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Abstract: In recent years, the rapid development of electronic commerce in China has made online shopping one of the most important shopping ways. However, there are more and more service failures on online shopping, and complaints about them are increasing, which will hinder the development of e-commerce in China. After service failure occurring, customers are going to decide the parties who are responsible for the failure typically based on specific failure situation and personal experience, namely service failure attribution. A lot of research has discussed the effect of service failure attribution on service recovery, customer satisfaction, trust and loyalty, as well as consumer intent of sequent behavior. And yet, the research on service failure attribution process is relatively less. Based on the literatures, this paper examines the effect of failure severity on service failure attribution of locus, controllability, and the moderating role of customer relationship and social responsibility image. The results of this study suggest that: Severity of failure has a significantly positive effect on service failure attribution of locus, controllability; Customer relationship significantly moderates the influences of failure severity on service attribution of locus, controllability; Social responsibility image significantly moderates the influences of failure severity on service attribution of locus, controllability.

Keywords: service failure attribution, severity of failure, customer relationship, social responsibility image

1. INTRODUCTION

Service failure has always been a matter in enterprise service which can't be completely avoided, (Bailey, 1994; Smith & Bolton, 1998) and the possibility of service failure in online shopping appears larger because of its characteristics, what's more, the rising complaints about online shopping and the damages of service failures to merchants can be seen that the service failure will become a serious problem affecting the development of online shopping. As far as possible to avoid service failures and properly handle the service failures which has already happened in online business are an urgent problem needing to be solved. Online shopping, because of its complexity, after service failure occurring, it is sometimes hard for the customer to find out the real cause of the failure; while failure attribution plays a significant role in consumers' satisfaction, trust, loyalty, and word-of-mouth. Thus, it is very necessary to explore the customer failure attribution process and the influence factors after the occurrence of service failures. Many scholars pointed out that clearing up the customer service failure attribution process and influence factors is very important. Tsarenko and Tojib (2012) points out that understanding how the customers attribute the service failure after its occurring is helpful to take effective recovery to the failure and make customer change their mind. Singhal (2013) in the study showed that service supporters understanding how customers attributed failure can provide appropriate remedial strategy to meet the needs of customers, establishing a good relationship with customers. In this paper, we explore the consumer service failure attribution and verify the effect of failure severity on customer service failure attribution. In addition, this paper also introduces the concept of customer relationship and the social responsibility image, and studies the regulation effect of consumer relationship and corporate social responsibility image on consumer service failure attribution

2.   LITERATURE REVIEW AND RESEARCH HYPOTHESIS

2.1 The influence of the service failure severity on service failure attribution.

Since the 1980 s, a large number of scholars have studied the service failures. Most scholars defined the service failures from three aspects: expectation perspective, customer satisfaction perspective and comprehensive perspective. The representative scholars to define the service failure from the perspective of expectation are Gronroos, and Gronroos (1992) argued that because the services have not reached the consumer expectation, thus the customer expectations gap is service failures. The representative scholars to define the service failure from the perspective of customer satisfaction are Keaveney, Hollway. They thought when service system failed to reach the expectations of customers, which made customers feel dissatisfied, then service failure occurred. (Keaveney, 1995). The representative scholars to define the service failure from the comprehensive perspective are Smith and Bshoff who (2005) pointed out in the process of service contact.If the service provider didn't provide the service to meet customer expectations, then the customer might be not satisfied and produce a series of negative behavior, such as negative word of mouth. (Bshoff, 1995).

Comprehensively, service failure includes two aspects of both service failures which did not meet customer expectations and customer's dissatisfaction. When services under standard of customer expectations, the expectation gap is produced and bound to lead to the customer's dissatisfaction. This paper also uses comprehensive perspective to define the service failure, we think that the service failure refers to the performance of service under standard of customer expectations or service which causes customer dissatisfaction in the process of the entire service.

Smith (1999) defined the service failure severity as the loss degree felt by customers after service failure, and customer perception of the loss depended on the service failure severity. Summarizing scholars' researches on service failure severity, we found that customer's judgment for the service failure severity has a strong subjectivity. That is to say, for the same service failure, different customers may feel different level of service failure severity and make different reaction. This article defines service failure severity as customer subjective feeling of service failure severity, not an objective level of service failure severity.

