Research on The Effect of Service Recovery Quality on Customer Repurchase Intention in Online Shopping

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Abstract

This article applies the theory of service recovery in traditional industries to the online shopping environment, taking the quality of service recovery as the independent variable, customer repurchase intention as the dependent variable, and consumer sentiment as the intermediary variable, to study the model of the impact of service recovery quality on customers' repurchase intention. Empirical research found that in the context of service failures, the service recovery quality will positively affect customers' repurchase intentions; Customers' emotions are related to the quality of service recovery. The higher the quality of service recovery, the more likely it is for customers to have positive emotions. Customers' emotions play an intermediary role in the process of service recovery quality affecting customers' repurchase intentions.

Keywords: Service recovery, Repurchase intention, Customers' sentiment, Service error

Introduction

Nowadays, Internet shopping platform has become the first choice for consumers to carry out daily transactions. Because online transactions do not need face-to-face contact, there are more factors affecting consumers' willingness to buy. In addition to the value of the product itself and quality performance, service quality is also a key factor affecting consumers' choice of online shopping. In order to attract potential consumers and maintain the loyalty of existing customers, enterprises need to provide more attractive services to meet the needs of consumers, and actively formulate strategies to make up for the inevitable service errors in daily sales activities. Service error refers to the that the quality of service does not meet the expectations of customers[1]. For most companies, service error is one of the main causes of customer loss. Customer satisfaction will decline significantly if service errors are not properly resolved And then lead to negative word of mouth[2]. After service error, it is necessary for enterprises to take corresponding service remedial measures. In today's fiercely competitive environment, the sales cost to attract new consumers is more than 5 times that of maintaining existing customers, and service recovery is the main means to maintain relationships with existing customers[3], Bell and Zemke proposed Five service

remedial elements: apology, correction, sympathy, compensation and continuous attention[4]. They believe that immediate correction and apology are the most effective measures.. Davidow also believes that apology is a good way to make up for the failure of service, it can restore customer satisfaction with the service, and then have a positive impact on the corporate image[5].

Rapidah et al. take aviation services as an example. They believe that when service failures occur, we should first reduce the customer's perceived loss to reduce their negative emotions, and establish a trust relationship with customers by implementing customer loyalty programs and enhancing corporate image trust relationship[6]. Wang further believes that service remediation satisfaction can have a positive effect on repeated purchase intention[7]. However, in online shopping, every link may face the situation that the customer is not satisfied with the service. Once there is a service error, the merchant needs to take measures to remedy quickly to maintain the customer's confidence in the merchant. Promote the willingness and behavior of customers to buy repeatedly. Therefore, the service remedial measures in the traditional industry are not fully applicable to online shopping, mainly because online shopping is not a face-to-face transaction, so it is necessary for merchants to pay more attention to the psychological needs of customers. Smith

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through empirical research, there is a strong correlation between service remediation quality and customer perception[8]. Lin and Sun construct a comprehensive model of online shopping satisfaction and loyalty, and find that the degree of online shopping satisfaction has a significant positive impact on customer loyalty[9]. Similarly, Seyednaghavi and Shakiba conclude that network service satisfaction, network store quality and trust are important factors affecting customer loyalty through design models[10].

Firms implement different strategies aimed at providing excellent service quality to consumers. However, all services firms face service failures due to the inevitability of occasional poor performances. The more a consumer feels satisfied with the service provider's resolution performance, the better chance for the consumer to forgive the firm

and continue the business relationship[11]. In the daily business activities, merchants should pay attention to the quality of service remedy, and then improve customer satisfaction and repeated purchase behavior. Maintain customer loyalty by establishing psychological contracts[12].The result quality in the service recovery quality has an important influence on the customer's repurchase[13]. At the same time, customer satisfaction plays an intermediary role between the result quality and the customer's repurchase intention. Peng et al. in the follow-up research also reached a similar conclusion[14]. Zhang et al. found that pure service recovery has little effect on customer loyalty through factor analysis and

multiple regression methods, and customer sentiment can be used as a moderating variable to play a significant positive role in the impact of service recovery on customer loyalty[15]. Shi et al. started from the perspective of online shopping returns and found that customers' repurchase willingness is affected by interaction quality and result quality, and to a certain extent by emotional intermediary, and program quality has no effect on this [16].

