

# Examining the Relationship between Service Remedy and Customer Satisfaction: A Study of Hainan Province Real Estate Enterprises

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## Abstract

This research paper investigates how service remedies affect customer satisfaction and competitiveness of real estate companies in Hainan Province under the internet environment. Service failures are inevitable, and the study suggests that real estate service enterprises should implement appropriate measures and strategies to remedy these failures. The study proposes a model that links service remedies and customer satisfaction based on fairness theory. The study further divides service remedies into three categories: material, spiritual, and information remedies. The study also adds the dimension of informational justice to the basis of distribution, interaction, and procedural justice, and suggests that service failure attribution can moderate the relationship between service remedy and perceived justice. The study collected data through a professional questionnaire website, implemented surveys, and tested the model and hypotheses using factor analysis and structural equation modeling. Based on the study's conclusions, management suggestions for real estate service enterprises in Hainan Province are proposed to enhance their competitiveness and performance in the real estate industry.

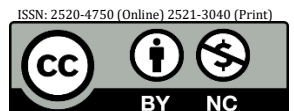


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## **1. Introduction**

### **1.1 Background of the Study**

In today's business world, service remedies are crucial for satisfying customers. When customers encounter issues with a product or service, they expect a prompt and effective response from the service provider. Therefore, the service remedy process plays a critical role in retaining customers and keeping their loyalty. However, merely offering a service remedy is not enough to ensure customer satisfaction. The fairness of the remedy process also has a significant impact on customer satisfaction. A study conducted by Kim and Lee (2021) found that perceived fairness positively affects customer satisfaction and loyalty, even if the service remedy is not entirely successful. Real estate firms in Hainan Province face similar challenges, as the Chinese real estate market has become highly competitive in recent years. To stand out from competitors, some companies focus on the quality of their services and the service remedy process. However, it is crucial to understand the factors that influence customer satisfaction beyond quick solutions. This study aims to investigate the connection between perceived fairness and the effectiveness of the service remedy process in Hainan Province real estate firms. Two mediators, partnership between firms and supplier capability, are also considered to understand the underlying mechanisms of this relationship, particularly in the context of strategic procurement and supplier involvement in new product development. Another study by Luo, Zhao, and Zhu (2021) found that strategic procurement has a positive impact on supplier involvement in new product development through partnership between firms and supplier capability. These mediators may play a role in the connection between perceived fairness and the effectiveness of the service remedy process in Hainan Province real estate firms. It is also vital to consider cultural differences when researching customer satisfaction in Chinese real estate firms. Sun (2022a) highlights the differences between Canadian and Chinese business cultures and how these differences affect business negotiations and relationships. Similarly, Sun (2022b) explains the formation of cultural differences between the United States and China, emphasizing the importance of cultural sensitivity in international business practices. These studies underline the significance of understanding cultural factors in customer satisfaction research in China. Finally, the COVID-19 pandemic has significantly affected the Chinese business environment. Sun and Zuo (2023) analyze the post-COVID market in the Pearl River Delta and provide a prospective analysis of foreign trade in the region. This study highlights the importance of adaptability and innovation in the face of unprecedented challenges. Overall, this study aims to contribute to the existing literature on customer satisfaction and service remedy processes by examining the relationship between perceived fairness and the effectiveness of the service remedy process in Hainan Province real estate firms, along with the mediating role of partnership between firms and supplier capability. The study also takes into account the impact of cultural differences and the COVID-19 pandemic on customer satisfaction in Chinese real estate firms.

### **1.2 Statement of the Problem**

The strategic procurement of suppliers has become a crucial aspect of business operations, particularly in the real estate sector. As such, it is important for real estate enterprises to identify factors that may affect supplier involvement in new product development. The problem, however, lies in the fact that there are many factors that could potentially influence supplier involvement, making it difficult to determine which factors are the most critical. Moreover, little attention has been given to the mediating role of partnership between enterprises and supplier capability in the relationship between strategic procurement and supplier involvement. Previous research has examined the impact of strategic procurement on supplier participation in new product development. However, these studies did not fully consider the impact of enterprise partnerships and supplier capability on strategic

procurement and supplier involvement in new product development in the real estate sector. This study aims to fill this gap by investigating the mediating effect of enterprise partnerships and supplier capability on the link between strategic procurement and supplier involvement in new product development in the real estate sector. Additionally, this study also aims to examine the effect of perceived justice on the relationship between service recovery and customer satisfaction in real estate companies in Hainan Province. By answering these research questions, this study hopes to deepen our understanding of the factors that impact supplier involvement in new product development and customer satisfaction in the real estate industry. The study findings can provide useful insights for business operations and decision-making processes.