Zeithaml (1979) argued that attribution is a kind of consumer's subjective inference of reason of a result. Thus, it may not be the real cause of the thing. For the same events, different people may have different attribution. As to researches on service failure attribution, Folkes(1984,1988) and Weiner (1986) proposed the most influential service failure attribution dimension within the field of consumer behavior based on the comprehensive research of scholars ,which can be summarized as two dimensions: locus and controllability. Service failure of locus attribution dimension refers to the problem of service failure responsibility ownership. It may be caused by inside factors (the reason of service failure is caused by the consumer themselves) and external factors (service providers caused the service failures) or scenario (unfortunately environmental impact) (Oliver, 1993). Controllability dimension refers to the service failures degree that can be changed with the willingess of a person. Namely, customer can control the extent of the incident. In this study, we measure the dimension of service failure attribution referring to Weiner service failure attribution of locus and controllability.

When a service failure thought as very serious by customers often means that the service failure is very clear and unacceptable, customers tend to believe that service providers should not ignore it in the product production and service contact (Hsin Hsin Chang, 2015).The more serious the service failure becomes , the more customer want the service provider to take actions. At the same time, they are more inclined to attribute the service failure to service provider.（Tsai，2014）. Heller (2012) in the study of the Toyota recall also showed that in the serious service failure cases, the customers would think the service failure is not acceptable, and the service provider should be responsible for it.

Based on the above , we think that after the occurrence of service failures, service failure severity will

positively influence customer service failure attribution of locus, controllability.

Thus, we put forward the first hypothesis of this study:

H1a: the more serious the service failure becomes, the more customers tend to think the service providers shoulder the responsibility.

H_1b: the more serious the service failure becomes, the more customers tend to think that failure reasons can be controlled.

2.2 The regulating effect of customer relationship

Customer relationship is very important for enterprise, beause many service enterprises are using and attaching attention to relationship marketing (Priluck, 2003).

Gutek (1999) divided customer relationship into three categories by the delivery of service mechanism between customers and service providers: real service relationship, fictitious service relationship and encounter service relationship. The real service relationship is that customer expects to contact with the same service provider in future and points a particular service personnel as his service provider, customers and service providers are very familiar with each other. The fictitious service relationship refers to the repeated contact between the customer and a service provider, but in each contact, service personnel is different. The encounter service relationship is opposite with the real service relationship. Customers constantly contact with different service personnel and service providers, while don't expect to have more contact in the future, such as roadside stalls to buy water, corner shop to buy snacks. Gutek and other scholars in the research thought that essentially fictitious services are more likely to be same as encounter service relation. So, in the study we focuses, on the discussion of the real service relationship and the encounter service relationship, but less on the discussion of fictitious service relationship. We classify relationship between the customers and service providers into trust relationship and encounter relationship by taking reference to Gutek (1999), Mattila (2001) and sheng-liang zhang (2010) research. Trust relationship is that customers and service providers or service personnel are familiar with and understand each other, customers often buy its service; while encounter relationship is that customers and service providers or service personnel are unfamiliar with each other, which is the first time to buy the service provided by service providers or service personnel.

After service failure happening, trust relationship customer expectations of maintaining this relationship for a long time will make customers tend to ascribe the failure to some external unstable reasons (Hess, 2003), they may forgive service providers of some failures. XiaoLi and Yao Yao (2005) verified the regulation effect of customer relationship type on the relationship between service failure and customer dissatisfaction, the finding showed that the possibility of switching suppliers in trust relationship was lower than that in encounter relationship, while trust relationship customers had higher repurchase intention. Trust relationship customer loyalty to service providers can affect customer service failure attribution, customer loyalty can reduce customer perceived risk to negative events and service failures (S Choi, 2015). After service failure occurring, trust relationship customers will reduce the service failure attribution of controllability. Trust relationship can mitigate the negative response of consumers to service failure (Gre´goire, Fisher, 2008), and reduce service failure severity judgment as well as negative response (XiaoLi, 2005; sheng-liang zhang, 2015).