1. Assumptions and models

Based on previous studies, this article applies the service recovery theory in traditional industries to the online shopping environment, taking service recovery quality as an independent variable, customer repurchase intention as a dependent variable, and consumer sentiment as an intermediary variable. Focus on research on the influence model of customer repurchase intention. Among them, the research object is a group of people who have had online shopping experience and accepted the service remedy provided by the merchant after the service fails. The object meets three characteristics: ① Have online shopping experience, that is, have used the Internet for online shopping and completed transactions before filling in this questionnaire; ② Experienced service failure, that is, the service failed to meet your expectations due to various reasons; ③ Accepted the service remedy provided by the merchant after the service failed, and their repurchase intention was positively or negatively affected by the quality of the service remedy. The details are shown Figure 1:
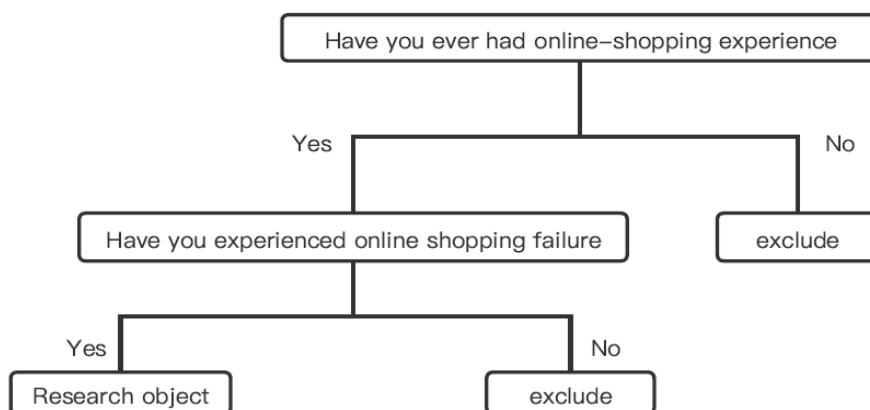

Figure 1 Research object screening process

Based on relevant domestic and foreign literature, this paper combs through previous scholars' research models on the impact of service

recovery quality on customer repurchase intentions, and conducts research on the relationship between service recovery quality, customer sentiment and

customer repurchase intentions in online shopping.
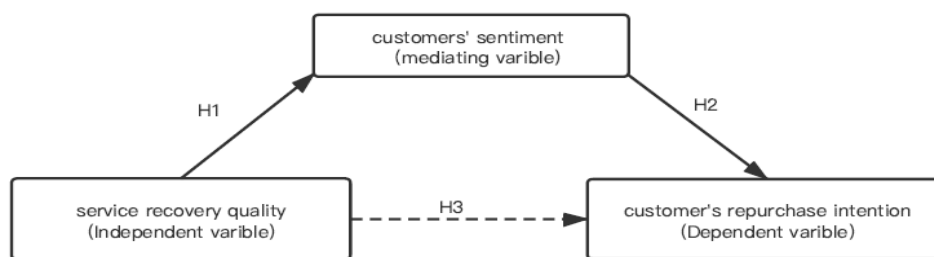
The theoretical basis is as follows as shown in Figure 2.

Figure 2 Research model

(1) The quality of service recovery and customer sentiment. This article draws on the views of Weston[17] and Westbrook[18] and believes that customers will have two emotions, positive (such as happy, excited, etc.) and negative (such as sad, angry, etc.) after receiving service recovery, and positive emotions will appear. Most are accompanied by higher service recovery quality. This article believes that there is a certain connection between service recovery and consumer sentiment, and then proposes the following hypotheses:

H1: The quality of service recovery positively affects customer emotions.

(2) Customer emotions and repurchase intentions. Customer emotions are the psychological reactions that customers produce after purchasing a certain product or service. In the field of traditional consumer behavior, customers are willing to continue buying because of positive emotions, and at the same time they choose to give up buying because of negative emotions. This article believes that in the context of online shopping, changes in customer emotions to a certain extent determine their subsequent purchase decisions and behaviors. Based on this,

this article proposes the following assumptions:

H2: Customer emotions positively affect customers' repurchase intentions.

(3) The mediating role of customer emotions. Michel put forward the "cognition-emotion-behavior" theory, which shows that customers' cognition of things will affect their emotions and then their behavior[19]. This paper believes that in the context of online shopping failures, customers will recognize the quality of service remediation provided by merchants, affect their emotions, and then affect their purchasing behavior. That is, customer emotions mediate the mechanism of service recovery quality on customer repurchase intentions. And put forward the following hypotheses:

H3: The quality of service recovery uses customer emotion as an intermediary to influence customers' repurchase intentions.

