with a loose return policy (Wood, 2001).

(3) Research on relationship between return policy and cost profit.

Many researchers also discuss the effect of return policy on business profits and costs. Heiman et al. (2001) suggested that merchants could reduce sellers' risks, expand market, and increase their profits by implementing return policies. With the help of loose return policies, merchants could send signals that the product was quality-assured, so that they

could increase the selling price (Fruchter & Gerstner, 1999) and create profits. Even if customers were dishonest, loose return policies could also bring profits to businesses. Choi and Geistfeld (2004) suggested that merchants could increase their profits through free return guarantee. E-commerce is in full swing, and researchers are also investigating the effect of return policies on the impact of online business profits. Among them, Mukhopadhyay and Setaputra (2007) conducted a study on the E-business price and return mechanism and proposed that the positive effect of loose return policies on online sales profits was still established.

However, it should be noted that the return policy cannot always be loose, and the implementation of it needs careful consideration. Some scholars proposed that money-back guarantee was unfavorable to online sellers, and low-quality merchants would increase the transaction burden by returning products. Strict return policies could avoid problems caused by dishonest customers and avoid operating costs caused by malicious returns to merchants.

(4) Research on relationship between return policy and purchase intention.

There is relatively little academic research on the relationship between the return policy and purchase intention. Researchers have only begun to focus on the study of return policies and consumers' purchase intentions. The study of Roggers and Tibben (1999) showed that under the loose return policy, the consumers' perceived fairness was higher. Pei et al. (2014) used signal theory and fairness principle to conclude that the looseness degree of cyber return policy could influence consumer's willingness to purchase by affecting their perceived fairness of return policy. Shulman, Coughlan, and Savaskan (2010) found that lower return fines could increase the initial utility for consumers to purchase goods, thereby increase consumers' willingness to buy. Bonifield, Cole, and Schultz (2010) believed that a loose return policy was a signal feature of product quality that would reduce the perceived risk of consumers. Jiang (2015) researched that a loose return policy had a significant positive effect on customers' fairness perceptions and purchase intentions, and it was clear that perceived fairness played a complete mediating role between the two.

By reviewing the literature on return policy, especially the study of return policy and

purchase intention, it is found that scholars have rarely considered the role of perceived value in the study of return policies (Choi & Geistfeld, 2004). On the other hand, some scholars (Pei et al., 2014; Jiang, 2015) have introduced perceptions of fairness to study the return policy, but it is lack of a comprehensive return service framework based on customers' perspective.

2.2 Service recovery

2.2.1 Online service failure

Hart, James, and Heskett (1990) pointed out that service failure was just like the tip of the iceberg, and the impact it had was invisible. The service itself has a high degree of uncertainty. The uncertainty caused by the network environment is more than ever before. Although enterprise has a perfect service system, it may also encounter service failures in a certain contact with customers. Ye's (2014) study showed that the negative consequences of failure to deal with poor service in network services was even more serious than physical services. Service failure means that a service does not meet consumers' expectations. Service failures can cause consumers' satisfaction and produce negative effects on future customers' purchase behavior (Koufteros, Droge, Heim, Massad, & Vickery, 2014). For the specific causes of online shopping return, Du (2010) discussed the causes of return from the perspective of consumers, such as information asymmetry and impulse buying. Dong (2015) pointed out that the main causes for returning were product quality problem, product information asymmetry, business fraud, business operation error, business service levels, and merchant competition.

Combined the definition of service failure and the online shopping environment, online service failure is the situation when online service cannot meet online customers' expectations due to network service problem, security problem, product problem and inconsistent information problem and other factors (Zhang, 2010).

2.2.2 Service recovery in online retail mode

Maxham and Netemeyer (2002) believed that the main purpose of service recovery was to retain customers. Service providers strive to provide customers with satisfactory service and make customers satisfied. However, due to the fact that the service itself cannot be fully controlled and consumers' demands are changing rapidly, the phenomenon of service failure inevitably occurs, which makes customers dissatisfied (Xu, Li, & Y, 2018). Customers make attributions when faced with service failure and they often blame the sellers for not doing the right thing, even spread negative information about the service provider. In order to maintain reputation and regain consumers' trust, it is necessary for enterprises to take service recovery. Faced with customers' dissatisfaction and service failure, the service provider should make service recovery and use the second service to remedy the customers' satisfaction. Therefore, service providers cannot allow service mistakes to exist for a long time, otherwise, not only are the customers damaged, but also the service providers will suffer harmful results. So service providers need to actively remedy service failure.

As the first scholar to define service recovery, Gronroos (1988) believed that service recovery was providers' action to remedy customers' complaint against service failure. Online media was different from traditional marketing communication. However, the quality of service in the network is frequently problematic. For online service recovery, Forbes, Kelley, and Hoffman (2005) used the critical incident method to classify recovery strategies in online sales into 11 categories: discounts, replacement, correction, apologize, refund, no solution, and score accumulation and so on. Feng (2018) put forward that the online shopping service recovery was the sum of a series of salvation actions taken by network e-commerce in order to reduce the negative impact of service errors when service failure occurs.

Combining with the online shopping environment, this thesis defines online service recovery as: in online environment, service provider formulates and implements a series of compensation measures for remedying the failure.

2.2.3 Dimensions of service recovery in online retail mode

In order to explore how to measure the service recovery dimension, many scholars had carried out relevant discussions. Fu (2014) divided service recovery into monetary compensation and non-monetary compensation (apology, explanation and communication). Wang (2014) in the study on the influence of online purchase service recovery on customers' behavioral intention pointed out that in online environment, service recovery dimensions were divided into three dimensions, which were material compensation, responsiveness, and recovery initiative. Xie (2015) divided service recovery into two types, and non-institutional service recovery included remediation initiative, tangible compensation, response speed and apologize while institutional service recovery included claims statement, prevention system and measures. Cemal and Narcikara (2016) divided Internet service recovery into three categories: the first was a response to a customer's question, such as a problem with shipping, product defects or payment; the second was the services of retailers to compensate customers for problems, such as returning the product or making a repayment or product replacement; and the third was the feasibility of providing assistance by phone or online chat.

2.2.4 Online return service recovery

Return is one form of service failure. Correspondingly, the return policy is one component of the service recovery. In online shopping return service recovery, the return policy is a description of the return dimensions given by the provider for the returned goods caused by the customer, the merchant, or the third-party logistics. The return policy in this study mainly includes five dimensions: restriction, timeliness, convenience, economy, transparency of return information. However, for return service recovery, only the return policy is not enough.

Regarding the dimensions of service recovery, there are four common dimensions of online shopping service recovery by scholars (Fu, 2014; Wang, 2014; Cemal & Narcikara, 2016): tangible compensation (cost, coupon, or other material compensation), and response

speed (response time), apology and initiative of recovery. Combining with common division of service recovery, the return policy in this study can only describe the response speed (timeliness and convenience) and tangible compensation (economy) dimensions of service recovery. So the return policy is used as a component of service recovery, and apology and initiative dimensions are added in this study. The initiative here refers to which party initiates the service recovery contact. Apology was the most basic recovery action in the event of a service problem and the service provider could apologize for the customers' dissatisfaction with the return problem with a telephone or email. In summary, the online return service recovery in this study mainly includes three aspects: return policy, initiative and apology.

2.2.5 Research on the effectiveness of service recovery

After service recovery, the enterprise needs to know whether the customer is satisfied with the service and whether the remedy is effective. Spreng et al. (1995) believed that customers' satisfaction would significantly affect the repurchase intention, word of mouth and recommendation behaviors.

2.2.5.1 Satisfaction degree

Bitner (1991) pointed out that the recovery service had a significant impact on the overall service evaluation of customers, and the customers paid more attention to the recovery service than the initial service. Fornell and Wemerfelt (1987) believed that customers' satisfaction was a holistic attitude based on experience. Spreng, Richard, and Gibert (1995) put forward that customers would form the first satisfaction degree after service failure and form the second one after service recovery, and eventually form an overall satisfaction of service. Mattila and Patterson (2004) and other scholars proposed that customers' satisfaction of service recovery would be influenced by interactive fairness, result fairness or procedural justice. Some scholars believed that recovery initiative may have different effects on interaction equity (Mattila & Cranage, 2005). Wu (2013) pointed out that proactive service recovery actions could increase customers' satisfaction so that

they would trust the business more. Yang and Zhuang (2014), through research on service convenience, consumers' sentiment and repurchase intention, confirmed the conclusion that service convenience had a positive effect on consumers' satisfaction.

2.2.5.2 Word of mouth

Blodgett, Granbois, and Walter (1997) came up with that word of mouth was important source of information for consumers, and the main driving factor of word of mouth was customers' perception of the service. Hua and Li (2011) proposed that in the long run, enterprises should assume responsibility and apologize; if enterprises were not willing to apologize or remain silent, it would lead to an increase in the perceived risk of future customers, which was not conducive to the long-term development of enterprises. If the complaining customers feel they had been treated unfairly and sincerely, they may bring enterprises the negative word of mouth because of anger. Yang, Wu, and Zhang (2015) put forward that after the service failure occurred, the service provider's remedial initiative, fast response speed and apologize to customers and tangible compensation had a positive impact effect on consumers' positive willingness to spread word of mouth. Yang and Wang (2016) believed that the consumer sentiment after the seller's service recovery would significantly affect the customer's behavioral intentions (including negative word-of-mouth communication). They pointed out that the more the seller's service remedy was in line with the consumer's expectations, the lower the negative sentiment would be. It would reduce the probability of customers carrying out negative word-of-mouth communication. Therefore, effective service recovery mechanisms and processes may avoid the formation of negative word-of-mouth when service failures occur.

2.2.5.3 Repurchase intention

Service recovery is important factor to influence customers repurchase intention. Tax and Brown (1998) and other scholars pointed out that enterprise should deal with service failure rapidly, and timely and proper service recovery would have a significant effect on customers' loyalty and repurchase intention. Maxham and Netemeyer (2002) proposed that

if an enterprise could take effective measures to make customers aware of fairness in the event of service failure, they could make up for the reduced repurchase intention. Li (2011) studied the service failure of e-commerce companies and the results of the study proved that there was a correlation between the quality of service recovery and consumers' perceived value.

Wu (2013) discussed the relationship between perceived values, transaction costs, and repurchase intention from the point of view of relational trading, and proposed that perceived value, information search cost, moral risk cost, and specific asset investment had positive impact on online consumers' repurchase intention.

2.3 Perceived risk

2.3.1 The connotation of online perceived risk

To begin the study of the problem, first it is necessary to understand what perceived risk is. Scholars at home and abroad mainly consider the uncertainty and negative results when defining perceived risks, and the typical definition evolution is as follows: In the 1960s, professor Bauer (1967) first applied perceived risk to the marketing research, put forward that the customers' perceived risk came from the consumption result which could not be measured accurately. He defined perceived risk as follows: perceived risk was the customers' inter perception of risk when buying products. He stressed that this was a kind of feeling, not real risk. Combined with above definition, it can be observed that perceived risk is consistent of uncertainty and negative consequences. However, these two parts were not described clearly and scholars complemented the definition of them. According to Cox and Rich (1964), the behaviors of the customers were purposeful; customers had their own purpose before purchase. If customers were unable to determine whether the products could reach their purpose in every level, the negative effects may occur and then perceived risk was produced in the customers' heart. Cox and Rich (1964) defined it in terms of two functions: first, pre-purchase risk perception degree; Second, the degree of post-purchase

risk perception loss. After that, Cunningham (1967) conducted an empirical study on perceived risk and divided it into two parts: first, uncertainty, namely the probability of the customers' feeling of the occurrence of the event; second, the consequences, namely, customers' perception of possible dangers after the event. The degree of customers' perceived risk was related to the customers' emphasis degree of uncertainty and the risk consequences of the purchase. Scholars generally accepted the definition of perceived risk by Cunningham (1967), which was also the initial perception risk model, a classic model applied into researches on perceived risk measurement.

Forbes et al. (2005) proposed that under the network environment, due to the asynchronous nature of transactions in terms of time and control, the risks taken by customers and companies were higher than those in traditional environments. Online shopping was a new type of consumption channel, which puts customers in different shopping situations. However, customers can only know products by product description but cannot get the substance of products directly. If the product is defective, the sellers usually shirk responsibility, making the customers full of uncertainty of online shopping, and higher risk perception. In addition, the changing payment means and information technology of online shopping make the risks of online shopping different from general shopping. Therefore, scholars begin to focus on the perceived risk on online shopping platforms.

Among the scholars, Jarvenpaa and Todd (1996) first studied the perceived risk in the B2C model, and their empirical research showed that perceived risk influenced customers' online shopping behaviors. The two scholars put forward that online perceived risk was the customers' perception of uncertainty and negative results. Yu and Li (2006) defined online perceived risk as the subjective expectation of the seriousness and possibility of the adverse consequences of this type of shopping when consumers considered online shopping. Yan (2013) perceived risk referred to the subjective perception of consumers' uncertainty or adverse consequences of online purchase decisions. Because consumers are uncertain about purchasing decisions, perceived risk is always there.

In this study, the view is accepted that the perceived risk in online shopping should be a psychological prediction of the uncertain results and consequences of the shopping mode when customers prepare to shop online.

2.3.2 The dimensions of online perceived risk

When the buyers use the internet technology as a new channel to purchase, the perceived risk dimension changes. Forsythe and Shi (2003) divided online customers into personal finance risk, product function risk, individual psychology risk and time risk. Based on the complex online promotion environment, Jian and Nie (2015) classified perceived risk factors into seven dimensions: time risk, store unreliable risk, product effect risk, and delivery risk, risk of abuse of personal information, financial risk and security risk. Yan, Xu, Xiong, and Wang (2018) divided consumers' online risks into economic risk, time risk, information risk, service risk, functional risk

In the case of online shopping, the common academic divisions of perceived risk are finance risk, delivery risk, payment risk, performance risk, society risk, privacy risk, time risk, store unreliable risk, product effect risk, time risk, and information risk (Yan et al., 2018).

2.3.3 The related research on reducing online perceived risk

Customers could use information search to eliminate perceived risk (Sheth & Venkatesan, 1968). Grewal, Monroe, and Krishnan (1998) proposed that when the customers' perceived profit level was higher than the cost, the corresponding perceived value would also increase. Larson, Engell, and Taylor (2004) believed there were two strategies that could be used to reduce risk: One was to increase the certainty of purchase by searching information; the other is to reduce the expectation value and avoid losses by reducing the frequency of shopping or giving up shopping. Ge (2011) classified the methods of reducing online shopping perceived risks into 3 types: setting up entities to display stores, conducting e-commerce training and establishing comprehensive guarantees mechanism.

Among them, establishing comprehensive guarantees mechanism included return guarantee, secure payment method, transparent credit evaluation system, and complaint acceptance and so on. Liu, H, Qian, and Wu (2013) put forward that women's online perceived risk could be reduced by detailed and novel product introduction, multi-scene and multi-source picture display, more exquisite packaging, high quality and timely customer response, perfect after-sales service and high reputation.

From the literatures above, it can be seen that scholars believe that guarantee of return and perfect after-sales service can reduce perceived risks. Considering that the customer cannot be sure of the outcome of the decision before the purchase, the perceived value of the customer includes the uncertainty, that is, perceived risk. This kind of risk generally appears in the aspects of product quality, business, and services, embodied in the aspects of product quality without guarantee, sellers' non-compliance of agreement, and the unstable service. In addition, perceived risk also plays an important role in driving the perceived value (Jarvenpaa & Todd, 1996). Therefore, this thesis selects online perceived risk as the mediating variable between the return service recovery and perceived value, exploring how to formulate the return policy and implement the return service to minimize the customers' risk and increase the customers' perceived value and purchase intention.

2.4 Perceived fairness

2.4.1 The emergence and development of perceived fairness

Fairness is a sociological term. Fairness theory is also called a social comparative theory. The American psychologist Adams (1965) first proposed the theory of fairness. He believed that people's work enthusiasm not only related to actual reward, but also to whether they felt the distribution of rewards was fair or not. That is to say, the individual would compare his or her own pay and the remuneration received with others (Adams, 1965). From the perspective of social exchange, service errors and remedies are a special form of exchange. Customers feel unfair when they encounter service failures; service

providers compensate for customers' inequities by providing remedial services. The perception of fairness is a theoretical basis which is widely used in service recovery by scholars.

The study of perceived fairness in the initial period was mainly about distribution fairness, focusing on the distribution results. Oliver (1981) was the first scholars to use distribution fairness as a perceived fairness dimension to investigate fairness perception and customers' satisfaction. Clemmer (1993) used the key event method to verify the difference of customers' distributive fairness and procedural fairness. The results showed that there was a clear difference between the two. Subsequently, the two scholars supplemented the fairness dimension and proposed three-dimensional evaluation of service engagement: distributive fairness, procedural fairness, and interactive fairness. Oliver (1996) further researched the importance of perceived fairness, and believed that customers would feel unfair when they were dissatisfied with the service, and it would be more difficult for service providers to provide service recovery. Therefore, it was necessary to restore perceived fairness to such customers. Represented by Tax and Brown (1998) and many scholars generally divided perceived fairness into result fairness, procedural fairness, and interactive fairness. Colquitt (2001) proposed the four dimensions of fairness: distributive fairness, procedural fairness, interpersonal fairness, and information fairness and divided interactive fairness, into interpersonal fairness and information fairness. Regarding the meaning of information fairness, the study of information fairness mostly focused on the study of the relationship between employees and organizations. The information fairness could reduce the negative attitude of employees as well as regulate the relationship between employees and employers also play a guiding role in the adjustment of the relationship between businesses and consumers (Anna & Mattila, 2009). Interpersonal fairness was mainly whether the service provider's attitude and emotion were fair to the customer. The result fairness was the customers' perception of the material or tangible compensation provided by the company; procedural fairness referred to customers' perception of standards and procedures of enterprises' service recovery, including compensation policies, efficiency

in handling problems, responsiveness and flexibility of recovery processes; interactive fairness was customers' perception of enterprises' ways and communication to them, such as whether the staff was patient, polite, and initiative to solve problems.

Through scholars' research, it can be known that perceived fairness is the subjective evaluation of customer on products or services provided by providers. The dimensions of perceived fairness have experienced two-dimensional to three-dimensional changes. Now, the universal division of perceived fairness includes three dimensions: result fairness, procedural fairness, and interactive fairness. In this thesis, result fairness, procedural fairness, and interactive fairness will also be used as the three dimensions of online perceived fairness.

2.4.2 Perceived fairness and service recovery

Oliver (1981) pointed out that customers' judgment of fairness would affect their repurchase. According to the previous scholars' generalized division of fairness, namely: procedural fairness, interactive fairness, and result fairness, Tax (1993) constructed a very representative model of service recovery and consumers' satisfaction, interpreting the process from dissatisfaction to satisfaction of customers. The three dimensions of perceived fairness had a decisive effect on customers' satisfaction to a degree of about 85%. The service recovery and consumer satisfaction model is shown in Figure 2-1 (Tax, 1993).

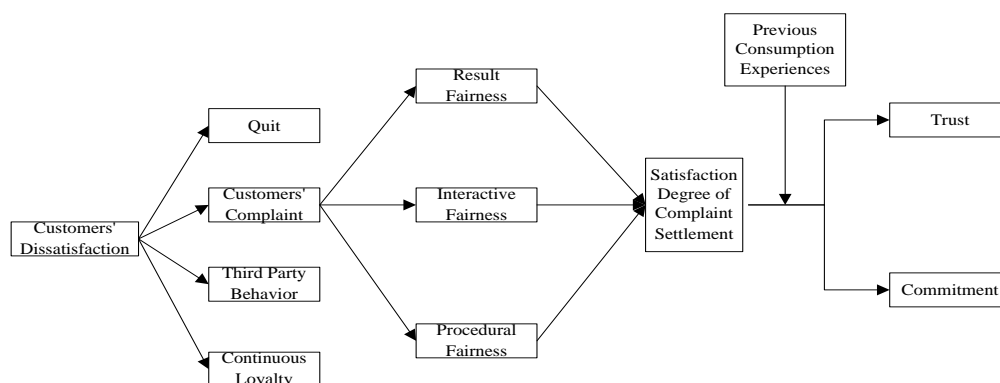


Figure 2-1 Service recovery and consumers' satisfaction model

Source: Tax (1993)

Through the service recovery and consumers' satisfaction model diagram of Tax(1993), it can be seen that after the service failure occurs, the customer will choose quit, complaint, third-party behavior or continuous loyalty. Therefore, after the service failure occurs, in order to avoid the loss of customers and the loss of reputation, service providers need to provide timely recovery services to recover and remedy customers. Customers' satisfaction combined with previous consumers' experience would further influence consumers' loyalty to providers' service and products, trust and commitment.

The effect of result fairness on customer satisfaction is reflected in whether the result of providers' service is fair. The recovery for customers can make customers get tangible compensation and then enhance the satisfaction degree. The impact of procedural fairness on customer satisfaction is reflected in that procedural fairness focuses on the customers' judgment of fairness in corporate decision-making and conflict resolution, reflecting the influences of fairness of service recovery response time, flexibility, and convenience level on consumers' satisfaction. If the provider can provide customers with timely and effective recovery services, customers' satisfaction will increase. For the study of interactive fairness and customers' satisfaction, Zeithaml (1988) proposed that the degree of care shown by service personnel was a key factor that influenced the customers' evaluation of service quality. When the service failed, if the level of service staff's empathy was high, customers' satisfaction would also increase. If the company showed respect and understanding to the customer, listened to the customers' opinions and complaints attentively, then the customers' evaluation and satisfaction would reach a relatively high level. In the case of online return, the interactive process between customers and online service providers is also important factors in the formation of service recovery result.

In summary, we can see that service recovery has a significant effect on customers' satisfaction, and customers will evaluate the remedial service through the perception of result fairness, procedural fairness, and interactive fairness. This thesis studies the relationship between return service recovery and purchase intention. It draws on Tax's service recovery model to introduce online perceived fairness variable into online return

service recovery and takes online perception fairness as one of the mediating variables to study the relationship between online return service recovery and customers' purchase intention.

2.5 Return service recovery quality

2.5.1 Service recovery quality in retail mode

When service problems emerge, sellers want to maintain customers' loyalty and satisfaction. In order to clarify the quality level of service recovery and customers' satisfaction, the enterprises need to measure the performance of service recovery. This process is the utility evaluation of service recovery. Oliver (1996) believed that service recovery was the same as secondary service. If there were problems with service recovery quality, customers' psychological dissatisfaction would be strengthened. If the service was of good quality, then the consumers' satisfaction, purchase intention and word-of-mouth publicity would be influenced positively. Hess and Mayhew (1997) argued that the quality of service recovery was the compensation content and degree for customers by service providers after service failure; it was the customers' compared quality level between recovery expectation and actual recovery.

Therefore, the quality of service recovery is actually a comparison concept, which is the concept of the comparison between the customers' actual acceptance of recovery service and service recovery expectation. In short, from the customers' point of view, the quality of service recovery is the contrast result between the implementation of service recovery and customers' expectations on it.

2.5.2 Service recovery quality in online retail mode

There are not many literatures about online quality of service recovery, so the study of it needs to combine with the definition of service recovery quality or service recovery. For example, by the definition of service recovery of Ni (2009), online service recovery quality

could be regarded as customers' comparison between recovery result and expectation in online shopping. Online service recovery quality was also customers' comparison and perception between expectations and the actual recovery services they received. Customers' comments on service were related to the expectation of service. Parasuraman and Grewal (2000) viewed the service recovery quality from responsiveness, compensation, and ease of contact. Chang, Zhu, and Zhang (2009) proposed another dimension of network service remediation quality: contact. Ma and Xia (2014) defined the service recovery quality as the quality of merchants' recovery perceived by consumers after encountering service problem. Jiang (2017) put forward that online return service recovery quality included response, compensation and connection.

To sum up, this thesis holds that the meaning of online service recovery quality as customers' difference perception between their expectation of online recovery service and actual online recovery service. For the dimensions of online service recovery quality, this thesis recognizes the division of Jiang (2017), which are response, compensation and connection. Among them, response refers to the efficiency of the merchant's handling of problems and returns; compensation means that the compensation provided by the merchant to meet the needs of the customer; the connection refers to the phone for handling the problem or the availability of website.

2.5.3 Relevant research on the return service recovery quality

Bitner (1991) suggested that if company recovery services were not proper, it would exacerbate customers' resentment, causing worse customers' status than that before. Zhao (2014) conducted the research on the influence of online purchase return cause in the relationship between service recovery quality and return, and she pointed out that when the customer encountered return experience, faster response, more compensation, more convenient return assistance would make customers more satisfied so that the likelihood of repurchasing or recommending with friends and relatives would be higher; otherwise, they would not generate repurchase intention and at the same time the word of mouth on the

service would be influenced. Based on the previous studies, the return service recovery quality will have an important impact on customers' satisfaction and repurchase intention, and it is of significant research value. This thesis will further integrate the expectation inconsistency model to further confirm the role of return service recovery quality in the relationship between return service recovery and consumers' purchase intention in online shopping.

2.5.4 Expectation inconsistency theory and return service recovery quality

Oliver (1981) proposed a model of expectation inconsistency, and the expectation inconsistency theory believed that customers' degree of satisfaction was customers' judgment on difference between the expectation of service quality and the actual service level. It meant that if the level of customers' perceived service was beyond the service expectation, customers would be satisfied; on the contrary, they would be not satisfied with the service. The model is shown in Figure 2-2.

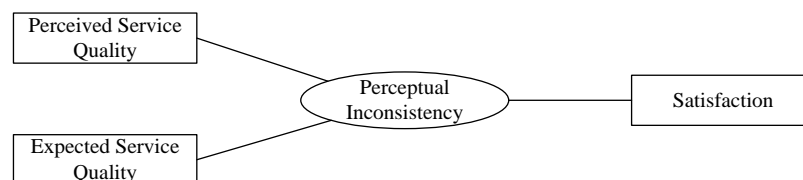


Figure 2-2 Expectation inconsistent model

Source: Oliver (1981)

Customers' perceived value should be considered from the point of view of gains and losses, that is, the customers' expectations of the product. McCollough, Michael, Leonard, and Manjit (2000) constructed a service recovery satisfaction model based on the expectation inconsistency theory, used the recovery gap as an intermediary variable, and used the gap between expectation and perceived quality to explain customers' satisfaction. For service recovery effectiveness, an important factor affecting consumers' satisfaction is the difference between the quality of service recovery expectation and the actual quality of the recovery (Zhao, Zhang, & Xu, 2009). In this study, the inconsistent expectation is the

difference between the expectation of the return service and the perceived quality of the recovery service after the return. In other words, the perceived service recovery quality resulted from inconsistent expectation will lead to new change to consumers. In the event of a return, the customers' perception of the return service recovery is more specific. Therefore, the application of the expectation inconsistency theory in the framework of the return service quality and perceived value is reasonable. This research intends to use return service recovery quality as another mediating variable between the return service recovery and perceived value, and to enrich the study on the relationship between return service recovery and purchase intention.