According to the above theoretical researches, we think customer relationship has a regulatory role in the effect of service failure severity on service failure attribution. For trust relationship customers, influence of service failure severity on the service failure attribution will be weaken. Based on these, we come up with the second hypothesis.

H_2a: the influence of service failure severity on service failure locus attribution in trust relationship is weaker than that in encounter customer relationship.

H_2b: the influence of service failure severity on service failure controllability attribution in trust

relationship is weaker than that in encounter customer relationship.

2.3 Moderating effect of social responsibility image

In recent years, the concept of corporate social responsibility is increasingly acknowledged by enterprise, the public and scholars (Vaaland Heide, 2008), setting a good image of corporate social responsibility is utmost of importance to a service enterprise (Kim&Kim, 2014; Martinez & he, 2013; Park & Lee, 2009). Davis (1960) defined corporate social responsibility as corporate decision makers who take actions to protect and improve the whole social interest, which is consistent with their own interests. Carroll (2007) argue that modern enterprises should be responsible for not only shareholders and corporate investors but also the society as a whole. Reviewing related literature, we find that in the study of corporate social responsibility image, most scholars divide the corporate social responsibility image into two categories, high and low social responsibility image (Chi - Shiun Lai, 2015). Therefore, corporate social responsibility image is also divided into two categories, high and low corporate social responsibility image.

Corporate social responsibility image will influence the customer service failure attribution through the enterprise association (Crocker, 1981; Aaker, 1996). Customers will produce good association with high social responsibility image of enterprise, and then they ascribe the service failure to the external, unstable and uncontrollable factors. Social responsibility image has a positive effect on customer trust after service failure happening, which will reduce customer perception of service failure loss and be more willing to believe the merchants interpretation for the service failure (Choi, 2013). Klein (2004) study proves that the impact of low corporate social responsibility image on customer service failure attribution is worse than a high social responsibility image and the low social responsibility image makes customer perceive higher risk and service failure severity. Customer will think the service failure more serious.

Based on the above theoretical research, this study thinks that after the occurrence of service failures, social responsibility image has a moderating effect on the relationship of service failure severity on service failure attribution. In the situation of high social responsibility image, after service failure occurring, customers would decrease the perception of service failure severity through social responsibility image of halo effect, and then it would have a positive impact on customer service failure attribution, while ,the situation of low social responsibility image is on the contrary. Based on these, we put forward the third hypothesis.

H_3a: the influence of service failure severity on service failure locus attribution in high social responsibility image is weaker than that in low social responsibility image

H_3b: the influence of service failure severity on service failure controllability attribution in high social responsibility image is weaker than that in low social responsibility image.

3.   THE RESEARCH METHOD

3.1 The experiment scene design

This experiment uses the scenario simulation method, participants are asked to complete a specific task in a certain role through the provision of a hypothetical scenario. The experimental design is about a hybrid experiment of situational variables are 2 (service failure severity serious/not serious) x 2 (customer relationship trust/encounter) x 2 (social responsibility image high/low). Service failure severity as variables in the group, customer relations and social responsibility image as the variables between groups. The subjects are college students, this study select mobile power as test items. Because students are familiar with the mobile power supply and buy it frequently, we require the subject to carefully read a scene description material and respond to questions. We use "After receiving the courier ,you find mobile power supply appearance is not entirely new, it seems that someone used it before " to represent a serious service failure severity, and use "after receiving the courier, you find that there is a slight damage to product box, after checking, you   confirm mobile power

supply without any problem, the appearance and function are very normal" to represent the not serious service failure severity; Using "Frequently purchase goods from the merchants and have a good knowledge of the merchants ,which gives priority to the merchant at the every time you buy something. And then you trust in this merchant " to represent the trust customer relationship; using "Never buy goods in the merchants before, and you are unfamiliar with this merchant. This is the first time to buy goods from this merchant" to represent the encounter customer relations; using "Merchants set up a public welfare donations. If a piece of goods is sold out, businessmen will donate some money to the charity. In addition, the business ranked first in the list of an online business social responsibility and charity." to represent the high social responsibility image; using "the businessman did not take part in any activities about social responsibility and charity and didn't donate any public welfare institutions. The business ranked bottom in the list of an online business social responsibility and charity" to represent the low social responsibility image.