2. Empirical Research
Ⅰ Questionnaires' design and selection

(1) Questionnaire design. The questionnaire is divided into four parts as shown in the following table.

Table 1. **Questionnaire structure**

Questionnaire structure	Main content	No.
First	Effective questionnaire screening	Q1-Q2
Second	Personal information	Q3-Q7
Third	Service recovery quality measurement	Q8-Q16
Fourth	Customer attitudes towards service remedies	Q17
	Possible subsequent	Q18

(2) Questionnaire selection. This survey questionnaire was designed using questionnaire stars, and an electronic questionnaire and link were formed. Distributed through the Internet, respondents also submit questionnaires mainly through mobile phones and WeChat. A total of 161 questionnaires were retrieved this time, and the

screening questions "Have you ever had online shopping experience" or "Have you experienced online shopping failure" answer "No"; the filling time is less than 70 seconds; the same IP address is filled in repeatedly A total of 150 valid questionnaires remain after the invalid sample, and the effective recovery rate is 93.17%. Use Excel and

SPSSAU to analyze the final effective data.

Ⅱ Scale design

Table 2. **Variable measurement**

Measurement dimension	Questions	No.
Service recovery quality	Measure the quality of service recovery from the four dimensions of interaction quality, information quality, program quality, and result quality	Q9-Q12
Customers' sentiment	Will you have negative emotions such as depression, irritability, disappointment and anger after service failure	Q8
	The higher the quality of service remedy, the more likely you are to have positive emotions (such as pleasure, relaxation, comfort, excitement, etc.)	Q13
	The entire service recovery process is to make you happy, and communication is pleasant	Q14
Customers 'repurchase intention	First choice I am willing to visit this shop again I will visit this shop Take this store into consideration No longer patronize	Q16

Ⅲ Descriptive statistical analysis

The sample situation of this questionnaire survey is shown in Table 3. It can be clearly seen from the data that in the effective sample of this survey, women accounted for 60.67%, which is more in line with the rules of online shopping. In terms of age, the 18 to 25-year-old sample has the largest number and the largest proportion (84.67%). In terms of the education level of the respondents, the proportion of

bachelor's degree is the largest (82.67%), and the proportion of people with college degree and above is 94.67%. The good understanding of people with high education also guarantees the quality of the questionnaire. In terms of the number of monthly online purchases: There are relatively more "3-5 times" in the sample, with a ratio of 47.33%. More online purchases mean more likely service failures and service remedies, which makes the data more real and objective. It is more conducive to the analysis of later data.

Table 3. **Sample distribution of questionnaire survey**

Feature		Amount	Percentage（%）
Gender	Male	59	39.33
	Female	91	60.69
Age	Under 18	3	2.00
	18-25	127	84.67
	26-30	11	7.33
	31-40	8	5.33
	41-50	0	0
	51-60	1	0.67
	Over 60	0	0
Education level	High school and below	8	5.33
	Junior college	11	7.33
	Undergraduate	124	82.67
	Master degree and above	7	4.67
Number of online purchases per month	Less than 3 times	36	24
	3-5 times	71	47.33
	6-10times	27	18
	More than 10 times	16	10.6

Ⅳ Data quality analysis

(1) Reliability analysis. It can be seen from Table 4 that the CITC values of the analysis items are all greater than 0.4, indicating that the analysis

items have a good correlation and the reliability level is good. At the same time, the Cronbach α coefficients of service recovery quality, customer sentiment, and customer repurchase intention are

all greater than 0.7, which shows that the reliability of the

(2)   questionnaire data is high and can be used for further analysis.

Table 4. **Reliability analysis table**

Headings	No.	Corrected item-total correlation (CITC)	Cronbach α
Service recovery quality	Q9-Q12	0.751	0.955
Customers' sentiment	Q8 Q13-Q14	0.786	0.720
Repurchase intention	Q16	0.724	0.785

(2) Validity analysis (KMO and Bartlett sphere test). Use KMO and Bartlett test to verify the validity. First analyze the KMO value. From Table 5, it can be

seen that the KMO value is 0.949, which is greater than 0.8, indicating good validity; secondly, the validity analysis passes the Bartlett test (corresponding p value needs to be less than 0.05).