2.6 Perceived value

2.6.1 Perceived value

For the product, the value is reflected in whether the customer is satisfied. Nevertheless, the inside perceived values of customers for the same product are different due to individual differences. So, scholars use perceived value to explain why individual buys a product. Zeithaml (1988) put forward that perceived value was the customers' overall evaluation of the product, which was formed by the benefit and cost of product perceived by customers. If the reason for a purchase was not the satisfaction with the product, but was whether the product could bring the best value to the customer, then he would prefer the one that could achieve the optimal value. Therefore, perceived value and customers' value are different. Perceived value is a subjective feeling, which will change with the differences of customers, culture (Sheth, 1991) and time (Smith, Menon, & Sivakumar, 2005). Yuan (2013) believed that customers' perceived value was an impression and evaluation of the products and the companies meeting the consumer's specific needs when making consumption. Huang (2016) pointed out that customers' perceived value was an overall evaluation of the customer after balancing the cost with the perceived benefit. This study defines perceived value as the evaluation of the overall utility by comparison of customers' perception of loss and gain

2.6.2 The composition of consumer's perceived value

The researchers' views on perceived value are different. When Sheth and Venkatesan (1968) studied problems of perceived value, they proposed that customers generally had three choices before purchase: buy or not, buy which one, and buy from where. The customers' choice is influenced by the functional value, social value, emotional value, cognitive value and situational value. Sheth, Newman, and Gross (1991) put forward that situational value belonged to a temporary value form of social value or other values because it occurred in a specific situation while functional value was a lasting, stable attribute of product. Sweeney and Soutar (2001) expanded the research of Sheth et al. (1991), they studied durable goods, pointed out that the main cognitive value was associated with the individual's curiosity and product innovation, which would attract the customers who were eager to get different experiences through the use of new products. However, durable goods were different, and key points of durable goods were whether they could be used for a long time and how the quality was. Anderson, Jain, and Chintagunta (1992) and other scholars believed that value was equal to utility, and it was consumers' comparison between purchase cost and the utility, such as culture utility, service utility and economy utility. Parasuraman and Grewal (2000) put forward that perceived value was a kind of comparison between customers' psychological gain and loss, in a state of change, covering the gain, transaction, use and redemption. Sweeney and Soutar (2001) finally summarized the perceived value and divided it into product quality, product price, emotional value and social value. The quality and price of the product belonged to the functional value. On the whole, the functional value and emotional value of the product were important, but the role and status of the social value was also strengthened.

From the concept of perceived value, perceived value is customers' comparison between perceived gain and perceived cost. Therefore, perceived value is closely related with products or services. Generally speaking, customers' products own some uses, such as cultural use, social contact use and so on. On the other hand, the sellers' attitude and service will also trigger evaluation in customers' heart. Therefore, in common sense, customers'

perceived value cannot be separated from the value of product and service. However, given that customers' perceived value is in the state of change, customers' perceived value will also change with the product. So, the components of perceived value are not an invariable concept.

Take buying a phone as example, when customers choose to purchase online, their perceived value will be affected by the quality and function of a phone, such as product memory, standby time and function and so on. If, customers find out the quality of the phone is good by the product information or others' word of mouth, the perception of the function value of the phone would be improved. In addition, customers' perceived value is also embodied by the emotional or social value brought by products. For example, customers buy phones, not only to contact people, but also to improve pleasure in life. Besides, some phones may bring customers dignity. In this way, individual will feel more confident when use this phone so that some feeling will be satisfied, and that is the emotional benefit brought by the product. Therefore, the values of a phone are diversified, besides its function; it will also bring abstract value to individual. Generally speaking, the more advanced the product is, the product experience of customer is richer and the more satisfied the customer is.

In e-shopping, because of the non-reality of the scene, the customer cannot produce direct contact with the product. The cognition of the product mainly comes from the webpage or other people's description. The customers can use the communication method provided by the website to inquire the customer service staff about the product information, so as to sense the quality, effectiveness, service and other benefits. Therefore, the perceived benefits of customers shopping online have changed due to changes in the environment. The research of Bourdeau, Chebat, and Couturier (2002) on college students who use emails and related websites found that society value, utilitarianism value, entertainment value, learning value, and purchase value are the five major aspects of college students' perceived value when they shopped online. Liu (2005) divided customers' perceived value into three aspects which were utility value, entertainment value, and relationship value. Li (2015) put forward

that consumer perceived value in B2C mode consisted of two aspects, perceived profit and perceived loss. Perceived profit mainly included functional value of product or service, service value, network perceived value and social value; Perceived loss mainly referred to perceived risk.

Combined with the definition of perceived value and the characteristics of online shopping, the perceived value in this thesis is defined as the customer's subjective judgment for online product or service. Through layered analysis, this thesis believes that the online customers' perceived value should generally include four essential values: function, society, emotion, and relationship. However, because the subjective concepts not immutable, the composition of perceived value will also change with some factors.

2.6.3 The driving factors influencing online consumers' perceived value

Fornell and Wemerfelt (1987) demonstrated that perceived quality had a positive effect on perceived value. Hellier, Geursen, Carr, and Richard (2003) proposed that fairness would directly affect the customers' perceived value. Sun (2010) put forward that the impact of the quality of online comment content on the perceived value of online shopping customers could be achieved by acting on perceived risks. Li and Zhong (2013) put forward that for network consumers, perceived product quality, perceived website service quality, purchase cost and perceived risk would have a greater impact on perceived value of network consumers. Gao (2016) after verification proposed that online customer's service quality positively affected network perceived value.

For example, when a customer purchases a mobile phone online, he needs to consider the size, memory, camera, and function and so on of the mobile phone. Customers can get the information of such products through online shops and have a preliminary understanding of product models and brands. When looking for information, the customer compares the information of the product, checks whether the indicators of the mobile phone meet their own psychological expectations, whether the information of the online store is exhaustive, whether the product to be purchased is easy to find, whether the customer

service personnel can answer their questions in time, etc. These factors affect the customers' perception of interest and create new perceived values.

Therefore, in online shopping, the customers' perceived value will be affected by many factors such as product introduction, product quality, web page display, response ability of customer service personnel and so on. In the electronic market, virtual services appear to be more important. Timely and efficient services will reduce consumers' decision-making time and increase consumers' acceptance of the website; so that customers feel that the shopping website is more valuable.

Customers in online shopping will also experience another link after purchases, namely: logistics and after-sale service. This service is the guarantee for the final completion of online shopping. Logistics distribution is an important part of online shopping. It is an important prerequisite for customers to truly perceive products. If the product is not delivered to the customer, then the transaction is unfinished. If an online company cannot make the product reach the customer within the specified time, the previous efforts and work are not fully implemented. Therefore, when selecting products, customers must consider the logistics and after-sales services of the business. After-sales is not part of the transaction, but it plays a decisive role in whether the customer purchases. When the consumer receives the product, if he finds that the product is defective or needs to be repaired, the customer will face a very big dilemma and the relative cost will be greatly increased. So, the quality of the after-sales allows customers to buy with peace of mind and produces repurchase behavior. Therefore, distribution work in time and guarantee of after-sales can both promote customers' sense of interest; poor services will make customers feel they suffer losses and increase their risks. To be sure, logistics distribution and after-sales have a significant impact on customers' perceived value.

From the perspective of the purchase of products, customers need to pay for the products, but also need to invest time to understand the product information, to know the quality of e-commerce products and services. The e-commerce market is becoming increasingly saturated. There are also many manufacturers of the same type of products

involved in sales. Customers must spend a lot of time finding products that truly suit their mind among a wide range of products. Therefore, the money and effort that the customer pays are not only an important part of the purchase cost, but also has a huge impact on the perceived value of the customer. If the website information is all-embracing, consumers can easily find the demand information. The customer service personnel can answer the customers' doubts at the first time, then the customer's perceived risk can be effectively reduced, so that the perceived cost of the customer is greatly reduced, and the customers' perceived value is improved, thus firming the determination of customers to buy. Therefore, the scholar Parasuraman and Grewal (2000) proposed that even though the product was excellent and the price was reasonable, achieve sustainable development could not be achieved. He proposed that the service quality was like a trump card, which would not be easily copied by competitors, and the merchants' efforts to improve the service quality could enhance the customers' revenue, making it convenient for the customers to buy. The value of customer perception would increase, so that it could always be in the front rank in the competition.

From the perspective of perceived risk, before the purchase, the consequences of the customers' purchase decision are uncertain, but the negative consequences are certainly that the customer does not want to see, because it will make the customer unhappy. Therefore, the customers' perceived value is affected by this uncertainty, which is perceived risk. This type of risk is generally caused by the product, manufacturers, and services. The problem is that the product quality cannot be guaranteed, the manufacturer's reputation is not high, and the service attitude is not stable. In the transaction of market economy, the risk has its uncontrollable and universal characteristics. The purchase behavior of the customer must be accompanied by the corresponding risk. The perceived risk has become a psychological burden on the customer when purchasing, and this psychological burden brings the impact which even exceeds the price of the product itself sometimes. The change in the media platform has brought about a change in the form of purchase. The risk of customer online shopping is even higher than ever before. Scholars such as Forbes et al. (2005) proposed

that online shopping risk was the most significant factor in consumers' purchases. This was mainly due to the lack of mature market and legal mechanism guarantees for online transactions. In such a market environment, products could not be reviewed for the first time, purchase bills were seldom provided by sellers. It was easy to cause problem such as the theft of user's password information, sell of personal information, delayed delivery, and unsecured service, which would lead to the risk of customer in online shopping. Dong et al. (2005) conducted research on domestic online shopping risks and suggested that domestic risks were generally caused by the products and the merchants.

At present, online risks are still high, and the existence of risks prevents consumers from shopping at ease and even makes consumers turn to the common shops. Perceived risk is the core element of cost in online shopping.

In view of the above, product quality, merchant services, paid fees, and shopping risks all have a driving influence on the customers' perceived value. Products and services have two sides, transforming to perceived interests or increasing the cost burden. The increase in perceived benefits is often accompanied by a reduction in costs, and the merchants can make consumers both perceive benefits and feel fewer costs through some measures (Lapierre, 2000). Businesses can carry out some planning activities to create value, so that customers can perceive high quality products, powerful functions, and excellent services in the process of participation, and maintain a harmonious customer relationship, and the risk of customers can be reduced to the maximum, resulting in the highest perceived value.

2.6.4 Service recovery and perceived value

In the field of service recovery, the literature on the role of service quality and perceived fairness on satisfaction is relatively rich, but there is little research on the role of perceived value in service recovery. Wang and Jing (2005) introduced the customers' value to the field of service recovery under the framework of resource exchange theory and constructed the theoretical model of satisfactory service recovery based on the perceived value. The result proved that the customers' value was affected significantly by the service

failure and the impact of service recovery attributes, and the effect of perceived value on customers' satisfaction after recovery was also significant. The theoretical model of failure and customers' satisfaction after recovery service by Wang and Jing (2005) is shown in Figure 2-3 below.

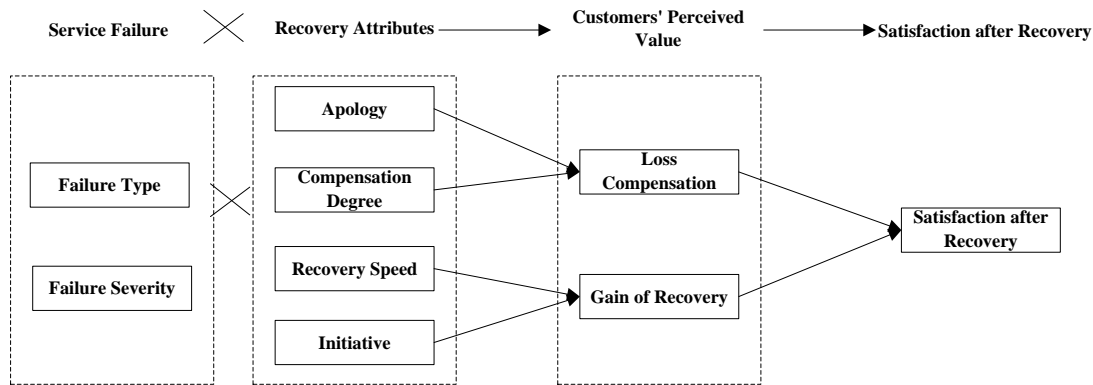


Figure 2-3 The integration model of customers' satisfaction after service failure and service recovery

Source: Wang and Jing (2005)

However, Wang and Jing's model did not consider the roles of other factors in the relationship between recovery attributes and customers' value, such as perceived risk, perceived fairness and return service recovery quality, this thesis puts customers' perceived value in the framework of online shopping service recovery, and studies the influence of return service recovery on perceived value and purchase intention with perceived risk, perceived fairness and return service recovery quality as moderating variables.

2.7 Theory of customers' participation

2.7.1 Meaning of customers' participation

Customers' participation is a key research issue in the marketing field. More and more customers create value with the company through self-service or cooperation with service providers. Marketing theory believes that the marketing market of an enterprise is divided into the internal market between the enterprise and the employee and the external market between the enterprise and the customer. The initial study of participation in service

marketing is on the employees' participation from the perspective of internal market. Customers' participation in the producing process of product and service is increasing day by day. For the definition of customer participation, scholars have different opinions and there is no unified definition.

Customer participation was originally transformed by the customers' contact concept proposed by Chase (1978). He judged the contact degree through the length of time spent by consumers. The higher the contact degree was, the more consumers could influence the final quality of service. With the further expansion of the research perspective, scholars have begun to extend the study of customers' participation into the field of psychology and behavior and look at customers' participation from an emotional and psychological perspective. Kelly, James, and Steven (1990) proposed that service consultation or a certain amount of effort were the form of customers' participation.

In summary, the definition of customers' participation has gone through research and development, and Customers' participation is not only behavioral participation but also psychological and emotional participation.

2.7.2 Dimensions of customers' participation

In order to study customers' participation in depth, scholars began to divide the dimensions. One-dimensional customers' participation in the initial state is oversimplified. The dimensionality of customers' participation is constantly changing and developing from a single dimension to multiple dimensions.

Customers' participation could be presented by the consumers' mental, physical and emotional efforts. Mental input referred to mental and psychological efforts; physical effort was physical effort; emotional effort referred to consumers' patience and friendliness in the face of service failure, which was customers' emotional or psychological input. Bettencourt (1997) proposed that customers had three types of voluntary performance behaviors: cooperation, information sharing, and loyalty. Currently, Ennew and Binks (2013) gained unanimous recognition by the dimensional classification of customers' participation in

traditional services: information sharing, responsible behavior, and interpersonal interaction.

(1) Information sharing: Information sharing meant that service providers and customers shared information with each other. Information sharing specifically referred to the customers' willingness to share information with companies and provide information for companies to understand their needs. The information provided by customers would help companies provide targeted services and products; (2) Responsibility behavior: Responsibility behavior was the relevant responsibility that the customer needed to perform. Customers' participation was evolved from the concept of employees' participation. Employees took responsibility for the role they played in customers' participation, and customers did the same. The responsibility behavior in customers' participation meant that the customers assumed the role of "employee" and bore the corresponding responsibility; (3) Interpersonal interaction: interpersonal interaction, namely, communication and cooperation between the two parties. Interpersonal interaction mainly referred to the interaction between customers and employees or service personnel. Interpersonal interaction included elements of relationship between people, including: trust, cooperation, commitment, loyalty, attitude, and so on. The low degree of customers' participation referred to that customers appeared in the situation, but all the work was handled by the employees of the company; the moderate degree of customers' participation meant that the customers provided some advice or information and cooperated with the company; the high degree of customers' participation referred to that customers participated in service or production with staffs of enterprise to create value together. Alison (2003) pointed out that customers' participation could be divided into three dimensions: perceived effort, work cognition and information search. Peng (2010) studied the field of beauty and hairdressing, and classified customers' participation as preliminary preparation, information communication, bilateral cooperation and interpersonal interaction. Among them, preparation was the preparatory work before the hairdressing; information communication was the interaction between the customer and the barber during the hairdressing; the cooperation between the two parties was the cooperating behavior of the customer during the haircut; the interpersonal interaction was the interaction

between the barber and the customer. In the numerous studies of customers' participation dimensions, Ennew and Binks (2013) divided the customers' dimensions with the common elements of service providers and customers. This was therefore widely recognized by scholars. At the same time, this division was also applicable to the network environment. In this thesis, we will also divide the dimensions of customers' participation in online shopping into information sharing, interpersonal interaction, and responsibility behavior according to the two scholars' method.

In summary, scholars tend to use information sharing, responsibility behavior, and interpersonal interaction as the dimensions of customers' participation, and its levels are divided into low participation of customers, moderate participation of customers, and high participation of customers. Different customers' participation methods and degree will influence on customers' satisfaction differently.

2.7.3 Related research on online customers' participation

The open and interactive nature of e-commerce brings convenience to customers' participation in the process of product and service delivery. Online shopping, online payment, and information search all require customers to participate.

Lovelock and Young (1979) proposed that if the information provided by the customer was insufficient or wrong, the service provider may not be able to timely provide the customer with the appropriate service. Lind and Tyler (1988) proposed that individuals could participate in the distribution of results, and they were more likely to perceive the fairness of the results. File, Judd, and Prince (1992) put forward that the merchant's return policy would be more effective and the possibility of adverse consequences would be reduced if consumers joined the return service process as much as possible. Kristof, Gaby, and Iacobucci (2001) put forward that the active participation of consumers could bring about two-way communication between merchants and customers as well as emotional improvement. Therefore, high-quality interpersonal interaction will enable consumers to have a higher sense of interactive fairness when receiving service recovery. Zhang (2010)

combined customer engagement and customer perceived value in the C2C model and conducted research and discussion. The empirical results showed that there was a significant positive correlation between customer participation and perceived value of online customers in the C2C online shopping environment. Hsing (2012) thought that whether the communication interaction was successful had important effect on transmitting information between enterprise and customer. Wang (2012) studied the relationship between online customer participation, network customer perceived value and online customer behavior intention in the context of C2C e-commerce. The empirical results showed that the two factors of customer participation had a significant positive impact on customer perceived value, and there was also a significant positive relationship between online customer participation and online customer behavior intention. Wang (2012) based on a large number of literature research and life practice observations, put forward that two factors influenced the customer's repeated purchase intention: customer participation and customer relationship quality. Ai (2016) proposed that there was a positive correlation between customer participation and online customer loyalty in the B2C online shopping scenario.

In the field of e-commerce, customers' participation has received increasing attention and it has influence on customers' behavior intention and repeated purchase intention (Wang, 2012). However, there is relatively little research on the customers' participation in the online service recovery process, and the attention of customers' participation in service failure is relatively low. Therefore, this thesis introduces customers' participation in the research of online return service recovery and purchase intention, and studies the role of customers' participation of information sharing, responsibility behavior, and interpersonal interaction in the relationship between return service recovery and perceived risk, perceived fairness, and other factors. It will further enrich and deepen the study of customers' participation.

2.8 Purchase intention

2.8.1 Online purchase intention

Behavioral intention is the necessary premise of behavior, playing a decisive role in individuals' behavior. Zeithaml (1988) believed that customers' willingness to buy was both positive and negative. If the customers' purchase intention was positive, it meant that the customer had a higher probability of choosing the product or service, and the relationship with the supplier would be improved. On the contrary, it meant that the customer was dissatisfied and the probability of purchase was small. Through the definition of intention by Fishbein and Ajzen (1975), the purchase intention could be defined as the probability of purchase decision made by individual. Dodds and Monroe (1985) interpreted purchase intention as the tendency for customer to purchase a product, which was a subjective judgment influenced by external factors. Ajzen (1991) believed that consumers' intention to buy could predict his purchase behavior.

In this thesis, it is believed that customers' purchase intention is the probability of purchasing product or service. The main difference between online purchase and offline purchase is that consumers obtain product information, and understand the enterprises and related services that provide goods through the shopping website when making purchases online. In the traditional shopping mode, the consumers understand the product through the introduction of the salesperson. Combined with the above discussion, this study believes that the willingness to purchase online refers to the subjective probability or possibility of consumers purchasing goods through the Internet.

2.8.2 Online repurchase intention

Repurchase intention is one of the important factors to measure customers' loyalty, and it is also an important psychological predictor to predict customers' repeated purchase behavior. Therefore, both traditional industry and network e-commerce pays great attention to the customers' repurchase intention. Zeithaml (1988) believed that the repurchase

intention was a tendency for consumers to reconsider their purchase behavior based on current situation. He thought that repurchases and active recommendations were two forms of positive repurchase intention. Li (2013) thought that the repurchase intention was that the consumer the e-commerce website was the first choice for consumers when they had the demand for products or services after the first successful transaction of this B2C e-commerce website. Liu (2017) defined the customers' repurchase intention in the B2C mode as the customers' intention or tendency of maintaining trading activities at the e-commerce site when they had this need again after the customers had a shopping experience on a particular e-commerce website.

This study puts forward that the online repurchase intention is the intention of the customers who have online shopping experience to continue cooperating with the internet service provider and buying products or service in the future.

2.8.3 Purchase intention and buyers' trust

2.8.3.1 Buyers' trust

Hunt and Morgan (1995) believed that trust was associated with reliability and honesty. Reagle (1996) defined credibility as the evaluation of the benefit of capital input, which was the judgment and evaluation given by the whole group. Doney and Cannon (1997) defined trust in buyer-seller relationships as a perception of trustworthiness and goodwill. McKnight (2001) argue that trust was individuals' confidence of the extent to which a trust object demonstrated goodwill, ability, integrity, and predictable behavior. Yang (2008) proposed that in an uncertain environment, people must establish a trust relationship to ensure the smooth progress of transaction. Trust is originally a concept in the field of psychology and it is developed and applied in the field of economics and e-commerce later. Because of the uncertainty in interpersonal communication, bilateral cooperation can be maintained through trust.

According to the above definition, trust in this study is a kind of psychological subjective judgment, referring to online customers' trust in the reliability of online shopping

platform, so trust can effectively reduce the risk of the customer and make customers generate purchase thoughts and actions.

2.8.3.2 Purchase intention and online buyers' trust

Scholar Chen (2001) thought that customers' online trust directly determined their willingness to provide information and their willingness to participate in the e-commerce platform. Pavlou (2007) showed that in the process of e-commerce transactions, trust had a positive correlation with the user's willingness to buy. The use of information platform enables consumers to fully share and communicate the information and usage of products. According to the researches in the information environment, customers would form their own judgment through the evaluation of others in order to reduce their perception of risk. Gefen (2000) found in the empirical research that the individual's "familiarity" and "trust" on the website had a significant positive impact on the website users' inquiries about the product information and the behavior of online purchases and online transactions and the influencing of trust was relatively larger. Lu and Xu (2007) through empirical research pointed out that consumers' trust in online stores had a positive intention to purchase.

To sum up, trust is an important factor in consumers' willingness to purchase and behavior, and has been generally accepted and confirmed by the academic community. In this study, buyers' trust will be taken as a moderating variable to study its role in the relationship between return service recovery and purchase intention.

2.8.4 Purchase intention and sellers' competitive perception

2.8.4.1 Meaning of sellers' competitive perception

Competitive behavior was defined in the traditional sense as "any externally-oriented, concrete, visible behavior that an enterprise took to improve its market position (Smith et al., 2005). Although companies in different industries had different competitive behaviors, these behaviors could be broadly classified into the following categories: price-related behaviors, marketing-related behaviors (e.g., advertising), new product-related behaviors (e.g., launching new products), service and operational related activities (e.g., establishing online

service channels, signal-related behaviors (e.g., donations) and legal-related behaviors (e.g., rights protection).

Xue and Guo (2012) put forward that E-commerce sellers faced two forms of competition, one is competition with physical stores, and the other was with other online sellers selling similar products. Li et al. (2014) thought the seller's competition reflected the management of the seller's resources by the platform enterprises. In the e-business market without standard and regulation, the sellers need to adopt advanced competitive means to attract customers and increase sales. For example, with the help of system platform, they can carry out timed promotions which will be seen by customers. Li (2015) thought that the seller's use of competitive measures was externally oriented, in order to attract potential consumers, and they competed with their competitors in highly competitive e-commerce platforms. Besides, these measures were specific and were visible to all participants on the e-commerce platform, including customers and other sellers.

In this thesis, the sellers' competition perception refers to consumers' comprehensive perception of online retailers' competition.

2.8.4.2 Purchase intention and sellers' competition perception

There are few researches on sellers' competitive perception, but it had been proved that the competition of sellers would influence customers' purchase online. For example, Li (2005) through the study of competitive behavior, signal and sales performance put forward that in a certain period of time, the seller's competitive strategy by adopting larger number of platform functions and the functions with higher complexity could help the seller gain a temporary competitive advantage in attracting consumers and persuading the buyer, so as to attract buyers and enhance their purchase intention. This thesis attempted to study the sellers' competition from the perspective of customer and take sellers' competitive perception as a moderating variable to deeply analyze its role in the relationship between return service recovery and customers' purchase intention.

2.9 Chapter summary

This chapter firstly conducts a preliminary analysis of basic research on service policy, service recovery, online perceived risk, and perceived fairness, return service recovery quality, perceived value, customers' participation, purchase intention, buyers' trust and sellers' competition perception. At the same time, the connotation and characteristics of these concepts in online shopping are defined. By the review and analysis of the related literatures, it is found that the previous researches have verified the importance of service recovery, perceived risk, buyers' trust, sellers' competition to purchase intention, but their role in the relationship between online return service recovery need to be further studied. Also, the effect of perceived value in the service recovery process is seldom considered and the role of online perceived fairness, return service recovery quality and customers' participation in the online service recovery need to be verified.