3.2 Variable control and measurement

We use service failure severity scale, customer relationship scale, social responsibility image scale, service failure attribution scale by separately altering scale in Smith (1999), Mattila (2001), Carroll (2007). Weiner (1986). All scale adopt 7 scale score, the higher the score and the higher agreement on statement of measurement items. We conducted the experiment at a university in Wuhan, eventually collected 389 valid samples.

3.3 Data analysis and hypothesis testing

This article mainly uses the SPSS22.0 software to analyze experimental data, we test the reliability of service failure severity, customer relationship, social responsibility image, service failure locus/controllability attribution, their Cronbach a coefficients were 0.960, 0.950, 0.940, 0.928/0.884, and all of them were more than 0.8. Thus, we can think these scales have good reliability. Putting service failure severity, customer relationship, social responsibility image into factor analysis into factor analysis, KMO values are separately 0.765, 0.864, 0.742, all the p values are 0.000, and the factor value of each measurement item is greater than 0.500, showing that these scales have good validity.

Putting the data of service failure severity into independent sample T test, p value is $0.000<0.05$，which proves that the controlling of service failure severity is successful. Using single factor analysis of variance to test the effect of service failure severity on service failure locus attribution, controllability attribution, the results show the corresponding p value is respectively equal to 0.000, 0.024, all of them are less than 0.05, demonstrating that under the different level of service failure severity, the means of service failure locus attribution and controllability attribution are significantly different. Specifically, under the condition of serious service failure severity, the values of service failure locus attribution and controllability are higher than those under not serious service failure severity .So, the results are consistent with both hypothesis 1a and 1b.

The moderating effect of customer relationship on the influence of service failure severity on service failure locus/controllability attribution are analyzed by multivariate analysis of variance. The results show that p values are separately equal to $0.035/0.002<0.05$,demonstrating that the interaction of service failure severity and customer relationship has a significant difference on service failure locus/controllability attribution. Thus, hypothesis 2a/b are supported, which can be seen in the figure 1 and figure 2.

What's more, the moderating effect of social responsibility image on the influence of service failure severity on service failure locus/ controllability attribution are also analyzed by multivariate analysis of variance, The results show that p values are separately equal to $0.023/0.006<0.05$,demonstrating that the interaction of service failure severity and social responsibility image has a significant difference on service failure locus/controllability attribution, Thus, hypothesis 3a/b/are supported, which can be seen in the figure 3 and figure 4.
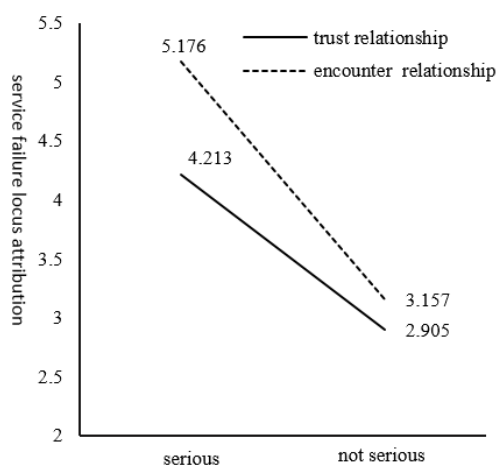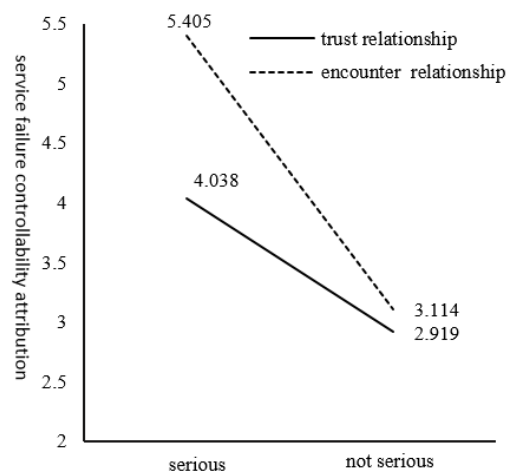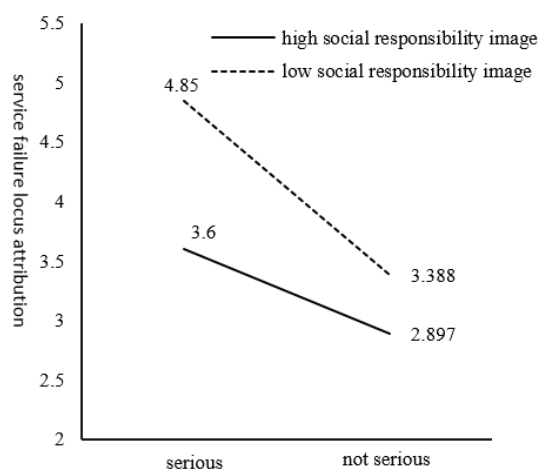
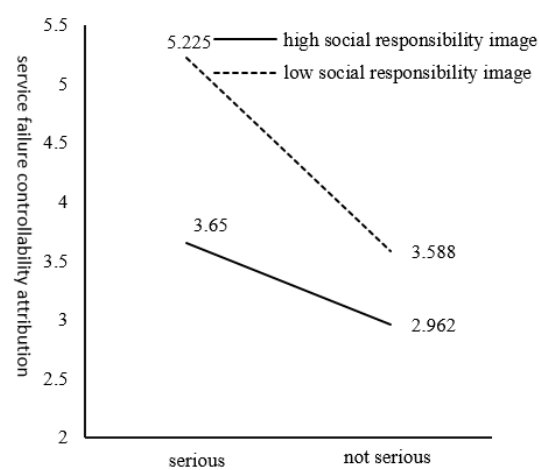**Figure 1.**