Table 5. **KMO and Bartlett test table**

	KMO	**0.949**
Bartlett Sphericity test	Approximate chi-square	1687.928
	df	91
	p value	0.000

Ⅴ Regression analysis

(1) Regression analysis of service recovery quality and customer sentiment

Taking service recovery quality as an independent variable and customer sentiment as a dependent variable for linear regression analysis, it can be seen from the above table that the model R square value is 0.537, which means that service recovery quality can explain 53.7% of changes in customer sentiment. When performing F test on

the model, it was found that the model passed F test (F=172.836, p=0.000<0.05), indicating that the quality of service recovery will definitely affect customer emotions. The regression coefficient value of service recovery quality is 0.716 (t=13.147, p=0.000<0.01), which means that the quality of service recovery positively affects customer emotions, that is, the higher the quality of service recovery, the more positive the customer is. (2) Regression analysis of customer sentiment and repurchase intention

Table 6. **Linear analysis results of service recovery quality and customer sentiment**

Linear regression analysis results									
	Non-standardized coefficient		Standardization factor	t	p	VIF	R^2	Calibratiion R^2	F
	B	Standard error	$Beta$						
constant	1.261	0.200	-	6.291	0.000**	-	0.537	0.534	F (1,149)=172.836,p=0.000
Service recovery quality	0.716	0.054	0.733	13.147	0.000**	1.000			

Dependent variable: customer sentiment

D-W ：1.962

* p<0.05 ** p<0.01

Table 7. **Regression linear analysis results of customer sentiment and repurchase intention**

Linear regression analysis results									
	Non-standardized coefficient		Standardization factor	t	p	VIF	R^2	Adjustment R^2	F
	B	Standard error	$Beta$						
constant	0.535	0.239	-	2.235	0.027*	-	0.484	0.481	F(1,149)=139.982, p=0.000
Customers' sentiment	0.724	0.061	0.696	11.831	0.000**	1.000			

Dependent variable: repurchase intention

D-W Value：2.171

* p<0.05 ** p<0.01

Taking customer sentiment as the independent variable and repurchase intention as the dependent variable for linear regression analysis, it can be seen from Table 7 that the model R square value is 0.484, which means that customer sentiment explains 48.4% of the reason for the change in repurchase intention. When the F test was performed on the model, it was found that the model passed the F test (F=139.982,

p=0.000<0.05), which shows that customer emotions will definitely affect repurchase intentions. The regression coefficient of customer sentiment is 0.724 (t=11.831, p=0.000<0.01), which means that customer sentiment will have a significant positive impact on repurchase intention, that is, customer's positive sentiment is more conducive to repurchase behavior.

Ⅵ Intermediary role test

Table 8. **Effect analysis process analysis**

effect	Item	Effect	SE	t	p	LLCI	ULCI
Direct effect	Service recovery quality ⇒ Repurchase intention	0.312	0.084	3.707	0.000	0.147	0.478
Indirect effect process	Service recovery quality ⇒ Customers' sentiment	0.716	0.054	13.147	0.000	0.609	0.823
	Customers' emotion ⇒ Repurchase intention	0.489	0.086	5.671	0.000	0.320	0.658
Total effect	Service recovery quality ⇒ Repurchase intention	0.663	0.063	10.509	0.000	0.539	0.786

Remarks: LLCI refers to the lower limit of the estimated 95% interval, ULCI refers to the upper limit of the estimated 95% interval

Table 9. **Analysis of indirect effects**

Indirect effect analysis						
Item	Effect	Boot SE	BootLLCI	BootULCI	z	P
Service recovery quality ⇒ Customers' sentiment ⇒ Repurchase intention	0.350	0.116	0.113	0.526	3.019	0.003

Remarks: BootLLCI refers to the lower limit of the 95% interval of Bootstrap sampling, and BootULCI refers to the upper limit of the 95% interval of Bootstrap sampling

Using Bootstrap sampling inspection method to conduct the mediation study, the sampling frequency is 5000 times, and the results show that the mediation effect of customer emotions when the quality of service recovery affects the repurchase intention is tested, the 95% interval does not include the number 0 (95% CI: 0.113~0.526), thus indicating that the quality of service recovery affects repurchase intentions,

customer emotions have a mediating effect. The quality of service recovery will first affect customer emotions, and then affect repurchase intentions through customer emotions.

Ⅶ Hypothesis testing.