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Chapter 3: Model Building and Research Hypotheses

3.1 The idea of model building

By the review and analysis of the related literatures, it is found that the previous researches have verified the importance of service recovery, perceived risk, buyers' trust, sellers' competition to purchase intention, but their role in the relationship between online return service recovery need to be further studied. Also, the effect of perceived value in the service recovery process is seldom considered and the role of online perceived fairness, return service recovery quality and customers' participation in the online service recovery need to be verified.

First, Zeithaml (1988) conducted research in the field of psychology, and the empirical results showed that the more benefits the customer perceived after purchase, the stronger the perceived value was, and the higher the perceived value tended to bring about a good purchase intention. Eggert and Ulaga (2002) proposed that the necessary precondition for a customers' purchase was satisfaction in his mind, but the customer would not really produce the idea of buying until he felt the existence of value. In other words, the perceived value played a greater role than satisfaction in stimulating customers' purchase behavior. In online return service recovery, this study will further analyze the role of perceived value in this process.

Second, as service providers' recovery measures, whether return service recovery can make customers perceive value, it is necessary to study changes in customers' mentality, such as perceive risk and perceived fairness. The perceived risk is a kind of intangible payment. Perceived fairness has a good predictive and interpretive effect on customers' attitudes after service failure. Besides, due to inconsistent expectation, the customers' perception of service quality for return service recovery is deviated from the actual return service recovery, and it will bring new changes in perceived value to consumers. Therefore,

the quality of return service recovery should also be considered as an important variable that affects perceived value.

Third, if customers stay in silence when they encounter products that do not meet their expectations or have defectiveness, then it will be not conducive to the maintenance of healthy trading relationships. Therefore, this study adds customers' participation as a moderating variable, and handles the return problem through the common return service recovery of service providers and customers, and analyzes the impact of return service recovery on customers' perceived value from a more comprehensive perspective.

Fourth, buyers' trust and sellers' competition perception. Scholars have studied the influences of online buyers' trust and sellers' competition on purchase intention in the network (Reagle, 1996; Gefen, 2000; Li, 2005). However, in the service remedy, the role of buyers' trust and the sellers' competition perception are not considered. This study intends to study the moderating effect of these two factors on the relationship between return service recovery and purchase intention.

Through the above analysis, this thesis adopts the return service recovery, perceived risk, perceived fairness, returns service recovery quality and perceived value as antecedent causes of the result factor, purchase intention, and take customers' participation, buyers' trust and sellers' competition perception as moderating variable to study the interactions among various factors.

3.2 Theoretical model

3.2.1 Theoretical model building

Firstly, the contents to be verified are as follows:

- (1) Analyze the impact of return service recovery on purchase intention;
- (2) Since the recovery of return service involves buyers and sellers, and both sellers' competition and buyers' trust will have a certain impact on the purchase intention, this thesis

tries to introduce buyers' trust and sellers' competition perception as moderating variables and test the regulating effect of sellers' competition and buyers' trust on the process of return service recovery and purchase intention from the perspective of buyer-seller relationship;

(3) Analyze the degree of influence of return service recovery on perceived risk, perceived fairness, and return service recovery quality;

(4) Analyze the moderating role of customers' participation in the relationship between return service recovery and perceived risk, perceived fairness and so on;

(5) Research on the impact of perceived risk, perceived fairness, and return service quality on perceived value;

(6) Research on the relationship between perceived value and purchase intention and repurchase intention.

3.2.2 Description of variables

Based on previous research, the variables in this research model are described as follows:

(1) Online return service recovery is an antecedent variable, which includes return policy, apology, and initiative. The return policy refers to electronic retailers' system in terms of return period, return reason, and return freight and so on. The five dimensions of the return policy in this study are restrictiveness, timeliness, convenience, economy, and transparency of return information. Initiative mainly refers to whether the seller is active and proactive in resolving consumers' return. The apology is that when the return problem occurs, the merchant apologizes to the user through text or telephone (Fu, 2014; Wang, 2014; Cemal & Narcikara, 2016);

(2) Online customers' participation is a moderating variable which refers to the customers' participation in online service recovery after the return of a product. The dimensions are information sharing, responsibility behavior, and interpersonal interaction (Ennew & Binks, 2013);

(3) As a mediating variable, online perceived risk refers to a psychological prediction of the uncertain results and consequences of the shopping mode when customers prepare to shop online (Yu & Li, 2006; Yan, 2013);

(4) As a mediating variable, online perceived fairness referred to the fairness that customers perceive in the return policy and in the process that they participate. Online perceived fairness is divided into result fairness, procedural fairness and interactive fairness;

(5) As a mediating variable, the online return service recovery quality refers to the difference between the customers' expectation and the actual treatment of the return problem (Ma & Xia, 2014). It is used to evaluate the quality and performance of the return recovery;

(6) Online perceived value, the direct antecedent variable of purchase and repurchase intention, which is the evaluation of the overall utility of the return service recovery by comparison of customers' perception of loss and gain (Yuan, 2013; Huang, 2016);

(7) Online purchase intention, as a result variable, refers to the possibility that customers choose online products and the intention of developing high quality of relationship with the internet shop (Ajzen, 1991). In detail, it can be understood as the perceived result of the return service recovery provided by online providers. Purchase intention is an output variable affected by the online return service recovery, the perceived risk, the perceived fairness, the return service recovery quality, and the received value;

(8) Online repurchase intention, as a result variable, refers to the intention that customers continue to cooperate with the online providers and buy products or service after they experience the product and service (Li, 2013; Liu, 2017). Specifically, this refers to a result of return service recovery provided by online providers. Repurchase intention is an output variable that is affected by the online return service recovery, perceived risk, perceived fairness, return service recovery quality, and perceived value;

(9) Online buyers' trust, as a moderating variable, means that the customers believe in the platform and think that it is safe and reliable to purchase online (Reagle, 1996; Pavlou,

2007). So online buyers' trust can reduce their perceived risk and play an active role in purchase intention;

(10) Online sellers' competition perception, a moderating variable, refers to consumers' perception of the competition level of online retailers (Smith et al., 2005).

3.3 Research hypothesis

3.3.1 The hypotheses of the relationship between return service recovery and purchase intention in online shopping

In this study, the online return service recovery is divided into return policy (Posselt et al., 2008), initiative and apology. The return policy includes five dimensions: the restrictiveness, timeliness, convenience, economy of the return policy, and the transparency of the return information (Posselt et al., 2008; Shulman, 2010). The looseness of the return policy in this study is mainly the looseness of the restrictiveness, timeliness, convenience, economy, and transparency of the return information in the return policy. The loose return policy refers to the less restrictive conditions, rapid response time, convenient return service, less freight, transparent information etc.; strict return policy is the opposite.

(1) The relationship between return policy and consumers' purchase intention

Feng (2018) put forward that the online shopping service recovery was the sum of a series of salvation actions taken by network e-commerce in order to reduce the negative impact of service errors when service failure occurs. Bonifield et al. (2010) believed that a loose return policy was a signal feature of product quality that would reduce the perceived risk of consumers. This kind of policy is also a sign that the yield of a product is good that the customer will have a stronger sense of interest and become more likely to buy.

Restriction of return policy. The less restrictive conditions for online returns, the lower the consumer's cost of making failed decisions. Therefore, when customers make decisions, there will not be too much worry, and their willingness to buy will be relatively strong.

The timeliness of the return policy. The faster the network provider responds to the consumer's return request, the less time it takes for the customer to spend. So, customers' time is saved and their willingness to purchase will be increased.

The convenience of the return policy. For customers who have not purchased goods, the more convenient the return is, the higher the perceived benefit of consumers is and the higher the willingness of purchase is.

The economy of the return policy. Shulman et al. (2010) found that lower return fines could increase the initial utility for consumers to purchase goods, thereby increase consumers' willingness to buy. Maxham and Netemeyer (2002) analyzed consumers' data from online retailers and found that return cost which was undertaken by customers had a counter effect on consumers' purchases. In the return service recovery, if the online provider could undertake the cost of the return, the purchase intention of the consumers was relatively higher.

Return information transparency. Before purchasing goods, consumers can ask the sellers for return service information. The more detailed the service providers tell the customers about the return information through the website or the staffs, the more helpful it is for the customers to understand the return-related services. Transparent return policy information can save customers' purchase time and increase their willingness to purchase. Therefore, from the perspective of information transparency, the more transparent the return service information is, the less time it takes for consumers to make purchase decisions, thereby consumers' intention to buy will be increased.

(2) The relationship between initiative and consumers' purchase intention

Some scholars (Spreng, 1995; Wu, 2013) pointed out that proactive service recovery actions could increase customers' satisfaction so that they would trust the business more. If the merchant actively replies and explains to the customer for the negative comments on the website in a timely manner, and undertakes the responsibility for service failure, the degree of consumers' recognition of the merchant will be increased and further their willingness to

purchase will be increased..

(3) The relationship between apology and consumers' purchase intention

Generally, customer gains the product information through the online shop page, and the online comments which contain other customers' evaluation information about the shopping experience of products. Consumers are more sensitive to negative information than positive information. For negative online reviews, the common management feedback method is to use apology or explanation to reduce the negative impact of them. Yuan (2011) proposed that the merchant management feedback had a positive impact on sales volume and customers' satisfaction. Therefore, on the online shopping platform, online providers' apologize for negative comments are effective to increase consumers' purchase intention.

Thus, this thesis makes the following hypotheses:

H1a: The looseness of online shopping return policy for return service recovery in online shopping has a positive impact on consumers' purchase intention.

H1b: The initiative of online shopping return service recovery has a positive impact on consumers' purchase intention.

H1c: The apology of online shopping return service recovery has a positive impact on consumers' purchase intention.

3.3.2 The hypotheses of the effect of return service recovery on repurchase intention in online shopping

The customers' repurchasing intention is based on the previous shopping experience. Jones et al. (2000) proposed that the customers' repurchase intention was the intention of the customer to buy again after purchasing and using products and services, based on the feelings in the experience.

(1) The relationship between return policy and repurchase intention

The restriction of the return policy refers to the online provider's restriction on the return, which is mainly due to the fairness of the seller. From the signal theory point of view,

for the customer, generally speaking, the limited return of goods means that the company communicates high-quality signals to customers. The shorter the customers' purchase decision time is, the greater the possibility of repurchasing intention is. Kelly et al. (1990) proved that response time had a positive effect on customers' repurchases. For return, the shorter the time of the door-to-door delivery provided by merchants is, the shorter the processing time for the return cycle is, and the more likely it is that the user will repurchase it.

Service convenience of return policy could save customer' time and effort, and in turn affect customers' situation and behavior. Francken (1993) proposed that if customers were satisfied, they would have the idea of buying again. Yang and Zhuang (2014), through research on service convenience, consumers' sentiment and repurchase intention, confirmed the conclusion that service convenience had a positive effect on consumers' satisfaction. Therefore, the convenience of return is directly proportional to the repurchase intention.

For the adverse effects of service failure, tangible compensation can minimize its impact on customers (Kelly et al., 1990). There are various forms of tangible compensation, but what have been actually touched is the interests of consumers. The quality of compensation can have a significant impact on customers. If the online provider can provide freight insurance or freight, or provide discount vouchers to consumers as compensation, it can increase consumers' loyalty and increase their willingness to repurchase.

Roca et al. (2006) studied users' online continuous use willingness on the basis of expectation inconsistency theory and technology receiving models. The results showed that perceived usefulness, information quality, consistency affect users' satisfaction and thus influence their willingness to use continuously. On the other hand, from the perspective of network information asymmetry and information lag, if the online provider can promptly and explicitly inform the customer of the information related to the return request, the customers' control over the perceptual behavior will be higher, and thus the repurchase intention will increase.

(2) The relationship between initiative and repurchase intention

Hart et al. (1990) pointed out that service failure was just like the tip of the iceberg, and the impact it had was invisible. In the face of product problems or service problems, the customer may not actively express his dissatisfaction or complain. In this case, it is important for the service provider to actively understand the service mistakes that are troubling the customer. In the initial stage of consumers' complaints, the more actively the company carry out service recovery, the better the recovery effect is, and the higher the consumers' satisfaction and repurchase intention will be.

(3) Relationship between apology and repurchase intention

Smith and Bolton (1995) and other scholars put forward that apology was necessary. In general, when customers encounter service problems, they may feel uneasy and anxious. At this point, the company's attitude is very important. If the company expresses its sincere apologies to customers after a service failure, it can ease the customers' psychological anxiety and thus increase consumers' willingness to buy again.

H2a: The looseness of the return policy for online shopping return service recovery has a positive effect on consumers' repurchase intention.

H2b: The initiative of online shopping return service recovery has a positive influence on consumers' repurchase intention.

H2c: The Apology of online shopping return service online shopping has a positive impact on consumers' repurchase intention.

3.3.3 The hypotheses of the moderating effect of buyers' trust on the relationship between return service recovery and purchase intention in online shopping

Forbes et al. (2005) proposed that under the network environment, due to the asynchronous nature of transactions in terms of time and control, the risks taken by customers and companies were higher than those in traditional environments. Mcknight (2001) proposed that trust referred to the extent to which individuals showed their willingness to rely on others in general situations. Yang (2008) proposed that in an uncertain

environment, people must establish a trust relationship to ensure the smooth progress of transaction.

In the process of online shopping, because buyers and sellers are in non-contact transactions, customers are difficult to directly sense the products they purchase, so they must rely on product information to choose products, increase purchase awareness and reduce risks. In general, the information that customers can refer to is mainly the store's reputation evaluation and the price of the product. In e-commerce, the reputation of a merchant is a cumulative result of past customers' evaluation which has a binding effect on the speculation of the merchants and affects the level of buyers' trust.

When the buyers' trust level is low, even if the seller provides a loose return policy and actively apologizes, the consumer's willingness to buy is still low. Therefore, the following hypotheses are made:

H3a: The Buyers' trust in online shopping has a positive moderating effect on the relationship between return policy and purchase intention.

H3b: The Buyers' trust in online shopping has a positive moderating effect on the relationship between initiative and purchase intention.

H3c: The Buyers' trust in online shopping has a positive moderating effect on the relationship between apology and purchase intention.

3.3.4 The hypotheses of the moderating effect of buyers' trust on the relationship between return service recovery and repurchase intention in online shopping

Maxham and Netemeyer (2002) believed that the main purpose of service recovery was to retain customers. Scholar Chen (2001) thought that customers' online trust directly determined their willingness to provide information and their willingness to participate in the e-commerce platform. That is to say, the higher the customers' trust in the network was, the more willing they were to cooperate in the recovery of the return service; when the degree of buyers' trust was low, customers were unwilling to believe the sellers' initiative or

apology, and they would not actively cooperate with the sellers' return service, so the return service recovery had a negative impact on consumers' purchase intention. Therefore, the following hypotheses are made:

H4a: The Buyers' trust in online shopping has a positive moderating effect on the relationship between return policy and online repurchase intention.

H4b: The Buyers' trust in online shopping has a positive moderating effect on the relationship between initiative and network repurchase intention.

H4c: The Buyers' trust in online shopping has a positive moderating effect on the relationship between apology and online repurchase intention.

3.3.5 The hypotheses of the moderating effect of sellers' competition perception on the relationship between return service recovery and purchase intention in online shopping

Competition plays a central role in strategic planning and has become the focus of the research on strategy. However, most of researchers studied competition from the perspective of a company or manager. In this study, we look at the concept of competition from the perspective of the customer. We hold the following position: Customers' behavior to a company is likely to be different in a highly competitive environment compared with that in a lowly competitive environment. In other words, we believe that customers' perception of e-retailer competition will regulate their return level and purchase intention. We define the customers' perceived competition for e-retailers as a judgment of the level of competition. For example, more and more e-retailers sell the same or substitute goods. When customers' perceive low competition, customers may minimize the time spent searching information and evaluating shopping choices. On the contrary, when the perceived competition is high, customers are more likely to spend more time evaluating and changing the choices among many competitors. This is in line with the existing researches which put forward that competition strengthens customers' selectivity (Xue, et al., 2012). Customers are more willing to turn to these electronic retailers who provide good quality products, excellent

services and lower prices, and ignore electronic retailers that focus on return policies. They may also see that e-retailers focused on return service recovery as only minimal gimmicks, so the impact of return levels on customers' purchase intention may be reduced. In other words, the higher the sellers' level of competition, the less the service recovery will affect the customers' willingness to buy. Therefore, we put forward the following hypotheses:

H5a: The sellers' competition perception in online shopping has a negative regulatory role on the relationship between return policy and online purchase intention.

H5b: The sellers' competition perception in online shopping has a negative regulatory role on the relationship between initiative and online purchase intention.

H5c: The sellers' competition perception in online shopping has a negative regulatory effect on the relationship between apology and online purchase intention.

3.3.6 The hypotheses of the moderating effect of sellers' competition perception on the relationship between return service recovery and repurchase intention in online shopping

Competitiveness is the ability of merchants in the market to enhance their own capabilities and use external available energy to bring mutual benefits. Businesses have higher competitive capacity if they can provide more effective products or services than other companies. The service of the enterprise is an important aspect of the competitiveness of the enterprise. For return service recovery, it is an important aspect of network providers' competitiveness. Sellers' competition perception in this thesis refers to consumers' perception of the level of competition of online retailers. From the customers' point of view, when customers' perception of sellers' competition perception is higher, the competitors provide higher quality and more satisfying services to consumers, such as providing full refunds, door-to-door delivery services, etc (Li, et al., 2014). At this time, the cost of the customers' return is very low, and they may be more likely to turn to other online providers or return products maliciously (Hart et al., 1990). Then, the sellers' initiative and apology become meaningless. The impact of return service recovery on the customers' intention to

re-purchase online will be reduced.

H6a: The sellers' competition perception in online shopping has a negative moderating effect on the relationship between return policy and online repurchase intention.

H6b: The sellers' competition perception in online shopping has a negative moderating effect on the relationship initiative and online repurchase intention.

H6c: The sellers' competition perception in online shopping has a negative moderating effect on the relationship between apology and online repurchase intention.

3.3.7 The hypotheses of return service recovery and perceived risk

Most scholars defines perceived risk was the perceived uncertainty and adverse consequences of the customers 'purchase (Yu & Li, 2006; Yan, 2013).

(1) The relationship between return policy and perceived risk

Bonifield et al. (2010) believed that a loose return policy was a signal feature of product quality that would reduce the perceived risk of consumers. As consumers could simply return product, their worry before shopping could be reduced.

According to the research of Bonifield et al. (2010), high-quality enterprises would reduce the restriction on consumers' return in order to attract consumers, and he believed that loose return quality was a signal of higher quality of enterprise. The online provider sends high-quality signals to customers to improve consumers' trust in product quality, thereby reducing the degree of perceived risk.

When customers encounter product quality or problems, they often feel that they have suffered the risk of loss. For the customers' return request, if the network provider can respond quickly, it can effectively ease the customers' perception of the risk of loss.

Chuan (2010) thought convenience was that consumers believed access to the shopping site did not require effort. Li (2016) put forward that the convenience of fresh e-commerce products had a negative impact on consumers' perceived risk. For return policy, the more easily and convenient the return was, the lower customers' perceived risk would be.

The time-space separation of online shopping makes customer hardly know whether the product is good or bad and whether the product is the one they really want to buy before he receives it. If customer is dissatisfied with the product and wants to return it, he will have other problems, for example, refund. When customer returns products, both the merchant and the customer want to reduce their own costs, and if the seller assumes the cost of return logistics, the customers' loss concerns will be reduced. Therefore, the customer will feel comfortable to purchase the products. In addition, the merchant's commitment to returning the product will make it necessary for them to improve the quality of products or services. The merchants can take the form of freight insurance, transferring risks to third-party insurance companies at a lower cost to reduce consumers' freight costs.

Through the website or the customers' service staff, the online provider can inform the customer about the return service information in a timely manner, such as the specific requirements and the progress of the return, so that the customer can have more accurate expectations and reduce the risk perception.

(2) Relationship between service initiative and perceived risk

It is beneficial to improve the relationship quality with customers if online provider actively cares for and establishes contact with the customer. When the customer had a deep relationship with the company, the risk was low.

(3) Relationship between apology and perceived risk

Hua and Li (2011) proposed that in the long run, enterprises should assume responsibility and apologize; if enterprises were not willing to apologize or remain silent, it would lead to an increase in the perceived risk of future customers, which was not conducive to the long-term development of enterprises. Network providers need to apologize to customers in a timely and sincere manner when faced with customers' requests for returning products, especially product quality issues. When customers feel the sincerity of the business, the quality of the relationship with the business will be improved, and the perceived risk of return services is reduced.

Therefore, it can be inferred that:

H7a: The return policy looseness of online shopping service recovery has a negative impact on online consumers' perceived risk.

H7b: The initiative of online shopping return service recovery has a negative impact on online consumers' perceived risk.

H7c: The apology of online shopping return service recovery has a negative impact on online consumers' perceived risk.

3.3.8 The hypotheses of effect of return service recovery on perceived fairness

Effective return service recovery can restore customers' loyalty and satisfaction, making customers promote the positive reputation of merchants. However, return service recovery is a stimulus to the customer without reflection of the customers' psychological change. From the perspective of service recovery, perceived fairness is a good predictor of customers' attitude and behavioral intention after service failure. At present, the three dimensions of perceived fairness are result fairness, procedural fairness, and interactive fairness. Among them, result fairness is the fairness of the distribution, refers to the customers' judgment of the fairness of the exchange of resource, also the customers' perception of the material or tangible compensation provided by the enterprise. The types of compensation include compensation, discounts, free replacements, or coupons; the procedural fairness focuses on the customers' perception of fairness in service or resource allocation processes and methods and Clemmer (1993) divided it into flexibility, waiting time and efficiency; the interactive fairness refers to the customers' perception of fairness in the process of receiving service recovery. Goodwin and Ross (1992) pointed out that interactive factors include the courtesy of the service provider, willingness to listen to complaints, and honest acknowledgement of responsibility.

(1) Relationship between return policy and perceived fairness

The study of Rogers and Tibben (1999) showed that under the loose return policy, the

consumers' perceived fairness was higher. Wood (2001) found that consumers could change their choices under loose return policies and felt more equitable.

Restriction of return policy. The restriction of the return policy refers to the time limit of the return or the return conditions proposed by the seller, such as return product within 7 days or return product with no reason. The less the network provider's restriction on the return is, the higher degree of customers' perceived fairness is. This kind of return policy can bring customers higher perceived result fairness.

The timeliness of the return policy mainly refers to response time of refund and pick-up, and procedural fairness is the customers' judgment on the timeliness, responses, and interactivity of the return service process. Clemmer (1993) considered flexibility, waiting time or response speed, and efficiency as the judgment dimensions of the procedure. Therefore, when the online return occurs, the faster the network provider responds to the return request, the higher the customers' perception fairness of the procedure is; otherwise, the lower it is.

The convenience of the return policy is mainly about whether the return is convenient to save the customers' energy and time. Also from the perspective of procedural fairness, the less time customers spend on return, the more convenient the return is, and the higher the perceived fairness of the customers' procedures is; conversely, the degree of perceived procedural fairness is lower.

The economy of the return policy are mainly in terms of freight, refund and freight insurance and so on. The result fairness is the customers' perception of the result of the final distribution. In terms of return fees, if the online provider bears the freight and commits to full refund for the return, it may affect the customers' perception of fairness. The higher the return cost the merchant bears, the more fair that the customer feels about the distributive results; conversely, the degree of result fairness is lower.

The transparency of the return information refers to whether the information is clearly communicated to the customer. For online shopping websites, most websites will have

relevant instructions for return policies. Colquitt (2001) divided the interactive fairness into information fairness and interpersonal fairness. Information fairness refers to whether or not the messenger conveys information to the parties. Therefore, it can be inferred that the clearer the return information is, the higher the customers' interactive fairness is.

(2) The relationship between initiative and perceived fairness

After studying the different effects of various characteristics of service recovery, some scholars believed that recovery initiative may have different effects on interaction equity (Mattila & Cranage, 2005). When online stores initiatively inquire customers' satisfaction and provide proactive service remedy in time, customers will regard such efforts as positive and modest attitude of online stores, and believe that online stores are indeed considerate for customers. So the more actively the service provider cares about the customer, the higher the interactive fairness that customer perceives.

(3) Relationship between apology and perceived fairness

Apology for return is the apology to the customer complaining about the return or making a return request, it is a courtesy and concern of service providers for the customers who have experienced a bad service. Apology belongs to the interaction behavior and it will affect the interactive fairness. Smith et al. (2005) believed that companies could make a sincere apology for service failures to ease tensions between companies and customers, and improve interpersonal communication and information transfer level. Therefore, it can be inferred that the more honestly the service provider apologizes, the higher the interactive fairness that the customers perceive.

Based on the research of reasoning and related literatures, the Hypotheses predicted in this thesis are as follows:

H8a: The looseness of the return policy of online shopping return service recovery has a positive effect on the customers' perceived result fairness.

H8b: The looseness of the return policy of online shopping return service recovery has a positive effect on the customers' perceived procedural fairness.

H8c: The initiative of online shopping return service recovery has a positive impact on the customers' perceived interactive fairness.

H8d: The apology of online shopping return service recovery has a positive effect on the customers' perceived interactive fairness.

3.3.9 The hypotheses of effect of online return service recovery on return service recovery quality

The quality of network return service recovery is a comparative concept depending on the difference between the actual service recovery level and the expected service recovery level (Ma & Xia, 2014).

(1) The relationship between return policy and the return service recovery quality

Benfield's (2010) thought that the loose return quality was a higher quality of the company's signal, indicating that the company's products and services were of relatively higher quality. His study verified that the looser the return policy was, the higher the quality of return service was. The more restrictive the return policy was, the less consumers would feel compensated for themselves, and the less they felt about the quality of service.

Scholars, such as Bitner (1991), suggested that rapid service recovery could improve customers' evaluation of service recovery and overall quality. In other words, the shorter the response time of the merchants is, the more efficiently the problem is solved, and the higher the consumer's perception of quality is.