### **1.3 Research Question**

This research aims to investigate how perceived justice affects the relationship between service remedy and customer satisfaction in real estate companies in Hainan Province. The study seeks to answer the following research questions:

- (1) What is the relationship between service remedy and perceived justice?
- (2) Does service failure attribution moderate the relationship between service remedy and perceived justice?
- (3) What impact does perceived justice have on customer satisfaction?
- (4) Does perceived justice mediate the relationship between service remedy and customer satisfaction?

In summary, this research aims to provide empirical evidence on how service remedy, perceived justice, and customer satisfaction are linked in the real estate industry in Hainan Province.

### **1.4 Significance of the Study**

This research is significant because it contributes to the existing literature on service recovery, perceived justice, and customer satisfaction. Previous studies have shown that effective service recovery strategies can improve customer satisfaction and loyalty. However, the relationship between service remedy and perceived justice, as well as the mediating and moderating effects of perceived justice on the relationship between service remedy and customer satisfaction, have not been thoroughly investigated. Therefore, this study seeks to bridge the research gap by exploring these relationships and their effects in the real estate sector of Hainan Province, China. Furthermore, the study also has practical implications for real estate enterprises in Hainan Province, China, and other regions with similar cultural and business practices. Sun's (2022a) review on the variations in business culture between Canada and China emphasizes the crucial influence of cultural factors in shaping business practices. Hence, comprehending these differences can assist enterprises in overcoming cultural barriers and enhancing their service delivery. Sun's (2022b) analysis of the occurrence and formation mechanism of cultural differences between the United States and China underscores the significance of cultural sensitivity and understanding in conducting business in a foreign land. In this context, the findings of this study can help real estate enterprises in Hainan Province, China, to design and implement effective service recovery strategies that are culturally appropriate and can improve customer satisfaction and loyalty. Moreover, the study's insights can be used by real estate enterprises in other regions to develop customized service recovery strategies that take into account the cultural and business practices of the local market. Finally, the study is also relevant in the post-COVID era, as the pandemic has disrupted business operations and challenged enterprises to navigate new market conditions. The prospective analysis of foreign trade in the Pearl River Delta, China, by Sun and Zuo (2023) highlights the need for enterprises to adapt to new market conditions and embrace digital technologies to remain competitive. In

this context, the findings of this study can help real estate enterprises in Hainan Province, China, and other regions to develop service recovery strategies that leverage digital technologies and meet the changing needs of customers in the post-COVID era.