The hypothesis test results of this study are shown in the following table:

Table 10 Hypothesis test results

No.	Content	Result
H1	Service recovery quality positively affects customer sentiment	Established
H2	Customer emotions positively affect customers repurchase intention	Established
H3	The quality of service recovery uses customer emotion as an intermediary to influence customer repurchase intention	Established

3. Results discussion

(1) There is a total of 161 questionnaires were collected in this survey, and 150 questionnaires in which the respondent had failed online shopping services were classified as valid questionnaires. These two figures represent the recovery rate and mean 93.17% of consumption. Those who have failed online shopping services. There are many reasons for service failure, including: information technology errors, customer communication errors, logistics and distribution errors, and product quality errors. Among the valid questionnaires, 71.34% of customers would

have negative emotions due to service failure. Merchants need to actively provide services to remedy customer negative emotions, and strive to transform them into positive emotions. The universality of online shopping service failure and the high probability of negative emotions both prove that the research in this paper has high theoretical and practical value.

(2) In the context of online shopping failure, the quality of service remediation provided by merchants has a significant positive effect on customer emotions. 80% of the respondents believe that the high-quality service remedies provided by the merchants are the main source

of their positive emotions, and the active remedial measures taken by the merchants can improve the quality of service remedies. The results of the questionnaire show that customers pay more attention to the response speed, communication quality and tangible compensation of businesses. Based on this, businesses can use verbal apologies as the starting point to strengthen the remedial work in the above three aspects and improve the quality of service remediation. It is worth noting that an apology does not work in all situations, but it is indispensable.

(3) After customers have positive emotions, when the same shopping needs appear, 40.66% of customers agree to "first choice for this store"; 54.67% of customers agree that "you can visit this store again"; only 28% of customers agree to "no longer patronize". This data proves that customer emotions have a positive effect on customers' repurchase intentions.

(4) Customer emotions play an intermediary role in the process of service recovery quality affecting customers' repurchase intentions, that is, service recovery quality affects customers' emotions and subsequent shopping behaviors. The higher the quality of service remedy, the more likely it is for customers to have positive emotions, the stronger the willingness of customers to buy again, and the easier it is for customers to repurchase.

4. Management inspiration

According to the analysis of the data and conclusions above, we can carry out service remedial measures from the following points in the process of online shopping:

(1) Build effective communication channels. Once the service failure occurs, the merchant should take the initiative and get in touch with the customer in time, start communication from the customer's point of view, actively understand the cause of customer dissatisfaction, and listen patiently to customer complaints. Observe customer emotional changes in the process of communication, identify customer dissatisfaction, and do preliminary work for service remediation. When the merchant cannot contact the customer in time, it should also ensure the smooth communication channel of the customer, that is, the customer can get effective contact with the merchant at any time, and the merchant can get the information in time.

(2) Improve response speed. When the service

error occurs, if the merchant fails to get the first opportunity to contact the customer actively, the merchant should respond to the customer's complaint in time to minimize the customer's dissatisfaction. Merchants should strengthen the management of consumer complaint process, set up professional departments to classify and analyze the service errors that cause customer complaints, so as to improve the efficiency of remediation and lay the foundation for the establishment of long-term and stable customer cooperation in the future.

(3) Proactive apology. The results of the questionnaire show that customers pay the lowest attention to apology. Apology cannot solve the problem of service errors, but has a positive effect on customer emotional improvement. Merchants' active apology can improve customers' negative emotions and facilitate the implementation of subsequent remedial measures. It should be pointed out that apology is different from explanation. Apology is the attitude of merchants to show their service mistakes, and the explanation is to explain the reasons for the service mistakes. The simple explanation of the merchant will make the customer produce more negative emotion, and make the customer think that the merchant can explain his mistake, which will bring the worse negative effect to the merchant. In the process of remediation, merchants should euphemistically explain the reasons for service errors under the premise of apology, so that customers can feel the positive attitude of business service remediation.

(4) Make tangible compensation. When service errors cannot be remedied by return and exchange, merchants can choose to compensate to eliminate customers' negative emotions. Merchants can give customers a certain amount of material compensation through coupons and cash returns, and appropriate tangible compensation is more conducive to eliminating consumers' negative emotions and improving customers' satisfaction with service remedies. Through effective service remediation management, ensure customer loss reduction, repair and maintain the damaged relationship between service provider and dissatisfied customer, maintain and improve customer retention.

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