The convenience of the return policy is mainly about whether the return is convenient to save the customers' energy and time. From the perspective of saving time, the more convenient the return policy is, the more responsiveness the customer perceives from the merchant, and the higher the perceived level of service quality is.

The economy of the return policy is mainly reflected in whether the online provider bears the freight and provides freight insurance, and whether it is a full refund. When the online provider bears the freight, the consumer's compensatory perception will increase, and

the quality of the overall return service recovery will be higher.

In general, the more clearly the network provider informs the return information, the more effective the consumers will feel about the return processing service, the more responsive they are to their own appeal. Meantime, the customers' expectation of return will be accurate so that the perceived return service recovery quality is higher.

(2) Relationship between initiative and return service recovery quality

If the online provider can actively communicate with the customer after the return problem occurs and resolve the customers' anxiety and dissatisfaction, the customers' perception of contact with the network provider should be higher, and the connection established between the two parties will be stronger (Cha, 2006). Then the customers will think that the merchants will be more effective in dealing with return so as to perceive higher return service quality.

(3) Relationship between apology and return service recovery quality

If the network provider can apologize to the user for problems and actively remediate them, the likelihood that the business obtains the user's understanding will be greater. A polite and humble apology can improve the customer's evaluation of service contact after a service failure (Forbes et al., 2005). Thus, the customers will feel easier to communicate with the merchants and perceive higher return service recovery quality.

Therefore, based on the above inference, the Hypotheses proposed in this thesis are as follows:

H9a: Looseness of return policy of online shopping return service recovery has a positive effect on the return service recovery quality.

H9b: The initiative of online shopping return service recovery has a positive impact on the return service recovery quality.

H9c: Apology of online shopping return service recovery has a positive effect on the return service recovery quality.

3.3.10 The hypotheses of moderating effect of customers' participation on the relationship between return service recovery and perceived risk

Besides self-service, customers' participation is essential in any other form of service. For return services, the way in which customers participate has a certain degree of impact on customers and network providers. Due to the information asymmetry in the online shopping environment, the online providers cannot understand the customers' return request for the first time. Therefore, for online returns, whether online providers can satisfy customers is largely dependent on the customers' willingness and responsibility for providing information. Ennew and Binks (2013) division of customers' participation is applicable to the network environment. Based on this division, this thesis mainly divides the customers' participation in the online environment into information sharing, interpersonal interaction, and responsibility behavior.

(1) The moderating effect of information sharing between the return service recovery and perceived risk

Some scholars believed that customers' participation was closely related to perceived risk. Customers could use information search to eliminate perceived risk (Sheth & Venkatesan, 1968). When customers provided information to the enterprise, the enterprise could use the information to take relevant return policy, and customers would be more appreciative of the company's services so as to reduce the uncertainty and the degree of perceived risk. Based on the above discussion, it can be guessed that in the case of return service recovery, customers' information sharing can enhance the relationship between looseness of return policy and perceived risk.

(2) The moderating effect of responsibility behavior between the return service recovery and perceived risk

Responsibility behavior means that consumers play a certain role in return services and assume relevant responsibilities. In the return service recovery, responsible behavior refers to the customers' active participation in the return service process. File et al. (1992) put

forward that the merchant's return policy would be more effective and the possibility of adverse consequences would be reduced if consumers joined the return service process as much as possible.

(3) The moderating effect of interpersonal interaction between return service recovery and perceived risk

Hsing (2012) thought that whether the communication interaction was successful had important effect on transmitting information between enterprise and customer. Through interpersonal communication, consumers can establish and maintain a good interactive relationship with merchants. Good interpersonal activities help consumers understand the merchant's return policy information and recognize the service attitudes provided by merchants, thereby creating higher trust for merchants and reducing certainty.

Therefore, based on the above inference, the Hypotheses proposed in this thesis is as follows:

H10a: The information sharing of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.

H10b: The responsibility behavior of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.

H10c: The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.

H10d: The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the initiative and online perceived risk.

H10e: The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the apology and online

perceived risk.

3.3.11 The hypotheses of moderating effect of customers' participation on the relationship between return service recovery and perceived fairness

By participation, customers can share information with enterprise, take their responsibility, and timely connect with service provider to meet their demand.

(1) The moderating effect of information sharing on the relationship between return service recovery and perceived fairness

For return, the customer needs to inform the online provider of his product or service issues and the network provider should also inform the customer of the information he needs to know. Lovelock and Young (1979) proposed that if the information provided by the customer was insufficient or wrong, the service provider may not be able to timely provide the customer with the appropriate service. Then the consumer's perception of fairness would also be much lower. Ennew and Binks (2013) found that customers who actively shared information with service providers and developed good interpersonal relationships could help service providers understand customers' needs through high-quality interpersonal communication. Service providers could also provide customers with services that met their requirement and expectation.

(2) The moderating effect of responsibility behavior on the relationship between return service recovery and perceived fairness

In the process of online service recovery, consumers should perform their responsibilities, such as informing information to enterprises, and paying a certain amount of energy, emotion, time and other resources. Lind and Tyler (1988) proposed that individuals could participate in the distribution of results, and they were more likely to perceive the fairness of the results. If customers actively assume some of the roles in the return recovery service, they will be more aware of the online provider's return service, aware of the restrictions of the return and which products cannot be returned, that is, the restrictive conditions for the return. So they will get more accurate expectation for return

service. If the customer keeps silence or gives a bad comment directly when he receives a product with problem, the online provider will not be able to provide accurate recovery measures for the first time, and the customer will not be able to obtain a fair result.

(3) The moderating effect of interpersonal interaction on the relationship between return service recovery and perceived fairness

In the online service recovery process, customers need to actively maintain contact and interaction with network providers and at the same time feel network service providers' service level and their patience and concern for customers. Kristof et al. (2001) put forward that the active participation of consumers could bring about two-way communication between merchants and customers as well as emotional improvement. Therefore, high-quality interpersonal interaction will enable consumers to have a higher sense of interactive fairness when receiving service recovery.

Based on this, the relevant hypotheses are as follows:

H11a: The information sharing of customers' participation in online shopping has a positive moderating effect on the relationship between looseness of return policy and customers' perceived result fairness.

H11b: The responsibility behavior of customers' participation in online shopping has a positive moderating effect on the relationship between return policy and result fairness

H11c: The interpersonal interaction of customers' participation in online shopping has a positive moderating effect on the relationship between initiative and customers' perceived interactive fairness.

H11d: The interpersonal interaction of customers' participation in online shopping has a positive moderating effect on the relationship between apology and customers' perceived interactive fairness.

3.3.12 The hypotheses of moderating effect of customers' participation on the relationship between return service recovery and return service recovery quality

(1) The moderating effect of information sharing on the relationship between the return service recovery and the return service recovery quality

Information sharing is two-way. Consumers inform online stores of their needs, and the stores inform consumers of relevant return service information (Ennew and Binks, 2013). The online retailer informs the customer of the return information, and the customers will be clearer about the restrictive terms and return time. In addition, the customers inform the network providers of their own service needs and preferences. The network providers compensate for the customers' compensation needs based on the information provided by the customer, thus improving the customers' perception of the return service recovery quality

(2) The moderating effect of responsibility behavior on the relationship between the return service recovery and the return service recovery quality

Consumers need to perform their duties in the return process. If consumers can actively and truthfully communicate the reasons for return and demand information to the network provider and at the same time spend time completing the return work by cooperation with online provider, and then the online provider will effectively improve the efficiency and quality of service recovery.

(3) The moderating effect of interpersonal interaction on the relationship between the return service recovery and the return service recovery quality

Claycomb (2001) through empirical result proved that the higher customers' participation degree was, the higher the perceived quality was. If consumers can actively interact with network providers, treat network providers with courtesy and patience, inform their return requirements and evaluate their services, network providers will also maintain good service attitude to provide consumers with timely and effective services.

Therefore, this thesis infers the following hypotheses:

H12a: The Information sharing of customers' participation in online shopping has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality

H12b: The responsibility behavior of customers' participation in online shopping has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality.

H12c: The Interpersonal Interaction of customers' participation in online shopping has a positive moderating effect on the relationship between the initiative and return service recovery quality

H12d: The Interpersonal Interaction of customers' participation in online shopping has a positive moderating effect on the relationship between the apology and return service recovery quality

3.3.13 The hypotheses of the effect of perceived risk on perceived value

Product selection requires customers to consider all aspects of the product, which include the benefit brought by the functionality of the product, the service attitude and the retailers' commitment, etc., as well as the cost such as the pay expense, time, possible risk and adverse impacts. In the online environment, the problems of product quality, merchants' reliability and payment security become more and more obvious, giving the customers a great sense of risk. It can be said that perceived risk has a considerable effect on customers in online shopping. Wood (2001) proposed that the perceived value mainly came from the comparison of perceived benefits and perceived risks, while the latter was an important component of customers' perceived costs.

Perceived costs are the sum of risks and costs. Excessive perceived risks and costs will burden customers and reduce their willingness to purchase. Return service recovery is one of the main sources of consumers' perceived risk. Its effectiveness is related to the customers' perceived cost which will affect the size of the perceived risk. Perceived value is the customers' overall view and evaluation of each element of the purchase. Grewal et al.

(1998) proposed that when the customers' perceived profit level was higher than the cost, the corresponding perceived value would also increase. From this, it is inferred as follows:

H13: Perceived risks in online shopping have a negative impact on their perceived value.

3.3.14 The hypotheses of the effect of perceived fairness on perceived value

Goodwin and Ross (1992), through qualitative research, found that customers' perception of fairness and perceived value were positively correlated after service recovery was obtained. Hellier et al. (2003) proposed that fairness would directly affect the customers' perceived value. Yi (2009) adopted a survey method to conduct empirical research on eleven types of service industries, and proposed that the three variables of customers' result (distribution) fairness, process fairness, and interaction fairness in the normal service environment were all significantly related to affecting customers' perceived value.

In summary, this study believes that perceived fairness and perceived value in online shopping return service recovery have a certain positive correlation. Based on this, the following hypotheses are made:

H14a: The result fairness in online shopping has a positive impact on perceived value.

H14b: The procedural fairness in online shopping has a positive impact on perceived value.

H14c: The interactive fairness in online shopping has a positive impact on perceived value.

3.3.15 The hypotheses of the effect of return service recovery quality on perceived value

Zeithmal (1988) proposed that perceived value was the result of a customers' comparison of benefit and effort. The perceived value in this thesis is a comparison between the customers' benefit of the purchased product or service and the cost they lose. An

important aspect of the customers' benefit is perceived quality. Therefore, if consumers can achieve higher perceived return service recovery quality in the given situation, the perceived value will increase. Fornell and Wemerfelt (1987) demonstrated that perceived quality had a positive effect on perceived value. Li (2011) studied the service failure of e-commerce companies and the results of the study proved that there was a correlation between the quality of service recovery and consumers' perceived value. Therefore, the Hypothesis as follows:

H15: The recovery services quality has a positive impact on the perceived value in online shopping.

3.3.16 The hypotheses of the relationship between perceived value and purchase intention

Dodds and Monroe(1985) verified the relationship between perceived value and purchase intention through a model. Zeithaml (1988) combined with customers' psychology and pointed out that the higher the perceived benefit of a customers' product or service was, the greater the perceived value was, and the higher the customers' willingness to purchase was. Based on the above research, this thesis gives the following hypothesis:

H16: The perceived value of online shopping has a positive impact on customers' purchase intention.

3.3.17 The hypotheses of the relationship between perceived value and repurchase intention

Parasuraman and Grewal (2000) believed that perceived value was an important method of predicting repurchase intention. Wu et al. (2014) discussed the relationship between perceived value, transaction costs, and repurchase intention from the point of view of relational trading, and proposed that perceived value, information search cost, moral risk cost, and specific asset investment had positive impact on online consumers' repurchase intention.

Based on this, the inference is as follows:

H17: The perceived value of online shopping has a positive influence on repurchase intention.

Based on the above hypotheses, the conceptual model was shown in Figure 3-1.

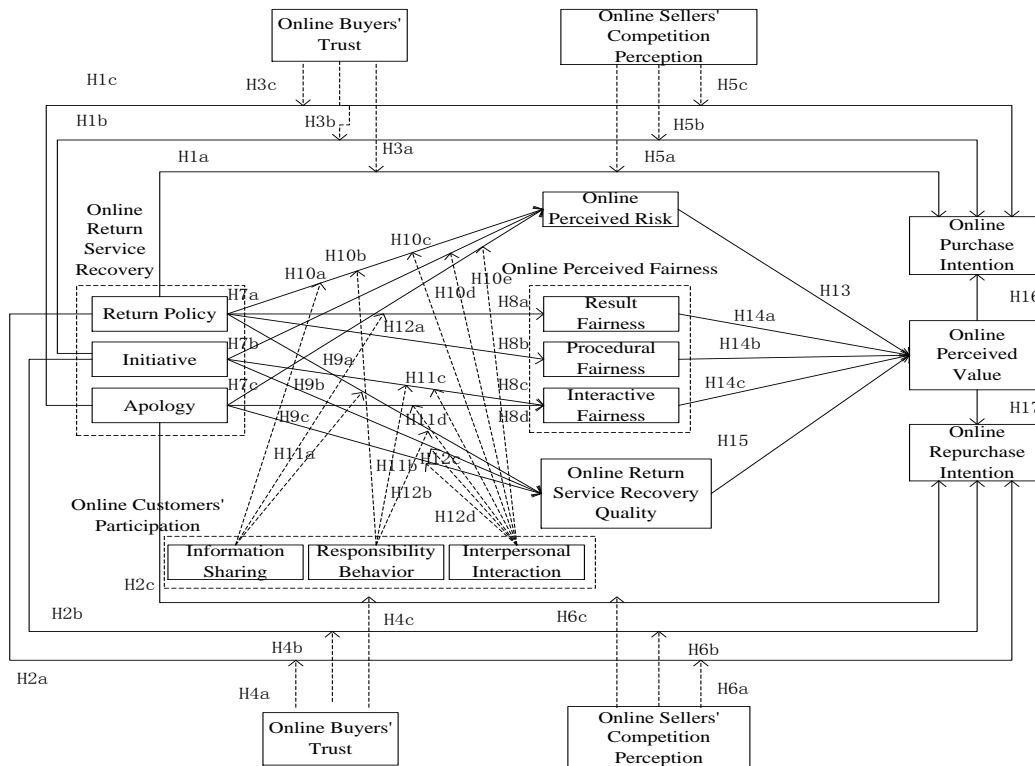


Figure 3-1 The conceptual model of this thesis

In online shopping, summary of Hypotheses and Supporters are shown in the Table 3-1

Table 3-1 Summary of Hypotheses and Supporters

Hypothesis	Correlation	Supporters
H1a:	The looseness of return policy has a positive impact on consumers' purchase intention.	Bonifield et al. (2010); Shulman et al. (2010); Feng (2018)
H1b:	The initiative has a positive impact on consumers' purchase intention.	Spreng,1995; Wu,2013

Table 3-1 Summary of Hypotheses and Supporters (Continued)

Hypothesis	Correlation	Supporters
H1c:	The apology has a positive impact on consumers' purchase intention.	Yuan (2011)
H2a:	The online looseness of the return policy has a positive effect on consumers' repurchase intention.	Kelly et al. (1990); Yang and Zhuang (2014); Roca et al. (2006);
H2b:	The initiative has a positive influence on consumers' repurchase intention.	Hart et al. (1990)
H2c:	The apology has a positive impact on consumers' repurchase intention.	Smith and Bolton (1995)
H3a:	The buyers' trust has a positive moderating effect on the relationship between return policy and purchase intention.	Forbes et al.(2005); Mcknight (2001)
H3b:	The online Buyers' trust has a positive moderating effect on the relationship between initiative and purchase intention.	Yang(2008)
H3c:	The buyers' trust in online shopping has a positive moderating effect on the relationship between apology and purchase intention.	Yang(2008)
H4a:	The buyers' trust has a positive moderating effect on the relationship between return policies and repurchases intention.	
H4b:	The buyers' trust has a positive moderating effect on the relationship between initiatives and repurchases intention.	
H4c:	The buyers' trust has a positive moderating effect on the relationship between apologies and repurchases intention.	Chen(2001)
H5a:	The sellers' competition perception has a negative regulatory role on the relationship between return policy and online purchase intention.	

Table 3-1 Summary of Hypotheses and Supporters (Continued)

Hypothesis	Correlation	Supporters
H5b:	The sellers' competition perception has a negative regulatory role on the relationship between initiative and purchase intention.	
H5c:	The sellers' competition perception has a negative regulatory effect on the relationship between apology and purchase intention.	
H6a:	The sellers' competition perception has a negative moderating effect on the relationship between return policies and online repurchases intention.	Li, et al., (2014); Hart et al.(1990)
H6b:	The sellers' competition perception has a negative moderating effect on the relationship initiative and online repurchases intention.	
H6c:	The sellers' competition perception has a negative moderating effect on the relationship between apologies and repurchases intention.	
H7a:	The return policy looseness has a negative impact on perceived risk.	
H7b:	The initiative has a negative impact on perceived risk.	Bonifield et al. (2010);Chuan (2010); Li(2016)
H7c:	The apology has a negative impact on online perceived risk.	Hua and Li(2011)
H8a:	The return policy looseness has a positive effect on perceived result fairness.	Rogers and Tibben(1999)
H8b:	The return policy looseness has a positive effect on the perceived procedural fairness.	Clemmer (1993)
H8c:	The initiative has a positive impact on the perceived interactive fairness.	Mattila and Cranage(2005)

Table 3-1 Summary of Hypotheses and Supporters (Continued)

Hypothesis	Correlation	Supporters
H8d:	The apology has a positive effect on the perceived interactive fairness.	Smith and Bolton (1999)
H9a:	Looseness of return policy has a positive effect on the return service recovery quality.	Bitner(1991);Bonifield et al. (2010)
H9b:	The initiative has a positive impact on the return service recovery quality.	Cha(2006)
H9c:	Apology has a positive effect on the return service recovery quality.	Forbes et al.(2005)
H10a:	The information sharing has a positive moderating effect on the relationship between the looseness of return policy and perceived risk.	
H10b:	The responsibility behavior has a positive moderating effect on the relationship between return policy looseness and perceived risk.	
H10c:	The interpersonal interaction has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.	Sheth and Venkatesan (1968)
H10d:	The interpersonal interaction in the online has a positive moderating effect on the relationship between the initiative and perceived risk.	File et al.(1992) Hsing(2012)
H10e:	The interpersonal interaction in the online shopping has a positive moderating effect on the relationship between the apology and perceived risk.	
H11a:	The information sharing has a positive moderating effect on the relationship between return policy looseness and result fairness.	Lovelock and Young (1979); Ennew and Binks (2013); Lind and Tyler (1988); Kristof et al. (2001)
H11b:	The responsibility behavior has a positive moderating effect on the relationship between initiative and perceived interactive fairness.	

Table 3-1 Summary of Hypotheses and Supporters (Continued)

Hypothesis	Correlation	Supporters
H11c:	The interpersonal interaction has a positive moderating effect on the relationship between initiative and perceived interactive fairness.	
H11d:	The interpersonal interaction of has a positive moderating effect on the relationship between apology and perceived interactive fairness.	
H12a:	The information sharing has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality	Ennew and Binks(2013); Claycomb(2001)
H12b:	The responsibility behavior has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality	
H12c:	The interpersonal interaction has a positive moderating effect on the relationship between the initiative and return service recovery quality	
H12d:	The interpersonal interaction of has a positive moderating effect on the relationship between the apology and return service recovery quality	
H13:	Perceived risks in online shopping have a negative impact on their perceived value.	Grewal et al. (1998)
H14a:	The result fairness has a positive impact on perceived value.	Hellier et al. (2003); Yi (2009)
H14b:	The procedural fairness in online shopping has a positive impact on perceived value.	
H14c:	The interactive fairness in online shopping has a positive impact on perceived value.	
H15:	The recovery services quality has a positive impact on the perceived value.	Fornell and Wemerfelt (1987);Li (2011)

Table 3-1 Summary of Hypotheses and Supporters (Continued)

Hypothesis	Correlation	Supporters
H16:	The perceived value has a positive impact on customers' purchase intention.	Dodds and Monroe(1985) , Zeithaml(1988)
H17:	The perceived value has a positive influence on repurchase intention.	Wu et al. (2014)

3.4 Chapter summary

Based on the theories of service recovery, customers' perceived value, and perceived fairness, this chapter discusses the impact of online shopping return service recovery on purchase/repurchase intention, refines the analysis of impact of return service recovery on perceived risk, perceived fairness, return service recovery quality and the impact of perceived risk, perceived fairness and return service recovery quality on perceived value which is the direct antecedent variable of purchase intention, to build a theoretical model of return service recovery and purchase intention and repurchase intention in online shopping. Based on this, it introduces the theory of customers' participation, discusses the moderating role of customers' participation in the return service recovery, perceived risk, perceived fairness, and the return service recovery quality, and puts forward relevant hypotheses, making full theoretical work for the study on the factors that influence on purchase intention under the perspective of service recovery.

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Chapter 4: Research Design

This chapter draws on the classic scales studied by previous researchers and incorporates the e-commerce characteristics to create measurement items related to the factors in the theoretical model and design questionnaires. In the previous section, the existing research was systematically sorted and summarized, but the research on the return service recovery scale cannot fully reflect the current status of China's current return policy. Besides, in order to better understand the return service remedy and purchase intention in the network environment, it is necessary to directly contact with e-commerce buyers to obtain the most realistic research materials. Therefore, based on the analysis of domestic and foreign literatures and return policies of several representative shopping website in China, this study has obtained a perceptual understanding of the components of consumer perceived service recovery, drafted an interview outline, organized focus group interviews and experts' in-depth interviews. This study conducted, in a first methodological step, qualitative and exploratory research among consumers to ensure the integrity of the design of the measurement items. The insights from this exploratory research method are very important to build the questionnaire for the next quantitative research step of collecting and analyzing data in a large sample.

The selection principle of interviewees is the consumers who have rich shopping experience on the shopping website. Through focus group interviews, through group discussion and exchange of ideas, we guide you to propose the service remediation attributes that buyers are concerned about when facing e-commerce shopping mistakes. And compared with the previous literature results, to summarize and analyze the specific measurement items of the return service remedy in online shopping. The author has developed an interview outline based on the main measurement items summarized in the above scale. The moderator and the interviewee pre-arranged the time to conduct an interview in a room that will not be disturbed. There are three main aspects of the interview:

1. Explain why you are willing to make purchases through the Internet; 2. exploring the rationality of the items involved in the above scale, and asking the reasons why the respondents think that the items are unreasonable; Talk about the most impressive service remedy experience. The author conducted a focus group interview with consumers who had shopped in the online store. A total of 25 people, a group of 5 people, 25 people gender, age, education level, online shopping experience, etc. should be representative, interviews, the core is the impact of return service remediation on purchase intention. The samples description of focus groups are show in appendix 1. To complement the focus group analysis with consumers, the author conducted an in-depth interview with two experts who are professors engaged in e-commerce teaching and research. The interview results showed that the responses of the two respondents did not exceed the scope of the open-ended answer discussion. The analysis of qualitative data generally uses traditional content analysis (Zhang, 2016). According to the steps of the content analysis method, this study first encodes the data, and then uses the word-based method and the concept group analysis method in the content analysis method to analyze the qualitative questionnaire. The results of the content analysis are shown in the Table 4-1. 'A' in the table represents the source of the literature (return service recovery scale based on traditional and e-commerce environments); 'B' represents the source of the focus interview group and the experts deep interview.

After the qualitative research addressed to experts and the focus interview group, the questionnaire is more identified. Then a pre-test analysis was done to remove unnecessary options. Finally, questionnaires are sent out and the data collection, as explained below in this chapter.

Table 4-1 Content Analysis of Online Return Service Recovery

Code	Item	Dimension	Facet	Source
1	This online store has a very long return period for products	Restriction	Return Policy	B
2	This online store has no requirements for returned products			A and B
3	This store refunds very quickly			B
4	The speed of pick-up of this online store is very fast.			B
5	The return service of this store is very convenient			B
6	This online store is fully refundable for returned products in any case.			A and B
7	This online store bears the freight of return in any case.		A and B	
8	This online store provides freight insurance		A and B	
9	The return policy of this online store is very clear		B	
10	I am very familiar with the return policy of online store		B	
11	The staff of the online store proactively contacts me to help me solve the return problem.		Initiative	A and B
12	The staff of the online store apologize sincerely to me for the returned products		Apology	A and B

4.1 Measurement of variables

This thesis intends to use sports and leisure clothing for young people as the product applied to analyze the model of this research. The questionnaire measure the ten constructs of the conceptual model. Designing items for relevant variables require that the topics be concise and easy are to understand, so that the respondents can easily answer questions.

4.1.1 Measurement of return service recovery

The return policy is taking as a part of the service recovery, and apology and initiative aspects are added to return service recovery. Referring to the previous research of the return service recovery and the current e-commerce return policy, this thesis divides the return service recovery into: return policy, initiative, and apology. Among them, the looseness of the return policy is mainly judged by the restriction, timeliness, and convenience, economy and return information transparency of it. Based on the above analysis, this thesis draws on the mature scales of Bonifield et al. (2010), and others to work out the service remediation measurement items. Twelve items are designed, as shown in Table 4-2 below.

Table 4-2 Items and reference sources of the return service recovery

Variable	Code	Measurement Item	Reference Source
Return Service Recovery		Return Policy	Power(2013);
		Restriction of Return Policy	Bonifield et al.(2010);
	RSR1	This online store has a very long return period for products	Che(1996);
	RSR2	This online store has no requirements for returned products	Colquitt (2001)
		Timeliness of Return Policy	
	RSR3	This store refunds very quickly	
	RSR4	The speed of pick-up of this online store is very fast.	
		The convenience of Return Policy	
	RSR5	The return service of this store is very convenient	
		Economy of Return Policy	
	RSR6	This online store is fully refundable for returned products in any case.	
	RSR7	This online store bears the freight of return in any case.	
RSR8	This online store provides freight insurance		
	Return Information Transparency of Return Policy		
RSR9	The return policy of this online store is very clear		

Table 4-2 Items and reference sources of the return service recovery (Continued)

Variable	Code	Measurement Item	Reference Source
	RSR10	I am very familiar with the return policy of online store	
		Initiative	
	RSR11	The staff of the online store proactively contacts me to help me solve the return problem.	
		Apology	
	RSR12	The staff of the online store apologize sincerely to me for the reasons for the returned products	

4.1.2 Measurement of customers' participation

Cermak et al. (1994) believed that customers' participation was a deterministic behavior and was the customers' effort and input of mental, intellectual, physical and emotional aspects. The three dimensions of information sharing, responsibility behavior and interpersonal interaction of Ennew and Binks (2013), and summarizes the three dimensions of customers' participation in service recovery under the online shopping environment as responsibility behavior, interpersonal interaction and information sharing.