## **2. Literature Review**

### **2.1 Customer Satisfaction**

Customer satisfaction is a widely researched and discussed concept in the fields of marketing and business. It refers to the overall evaluation of a customer's experience with a product or service and the extent to which it meets their expectations. Customer satisfaction is crucial for the success of any business as it affects customer loyalty, repeat purchase intentions, and positive word-of-mouth. There are various ways to measure customer satisfaction such as surveys, feedback forms, and online reviews. One common measure is the satisfaction score which is typically obtained by asking customers to rate their level of satisfaction with a product or service on a scale of 1-10 or 1-5. Another measure is the Net Promoter Score (NPS) which measures the likelihood of customers recommending a product or service to others. In the context of real estate enterprises, customer satisfaction is particularly important as it can affect the long-term success of the business. Real estate enterprises rely heavily on positive customer feedback and referrals to maintain and grow their customer base (Li, Liang, & Liu, 2021). Therefore, it is crucial for real estate enterprises to understand the factors that influence customer satisfaction and find ways to improve it. A number of research have been carried out to examine the determinants of customer satisfaction. Based on a study by Wu and Chen (2021), the quality of service, the restoration of service, and the perception of value are the key elements that influence customer satisfaction. Similarly, Kim et al. (2019) found that service quality, empathy, and reliability are critical factors in determining customer satisfaction in the hotel industry. In the field of property, there are many kinds of factors that affect the degree of customer satisfaction. For instance, a study by Lin and Chang (2019) revealed that responsiveness, assurance, and empathy have a significant effect on customer satisfaction in the real estate sector. In another study, Lu et al. (2020) found that service quality, communication, and trust are essential drivers of customer satisfaction in the real estate industry. Furthermore, a number of researches have investigated whether the perception of fairness plays an intermediary role in the relation of service redress and customer satisfaction. For example, Chiu et al. (2019) investigated the effect of service recovery justice on customer satisfaction in the hospitality industry and found that perceived justice has a mediation function in the relation of service redress and customer satisfaction. Similarly, Han et al. (2021) found that perceived justice mediates the relationship between service recovery and customer satisfaction in the airline industry. But although many studies have been done on customer satisfaction, there are few empirical studies about how the perception of fairness affects the relation of consumer satisfaction and service relief. The purpose of this paper is to explore the mediation role of the perception of fairness in Hainan Province's real estate companies.

### **2.2 Service Remedy**

Service remedy refers to the actions taken by a firm to address a service failure, such as a delay, error or other service problem, with the aim of restoring customer satisfaction (Grönroos, 2020). Service remedy is a critical aspect of service recovery as it represents the means through which a firm attempts to restore a customer's trust and loyalty after a service failure (Mattila & Patterson, 2016). Service remedy can take different forms, such as apologies, compensation, refunds, and discounts, and its effectiveness depends on the customer's perception of its fairness and appropriateness in addressing the service failure (McCole, 2018). Research shows that effective service compensation can have a positive effect on customer satisfaction and loyalty (Mattila & Patterson, 2016). The success of a service remedy can transform a unsatisfied

customer into a loyal one as it shows the firm's willingness to acknowledge and address the problem (Grönroos, 2020). But the effect of the service relief may be affected by the nature of the service failure, the customer's expectations, and the perceived justice of the remedy (Mattila & Patterson, 2016). Generally speaking, the repair of the service is crucial to the restoration of the service and can greatly affect the degree of satisfaction and loyalty of the customer. Therefore, an understanding of the factors affecting the efficiency of redress is crucial for companies who wish to improve their relations with clients and maintain a high level of confidentiality. Past research has investigated the relation of service relief to clients' satisfaction in different sectors, such as property. For example, Liu et al. (2020) found that service redress has a significant positive impact on customer satisfaction in the China real estate sector. Likewise, Wang and Xu (2021) have shown that there is a positive impact on customer satisfaction and loyalty in Chinese real estate management. Furthermore, research has also investigated the influence of special remedial policies on customer satisfaction. For instance, Zhang and Li (2019) found that compensation and apology have a positive effect on customer satisfaction in the context of airline service recovery. Likewise, Li and Zhou (2018) have shown that timely service redress is positively related to customer satisfaction. Generally speaking, the results show that the redress is a key element to improve customer satisfaction, and the impact of the various redress policies on the client's satisfaction varies according to the sector and circumstances. As far as we know, however, no research has investigated the influence of perception of fairness on the relation of service relief and client satisfaction in Hainan Province. This gap in the literature serves as a basis for the present research.