Figure 2.

Figure 3.

Figure 4.

4. THE RESEARCH CONCLUSION

In this study, we get the following conclusions based on the empirical studies of service failure severity, customer relationships, social responsibility image and service failure attribution:

First, service failure severity has a significantly positive effect on service failure locus/ controllability attribution. The more serious the service failure severity, the more customers tend to ascribe the service failure to internal, and controllable factors. Service failure attribution has an important influence on customer's satisfaction, trust, repurchase and word of mouth. So businessmen should try hard to avoid service failure severity. Service failure severity is a kind of subjective judgment and different customer may have different perception of service failure severity. As for this point, enterprises and businesses can find out the serious service failure considered by the customer in different types of goods through the historical data analysis, and then, merchants can make effective feasible solutions to these service failure.

Second, the research conclusions prove the importance of customer relationship management in e-commerce, the characteristics of the network make the network business relationship marketing more difficult than offline business, but the web merchants can form more stable and higher customer trust relationship. Currently, most web merchants are still at the stage of extensive growth of sales volume and few businesses

devote to customer relationship management to improve the trust relationship between the merchants and customers. In this paper, we illustrates the importance of customer relationship management to service failures for the online businesses. Therefore, businesses should start to pay attention to network relationship marketing, establishing a trust relationship with customers.

Third, the social responsibility image can decrease the positive influence of service failure severity on the service failure attribution. For the corporate with high social responsibility image, the possibility of attribution to internal and controllable factors can be reduced. E-commerce enterprises and merchants can get certain enlightenment from this conclusions, while participation in social responsibility activities will take some costs. The social responsibility image plays a positive role in development of enterprises and businesses as well as bring benefits to businesses in the long run.

5. STUDY LIMITATIONS AND THE FUTURE DEVELOPMENT DIRECTION

There is still some work we need to do in the future research. First, there exists the limitation of the sample. In this paper, the majority of the sample in empirical study are consisted by college students, although they are now main group of online shopping, they can't completely cover all the features of the network shopping crowd. In real life, the service failure attributions are also affected by personal character traits, customer knowledge level, the types of service failure, brand image and so on, which would be discussed in the future. At the same time, this article research model remains to be enriched, such as the influence of service failure attribution to customer loyalty, customer satisfaction, customer trust and word of mouth. Thus, we need to deepen research on customer behavioral intention following service failure attribution in the future.

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