Table 4-3 Measurement items and reference sources of customer participation

Variable	Code	Measurement Item	Reference Source
Customers' Participation		Information Sharing	Ennew and Binks (2013); Claycomb et al. (2001); Bettencourt (1997)
	CP1	When I receive a product with problem or the product cannot meet my expectations, I will inform the online store	
	CP2	I let the store understand how to better meet my needs	
	CP3	I give advice to the online store to improve their return service level	
		Responsibility	

Table 4-3 Measurement items and reference sources of customer participation (Continued)

Variable	Code	Measurement Item	Reference Source
	CP4	I try my best to cooperate with the online store's return process to facilitate the return process	
	CP5	I think that customers should participate in the return process with online store	
	CP6	I am willing to pay for my own time or other resources in cooperation with the implementation of the online store's return policy	
		Interpersonal Interaction	
	CP7	In the process of the return, I actively communicate and discuss with the online store service personnel.	
	CP8	I have a very friendly and polite attitude towards online store service staff	
	CP9	I express gratitude or dissatisfaction with the patient service of the online store service staff	
	CP10	When the store staff is working well or not, I will praise or complain about them	

This thesis uses the mature measurement scales of Ennew and Binks (2013) and the characteristics of Taobao.com. From the aspects of information sharing, responsible behavior, and interpersonal interaction, the analysis of consumer participation is conducted. Ten items are designed, as shown in Table 4-3 above.

4.1.3 Measurement of perceived risk

Perceived risk is customers' subjective judgment of unfavorable situations such as product defects, information leakage, and service insecurity that may arise in online shopping. Bauer (1967) is the first scholar to study perceived risks. He pointed out that when customers were purchasing products, they could not accurately predict the possible outcomes. The purchased products may not satisfy themselves, so they generated

uncertainty and further formed risks perception. Considering that customers would be aware of perceived risks and think that they needed to bear such risks. The existence of risks would often have a negative effect on their purchases. Cox and Rich (1964) proposed that customers would also develop a perception of risk when they could not predict whether the purchased products would achieve their goals.

Table 4-4 Measurement items and reference sources of perceived risk

Variable	Code	Measurement Item	Reference Source
Perceived Risk	PR1	Do you think that online shopping has a higher probability of buying fake products?	Wood and Sheer (1996)
	PR2	Purchase at this store, it is more likely to buy fakes	
	PR3	You are concerned the product And the product in the advertisement are inconsistent	
	PR4	You may worry that the product is not suitable	
	PR5	Purchase at this store, the possibility of poor after-sales service is high	

According to the research of scholars, when designing measurement items for perceived risk, this thesis refers to the scales of Wood and Sheer(1996), as well as combines the characteristics of Taobao.com to measure the perceived risks. Detailed measurement items are shown in Table 4-4.

4.1.4 Measurement of perceived fairness

The measuring dimension of perceived fairness plays a role of mediating variables in this study. According to the classification of perceived fairness by scholars such as Tax and Brown (1998), the dimensions of perceived fairness mainly include: result fairness, procedural fairness, and interactive fairness.

The result fairness is also called distribution fairness. Distribution fairness was a perceived fairness attitude of tangible remedial results.

Table 4-5 Measurement items and reference sources of perceived fairness

Variable	Code	Measurement Item	Reference Source
Perceived Fairness		Result Fairness	Tax(1993);
	PJ1	I think the return result is fair	Smith and
	PJ2	By solving the return problem, the online store has satisfied my return demand	Bolton(1999)
	PJ3	The return brings me a loss, and the store's actions make up for my loss.	
		Procedural Fairness	
	PJ4	The service program of this store is very reasonable	
	PJ5	The time to resolve returns is rapid	
	PJ6	The store has a fair set of policy measures to deal with the problems	
	PJ7	The store's handling of returns shows a lot of flexibility	
	PJ8	The online store gives me a chance to explain the problem	
		Interactive Fairness	
	PJ9	The service staff of the online store actively communicate with me to solve the return problem	
	PJ10	The service staff of the online store are very patient with my questions	
PJ11	The service staff of the online store explain my problem		
PJ12	The service staff of the online store apologize for the inconvenience		
PJ13	The service staff of the online store is very friendly to me.		

Smith and Bolton (1999) proposed that degree of procedural fairness was the customers' fair perception of service providers' decision-making, procedure, and service level. In return service recovery, procedural fairness is the customers' perception of the company's service recovery standards and procedures, including the perception of compensation policies, the efficiency of handling problems, the responsiveness of recovery processes, and flexibility.

Interaction fairness is the customers' perception of the company's ways and communication, such as whether the staff has patience, politeness, initiative to solve problems, etc. The customers' perception of fair treatment in this thesis is studied from the influence of the merchants' information informing, apologize and initiative on interactive fairness.

In this thesis, when designing the items of perceived fairness measurement, it draws on the mature measurement scales of Tax (1993) and other scholars and combines with the characteristics of Taobao.com, to create the fourteen problem items such as PJ2, PJ3, etc. from the result fairness, procedural fairness, and interactive fairness. See Table 4-5 for details.

4.1.5 Measurement of return service recovery quality

Table 4-6 Measurement items and reference sources of return service recovery quality

Variable	Code	Measurement Item	Reference Source
Return Service Recovery Quality	RSQ1	The online store service staff can quickly resolve consumers' return problem	Jun and Yang (2002);
	RSQ2	The service staff of the store will not ignore my request due to busyness	Parasuraman et al. (2005)
	RSQ3	The store offers convenient return options	
	RSQ4	The online store has handled the return well	
	RSQ5	The online store offers meaningful guarantees	
	RSQ6	This online store provides me with compensation for problems that occurred	
	RSQ7	When I return, the merchant arranges the pick-up of the returned goods	
	RSQ8	The store provides a contact phone, which is easy to find	
	RSQ9	Online store has available service customer staff online	

The difference between the customers' actual expected processing and actual processing of the return service is the quality of return service recovery, which is used to evaluate the

quality and performance of the return policy. That is, the return recovery quality is the customers' actual perceived return service level. For the measurement of the return recovery quality, this thesis draws on the measurement scales of Jun and Yang (2002) and Parasuranman et al. (2005) for measurement items design. See Table 4-6 for details.

4.1.6 Measurement of perceived value

Perceived value is customers' comparative evaluation of the gain and loss of the product. According to the division of researchers' dimensions, this study refers to the scales developed by Bourdeau et al. (2002) and other scholars, and designs the three items from dimensions of the functional value, emotional value and social value. Details are shown in Table 4-7 below.

Table 4-7 Measurement items and reference sources of perceived value

Variable	Code	Measurement Item	Reference Source
Perceived Value	PVF1	It is very interesting to buy goods at this store	Bourdeau et al. (2002)
	PVF2	Using the store's products will help you build a good image	
	PVF3	Using the store's products can improve your social recognition	

4.1.7 Measurement of online purchase intention

The customers' intention is customers' subjective possibilities of shopping on online platform and maintaining the relationship with that platform. With the generation of purchase intention, customers will choose to consult and consider the related information and generate awareness and preferences for products. Generally, scholars believed that the purchase intention was consistent with the purchase behavior, so the purchase intention had a predictive effect on the purchase behavior. The purchase intention of the customer will lead to a purchase decision, which in turn will trigger the purchase behavior. Otherwise, the probability of generating purchase behavior is low. In summary, this thesis refers to the scale of Petrick (2002) and creates four items. Details are shown in Table 4-8 below.

Table 4-8 Measurement items and reference sources of purchase intention (pi4 is deleted)

Variable	Code	Measurement Item	Reference Source
Purchase Intention	PI1	When you buy a product, the probability of choosing the product at this store is higher	Petrick (2002)
	PI2	When someone asks for your opinion about buying a product, you will recommend him to buy it at this store	
	PI3	You are always willing to shop at this store	

4.1.8 Measurement of repurchase intention

This thesis refers to the scale of Tax (1993) and Calmer (1993) and creates 3 items,. Details are shown in Table 4-9 below.

Table 4-9 Measurement items and reference sources of repurchase intention

Variable	Code	Measurement Item	Reference Source
Repurchase Intention	RI1	If I want to purchase this product online later, I will also visit this store	Tax (1993); Calmer (1993)
	RI2	I will first consider this store when purchase products next time	
	RI3	I will increase the number of purchases at this store	

4.1.9 Measurement of buyers' trust

Table 4-10 Measurement items and reference sources of buyers' trust

Variable	Code	Measurement Item	Reference Source
Buyers' Trust	BT1	The merchant's credit rating is credible	Wang (2013)
	BT2	You trust the store's promise guarantee	
	BT3	You believe that the store is in the best interest of customers	
	BT4	You believe that the store will use your information properly	
	BT5	The store issues a policy to protect the privacy of customers' information	

This study designs scales from the perspectives of environmental trust, trader trust, and

middle trust. See Table 4-10 for details.

4.1.10 Measurement of sellers' competition

Sellers' competition refers to consumers' perception of the level of competition of online retailers. The following items are proposed and the details are in Table 4-11 below.

Table 4-11 Measurement items and reference sources of sellers' competition

Variable	Code	Measurement Item	Reference Source
Sellers' Competition	SC1	You can buy alternatives to the products at more online stores	Zhi Pei(2013)
	SC2	You can buy the same products at more online stores	
	SC3	You can buy products with lower prices and better quality at more online stores	

4.2 Questionnaire design

For the sake of truly and truthfully presenting research questions, the design of the questionnaire must not deviate from the research topic. This thesis first analyzes the relationship between return service recovery and consumers' purchase intention and repurchases intention, analyzes the moderating role of buyers' trust, sellers' competition in the relationship between return service recovery and purchase intention. At the same time, it starts from return service recovery, perceived risk, perceived fairness and return service recovery quality, with customers' participation as moderating variable to study the influence of these factors on perceived value and purchase intention and so on. Based on the theoretical model of this thesis, the questionnaire needs to include ten parts which are return service recovery, perceived fairness, return service recovery quality, and perceived value and so on. The questionnaire structure consists of descriptions, body content, and personal information.

Considering the popularity and breadth of the current use of the Likert 5-grade scale in research, this thesis also adopts this method to measure variables, divides the response into

7 levels from disagree to strongly agree, and assigns certain score to the relevant answer. The size of the score reflects the degree of recognition. The detailed questionnaire contents are shown in table in Appendix 1.

The biggest difficulty in conducting questionnaires is that respondents do not take questionnaires seriously and are unwilling to choose real ideas, which lead to worrying data quality and inability to deduce objective conclusions. With this in mind, in order to ensure the reliability of the data, this thesis will use test statements to examine the quality of the questionnaire and set the synonymy and antisense test basis to evaluate the collected questionnaires. If the respondent's response is inconsistent, it means that he is randomly filling in the questionnaire and the questionnaire is invalid. On the contrary, if the answers are consistent, it shows that the respondent's attitude is serious and the questionnaire is valuable. The topics of the questionnaires are arranged from short answer to complicated ones so that the respondents have the patience to answer questions. In addition, it should be noted that the questionnaires need to be concise, overly complicated and too many questions will make the interviewees lose the patience to participate in the survey, so it needs to control the number of items as well as the time to fill.

4.3 Pre-test of questionnaire

The purpose of the questionnaire pre-test is to examine the reliability and validity of the questionnaire, to improve or modify the questionnaire through the respondents' feedback, to abandon the ambiguous and unreliable questions and generate a reasonable questionnaire so that the empirical analysis can be effective and objective. Pre-test questionnaires were distributed on campus of University of Electronic Science and Technology of China in a face-to-face way from December 10, 2016 to December 17, 2016. Researchers distributed questionnaires to students or teachers passing by on a university campus. Related respondents would be asked about their feelings about the items after completing the questionnaire. In this pre-test, ninety copies were collected. Four of the questionnaires were judged to be invalid because the respondents had not experienced online shopping, and

eight of them were invalid because they were not answered seriously. Of these, seventy-eight questionnaires were reasonable and valid. The recovery rate was 87%.

4.3.1 Descriptive statistics of pre-test samples

Table 4-12 Descriptive statistical analysis of the pre-test sample

Classification		Quantity	Percentage Occupied%
Gender	Male	36	46.2
	Female	42	53.8
Age	Under the age of 23	3	3.8
	24-30	70	89.7
	31-35	3	3.8
	36-40	1	1.3
	More than 40	1	1.3
	Internet Age	Less than 1 year	0
	1 year to 3 years	0	0
	3 years to 5 years	30	38.5
	5 years to 10 years	40	51.3
	More than 10 years	8	10.2
Education	High school and below	0	0
	High school and below	0	0
	Junior college	0	0
	High school and below	0	0
	Bachelor	70	89.7
	Master's degree	7	9.0

Table 4-12 Descriptive statistical analysis of the pre-test sample (Continued)

	Classification	Quantity	Percentage Occupied%
	Doctoral degree and above	1	1.3
	2000 Yuan and below	76	97.4
Average	2001-3000 Yuan	0	0
Monthly	3001-4000 Yuan	0	0
Disposable	4001-5000 Yuan	2	2.6
Amount	More than 5001 Yuan	0	0

Table 4-12 shows the descriptive statistics of the sample for this study. According to the table, the profile of the tested person is a person of 24-30 years old, with an income of 2000 yuan or less and mostly having undergraduate or master degree.

4.3.2 Reliability analysis of each variable

Reliability is used to measure the same object with the same strategy, verifying whether the results are consistent. The Cronbach's α coefficient is used for the measurement of intrinsic consistency, and the external consistency is mainly reflected in the test-retest reliability coefficient. This study is mainly to measure the intrinsic consistency of the problem, namely Cronbach's α coefficient, and verify whether questions reflect the same content. In general, if a Cronbach's α coefficient is greater than 0.7, it indicates that the intrinsic consistency is high. When it is less than 0.7 with the total correlation coefficient lower than 0.35, if the overall Cronbach's α coefficient increases after deleting this item, then remove it. This thesis uses SPSS 19.0 to analyze the reliability of each variable. The specific test results are shown in Table 4-13 to Table 4-22.

(1) Corrected Item-Total Correlation and reliability of return service recovery

(2) Corrected Item-Total Correlation and reliability of customers' participation

Table 4-13 The CITC and reliability of return service recovery

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Return Service Recovery	RSR1	0.543	0.750	0.768
	RSR2	0.627	0.620	
	RSR3	0.658	0.541	
	RSR4	0.609	0.520	
	RSR5	0.641	0.724	
	RSR6	0.587	0.540	
	RSR7	0.574	0.612	
	RSR8	0.621	0.390	
	RSR9	0.653	0.420	
	RSR10	0.642	0.361	
	RSR11	0.633	0.663	
	RSR12	0.628	0.387	

Table 4-14 The CITC and reliability of customers' participation

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Customers' Participation	CP1	0.581	0.782	0.815
	CP2	0.682	0.758	
	CP3	0.750	0.741	
	CP4	0.678	0.752	
	CP5	0.626	0.815	
	CP6	0.582	0.725	
	CP7	0.641	0.803	
	CP8	0.725	0.745	
	CP9	0.632	0.728	
	CP10	0.570	0.762	

From Table 4-14, it can be seen that the measurement items of the customers' participation do not meet the deletion criteria and are therefore all retained.

(3) Corrected Item-Total Correlation and Reliability of perceived risk.

Table 4-15 shows that among the five measurement items in this section, the CITC complies with the standard, but the deletion of the fifth measurement item increases the overall reliability of the scale, which increases the Cronbach's α of the scale from 0.804 to 0.816. After pre-testing, the number of items that measure perceived risk has been reduced from five to four.

Table 4-15 The CITC and reliability of perceived risk

Variable	Measurement Item	CITC	Cronbach' α If Item Deleted	Cronbach' α Based on Standardized Items
Perceived Risk	PR1	0.623	0.756	0.804
	PR2	0.620	0.757	
	PR3	0.631	0.754	
	PR4	0.651	0.748	
	PR5	0.437	0.816	

(4) Corrected Item-Total Correlation and reliability of perceived fairness

Table 4-16 The CITC and reliability of perceived fairness

Variable	Measurement Item	CITC	Cronbach' α If Item Deleted	Cronbach' α Based on Standardized Items
Perceived Fairness	PJ1	0.425	0.715	0.742
	PJ2	0.629	0.526	
	PJ3	0.598	0.570	
	PJ4	0.621	0.625	

Table 4-16 The CITC and reliability of perceived fairness (Continued)

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
	PJ5	0.514	0.710	
	PJ6	0.531	0.535	
	PJ7	0.625	0.614	
	PJ8	0.588	0.546	
	PJ9	0.424	0.624	
	PJ10	0.512	0.714	
	PJ11	0.621	0.629	
	PJ12	0.634	0.575	
	PJ13	0.641	0.632	
	PJ14	0.622	0.590	

(5) Corrected Item-Total Correlation and reliability of return service recovery quality

Table 4-17 The CITC and reliability of return service recovery quality

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Return Service Recovery Quality	RSQ1	0.458	0.812	
	RSQ2	0.659	0.803	
	RSQ3	0.580	0.812	0.849
	RSQ4	0.652	0.842	
	RSQ5	0.574	0.835	
	RSQ6	0.623	0.826	
	RSQ7	0.654	0.841	
	RSQ8	0.541	0.809	
	RSQ9	0.635	0.846	

Table 4-17 shows that the items are reasonable and they are remained.

(6) Corrected Item-Total Correlation and reliability of perceived value

Table 4-18 shows that the items of perceived value are reasonable, so they are remained.

Table 4-18 The CITC and reliability of perceived value

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Perceived Value	PVF1	0.414	0.720	0.725
	PVF2	0.639	0.521	
	PVF3	0.599	0.569	

(7) Corrected Item-Total Correlation and Reliability of Online Purchase Intention

Table 4-19 shows that the items of online purchase intention are reasonable, so they are remained.

Table 4-19 The CITC and reliability of online purchase intention

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Online Purchase Intention	PI1	0.698	0.819	0.857
	PI2	0.740	0.802	
	PI3	0.724	0.809	

(8) Corrected Item-Total Correlation and reliability of online repurchase intention

Table 4-20 shows that the items of online repurchase intention are reasonable, so they are remained

Table 4-20 The CITC and reliability of online repurchase intention

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Online Repurchase Intention	RI1	0.687	0.815	0.845
	RI2	0.725	0.824	
	RI3	0.623	0.823	

(9) Corrected Item-Total Correlation and reliability of buyers' trust

Table 4-21 The CITC and reliability of buyers' trust

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Buyers' Trust	BT1	0.580	0.796	0.821
	BT2	0.683	0.767	
	BT3	0.740	0.748	
	BT4	0.606	0.789	
	BT5	0.472	0.826	

After pre-testing, the fifth item has been reduced as the deletion increases the Cronbach'α value of the scale from 0.821 to 0.826.

(10) Corrected Item-Total Correlation and reliability of sellers' competition

As can be seen from Table 4-21, among the five measurement items of sellers' competition, the CITC complies with the standard, but the deletion of the third measurement item can increase the overall reliability of the scale, and increase the Cronbach'α value of the scale from 0.706 to 0.744. After pre-testing, the number of items measuring the sellers' competition has been reduced from five to two.

Table 4-22 The CITC and reliability of sellers' competition

Variable	Measurement Item	CITC	Cronbach'α If Item Deleted	Cronbach'α Based on Standardized Items
Sellers' Competition	SC1	0.537	0.599	0.706
	SC2	0.632	0.478	
	SC3	0.414	0.744	

4.4 Data collection and sorting

Considering that this thesis uses sports and leisure clothing for young people as the product applied to analyze the model of this research and young people prefer online shopping, the questionnaire is aimed at young people such as college students and faculty

members. College students gather in colleges and universities to learn cultural knowledge together. They also have many similarities in their lifestyles, such as pursuing freedom, innovation, and self-confidence. Therefore, they have formed a common clothing consumption culture feature like sports and leisure clothing (Zheng, 2013). In addition, this study takes the users of Taobao and JD.com as respondents. In view of the accuracy of the questionnaire, this thesis requires that the respondents should have participated in the shopping platform and purchased the products. The users' information part of the questionnaire refers to CNNIC's feature report for online users, and it is modified as needed. The user's personal information covers gender, age, education, work, and the average monthly disposable amount. The reason to choose the disposable amount to reflect economic aspect is mainly based on the consideration of the students as respondents who tend to choose the sports and leisure clothing. Also, they are in the learning stage, if income is used to reflect the consumption, then most of the students' monthly income is likely to be zero. For respondents who have already taken part in the work, considering that they may need to repay the mortgage or other circumstances, monthly income cannot objectively reflect his consumption. Therefore, this thesis adopts the monthly disposable amount, which can objectively and accurately represent the actual consumption level of respondents. There are two types of questionnaires issued: small sample checks and large sample surveys. The previous survey was mainly conducted through distribution in campus, and the target audience was students and teachers. In the later survey, for the sake of efficiency of data collection, this study used questionnaire star site to publish questionnaires.

Questionnaires were distributed online. The survey was conducted from January 20, 2017 to January 31, 2017. A total of 300 questionnaires were collected on the questionnaire star site. Seven questionnaires filled by the respondents with no online shopping experience were excluded. The number of the final valid questionnaires was 293. The effective rate of the questionnaire was 97.7%.

4.5 Data analysis method

This thesis uses the measurement method to analyze and process the data filled in the questionnaire, the specific methods are as follows:

(1) Descriptive statistical analysis: The personal information in this questionnaire mainly includes gender, age, education level, average monthly disposable amount, etc. This method is used to analyze the total number of samples, gender ratio, average age group, etc., and to describe the characteristics and the distribution of the sample (Hou, 2014).

(2) Reliability analysis: This method is used to test the internal consistency of the items. The same problem, if the answer is close, shows that the consistency is high; otherwise, it indicates that the item needs to be reconsidered, and it does not have the required degree of reliability (Zhang & Tian, 2007). Cronbach's α coefficient is a commonly used internal consistency test method. If the value is higher than 0.7, it indicates that the table has a high degree of reliability; if the value falls between 0.5 and 0.7, it indicates that the reliability is medium and relatively strong; if the value is less than 0.5, the scale does not have relevant reliability and cannot be used for formal research. It is necessary to consider redesigning or removing related items.

(3) The validity analysis refers to whether the description of the items in the scale can clearly describe the content that the items intend to measure. This method is used to detect whether the measurement result of the measurement tool is accurate or not. It consists of content validity and structure validity. Content validity ensures the validity of the content mainly through subjective judgments. This study examines a large number of domestic and foreign authoritative literatures, draws on existing maturity scales, and modifies them to ensure content validity and consistency with our experimental context. Structure validity represents the extent to which the research Hypotheses can be demonstrated by the measurement tool. Simply speaking, it is the consistent degree of the measured result by measurement method with the definition proposed in this study. Structure validity includes the convergence validity and the discriminate validity: The former is the consistency of

results when using different strategies to measure single variables; the latter reflects the difference between variables and their dimensions. The criterion of convergence validity is: factor load should not be less than 0.5, significant level ($p < 0.05$ or $p < 0.001$); combinational reliability value should not be less than 0.7; the squared deviation extracted value should be at least greater than 0.5.

(4) Structural equation model analysis: This method is a very typical quantitative statistical method, which is often used in the field of behavioral research and social research. This method combines factor analysis and regression analysis on the basis of traditional multivariate statistical analysis methods to determine, estimate and verify the causal models (Xin, et al., 2014). This thesis uses this method to test the theoretical model and conduct a fitting test on the hypothetical model.

4.6 Chapter summary

This chapter covers measurement of variables, questionnaire design, and pre-test of questionnaire, data collection, and statistical analysis. First, measure variable design. Based on the previous studies, and the specific items of factors such as return service recovery, perceived fairness, customers' trust, and customers' participation were made in this study. Then, the questionnaire was generated and interviews with experts and consumers were carried out to improve the questionnaire. After the pretest, unnecessary options were removed and questionnaires that could be popularized were conducted. Finally, questionnaires were sent out and collected, and data collection work was done. The conditions for object of the questionnaire survey were limited to the people who had a certain amount of network experience, and had ever purchased on Taobao (C2C) or Jingdong (B2C). The data collection methods of this study consider two types: on-site questionnaire distribution and on-line question and answer. Among them, the previous pretest mainly was conducted in the University campus by distributing questionnaires. The later questionnaire was conducted in the method of online question and answer in consideration of efficiency.

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Chapter 5: Data Analysis

At present, there are mainly two kinds of data analysis algorithms: Maximum Likelihood Estimate and Partial Least Squares Method (Hu & Guo, 2015). Considering that the limitation of the least square method on the size and residual distribution of samples is small, we decide to use partial least squares method and verify the rationality of the model with SmartPLS.

The verification process includes: using SPSS 20.0 to conduct descriptive statistics of data; adopting SmartPLS 2.0 to carry out structural equation modeling analysis: reliability validity analysis and path analysis.

5.1 Descriptive statistical analysis

A total of 300 people participated in the experiment. The effective questionnaire was 283, and the recovery rate was 97.7%.

Table 5-1 shows the basic statistics of all participants. Among them, the proportion of men and women participating in the questionnaire is basically balanced, and the network age is mainly concentrated on more than one year, which can guarantee that the respondent has experience in returning goods or understands the return policy.

The proportion of educators who are above the junior college level is 96.6%, ensuring that the participants participating in the survey have better comprehension skills and can better understand the questionnaire questions and answer them more accurately.