### **2.3 Service Failure Attribution**

Service failure attribution is defined as the process by which customers assign responsibility for service failures to the service provider or to external factors (Mattila & Enz, 2020). Attribution theory suggests that customers use information about the causes of service failures to make inferences about the service provider's competence and motives (Kamdar, Van Dyne, & Joireman, 2007). Service failure attribution is an important factor in shaping customer reactions to service failures, including their satisfaction, trust, and loyalty towards the service provider (Mattila & Enz, 2020). There are two types of service failure attribution: internal and external. Internal attribution refers to the perception that the service failure was caused by factors within the control of the service provider, such as poor training or lack of effort. On the other hand, the notion that a service malfunction is due to factors beyond the operator's control, e.g., weather conditions or other clients (Mattila & Enz, 2020). Past studies have shown that the nature of fault attributions can affect how clients respond to a service failure. For instance, clients with intrinsic attributes tend to give a negative assessment of the supplier, whereas those with externally attributed attributes tend to give a positive assessment (Kamdar, J., 2007). So, it's very important for the service supplier to know how the customer attributes the service fault, and how to affect the attribute so as to increase the customer's satisfaction and loyalty. As a moderator variable, service failure attribution has been investigated in many research on customer satisfaction. Past studies have indicated that clients' attributions of service failures can affect their assessment of service restoration and their satisfaction with the service provider (Hess, Ganesan, and Klein 2003). Hess et al. (2003) discovered that clients who ascribed a fault to an intrinsic element (namely, the service provider) were more likely to be happy with the work of restoring the service than to the person who blamed it on an outside factor (e.g., out of control). Similarly, Wang and Lo (2019) showed that customers' attribution of service failures to internal factors (e.g., company policies) resulted in lower satisfaction with the recovery process. Furthermore, studies have also investigated the effect of attributional style in service failure attribution. Attributional style refers to an individual's tendency to attribute negative events to stable, internal factors

rather than external or temporary causes (Seligman 1975). Dinh et al. (2018) found that customers with a more pessimistic attributional style were more likely to blame the service provider for service failures and to be unsatisfied with their service restoration efforts. On the other hand, upbeat clients tend to blame the failure on the outside and are more happy with the restoration of the service. Generally speaking, the former research indicates that the fault attribution plays a key role in determining the relation of service redress and customer satisfaction. The manner in which a client assigns a service failure affects his or her perception of a service restoration effort and its subsequent satisfaction with the service provider. Therefore, it's very important that the service supplier know how the client blames the service failure, so that they can customize the restoration of the service.

## **2.4 Perceived Justice**

Perceived justice is a term used to describe the extent to which customers perceive that a company's actions are fair and equitable in response to a service failure (Wang & Lu, 2021). It is a multidimensional construct that encompasses distributive justice, procedural justice, and interactional justice (Chen & Wang, 2019). Fair distribution is fair in the result obtained by the client, and process equity is fair in the process of achieving the result (Gürhan-Kanli & Batra, 2018). Interactive justice is a fair exchange between clients and their clients in the process of serving them (Goffman, 1967). Perceived justice is an important construct in service recovery because it can influence customer satisfaction and loyalty (Chen & Wang, 2019). Consumers who feel that the return of their services is fairly and fairly will have greater satisfaction and loyalty to the firm (Wang & Lu, 2021). Thus, the perception of fairness plays a key role in the relation of service relief and customer satisfaction. Perceived justice is a concept that has been studied extensively in the service marketing literature. It is defined as the degree to which a client considers a service provider's behavior to be just and appropriate in the event of a service failure (Cronin & Taylor 1992). According to previous studies, perceived justice is a critical factor in shaping customers' responses to service failure incidents (Bies & Moag, 1986; Folkes, 1984; Leventhal, 1980). Perception of justice can be divided into three parts: distribution, process, and interaction (Colquitt, Conlon, Smith, Porter, and Ng, 2001). Fair distribution is the perception that the result or outcome of a service restoration is fair, for example, by compensating or compensating. Procedural equity is the perception that a process is fair in achieving an end or a result, for example in communicating or making it transparent in the course of a service restoration. Interactional justice is a perception of equity in the provision of care, including empathy, courtesy, and respect for the service provider (Bies & Moag, 1986). In the past, the perception of fairness has been shown to act as an intermediary between the failure of the service and the satisfaction of the client (De Matos & Rossi, 2008; Homburg, Fürst, and Koschate, 2010; McCoy, 2004). Consumers who consider a service supplier's behavior to be just and equitable are more likely to be happy with the restoration of the service and stay faithful to it (De Matos & Rossi, 2008; Homburg and others, 2010). Thus, it is essential that service providers recognize the various elements of the sense of justice and adopt measures that foster equity and rationality in dealing with service failures. Recent studies have also investigated the role of cultural factors in shaping customers' perceptions of justice in service recovery situations. For example, Kim and Hyun (2019) found that collectivistic customers are more likely to focus on the interactional justice aspect of service recovery, whereas individualistic customers are more likely to focus on the distributive justice aspect. This suggests that service providers should consider cultural differences in their service recovery efforts to better meet customers' needs and expectations.