Table 5-1 Statistical table

Classification		Quantity	Percentage Occupied%
Gender	Male	118	40.3
	Female	175	59.7
Age	Under the age of 23	202	68.9
	24-30	29	9.9
	31-35	31	10.6
	36-40	21	7.2
	More than 40	10	3.4
	Internet Age of respondents	Less than 1 year	31
	1 year to 3 years	85	29.0
	3 years to 5 years	76	25.9
	5 years to 10 years	62	21.2
	More than 10 years	39	13.3
Education	High school and below	10	3.4
	Junior college	199	67.9
	Bachelor	53	18.1
	Master's degree	29	9.9
	Doctoral degree and above	2	0.7
Average Monthly Disposable Amount	2000 Yuan and below	191	65.2
	2001-3000 Yuan	30	10.2
	3001-4000 Yuan	18	6.1
	4001-5000 Yuan	18	6.1
	More than 5001 Yuan	36	12.3

5.2 Reliability analysis

The meaning of reliability is to use the same strategy to measure the stability of the

same object at different time periods. Cronbach's alpha is now the best measurement method for the Likert scale. Cronbach's alpha is mainly used to see if the items are consistent. In this thesis, all variables are first tested with SmartPLS 2.0, and specific test records are shown in Table 5-2 below.

Table 5-2 Reliability test of measurement model

Variable	Dimension	Cronbach's α	Number of Items
Return Service Recovery		0.767	12
	Return Policy	0.762	10
	Initiative	0.781	1
	Apology	0.758	1
Customers' Participation		0.818	10
	Information Sharing	0.815	3
	Interpersonal Interaction	0.814	3
	Responsibility Behavior	0.825	4
Perceived Risk		0.816	5
Perceived Fairness		0.825	14
	Result Fairness	0.817	3
	Procedural Fairness	0.804	5
	Interactive Fairness	0.821	6
Return Service Recovery Quality	Return Service	0.854	9
Perceived Value	Perceived Value	0.723	3
	Interactive Fairness	0.821	6
Purchase Intention	Purchase Intention	0.847	3

Table 5-2 Reliability test of measurement model (Continued)

Variable	Dimension	Cronbach's α	Number of Items
Repurchase Intention	Repurchase Intention	0.852	3
Buyers' Trust	Buyers' Trust	0.826	5
Sellers' Competition	Sellers' Competition	0.745	3

As can be seen from the table, the Cronbach's alpha values for all variables of this study are all not less than 0.6. According to academic research regulations (Qu, Ma, and Luo, 2015), it is within a reasonable range that Cronbach's α is higher than 0.6. Cronbach's α value is directly proportional to the consistency of the measurement object. Therefore, the reliability of measurement variables in this thesis can fully meet the needs of the research.

5.3 Validity analysis

The higher the validity is, the more the data results reflect the true content of the variables. At present, the main validity verification methods are the convergence validity and the discriminate validity. The former is used for the connection of internal indicators of variables; the latter is used to view the differences of variables. For the test of convergence validity, the study applies a more general method in empirical research. Firstly, the factor load of the variable item was checked. Scholars (Sun & Liu, 2008) generally believed that the factor load must be higher than 0.5; in addition, for the analysis of the combination reliability, the value needs to be higher than 0.7; thirdly, Average variation extraction was maintained, that was, the AVE value needed to be higher than 0.5. The test of the convergence validity of this study is shown below. The table shows that the each FL in the list is high than 0.6, each CR is higher than 0.7, and each AVE is higher than 0.5, indicating that variables in the list have higher convergence validity.

Table 5-3 Test of convergence validity

Variable	Measurement Item	Factor Load	CR	AVE
Return Service Recovery	RSR1	0.793	0.866	0.683
	RSR2	0.859		
	RSR3	0.826		
	RSR4	0.768		
	RSR5	0.754		
	RSR6	0.815		
	RSR7	0.826		
	RSR8	0.762		
	RSR9	0.748		
	RSR10	0.815		
	RSR11	0.745		
	RSR12	0.796		
Customers' Participation	CP1	0.789	0.823	0.678
	CP2	0.825		
	CP3	0.841		
	CP4	0.836		
	CP5	0.842		
	CP6	0.798		
	CP7	0.831		
	CP8	0.814		
	CP9	0.825		
	CP10	0.826		
Perceived Risk	PR1	0.810	0.879	0.644
	PR2	0.813		
	PR3	0.804		

Table 5-3 Test of convergence validity (Continued)

Variable	Measurement Item	Factor Load	CR	AVE
Perceived Fairness	PR4	0.783	0.846	0.639
	PJ1	0.815		
	PJ2	0.824		
	PJ3	0.819		
	PJ4	0.798		
	PJ5	0.806		
	PJ6	0.814		
	PJ7	0.826		
	PJ8	0.831		
	PJ9	0.789		
	PJ10	0.846		
	PJ11	0.828		
	PJ12	0.837		
	PJ13	0.841		
Return Service Quality	PJ14	0.825		
	W	0.783		
	RSQ2	0.821		
	RSQ3	0.902		
	RSQ4	0.856		
	RSQ5	0.826	0.871	0.678
	RSQ6	0.835		
	RSQ7	0.842		
Perceived Value	RSQ8	0.851		
	RSQ9	0.847		
	PVF1	0.794		
Perceived Value	PVF2	0.795	0.839	0.635
	PVF3	0.802		

Table 5-3 Test of Convergence validity (Continued)

Variable	Measurement Item	Factor Load	CR	AVE
Online Purchase Intention	PI1	0.837	0.902	0.699
	PI2	0.879		
	PI3	0.861		
Repurchase Intention	RI1	0.851	0.894	0.678
	RI2	0.842		
	RI3	0.845		
Buyers' Trust	BT1	0.772	0.883	0.656
	BT2	0.863		
	BT3	0.883		
	BT4	0.708		
Sellers' Competition	SC1	0.943	0.880	0.787
	SC2	0.828		

For discriminate validity analysis, the method used is to compare the correlation coefficient between each variable with the square root of the AVE value of the variable. If the relationship coefficient value is lower than the square root of the AVE value, then the discriminate validity is reasonable. The test for the discriminate validity of the relevant variables in this thesis is shown in Table 5-4 below.

Table 5-4 Test of discriminate validity

	SC	S	R	P	PV	RS	I	P	R	P	P	R	I	A	I	R
		T	I	I	F	Q	J	J	J	R	I	B	S	P	N	P
Sellers' Competition(SC)	0.8															
Buyers' Trust(ST)	0.1	0.59														
			0.81													
				0												

Table 5-4 Test of discriminate validity (Continued)

	SC	S	R	P	PV	RS	IJ	P	R	P	P	R	I	A	I	R
	T	I	I	I	F	Q		J	J	R	I	B	S	P	N	P
Repurchase Intention(RI)	0.206	0.396	0.082													
Online Purchase Intention(PI)	0.204	0.383	0.082	0.048												
Perceived Value(PVF)	0.124	0.457	0.054	0.079	0.079											
Return Service Recovery Quality(RSQ)	0.321	0.178	0.034	0.044	0.081	0.081										
Interactive Fairness(IJ)	0.453	0.324	0.012	0.031	0.019	0.08	0.08									
Procedural Fairness(PJ)	0.274	0.341	0.035	0.032	0.019	0.04	0.0	0.0								
Result Fairness(RJ)	0.178	0.236	0.039	0.017	0.013	0.02	0.0	0.0	0.0							

Table 5-4 Test of discriminate validity (Continued)

	SC	S	R	P	PV	RS	IJ	P	R	P	P	R	I	A	I	RP
	T	I	I	I	F	Q		J	J	R	I	B	S	P	N	
Perceived	0.1	-0.	-0	-0	-0.1	-0.1	-0.	-	-0.	0.8						
Risk(PR)	24	14	.1	.1	67	36	12	0	16	02						
		8	24	2			4	.	5							
				2						1						
										3						
										5						
Interpersonal	0.2	0.	0.	0.	0.41	0.24	0.2	0	0.	-0.	0.					
Interaction(PI)	36	31	26	3	3	9	39	.	19	62	8					
		5	4	4					3	8	0	1				
				2					2			6				
									5							
Responsibility	0.3	0.	0.	0.	0.25	0.27	0.3	0	0.	-0.	0.	0.8				
Behavior(RB)	78	28	39	4	9	1	68	.	41	51	3	24				
		4	4	7					2	2	4	1				
				8					8			5				
									7							
Information	0.4	0.	0.	0.	0.15	0.42	0.3	0	0.	-0.	0.	0.1	0.			
Sharing(IS)	21	32	17	4	8	6	65	.	36	45	2	79	8			
		5	9	1					4	5	6	5	8			
				3					2			6	1			
									1							
Apology(AP)	0.4	0.	0.	0.	0.17	0.28	0.3	0	0.	-0.	0.	0.2	0.	0.8		
	15	41	15	3	9	5	56	.	17	81	2	48	1	47		
		1	9	2					4	8	2	6	6			
				6					1			9	7			
									8							

Table 5-4 Test of discriminate validity (Continued)

	SC	S	R	P	PV	RS	IJ	P	R	P	P	R	I	A	I	RP
	T	I	I	I	F	Q		J	J	R	I	B	S	P	N	
Initiative(IN)	0.2	0.	0.	0.	0.18	0.3	0.	0.	0.	-0.	0.	0.3	0.	0.	0.	Init
	36	31	2	2	7	54	2	2	36	80	1	24	1	31	84	iat
		4	5	7			6	4	7	6	5		2	4	6	ve(
			8	9			3	6			9		5			IN)
Return	-0.	0.	0.	0.	0.16	0.1	0.	0.	0.	-0.	0.	0.2	0.	0.	0.	0.8
Policy(RP)	11	14	2	.1	9	70	2	2	20	84	1	13	2	24	18	26
	4	6	6	4			2	2	4	8	8		3	1	7	
			6	5			1	0			6		1			

Note: the data on the diagonal is the square root of AVE

This table shows that the table variables all satisfy the reasonable criterion for discriminate validity.

5.4 Structural equation model analysis

After several preliminary data analysis, considering the changing situation of model after introducing the moderating variable, the conceptual model was fitted by layer, and the moderating variable was added into fitting model gradually. The specific fitting situation is shown in Table 5-5 below. This table shows that in the later measurement, Model2, Model3, and Model4 have increased their explanatory power relative to Model1.

Table 5-5 Hierarchical regression summary of model

Path	Model1	Model2	Model3	Model4
Return Policy → Purchase Intention	0.196**	0.213**	0.221**	0.240**
Initiative → Purchase Intention	0.156**	0.212**	0.214**	0.232**
Apology → Purchase Intention	0.264**	0.252**	0.225**	0.251**
Return Policy → Repurchase Intention	0.267**	0.269**	0.238**	0.259**
Initiative → Repurchase Intention	0.253**	0.256**	0.261**	0.254**

Table 5-5 Hierarchical regression summary of model (Continued)

Path	Model1	Model2	Model3	Model4
Apology → Repurchase Intention	0.158**	0.167**	0.211**	0.224**
Return Policy*Buyers' Trust → Purchase Intention	0.119*	0.125*	0.128*	0.133*
Initiative*Buyers' Trust → Purchase Intention	0.112*	0.106*	0.125*	0.128*
Apology*Buyers' Trust → Purchase Intention	0.109*	0.114*	0.129*	0.135*
Return Policy*Buyers' Trust → Repurchase Intention	0.125*	0.127*	0.132*	0.138*
Initiative*Buyers' Trust → Repurchase Intention	0.104*	0.109*	0.124*	0.131*
Apology*Buyers' Trust → Repurchase Intention	0.112*	0.115*	0.123*	0.130*
Return Policy*Sellers' Competition → Purchase Intention	0.029*	0.031*	0.034*	0.040*
Initiative*Sellers' Competition → Purchase Intention	0.023*	0.031*	0.024*	0.038*
Apology*Sellers' Competition → Purchase Intention	0.023*	0.031*	0.026*	0.035*
Return Policy*Sellers' Competition → Repurchase Intention	0.015*	0.027*	0.019*	0.037*
Initiative*Sellers' Competition → Repurchase Intention	0.030*	0.342*	0.036*	0.041*
Apology*Sellers' Competition → Repurchase Intention	0.025*	0.032*	0.029*	0.034*
Return Policy → Perceived Risk	-0.848**	-0.848**	-0.848**	-0.848**
Initiative → Perceived Risk	-0.806**	-0.806**	-0.806**	-0.806**
Apology → Perceived Risk	-0.812**	-0.812**	-0.812**	-0.812**
Return Policy → Result Fairness	0.219**	0.218**	0.204**	0.215**
Return Policy → Procedural Fairness	0.225**	0.301**	0.220**	0.237**
Initiative → Interactive Fairness	0.253**	0.262**	0.267**	0.260**
Apology → Interactive Fairness	0.326**	0.350**	0.312**	0.358**
Return Policy → Return Service Recovery Quality	0.187**	0.129**	0.170**	0.188**
Initiative → Return Service Recovery Quality	0.354**	0.352**	0.324**	0.350**
Apology → Return Service Recovery Quality	0.283**	0.287**	0.279**	0.285**
Return Policy*Information Sharing → Perceived Risk	0.561*	0.552*	0.541*	0.570*
Return Policy*Responsibility Behavior → Perceived Risk	0.478*	0.479*	0.435*	0.476*

Table 5-5 Hierarchical regression summary of model (Continued)

Path	Model1	Model2	Model3	Model4
Return Policy*Interpersonal Interaction → Perceived Risk	0.505*	0.489*	0.501*	0.515*
Initiative*Interpersonal Interaction → Perceived Risk	0.463*	0.463*	0.463*	0.463*
Apology*Interpersonal Interaction → Perceived Risk	0.389*	0.389*	0.389*	0.389*
Return Policy*Information Sharing → Result Fairness	0.352*	0.325*	0.378*	0.363*
Return Policy*Responsibility Behavior → Result Fairness	0.278*	0.290*	0.218*	0.265*
Initiative*Interpersonal Interaction → Interactive Fairness	0.312*	0.303*	0.318*	0.347*
Apology*Interpersonal Interaction → Interactive Fairness	0.289*	0.276*	0.282*	0.282*
Return Policy*Information Sharing → Return Service Recovery Quality	0.417*	0.423*	0.425*	0.413*
Return Policy*Responsibility Behavior → Return Service Recovery Quality	0.467*	0.467*	0.467*	0.467*
Initiative*Interpersonal Interaction → Return Service Recovery Quality	0.398*	0.378*	0.383*	0.395*
Apology*Interpersonal Interaction → Return Service Recovery Quality	0.457*	0.452*	0.442*	0.436*
Perceived Risk → Perceived Value	-0.167*	-0.159*	-0.167*	-0.162*
Result Fairness → Perceived Value	0.175**	0.187**	0.169**	0.195**
Procedural Fairness → Perceived Value	0.321**	0.320**	0.332**	0.329**
Interactive Fairness → Perceived Value	0.314**	0.324**	0.335**	0.328**
Return Service Recovery Quality → Perceived Value	0.445**	0.423**	0.391**	0.387**
Perceived Value → Purchase Intention	0.413**	0.321**	0.382**	0.308**
Perceived Value → Repurchase Intention	0.564**	0.478**	0.421**	0.523**
Variance Explanation Ratio of Online Purchase Intention	0.237	0.301	0.267	0.325

Note: * represents $p < 0.05$, ** represents $p < 0.01$.

First, regardless of the moderating role of buyers' trust, sellers' competition, and customers' participation, the benchmark model path diagram is shown in Figure 5-1. Figure 5-2, Figure 5-3, Figure 5-4, and Figure 5-5 show the factor path diagram of Model1, Model2, and Model3, and the final model (Model 4) factor path diagram. Table 5-6 shows

the results of the Hypotheses test. The final results show that except the assumptions of H5a, H5b, H5c, H6a, H6b, and H6c are not significant, and other hypotheses have been verified and established.

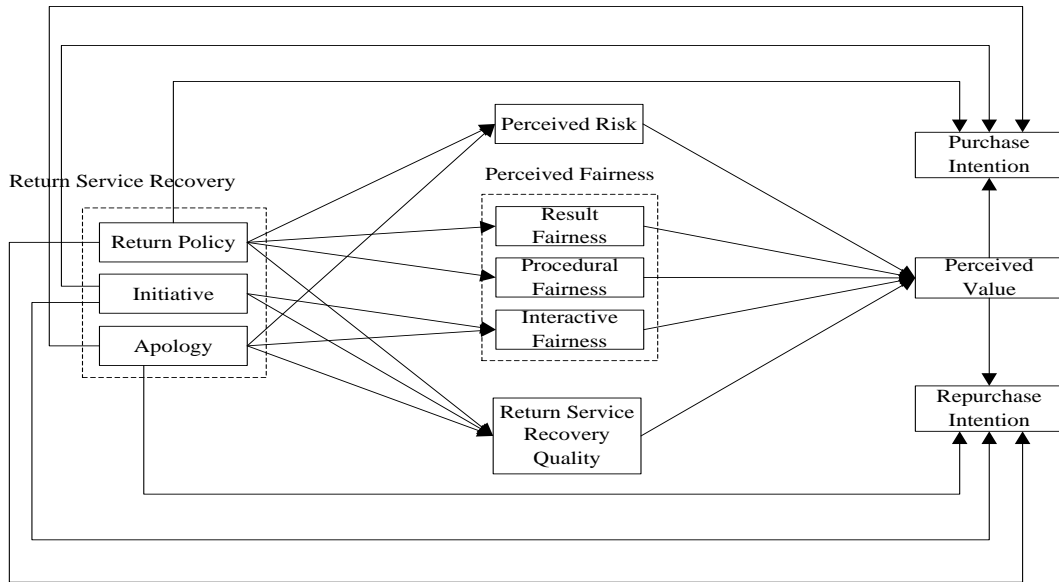


Figure 5-1 Benchmark model factor path diagram.

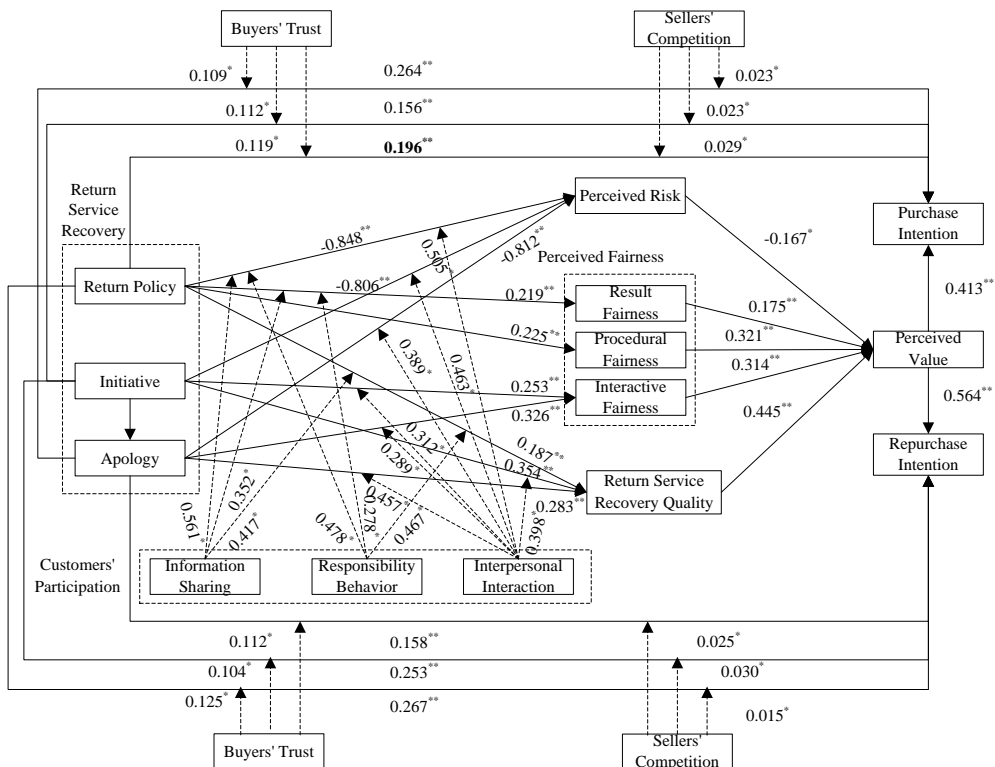


Figure 5- 2 Model1 factor path diagram.

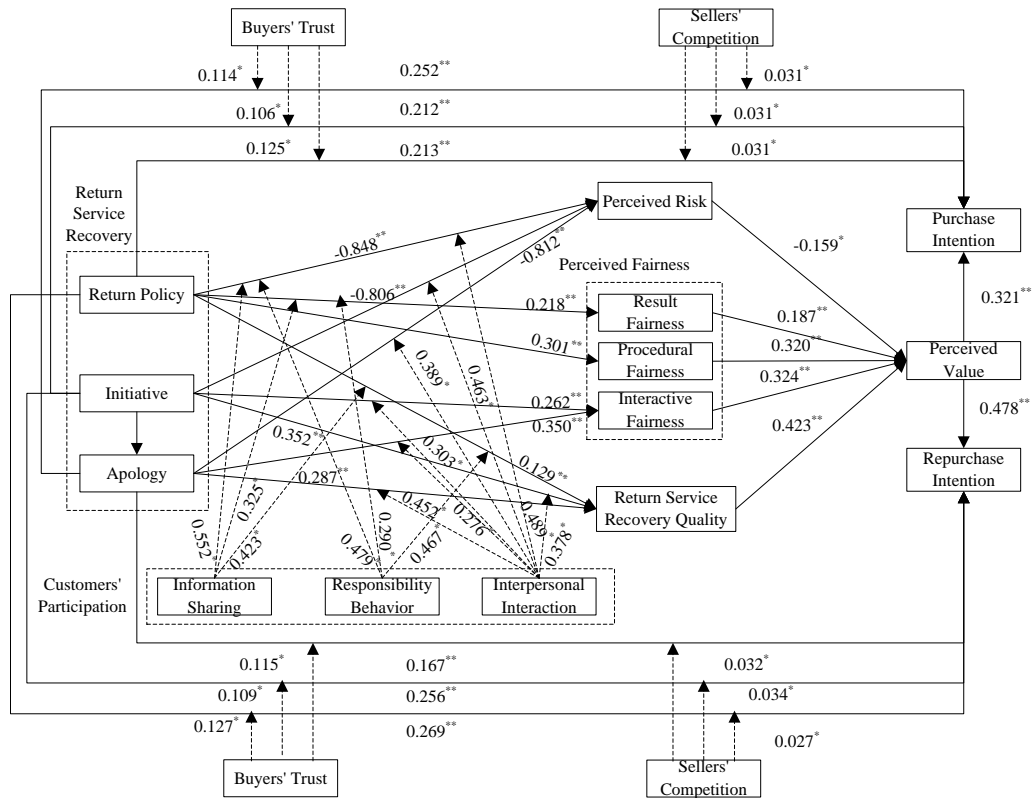


Figure 5-3 Model2 factor path diagram.

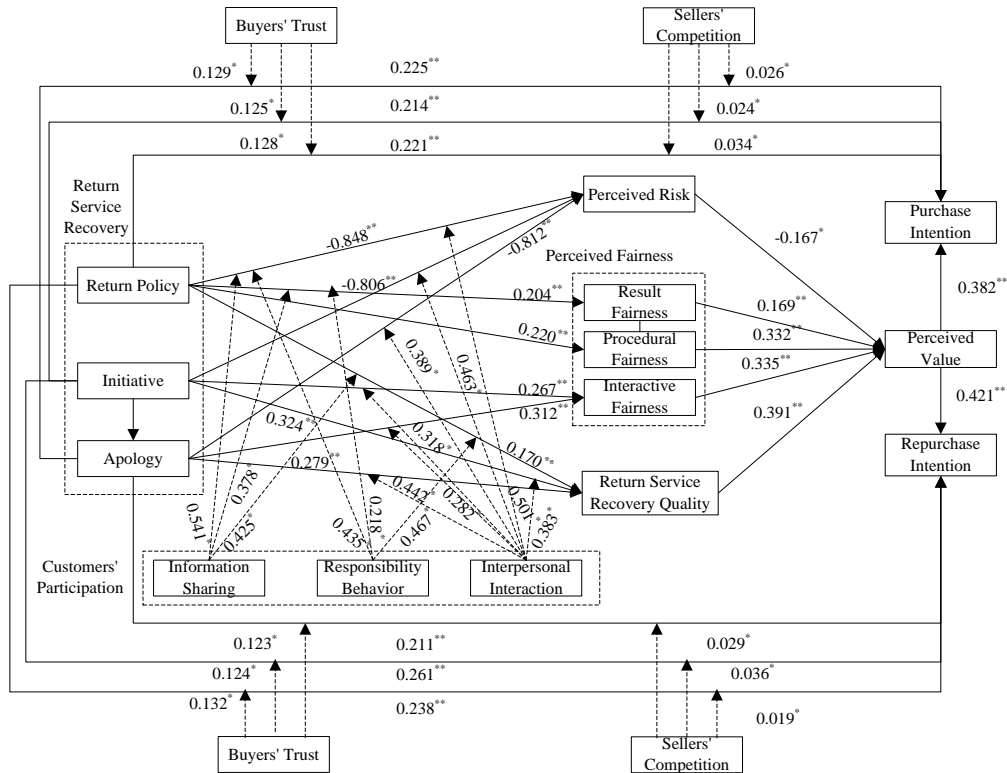


Figure 5-4 Model3 factor path diagram.