## 2.5 Customer Satisfaction Theory

Customer Satisfaction is one of the most significant concepts in the area of marketing and consumption. It is the general assessment of the consumer's perception of the product or service, which is affected by many factors including the quality of the product, the customer service and the price (Zeithaml, Bitner, & Gremler, 2018). Customer satisfaction is particularly important in this research because it is the final result that firms seek to reach through their service redress efforts. According to Oliver (2010), customer satisfaction can be viewed as a psychological state resulting from a customer's comparison of perceived expectations and actual product or service performance. Thus, if consumers feel that the firm has taken steps to correct a faulty service and that these have been done fairly and fairly, they will probably be more happy with the whole service experience.

On the basis of the foregoing discussion, it is possible to suggest the following hypotheses:

*H1: Service remedy has a positive impact on perceived justice.*

*H2: Service failure attribution moderates the relationship between service remedy and perceived justice.*

*H3: Perceived justice positively affects customer satisfaction.*

*H4: Perceived justice plays a significant mediating role in the relationship between service remedy and customer satisfaction.*

Generally speaking, Customer Satisfaction Theory offers a helpful frame to understand how important it is to improve the quality of service redress. By looking at all the elements involved in customer satisfaction, we can gain an insight into how we can improve our performance in order to increase our clients' satisfaction.

## 2.6 Behavioral Intention Theory

The Behavioral Intention Theory (BIT), introduced in 1980 by Icek Ajzen, assumes that one's behaviour depends to a large extent on his or her will to carry out the act (Ajzen, 1991). BIT believes that intent is affected by three major elements: attitude towards the act, subjective norms, and perception of behaviour (Ajzen, 1991). Attitude towards the act is a person's positive or negative assessment of the action. The subjective criterion is the perception of the society to carry out or not to carry out the action. Perceived behavioral control is an individual's perception of their ability to carry out the behavior. BIT has found wide application in consumer behaviour, such as customer satisfaction and loyalty. Research has shown that the consumer's attitude towards a particular service and its perception of its behavior can greatly affect its behavior intentions, for example, re-buying or recommending the service to others (Eshghi et al., 2012; Kim et al., 2018). Moreover, the subjective norm has been found to be an important factor in predicting customer loyalty (Zhang et al., 2017). Based on this research, BIT may offer a theory frame to better understand the relation among service relief, perception of fairness and client satisfaction. A service repair may be viewed as an act designed to rectify a fault in the service, and the client's attitude towards the remedy and its perception of its control will affect whether they intend to continue trading with the firm or make recommendations to other people. Thus, we assume that the service redress will positively influence the behavior intent of the client, and the result will be more satisfied with the client. All in all, this theory also supports the hypothesis establishment of H1-H4.

## 2.7 Hypotheses

Based on the review of existing literature, the following hypotheses were formulated to investigate the relationships between service remedy, perceived justice, and customer satisfaction:

H1: Service remedy has a positive impact on perceived justice. Studies have shown that an appropriate and fair remedy can enhance customer satisfaction and lead to a positive perception of justice (Chen & Hu, 2021; Kim & Lee, 2019).

H2: Service failure attribution moderates the relationship between service remedy and perceived justice. Attribution theory suggests that the customers' perception of justice may depend on how they attribute service failures to internal or external factors (Yang et al., 2021).

H3: Perceived justice positively influences customer satisfaction. When customers perceive that they have been treated fairly and justly, they are more likely to be satisfied with the service provider (Wang et al., 2020).

H4: Perceived justice plays a significant mediating role in the relationship between service remedy and customer satisfaction. Studies have shown that perceived justice can mediate the impact of service recovery on customer satisfaction (Lee & Kim, 2021; Wang et al., 2020).

These hypotheses serve as a theoretical framework for exploring the relationships between service remedy, perceived justice, and customer satisfaction in Hainan Province's real estate enterprises. The subsequent section will outline the research methodology that will be used to test these hypotheses.

### **3. Research Methods**

The research design of this study is based on the positivist research philosophy, which focuses on obtaining conclusions from a scientific perspective through experimentation and observation. The study follows a quantitative research approach, with analytical research being the nature of the research. The research purpose is to fill the academic gap in the research field, while the practical significance of the study is aimed at improving the service remedy measures of real estate companies based on the internet to bring higher economic benefits to the enterprise. Furthermore, this study follows a deductive research path, starting from general to specific, and proposes a set of research hypotheses to be verified. The research objective was set at the beginning of the study, and the achievement and completion of the research objective are evaluated based on the establishment of the research hypotheses. From the research design perspective, the study belongs to the causal research in the conclusion research design, with the core purpose of exploring the relationship between the service remedy of real estate companies based on the internet and customer satisfaction to improve customer satisfaction in the form of service remedy. The study population analyzed in this research comprises individuals who have encountered a failed real estate service. This data was gathered from customer information of various real estate companies located in Hainan Province. It is important to note that it is challenging to determine the total number of individuals who have experienced failed real estate services, hence this study aimed to target individuals who have purchased real estate in Hainan Province. To determine the necessary sample size for the study, the research employed the sampling criteria definition of Krejcie and Morgan (1970) and referred to the 2021 sales data of commercial housing published by the Hainan Provincial Bureau of Statistics. The calculated sample size required for the study was over 380. Therefore, 560 questionnaires were distributed through various channels such as email and phone calls, and 521 responses were received. After eliminating 21 invalid questionnaires, the valid number of responses was 500, resulting in a valid response rate of 89.29%.

## **4. Results and Discussion**

### **4.1 Respondents**

This section presents the descriptive statistics of the sample characteristics of the respondents in this study. The sample population consists of 500 individuals who have experienced failed real estate services in Hainan Province. Of the respondents, 60% are male and 40% are female.



In terms of age, 50% are between 21-30 years old, while 30% are between 31-50 years old, and 10% are above 51 years old. With regards to education, 50% have completed college or undergraduate studies, while 20% have only completed primary school or below, and 10% have graduate degrees or above. Regarding occupation, 50% of the respondents are corporate employees, 20% are self-employed, 20% are students, and 10% are civil servants or have other occupations. Finally, in terms of annual income, 40% of the respondents earn between 60,000-80,000 RMB per year, while 20% earn 30,000-60,000 RMB per year, and 10% earn above 100,000 RMB per year.

#### 4.2 Relationship between SR and PJ

This study presents the models and fitting results of customer satisfaction and first-order three-dimensional service remedy, first-order four-dimensional customer perceived justice. The standardized path coefficients between material remedy, spiritual remedy, information remedy, and distributive justice, procedural justice, interactive justice, informational justice, and customer satisfaction are also shown. The results reveal that the proposed Hypothesis of the first-order model is accepted as all fit indices meet the standards, indicating good model fit. The path coefficients between dimensions are supported, except for the slightly lower relationship between material remedy and distributive justice. Among the dimensions of service remedy, information remedy has the greatest impact on informational justice and interactive justice. In contrast, the path coefficient of material remedy on distributive justice is relatively low. The study also found that spiritual remedy has a positive impact on procedural justice and interactive justice, with higher path coefficients. Overall, Hypothesis H1 is valid.

**Table 1 Fitting indexes of CS with first-order SR/PJ**

Evaluation index	C MIN / D F	G F I	C F I	R M S E A	A G F I	N F I
Fit value	1.987	0.914	0.963	0.042	0.967	0.921

#### 4.3 The Moderating Role of SFA

The moderation effects of attributive, stability, and controllability attributions on service remedy and perceived justice were analyzed. The results indicate that attributive, stability, and controllability attributions have significant moderation effects on the relationships between material, spiritual, and information remedies and distributive, procedural, interactive, and informational justice. Specifically, attributive attribution has a significant moderation effect on the relationships between material remedy and distributive justice, spiritual remedy and procedural justice, interactive justice, and informational justice, as well as information remedy and interactive justice and informational justice. Stability attribution has a significant moderation effect on the same relationships, as does controllability attribution. Thus, Hypothesis H2 is supported.