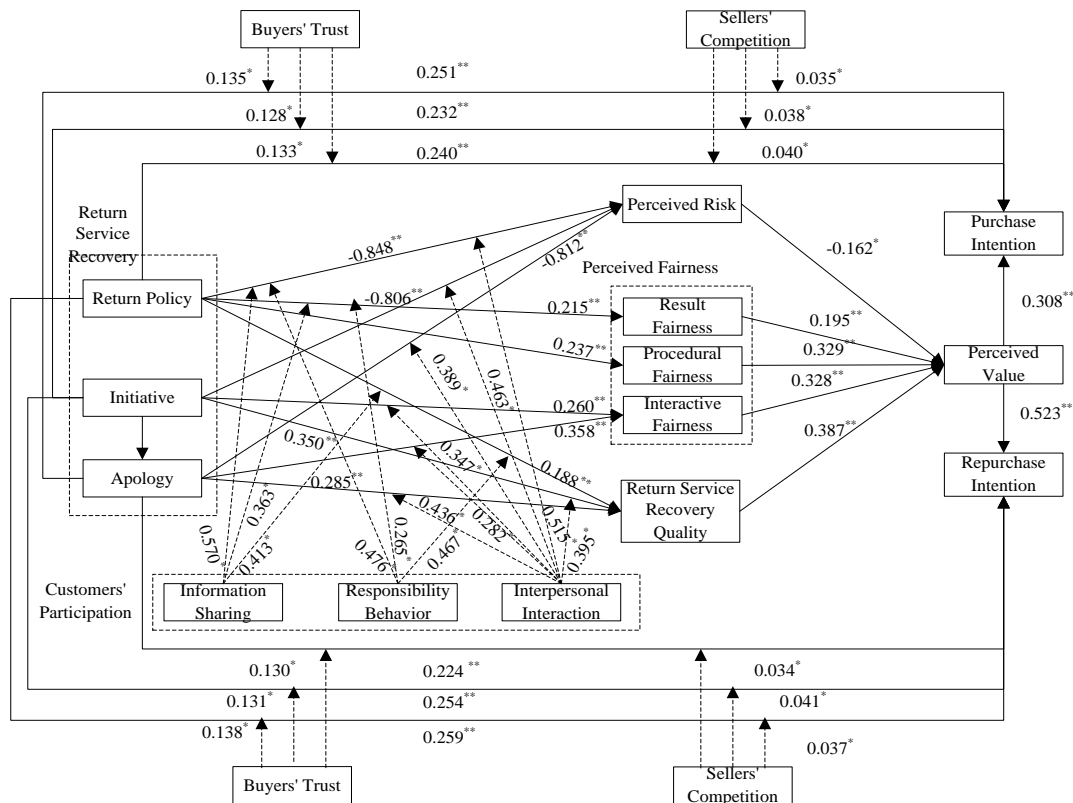


Figure 5-5 Final model (Model4) factor path diagram

Table 5-6 Summaries of hypotheses test results

Hypothesis	Correlation	Result
H1a: The looseness of online shopping return policy for return service recovery in online shopping has a positive impact on consumers' purchase intention.		Supported
H1b: The initiative of online shopping return service recovery has a positive impact on consumers' purchase intention.		Supported
H1c: The apology of online shopping return service recovery has a positive impact on consumers' purchase intention.		Supported
H2a: The looseness of the return policy for online shopping return service recovery has a positive effect on consumers' repurchase intention.		Supported
H2b: The initiative of online shopping return service recovery has a positive influence on consumers' repurchase intention.		Supported
H2c: The Apology of online shopping return service online shopping has a positive impact on consumers' repurchase intention.		Supported

Table 5-6 Summary of hypotheses test results (Continued)

Hypothesis	Correlation	Result
H3a:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between return policy and purchase intention.	Supported
H3b:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between initiative and purchase intention.	Supported
H3c:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between apology and purchase intention.	Supported
H4a:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between return policy and online repurchase intention.	Supported
H4b:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between initiative and network repurchase intention.	Supported
H4c:	The Buyers' trust in online shopping has a positive moderating effect on the relationship between apology and online repurchase intention.	Supported
H5a:	The sellers' competition in online shopping has a negative regulatory role on the relationship between return policy and online purchase intention.	Not Supported
H5b:	The sellers' competition in online shopping has a negative regulatory role on the relationship between initiative and online purchase intention.	Not Supported
H5c:	The sellers' competition in online shopping has a negative regulatory effect on the relationship between apology and online purchase intention.	Not Supported
H6a:	The sellers' competition in online shopping has a negative moderating effect on the relationship between return policy and online repurchase intention.	Not Supported
H6b:	The sellers' competition in online shopping has a negative moderating effect on the relationship initiative and online repurchase intention.	Not Supported
H6c:	The sellers' competition in online shopping has a negative moderating effect on the relationship between apology and online repurchase intention.	Not Supported
H7a:	The return policy looseness of online shopping service recovery has a negative impact on online consumers' perceived risk.	Supported
H7b:	The initiative of online shopping return service recovery has a negative impact on online consumers' perceived risk.	Supported

Table 5-6 Summary of hypotheses test results (Continued)

Hypothesis	Correlation	Result
H7c:	The apology of online shopping return service recovery has a negative impact on online consumers' perceived risk.	Supported
H8a:	The looseness of the return policy of online shopping return service recovery has a positive effect on the customers' perceived result fairness.	Supported
H8b:	The looseness of the return policy of online shopping return service recovery has a positive effect on the customers' perceived procedural fairness.	Supported
H8c:	The initiative of online shopping return service recovery has a positive impact on the customers' perceived interactive fairness.	Supported
H8d:	The apology of online shopping return service recovery has a positive effect on the customers' perceived interactive fairness.	Supported
H9a:	Looseness of return policy of online shopping return service recovery has a positive effect on the return service recovery quality.	Supported
H9b:	The initiative of online shopping return service recovery has a positive impact on the return service recovery quality.	Supported
H9c:	Apology of online shopping return service recovery has a positive effect on the return service recovery quality.	Supported
H10a:	The information sharing of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.	Supported
H10b:	The responsibility behavior of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.	Supported
H10c:	The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the looseness of return policy and online perceived risk.	Supported
H10d:	The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the initiative and online perceived risk.	Supported

Table 5-6 Summary of hypotheses test results (Continued)

Hypothesis	Correlation	Result
H10e:	The interpersonal interaction of customers' participation in the online shopping has a positive moderating effect on the relationship between the apology and online perceived risk.	Supported
H11a:	The information sharing of customers' participation in online shopping has a positive moderating effect on the relationship between looseness of return policy and customers' perceived result fairness.	Supported
H11b:	The responsibility behavior of customers' participation in online shopping has a positive moderating effect on the relationship between initiative and customers' perceived interactive fairness.	Supported
H11c:	The interpersonal interaction in online shopping has a positive moderating effect on the relationship between initiative and perceived interactive fairness.	Supported
H11d:	The interpersonal interaction of customers' participation in online shopping has a positive moderating effect on the relationship between apology and customers' perceived interactive fairness.	Supported
H12a:	The information sharing in online shopping has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality	Supported
H12b:	The responsibility behavior of customers' participation in online shopping has a positive moderating effect on the relationship between the looseness of the return policy and return service recovery quality	Supported
H12c:	The interpersonal Interaction in online shopping has a positive moderating effect on the relationship between the initiative and return service recovery quality	Supported
H12d:	The interpersonal Interaction in online shopping has a positive moderating effect on the relationship between the apology and return service recovery quality	Supported
H13:	Perceived risks in online shopping have a negative impact on their perceived value.	Supported
H14a:	The result fairness in online shopping has a positive impact on perceived value.	Supported
H14b:	The procedural fairness has a positive impact on perceived value.	Supported

Table 5-6 Summary of hypotheses test results (Continued)

Hypothesis	Correlation	Result
H14c:	The procedural fairness has a positive impact on perceived value.	Supported
H15:	The recovery services quality has a positive impact on the perceived value in online shopping.	Supported
H16:	The perceived value of online shopping has a positive impact on customers' purchase intention.	Supported
H17:	The perceived value of online shopping has a positive influence on repurchase intention.	Supported

5.5 Empirical result and hypothesis verification

In the third chapter, this study puts forward hypotheses on the relationship between various dimensions of return service recovery and purchase intention and repurchases intention. The empirical analysis following the research method explained in the fourth chapter, allows verifying the hypothesis of the conceptual model. The empirical results of the relationship between the model constructs are shown below.

(1) Analysis of the relationship between online shopping returns service recovery and purchase intention and repurchase intention

The hypotheses of H1a and H2a are valid, and the looseness of the return policy in online shopping return service recovery has a positive and deep relationship impact on consumers' purchase intention and repurchases intention. This shows that if the online provider makes a more loose return policy, then the consumer's willingness to buy and repurchase will increase. The results show that the perceived looseness of return policy affects the purchase behavior. In short, online customers seem to be very concerned about whether the return policy is loose. The demand for a loose return policy significantly stimulates consumers' demand and increases sales accordingly. In the fierce competitive online market, if the network provider develops a loose return policy, it will help the company establishes a good image of the brand quality, thereby enhancing the consumer's

willingness to purchase and repurchase.

The hypotheses of H1b and H2b are valid, and the initiative in online return service recovery has a positive influence on consumers' purchase intention and repurchases intention. This shows that if the network provider actively helps the customer to handle the problem when the customer encounters return problem, then the customers' purchase intention and repurchase intention will increase.

The hypotheses of H1c and H2c are valid, and the apology in online return service recovery has a positive influence on consumers' purchase intention and repurchases intention. This shows that if the network provider actively apologizes for his problems when the customer returns, then the customer feels the sincerity of the seller, and their willingness to buy and repurchase will increase.

(2) Analysis of the moderating role of buyers' trust and sellers' competition in the relationship between return service recovery and online purchase intention and repurchase intention

The hypotheses of H3a and H4a are valid, buyers' trust has a positive moderating effect on the relationship between return policy and purchase intention, as well as repurchase intention. When the degree of buyers' trust is low, loose return policy greatly enhances the customers' willingness to buy. The hypotheses of H3b and H4b are valid; buyers' trust has a positive moderating effect on the relationship between initiative and purchase intention and purchase intention. It shows that the higher the degree of buyer trust is, the more positive the response is to the initiative of the business, so that a good relationship will be formed, thereby enhancing the purchase intention or repurchase intention.

The hypotheses of H3c and H4c are valid, buyers' trust has a positive moderating effect on the relationship between apology and purchase intention and repurchase intention. This shows that the higher the degree of buyers' trust is, the more likely it is for him to accept the sellers' apologize for negative comments or an apology for return problem. Buyers' recognition of the seller increases the likelihood of purchasing or repurchasing.

The sellers' competition has no significant effect on the relationship between return service recovery and online purchase intention as well as repurchases intention, that is, H5a, H5b, H5c, H6a, H6b, and H6c are not valid.

(3) Analysis of the relationship between return service recovery and perceived risk, perceived fairness, and return service recovery quality

The hypotheses of H7a, H7b, and H7c are valid, the looseness of return policy, initiative, and apology in online shopping service recovery have a negative impact on online consumers' perceived risk of online shopping. This shows that the looser the return policy is and the more the seller takes the initiative to carry out service recovery with apologize to the customer, the risk of the customers' purchase or repurchase will be reduced.

The Hypotheses of H8a is valid; the return policy looseness in online shopping return service recovery has a positive effect on the customers' perceived result fairness. This shows that the looser the sellers' return policy is, for example, providing freight or coupons for customers, the higher the customers' perceived level of result fairness will be. The Hypotheses of H8b is valid, the looseness of the return policy in online shopping return service recovery has a positive effect on the customers 'perceived procedural fairness. This shows that the looser the return policy is, the faster the sellers deal with the return, and the higher customers' procedural fairness perception is. The Hypotheses of H8c invalid, the initiative in online shopping return service recovery has a positive influence on the customers 'perceived interactive fairness. This shows that if the seller actively communicates with the customer about the service failure, then the customer is more able to feel the care from the seller, thus a positive interaction is formed, and the perception of interaction fairness will also be increased. The Hypotheses of H8d is valid, the apology in the online shopping return service recovery has a positive influence on the customers 'perceived interactive fairness. This indicates that when a return error occurs, the seller can apologize to the customer for the return problem, then the customer will feel respected, and the corresponding perception of fairness in interaction will also be increased.

The hypotheses of H9a, H9b, and H9c are valid, the looseness of return policy,

initiative, and apology in online shopping return service recovery have a positive effect on the return service recovery quality. This shows that if the seller develops more loose return policy, provides active service and apologizes for the related problem, then the customer will feel high compensation and think that the seller is easy to contact, so that he will feel the sellers' service recovery more effective.

(4) Analysis of the moderating role of customers' participation in the relationship between return service recovery and perceived risk

The Hypotheses of H10a is valid, and the information sharing of customers' participation has a positive moderating effect on the relationship between return policy looseness and customers' perceived risk. This shows that if the customers can provide correct demand or related product information to the seller, the sellers' return policy will meet customers' expectations better so as to reduce customers' perceived risk.

The Hypotheses of H10b is valid, and the responsibility behavior of customers' participation has a positive moderating effect on the relationship between return policy looseness and customers' perceived risk. This shows that when customers encounter service failure, if they break the silence and pay some time of resource to know return policy and cooperate with the return work, the customers will experience the more clear return service and their perceived risk will be reduced correspondingly.

The Hypotheses of H10c is valid, and the interpersonal interaction of customers' participation has a positive moderating effect on the relationship between return policy looseness and customers' perceived risk. This means that when customers take part in the return service recovery, if they can be polite to communicate with the customer service staff and ask for the return policy, then they will be more familiar with the return service and their perceived risk will be reduced.

The Hypotheses of H10d is valid, and the interpersonal interaction of customers' participation has a positive moderating effect on the relationship between initiative and customers' perceived risk. It shows that when customers encounter service failure, if they

can keep patient and communicate with the customer service staff politely, then the staff will actively provide service for customers to make the customer feel his enthusiasm and considerate service so that the customers' perceived risk will be reduced.

The Hypotheses of H10e is valid, and the interpersonal interaction of customers' participation has a positive moderating effect on the relationship between apology and customers' perceived risk. This shows that when online shopping return occurs, if customers are willing to communicate with customer service staff calmly, they can easily accept the customer service staff's apology and understand the cause of the problem so as to generate confidence in the return service and reduce the perceived risk.

(5) Analysis of the moderating role of customers' participation in the relationship between return service recovery and perceived fairness

The Hypotheses of H11a is valid, and the information sharing of customers' participation has a positive moderating effect on the relationship between return policy looseness and customers' perceived result fairness. This shows that when the customer encounters the problem of returning goods, he actively provides information to the sellers' customer service staff and at the same time learns the sellers' return policy, then he will have a clearer understanding of the return policy, and thus feel fairer to the sellers' handling results.

The Hypotheses of H11b is valid; the responsibility behavior of customers' participation in online shopping service recovery has a positive moderating effect on the relationship between return policy looseness and customers' perceived result fairness. This shows that in the return service recovery, if customers are willing to pay time and energy to cooperate with the sellers' return service, then the return policy will be more effective, and the customers' fair perception of the result will be higher.

The Hypotheses of H11c is valid, and the interpersonal interaction of customers' participation in online shopping return service recovery has a moderating effect on the relationship between initiative and perceived interactive fairness. This shows that if the

customer can communicate with the seller friendly, then the seller will be more active and dedicated to provide return services. The benign interaction relationship will enable the customer to have a higher sense of interactive fairness.

The Hypotheses of H11d is valid, and the interpersonal interaction of customers' participation in online shopping return service recovery has a moderating effect on the relationship between apology and perceived interactive fairness. This shows that when the customer is in friendly negotiation and communication with the seller, the sellers' apologies can make the customer feel psychological compensation and be respected, so the perception of fairness in interaction is stronger.

(6) Analysis of the moderating role of customers' participation in the relationship between return service recovery and return service recovery quality

The Hypotheses of H12a is valid; information sharing of customers' participation in online shopping return service recovery has positive moderating impact on the relationship between return policy looseness and return service recovery quality. This shows that in the case of a return service recovery process, when the customer provides the correct information or learns the information about the sellers' return policy and service, the return policy will be more effective, and the customers' perception level of the quality of the return service will be much higher.

The Hypotheses of H12b is valid; the responsibility behavior of customers' participation in online shopping return service recovery has a positive moderating effect on the relationship between the looseness of return policy and the quality of return service recovery. This shows that if the customer is willing to assume the corresponding responsibility in the return process, and cooperate with the sellers' return service, the overall return service will also be improved.

The Hypotheses of H12c is valid; the impersonal interaction of customers' participation in online shopping return service recovery has a positive moderating effect on the relationship between the initiative and the quality of return service recovery. This shows

that in the return service recovery, if the customer is willing to actively and politely communicate with the sellers' customer service staff, then the sellers' customer service staff will take the initiative to understand the customers' desire to return and provide the corresponding return service, customers will feel the targeted return services more considerate so that the level of the perceived quality of service recovery is also higher.

The Hypotheses of H12d is valid; the interpersonal interaction of customers' participation in online shopping return service recovery has a positive moderating effect on the relationship between apology and the quality of return service recovery. This shows that in the case of return service recovery, when the customer maintains a good attitude and communicates with the sellers' customer service staff, the sellers' apology will also make the customer feel the sincerity of service and the availability of recovery service, so that the perceived level of return service recovery quality is also higher.

(7) Analysis of the relationship between perceived risks, perceived fairness, return service recovery quality and perceived value

The Hypotheses of H13 is valid, and the perceived risk in online shopping has a negative impact on the perceived value. This shows that in online shopping, the lower the perceived risk of customers is, the higher the perceived value of customers will be. The network providers should adopt measures and methods that can reduce the perceived risk of customers to perform return service.

The Hypotheses of H14a is valid, and the result fairness of online shopping has a positive influence on the perceived value. This shows that the fairer the distribution result perceived by customers in online shopping is, the more compensation they receive and the higher the customers' perceived value is.

The Hypotheses of H14b is valid, and the procedural fairness of online shopping has a positive influence on the perceived value. This shows that the higher the fairness of the procedures perceived by customers in online shopping is, the quicker and more effective the recovery that the customers receive, and the higher the perceived value is.

The Hypotheses of H14c is valid, and the interactive fairness in online shopping has a positive influence on perceived value. This shows that in online shopping, if customers can feel treated friendly and respected, they will have a certain social value, and the customers' level of perceived value will also be improved.

The Hypotheses of H15 is valid, and there is a positive relationship between the quality of recovery services and the perceived value of return services in online shopping. If the website promptly deals with problems, provides compensation and contact information, and provide contact information which is easy to be found, consumers are aware of high-quality return service recovery and the corresponding consumers' perceived value will be higher.

(8) Analysis of the relationship between perceived value and purchase intention and repurchases intention

The hypotheses H16 and H17 are valid, and the perceived value of online shopping return service recovery has a positive influence on the purchase intention and repurchases intention. This shows that in online shopping, the higher the customers' perceived value level is, the greater the possibility of purchase intention is. So, the network providers should provide more valuable services to make customers feel it are necessary to purchase or repurchase the products.

Chapter 6: Discussion and Conclusion

6.1 Results discussion

Based on online shopping, this thesis studies the relationship between return service recovery and consumer purchase intention in online shopping. Through literature review and summary, the model of interaction mechanism between variables is constructed, and the model is verified by empirical research. The main research results are discussed as follow.

(1) The relationship between online shopping returns service recovery and purchase intention and repurchase intention

The looseness of the return policy in online shopping return service remedy has a positive relationship with consumers' willingness to purchase and repurchase intention. The path coefficient is 24% and 25.9% respectively. Zhao (2014) also pointed out when the customer encountered the return experience, the higher the response of the service remedial quality, the more compensation, the more convenient the return assistance, the higher the satisfaction of the consumer was and the higher the probability of repurchasing or recommending with relatives and friends. Therefore, the conclusions of this study also verify to some extent that this result is consistent with the views of most scholars.

The initiative in the online shopping return service recovery has a positive impact on consumers' willingness to purchase and repurchase intention. The path coefficients are 23.2% and 25.4% respectively. This indicates that if the network provider proactively helps the customer to deal with the problem when the customer has a return problem, the customer's willingness to purchase and the willingness to repurchase will increase. This is in line with the point of view of Tax and Brown (1998), who believed that 5%-10% of customers' choice of complaints about service failures is the biggest obstacle to service remedy, and if the seller could ask the customer for inconvenience, then customers would feel cared for and more loyal to the company.

The apology in the online shopping return service recovery has a positive impact on consumers' willingness to purchase and repurchase intention. The path coefficients are 25.1% and 22.4% respectively. Scholar Yuan (2011) also suggested that the existence of business management feedback had a positive impact on sales volume and customer satisfaction. By interacting with consumers, merchants can give feedback and apologize to consumers, which can enhance consumers' willingness to purchase. This indicates that if the network provider apologizes for their own problems when the customer has a return problem, the customer feels the seller's sincerity, the willingness to purchase, and the willingness to repurchase will increase, and this is consistent with Yuan's (2011) viewpoint.

(2) The role of buyer trust, seller competition in the return service remediation and online purchase willingness, repurchase intention

Buyers' trust has a positive moderating effect on the relationship between the return policy and purchase intention and repurchase intention. The path coefficients are 13.3% and 13.8% respectively. Scholar Chen (2001) believed that the degree of customer trust in the network directly determined the willingness to provide information and its willingness to participate in the e-commerce platform. In this study, it further verifies when the buyer's trust degree is low, the customer is not willing to believe the seller's initiative or apology, and will not actively cooperate with the seller's return service. On the contrary, when the buyer's trust is high, the consumer's inner heart reduces the shopping risk caused by the uncertainty, so the willingness to purchase or the willingness to repurchase will be higher.

Buyers' trust has a positive adjustment effect on the relationship between initiative and purchase intention as well as purchase intention. The path coefficients are 12.8% and 13.1% respectively. Yang (2008) pointed out that in an uncertain environment, people must establish a trust relationship to ensure the smooth progress of the transaction. Higher buyer trust allows buyers to respond positively to sellers, reconcile the relationship between buyers and sellers, thereby increasing the willingness to purchase or repurchase intentions, which is consistent with Yang's research trend.

Buyers' trust has a positive adjustment effect on the relationship between apology and

purchase intention as well as repurchase intention. The path coefficients are 13.5% and 13% respectively. This result further verifies that the higher the buyer's trust, the more likely for customers to receive an apology from the merchant so as to increase the likelihood of a purchase or repurchase.

Some scholars put forward that competition strengthens customers' selectivity(Xue, et al., 2012), and in a high competitive environment customers may see that e-retailers who focused on return service recovery as only minimal gimmicks, so the impact of return recovery on customers' purchase intention may be reduced. However, the empirical results show that the seller's competition has no significant effect on the remediation of return service and the willingness to purchase online and the willingness to repurchase. The path coefficients are 4%, 3.8%, 3.5%, 3.7%, 4.1%, and 3.4% respectively. The reason may be due to the serious homogenization of the service level of domestic e-retailers, so that consumers can not clearly feel the competition of sellers, resulting in the regulation of seller competition is not significant.

(3) The relationship between return service recovery and perceived risk, perceived fairness, and quality of return service recovery

The return policy looseness, initiative, and apology in online shopping return service recovery have a negative impact on online consumers' perceived risk. The path coefficients are -84.8%, -80.6%, -81.2%. Bonifield et al. (2010) and other scholars believed that the loose return policy as a signal feature of commodity quality reduced the perceived risk of consumers. Network providers take the initiative to care for customers and establish contact with customers, which is conducive to improving the quality of relationship with customers. Macintosh (1997) found that when customers had a deep relationship with the company, the risk was low. In this study, it indicates when the return policy is loose, the seller's initiative is higher, and the buyer is willing to apologize to the customer, so the relationship will be better and the risk of customer purchase or repurchase will be reduced. This conclusion is consistent with the views of scholars (Bonifield et al., 2010; Macintosh, 1997).

According to Roggers and Tibben (1999), consumers' perceived fairness was higher

under the loose return policy. The result of return policy in this study is consistent with the viewpoint of Rogers and Tibben (1999), and the data empirically shows that the three-dimensionality of the return service recovery has different positive effects on the three-dimensionality of perceived fairness. The online return policy of return service recovery has a positive impact on the perceived result fairness, and the path coefficient is 21.5%. The online policy of return service recovery has a positive impact on the procedural fairness, and the path coefficient is 23.7%. In the online shopping the initiative has a positive influence on the customer's perceived interaction fairness, and the path coefficient is 26%. The apology in the online shopping return service recovery has a positive impact on the customer's perceived interaction fairness, with a path coefficient of 35.8%. This shows that the more relaxed the seller's return policy, such as bearing the freight or compensating the coupon to the customer or solving the return problem is relatively fast, then the consumer will feel the fairness of result or the procedure. In addition, the seller's initiative and apology will enhance the customer's fair perception of interaction.

Bonifield et al. (2010) found that high-quality companies would reduce the restrictions on consumer return and develop a relatively loose return policy in order to attract consumers and he thought that the quality of the loose return was a signal of high quality of the enterprise, indicating that the products and services of the enterprise were relatively high quality, and the more loose the return policy, the higher the quality of the return service. Online purchase return policy looseness, initiative, apology have positive impact on the quality of return service recovery, and the path coefficient are 18.8%, 35% and 28.5%. The conclusion that the return policy had a positive impact on the quality of service remediation is consistent with the views of Bonifield et al. (2010). In this study, the path coefficients of the impact of apology and initiative on the quality of return service recovery are significantly higher than the return policy, indicating that in addition to the loose return policy, the customer's feelings and service perception brought by the seller's initiative and apology are more important.

(4) The moderating role of customer participation in the relationship between return

service recovery and perceived risk

The return service recovery in online shopping is not only the responsibility of the retailer, but also the participation of the customer. File et al. (1994) suggested that consumers joining the return service process as much as possible could make the merchant's return policy more effective, thus reducing the possibility of adverse consequences. In the online shopping return service recovery, the information sharing of customer participation has a positive moderating effect on the impact of the return policy on the online consumer perception risk, and the path coefficient is 57%. The responsibility behavior of customer participation in online shopping return service recovery has a positive adjustment effect on the impact of the return policy on the online consumer perception risk of online shopping with a path coefficient of 47.6%. In the online shopping return service recovery, the interpersonal interaction of customer participation has a positive adjustment effect on the impact of the online return policy on consumers' perceived risk on the online shopping, and the path coefficient is 51.5%. The interpersonal interaction of customer participation in online shopping return service recovery has a positive adjustment effect on the influence of initiative on online consumers' perceived risk of online shopping with a path coefficient of 46.3%. In the online shopping return service recovery, the interpersonal interaction of customer participation has a positive adjustment effect on the online consumers' perceived risk of online shopping, and the path coefficient is 38.9%. The above data indicates that the customer participation in each dimension is positive for the regulation of return service remediation and perceived risk, which is consistent with the research trend of File et al. (1994). At the same time, this study also shows that the responsibility behavior has the most significant effect on the impact of return policy on the consumer's perceived risk, indicating that the responsible behavior is an important premise and basis for customer participation. Customers' participation and communication with the sellers can significantly enhance the impact of return service recovery on perceived risk.

(5) The moderating role of customer participation in the relationship between return service recovery and perceived fairness

The data empirically shows that the three dimensions of customer participation are different in regulating the three-dimensionality of service recovery and perceived fairness. Among them, the information sharing of customer participation in the online has a positive moderating effect on the relationship between return policy and the customer's perceived result fairness, and the path coefficient is 36.3%. Lovelock and Young (1977) suggested that if the information provided by the customer was insufficient or wrong, then the service provider may not be able to provide the appropriate service to the customer in time and the distribution result would meet his needs, then the consumer's perception of the fairness of the result would be lower. Therefore, this conclusion is consistent with the view of Lovelock and Young (1979). The responsibility behavior of customer participation in the online shopping return service recovery has a positive moderating effect on the relationship between return policy and perceived result fairness, and the path coefficient is 26.5%. For responsible behavior, Lind and Tyler (1988) suggested that individuals could participate to influence the impact of the results and be more aware of the result fairness. The interpersonal interaction of customer participation in online shopping has a positive moderating effect on the impact of initiative on perceived interaction fairness, with a path coefficient of 34.7%. In the online shopping return service recovery, the interpersonal interaction of customer participation has a positive adjustment effect on the impact of apology on the perceived interaction fairness, and the path coefficient is 28.2%. These conclusions are consistent with the study by scholar Ennew and Binks (2013) who found that customers who actively shared information with service providers and developed good interpersonal relationships could enable service providers to understand customer needs through high-quality interpersonal communication, and service providers also being able to provide customers with services that meet their requirements and expectations.

(6) The moderating role of customer participation in the relationship between return service recovery and return service recovery quality

In the online shopping return service recovery, the information sharing of customer participation has a positive moderating effect on the impact of the return policy on the

quality of the return service moderating, and the path coefficient is 41.3%. The responsibility behavior of customer participation in online shopping return service moderating has a positive adjustment effect on the impact of the return policy on the quality of return service moderating with a path coefficient of 46.7%. The interpersonal interaction of customer participation in online shopping return service moderating has a positive adjustment effect on the impact of initiative on the quality of return service moderating, with a path coefficient of 39.5%. The interpersonal interaction of customer participation in the online shopping return service moderating has a positive adjustment effect on the quality of the return service remedy, and the path coefficient is 43.6%. Kristof et al. (2001) suggested that active consumer engagement could lead to two-way communication and emotional improvement between merchants and customers. The conclusion further demonstrates that consumers' participation in the service recovery process by providing information and interacting with the seller can significantly affect the outcome of the service remedy, namely the quality of the service recovery.

(7) The relationship between perceived risk, perceived fairness, quality of return service recovery and perceived value

Wood and Scheer (2005) suggested that perceived value was mainly derived from the comparison between perceived and perceived risk, while the latter was an important part of customer perceived cost. In this study, the perceived risk in online shopping has a negative impact on its perceived value and the path coefficient is -16.2%, indicating that perceived risk increases perceived cost and reduces perceived value, consistent with scholars' research.

Yin (2009) used the survey method to conduct empirical research on eleven service industries, and proposed that outcome (distribution) fairness, process fairness and interactive fairness in the normal service environment were significantly related to affecting customer's perceived value. The empirical research further shows that the result fairness in online shopping has a positive impact on the perceived value with a path coefficient of 19.5%, the procedural fairness has a positive influence on the perceived value with the path

coefficient of 32.9% and the interaction fairness in online shopping has a positive impact on perceived value with the path coefficient of 32.8%. In the online shopping environment, the impact of perceived fairness on perceived value is consistent with the research direction of scholar.

Fornell and Wemerfelt (1987) have demonstrated that perceived quality had a positive effect on perceived value. This study further proves that there is a positive relationship between the return service recovery quality and perceived value in online shopping, and the path coefficient is 38.7%, which is consistent with the research direction of scholars.

(8) The relationship between perceived value and purchase as well as repurchase intention

The perceived value of online shopping return service recovery has a positive impact on purchase and repurchase intention, and the path coefficient are 30.8% and 52.3% respectively. Zeithaml (1988) combined with customers' psychology research pointed out that the higher the customer's product or service perceived benefit, the higher the perceived value, and the higher perceived value would enhance the customer's willingness to purchase. Wu et al. (2014) discussed the relationship between perceived values, transaction costs, and repurchase intention from the point of view of relational trading, and proposed that perceived value, information search cost, moral risk cost, and specific asset investment had positive impact on the online consumers' repurchase intention. Therefore, the impact of the perceived value of online shopping in this study on purchase as well as the repurchase intention is consistent with the research direction of previous scholars.

6.2 Research overview

This thesis takes the Internet users who have purchased goods through the Internet as research objects, and uses service recovery theory, perceived risk theory, perceived fairness theory, and perceived value theory and so on as the cornerstone. Starting from the status quo of online shopping development in China, the relationship between return service recovery

and purchase intention in the platform of the e-commerce represented by Taobao and JD.com is studied. This thesis combines qualitative and quantitative analysis, carries out theoretical and empirical research, comprehensively combs and states the theories of service recovery, perceived value, perceived risk, and return policy and so on in previous studies. With theory as the cornerstone, proceeding from the online shopping situation in China, this thesis takes the return service recovery as the starting point and builds a theoretical model of the influencing factors of online consumers' intention to purchase. The model includes: return service recovery, perceived risk, perceived value, and purchase intention, repurchase intention, buyers' trust, sellers' competition, etc. The causal link of the variables in the model is determined and the assumptions in this thesis are derived. In order to verify the reasonableness of the hypotheses, scales involving variables are designed and measured. The questionnaire in this thesis includes pre-test and formal investigations. There are 90 pre-test questionnaires, of which 78 are valid. Through the reliability analysis of the pre-test sample, three invalid measures items are eliminated. The formal survey included three hundred questionnaires and seven invalid questionnaires were deleted. After the questionnaire was collected, the data were tested; including the test of reliability and validity, and the Hypotheses model was also fitted and analyzed. Finally, on the basis of empirical analysis, the hypotheses of this thesis were verified and the final model factor path diagram was given. The conclusions of this thesis mainly include the following:

(1) Combined service recovery theory and online merchant's return policy, this study reorganized the dimension of return service recovery and perceived fairness, and put forward that the study of return service recovery should be based on three dimensions: return policy, initiative and apology; Perceived justice starts from three dimensions: result fairness, procedural fairness and interactive fairness.

(2) Researched on the relationship between return service recovery and perceived risk, perceived fairness and other factors. The relationships between the following factors are positive: the relationship between return policy and result fairness, procedural fairness, as well as return service recovery quality; the relationship between initiative and interactive

fairness, return service recovery quality; the relationship between apology and interactive fairness, return service recovery quality. The relationship between the following factors is negative: the relationship between return policy, initiative, apology, and perceived risk.

(3) Considering the asymmetric feature of information in online shopping environment, online retailers cannot understand the customers' service failure and demand the first time. Therefore, online return service recovery requires network providers and customers to participate together. The positive moderating effect to customers' participation on the relationships are as follows: the moderating effect of information sharing on the relationship between return policy and result fairness, the relationship between return policy and procedural fairness, the relationship between return policy and return service recovery quality, and the relationship between return policy and perceived risk; the moderating effect of responsibility behavior on the relationship between return policy and result fairness, the relationship between return policy and return service recovery quality, the relationship between return policy and perceived risk; the moderating effect of interpersonal interaction on the relationship between initiative and interactive fairness, the relationship between initiative and return service recovery quality, the relationship between apology and interactive fairness, the relationship between apology and return service recovery quality, the relationship between return policy and perceived risk, the relationship between initiative and perceived risk, the relationship between apology and perceived risk.

(4) The relationships between perceived risk, perceived fairness, return service recovery quality and perceived value were studied. The positive relationship between the following factors is more obvious: the relationship between result fairness and perceived value, the relationship between procedural fairness and perceived value, the relationship between interactive fairness and perceived value, and the relationship between return service recovery quality and perceived value. The following relationship is negative: the effect of perceived risk on perceived value.

(5) The relationships between perceived value, purchase intention and repurchase intention were studied. The following positive correlations are found: the effect of perceived

value on purchase intention and the effect of perceived value on repurchase intention. In online shopping, only the customer feels that the sellers' products and services are valuable, and will the customer be willing to purchase or repurchase.

(6) The direct effect of the return service recovery on the online purchase intention and purchase intention was studied. The following relationships are positive: the relationship between return policy and online purchase intention, the relationship between return policy and repurchase intention, the relationship between initiatives and purchase intention, and the relationship between initiatives and repurchase intention, the relationship between apology and purchase intention, and the relationship between initiatives and repurchase intention. In the shopping process, online consumers first consider whether the quality and performance of the products meet their own needs. At the same time, they will consider whether the electronic sellers can provide comprehensive services. After weighing, if the customers predict to obtain a greater benefit, they will generate purchase intention. The services for electronic sellers are mainly delivery services and return services. The looser the return policy is and the more active and sincere the sellers' service is, the more it will enable consumers to perceive that they can ultimately obtain greater benefits, resulting in a stronger willingness to purchase or repurchase.

(7) The moderating effect of buyers' trust on the relationship between the return service recovery and the online purchase intention as well as repurchase intention was studied. The positive moderating effect of buyers' trust are as follows: the moderating effect of buyers' trust on the relationship between return policy and online purchase intention, the relationship between initiative and online purchase intention, the relationship between apology and online purchase intention, the relationship between return policy and online repurchase intention, the relationship between initiative and the network repurchase intention, and the relationship between the apology and network repurchase intention.

6.3 Management recommendations

Through theoretical analysis and empirical research, this thesis has conducted a preliminary discussion on the relationship between return service recovery, perceived risk, perceived value, purchase intention, etc., and make the relevant conclusions. Combined with the research conclusions of this thesis, the online seller should do the following in terms of how to improve the purchase/repurchase intention through the return service recovery:

6.3.1 Aspect of improving return service recovery

The study on the effect of online return service recovery on consumers' purchase intention creates theoretical support for the online retailers to implement the best return policy and provide excellent return service. This study plays a guiding role for e-commerce marketing. There are three aspects of return service recovery: return policy, initiative, and apology:

(1) Formulate policy. Generally speaking, loose return policies have an impact on consumer purchase intentions, so if retailers are willing to formulate more loose policies, such as extending the return time limit, reducing the return process, arranging delivery personnel to pick up and return product, and reducing return freight fees, and supporting full refund, etc., to enable the customers to increase purchase or repurchase intentions, and make them more willing to choose the products sold by the online retailers. For new customers or customers who have fewer purchases and less trust in buyers, the sellers should adopt a loose return policy to promote their purchase intention. However, the loose return policy may not be able to solve the problem well all the time. For example, when a regular customer purchases product from the retailer, the loose return policy is meaningless and does not effectively reduce the risk perception. Therefore, the return policy for regular customers can be relatively strict. Online retailers who perform return policies in this way can reduce the cost of returning products to some extent.

(2) Take the initiative and make an apology. Considering that the consumer's demand status is constantly changing. Sometimes, even if providing freight or other economic compensation, the consumer may not be satisfied. At this time, if the merchant actively communicates with the customer and helps the customer to solve the return problem, and apologizes for the inconvenience caused to the customer, then the seller can understand the problem. Even if the problem is caused by the third-party logistics, the merchant also needs to apologize and give explanations for the inconvenience caused to the customer through real-time communication tools or telephone. In this way, the customers will feel respected and at the same time customers' empathy is touched, and it will help improve customers' satisfaction with service recovery, prompting customers to create willingness to purchase or purchase products again. Online retailers should not only focus on the results of return service recovery, but also improve the quality of service processes. Only online sellers keep in touch with consumers in real time to understand the consumers' dynamic demand in a timely manner, carry out the combination of service recovery with a goal, can they gain the favor of consumers.

6.3.2 Aspect of building buyers' trust

In the Internet, customers' trust plays an important moderating role in the relationship between return service recovery and purchase or repurchases intention. In order to enhance the trust of buyers, sellers need to have a higher credit rating and a good pricing mechanism:

(1) Improve reputation. To increase buyer trust, sellers need to improve their credibility first, sellers should accurately describe product information, and they cannot sell the shoddy. This will reduce service failures and build trust with consumers. In addition, when return issues occur, they need to do a good job of returning goods and cannot avoid problems. This may reshape the credibility of the stores.

(2) Develop the price mechanism. Sellers need to develop a reasonable pricing strategy from the perspective of customers, produce better marketing results, so that consumers have

a sense of identity and trust for the sellers.

6.3.3 Aspect of improving perceived value

In the process of return service recovery, perceived risk, perceived fairness, and quality of return service recovery all effect on perceived value. The effect of perceived risk on perceived value is negative. Perceived fairness and return service recovery quality have a positive impact on perceived value. These factors further influence the customers' purchase or repurchase intention. In order to enhance the perceived value of customers, online sellers need to reduce perceived risk, improve perceived fairness, and improve perceived service recovery quality in the following ways:

(1) Reduce the perceived risk. First of all, improve the service recovery system. As there is no face-to-face communication in the network, buyers take more risks than offline purchases. However, a comprehensive service recovery system allows customers to reduce risks and make them feel protected. Resolve return problems through an effective return policy, reduce the adverse effects of service failure on customers, and enhance customers' recognition of the company. Secondly, the seller communicates with customers through active communication and provides recovery according to relevant policies and results of negotiations, so as to increase customers' satisfaction. Thirdly, build an early-warning mechanism. Sellers can categorize and summarize service failures based on past experience or their own thinking. Different solutions can be given for different failures, and the result of recovery can be continuously improved. In this way, when the seller encounters buyers' return again, he can become familiar with it and has more professionalism in providing recovery for the return service. This makes the customer feel reliable and convenient. Of course, the most important early-warning measure is zero mistakes, which requires sellers to be cautious about each and every transaction, and to avoid the occurrence of mistakes. Otherwise, it is necessary to restore the customers' heart by improving the quality of service recovery.

(2) Improve the perceived fairness. The perceived fairness of consumers has a positive

effect on perceived value, resulting in a higher purchase or repurchase intention. This thesis measures result fairness, procedural fairness and interactive fairness of perceived fairness. Online sellers should try their best to improve the looseness of return policies, such as reducing the restrictive conditions for returning goods, bearing freight or providing freight insurance, to make customers feel fairness of results. Besides, they should respond quickly to return requests, provide convenient return services, and make public and transparent return policy so that the perceived procedural fairness of customers will be increased. In addition, if sellers actively conduct remedial work in the event of return problems, take the initiative, dare to take responsibility and sincerely apologize to customers, customers will enhance the fairness of interaction. In order to enhance the perceived fairness of consumers, online sellers should improve the recovery level of return services from the following aspects: first, actively and proactively understand the consumer's return requirements, make the return services meet the consumer's psychological expectations; secondly, return service personnel should give consumers full respect and consideration and treat them equally; thirdly, the sellers should adopt loose return policies, such as reducing the restrictive conditions for returning goods, assuming freight, providing pick-up service, improving the speed of returns, and implementing open and transparent return policies and so on to make customers feel that their interests is effectively safeguarded and feel more equitable.

(3) Improve the quality of perceived service recovery. It has been verified that the higher the merchant's return service recovery quality is, the higher the customers' perceived value is, resulting in subsequent repurchase intentions. After a service failure occurs, the seller can only improve the quality of the recovery by adopting recovery measures, so that consumers can increase the perceived value of recovery services and the good relationship with customers will be reshaped. To improve the quality of return service recovery, the following points need to be done: Firstly, do a good job in return service. If a return problem occurs, the seller can pay attention to the customers' return problem, respond quickly to the return problem, and provide effective contact information. Then the buyers' evaluation of the quality of return service recovery will increase. Secondly, strengthen the

training of customer service personnel. Considering that online shop customer service staff will have direct and frequent contact with customers during service recovery, the quality of service recovery is largely determined by the professionalism and attitude of these staffs. For customers, whether they can be satisfied with the seller and recreate trust, the performance of customer service personnel plays an important role. Therefore, service personnel need to have professional qualities and skills, and be able to handle customers' problems quickly and properly. Store owners need to regularly train the customer service staffs to enhance their responsiveness and patience when facing customers.

6.3.4 Aspect of customers' participation

In order to allow consumers to have a clearer understanding of the return service and generate a more reasonable judgment on the return service, online sellers need to consider customers' participation, to make customers also play a certain role in this process. The three measurement dimensions of customers' participation are information sharing, responsibility behavior and interpersonal interaction. In the process of return services recovery, customers' evaluation of service recovery can be increased if customers provide certain information and resources, and participate in the return services recovery. The specific recommendations for improving customers' participation are as follows:

(1) Network sellers develop service recovery systems that encourage consumers to participate and guide customers' participation. If conditions permit, the sellers can consider building a customer self-help section, so that customers can operate return on their own or with the network provider to complete the return service recovery. In this way, customers' sense of value and experience of customers' participation can be enhanced. If the conditions do not permit, the sellers can start with improving the service instructions on the website. In the event of a service failure, the sellers must first let the customer understand the process and methods for handling such issues. Put clear instructions of product purchases, payment methods, and return services on the website's page, so that the customers can promptly find solutions to problems and can participate in the recovery process of return services.

(2) The merchants need to establish a platform for communicating with customers smoothly to attract consumers' participation. It will bring different shopping experiences to customers, reduce customers churn, strengthen contact with customers, and cultivate loyal customers by this way. For example, sellers can put service calls or other real-time contact information on their own pages so that consumers can reflect their problems smoothly.

(3) For customers, in order to better safeguard their rights and interests, it is best for them not to remain silent in the event of product quality problems. If they are not satisfied, they can calmly, positively, and friendlyly negotiate with merchants for return or other compensation methods. By providing relevant information, they can enable merchants to meet their true requirements through service recovery. The recovery of return service in online shopping needs the active participation and joint efforts of businesses and customers to be able to maximize its significance and value.

6.4 Research limitations and future research directions

Due to the limited personal resources and capabilities, there are still some deficiencies in the study of this thesis which are mainly reflected in the following aspects: The first one is the limitation of the investigation population, whom to collect data. Considering that this thesis uses sports and leisure clothing for young people as the product applied to analyze the model of this research and young people prefer shopping online, the questionnaire is aimed at young people such as college students and young teachers. However, as most of the questionnaires were forwarded among the students and the data resources from other young people are fewer, so the extent of the sample has certain limitations. Another one is that product in this study are relatively single, which are mainly clothing products. If product types are different, and the interaction of various factors in the framework of return service recovery may be different. Also, the dimensions of perceived fairness needed to be expanded. This study mainly divided perceived fairness into result fairness, procedural fairness and interactive fairness. There is another dimension of information fairness put forward by Colquitt (2001) needing to be measured and verified.

Based on the above deficiencies, it needs to be supplemented and improved in the following aspects in the future:

Firstly, increase the product categories. This thesis mainly studies the sports and leisure clothing among young people especially students. With the development of online shopping, there are varied products, such as actual products, virtual products, consumables and non-consumables. For different products and services, the effect of return service recovery on purchase intention will also change. Other products in online shopping return service recovery need to be studied.

Secondly, as mentioned above, the dimension of perceived fairness needs to be expanded. Subsequent research can try to increase the information fairness dimension and test the relationship of this dimension with other variables in the service recovery process.

Thirdly, for service recovery in the online retail, future research can attempt to study the effect of some of the regulatory variables, control variables, such as customer loyalty, word of mouth, customer and employee emotions, etc. on the service recovery process.

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Appendix 1: Samples Description of Focus Groups

Based on the analysis of domestic and foreign literature and the return policy of several representative shopping websites in China, a perceptual understanding of the components of consumer service recovery has been formed, this study drafted an interview outline, and organized focus group interviews and expert interviews. Respondents' selection principle is for consumers who have a rich shopping experience on the shopping site. Focus group interviews were conducted with consumers who shopped in online stores. A total of 25 people, a group of 5 people, and the gender, age, education level, online shopping experience, etc. of the 25 people should be representative. A sample description of the focus group is given in Appendix 1.

The goal of this study is to explore the influence of return service recovery on purchase intention in online shopping. Through focus group interviews, group discussions and thought exchanges, service recovery attributes that buyers pay attention to in the face of e-commerce shopping errors was proposed. Compared with the previous literature results, the specific measurement items of the return service recovery in online shopping were summarized and analyzed. An interview outline was developed based on the main measurement items summarized in the above scale. Moderators and respondents pre-arranged time to conduct interviews in rooms that were not subject to interference. The interview had three main aspects: 1. Explained why you were willing to shop through the Internet; 2. Explored the rationality of the items involved in the above variables, and asked the respondents why the item was unreasonable; talked about the most impressive services recovery experience.

This study ensures the integrity of the measurement items design by conducting qualitative and exploratory research on consumers. The implications of this exploratory research approach are important for building a quantitative research questionnaire for the next step in collecting and analyzing data for large samples.

Table-1 Description of focus group sample

	Classification	Quantity	Percentage Occupied%
Gender	Male	10	40
	Female	15	60
Age	Under the age of 23	10	40
	24-30	7	28
	31-35	5	20
	36-40	3	12
	More than 40	0	0
	Less than 1 year	2	10
Internet Age	1 year to 3 years	5	20
	3 years to 5 years	10	40
	5 years to 10 years	5	20
	More than 10 years	3	12
	High school and below	0	0
Education	Junior college	5	20
	Bachelor	15	60
	Master's degree	10	40
	Doctoral degree and above	0	0
Average Monthly Disposable Amount	2000 Yuan and below	15	60
	2001-3000 Yuan	5	20
	3001-4000 Yuan	3	12
	4001-5000 Yuan	2	8
	More than 5001 Yuan	0	0

Appendix 2: Questionnaire

Dear Mr./Ms.

Hello!

First of all, I would like to express my sincere gratitude for your willingness to participate in this investigation. This questionnaire is mainly used to explore the impact of online return service recovery on consumers' decision-making behavior. I hope you will answer the question truthfully. This questionnaire aims to understand your experience and awareness of online shopping. The questionnaire is designed for those who have participated in online shopping or understand online shopping, please answer the questionnaire according to the actual situation.

To ensure the validity of this survey, please answer questions in accordance with your true feelings. Your answer (including personal information) is for the purpose of this research only. It will not be used for any other purpose. For the security of your personal information and privacy, we will not release your opinions to others without your permission. Please feel free to answer. Thank you very much for your cooperation!

Before filling in, please select a shop where you know the return policy.

First part:

1. What is your gender?

Male Female

2. Have you used an online shopping platform?

Yes No

3, what's your network age?

Less than 1 year 1 year to 3 years 3 years to 5 years 5 years to 10 years
 10 years or more

4, what's your age?

20 years old and below 21~30 31~40 41~50 51 years old and

above

5. What is your highest educational degree?

- High school and below Junior college Undergraduate Master

Doctoral degree and above

6, what's your monthly disposable amount?

- 2,000 or less 2,001-3,000 3,001-4,000 4,001-5,000 5,001 or more

Second part:

Please answer a few questions according to your experience and feeling: 1 is very disagree, 2 is not very agree; 3 for uncertainty; 4. 5 is very agreeable.

1. This online store has a very long return period for products
2. This online store has no requirements for returned products
3. This store refunds very quickly
4. The speed of pick-up of this online store is very fast.
5. The return service of this store is very convenient
6. This online store is fully refundable for returned products in any case.
7. This online store bears the freight of return in any case.
8. This online store provides freight insurance
9. The return policy of this online store is very clear
10. I am very familiar with the return policy of online store
11. The staff of the online store proactively contacts me to help me solve the return problem.
12. The staff of the online store apologizes sincerely to me for the reasons for the returned products
13. When I receive a product with problem or the product cannot meet my expectations, I will inform the online store
14. I let the store understand how to better meet my needs

15. I give advice to the online store to improve their return service level
16. I try my best to cooperate with the online store's return process to facilitate the return process
17. I think that customers should participate in the return process with online store
18. I am willing to pay for my own time or other resources in cooperation with the implementation of the online store's return policy
19. In the process of the return, I actively communicate and discuss with the online store service personnel.
20. I have a very friendly and polite attitude towards online store service staff
21. I express gratitude or dissatisfaction with the patient service of the online store service staff
22. When the store staff is working well or not, I will praise or complain about them
23. Compared with traditional shopping, do you think that online shopping has a higher probability of buying fake products?
24. Purchase at this store, it is more likely to buy fakes
25. You are concerned that the product you receive and the products displayed on the website are inconsistent
26. Purchase at this store, you may worry that the product is not suitable
27. Purchase at this store, the possibility of poor after-sales service is high
28. I think the return result is fair
29. By solving the return problem, the online store has satisfied my return demand
30. The return brings me a loss, and the store's actions make up for my loss.
31. The service program of this store is very reasonable
32. The time to resolve returns is rapid
33. The store has a fair set of policy measures to deal with the problems
34. The store's handling of returns shows a lot of flexibility

35. The online store gives me a chance to explain the problem
36. The service staff of the online store actively communicates with me to solve the return problem
37. The service staff of the online store is very patient with my questions
38. The service staff of the online store explains my problem
39. The service staff of the online store apologizes for the inconvenience
40. The service staff of the online store is very friendly to me.
41. The service staff of the store and I communicate very smoothly
42. The online store service staff can quickly resolve consumers' return problem
43. The service staff of the store will not ignore my request due to busyness
44. The store offers convenient return options
45. The online store has handled the return well
46. The online store offers meaningful guarantees
47. This online store provides me with compensation for problems that occurred
48. When I return, the merchant arranges the pick-up of the returned goods
49. The store provides a contact phone, which is easy to find
50. Online store has available service customer staff online
51. It is very interesting to buy goods at this store
52. Using the store's products will help you build a good image
53. Using the store's products can improve your social recognition
54. When you buy a product, the probability of choosing the product at this store is higher
55. When someone asks for your opinion about buying a product, you will recommend him to buy it at this store
56. You are always willing to shop at this store
57. If I want to purchase this product online later, I will also visit this store

58. I will first consider this store when purchase products next time
59. I will increase the number of purchases at this store
60. The merchant's credit rating is credible
61. You trust the store's promise guarantee
62. You believe that the store is in the best interest of customers
- 63 You believe that the store will use your information properly
64. The store issues a policy to protect the privacy of customers' information
65. You can buy alternatives to the products at more online stores
66. You can buy the same products at more online stores
67. You can buy products with lower prices and better quality at more online store