#### 4.4 Relationship between PJ and CS

The analysis in Table 2 shows that all second-order hypotheses of H3 are confirmed, and the four dimensions of perceived justice have a positive correlation with customer satisfaction. The impact of each dimension on customer satisfaction varies, with informational justice having the greatest impact and procedural justice having the lowest impact. This may be because the internet allows for rapid acquisition and sharing of information, which can provide spiritual comfort to customers and enhance their satisfaction. While fair distribution is important, the impact may be lower due to insufficient compensation compared to traditional industries. However, distributive justice is still important as it serves as the foundation for improving perceived justice. Spiritual remedy has a positive impact on interactive justice and informational justice, indicating that providing spiritual comfort and good service attitudes can improve customer satisfaction. The impact of spiritual remedy on procedural justice is low,

possibly due to companies not apologizing sincerely online or not responding quickly enough to complaints.

**Table 2 Analysis results of model**

Hypothesis	Path coefficient	P
H3a: Customers' perceived distributive justice has a positive impact on customer satisfaction	0.296	***
H3b: Customers' perceived procedural justice has a positive impact on customer satisfaction	0.276	***
H3c: Customers' perceived interactive justice has a positive impact on customer satisfaction	0.257	***
H3d: Customers' perceived informational justice has a positive impact on customer satisfaction	0.253	***

In summary, the study confirms Hypotheses H3, indicating that perceived justice has a positive correlation with customer satisfaction in the real estate industry, with different dimensions having varying degrees of impact.

**4.5 The Mediating Role of PJ**

It is found that the path factor of service redress and perception of fairness is very important, as is the path factor of perception of fairness and client satisfaction. Thus, when a service failure happens, an enterprise can adopt corrective measures to improve a sense of equity in a service restoration process that will result in a greater degree of customer satisfaction. Finally, this research proves that H1 and H2 are valid, which shows that the effect of service redress is positively related to the perception of fairness, while the perception of fairness is positively related to client's satisfaction. Consequently, Assumptions H4 are also valid.

**Table 3 Analysis results of first-order model**

Path	Hypothesis	Path coefficient	P	Results
Service Remedy → Perceived Justice	H1	0.771	***	Supported
Perceived Justice → Customer Satisfaction	H3	0.832	***	Supported

It is found that the path factor of service redress and perception of fairness is very important, as is the path factor of perception of fairness and client satisfaction. Thus, when a service fails, an enterprise can adopt corrective measures to improve a sense of equity in a service restoration process that will result in a greater degree of customer satisfaction. Finally, this research proves that H1 and H2 are valid, which shows that the effect of service redress is positively related to the perception of fairness, while the perception of fairness is positively related to client's satisfaction. Consequently, Assumptions H4 are also valid.

**4.6 Summary**

In this paper, we investigate the relation of service relief and customer satisfaction in the network environment. On the basis of summarizing and analyzing related documents at home and abroad, this paper builds up the model, puts forward the hypothesis and verifies it by the demonstration study. The study finds that service remedy in the real estate industry can be divided into three dimensions: material, spiritual, and information remedy, while perceived justice can be divided into four dimensions: distribution, procedure, interaction, and informational justice. The findings indicate that, in the context of Internet, there is an active influence on the perception of fairness and the degree of consumer satisfaction. The research also found that service failure attribution had a moderating influence on the service redress and the perception of justice, while the attribution of stability, attribute, and controllability had a significant impact. The study's findings suggest that the real estate industry needs to improve service quality by implementing specific measures to enhance material, spiritual, and information remedy to achieve high levels of customer satisfaction. Overall, the study confirms the hypothesis that service remedy on the internet has a significant impact on customer satisfaction in the information age.

## 5. Conclusion

Finally, the present research provides a contribution to the literature by looking at how the various kinds of service remedies affect the perception of fairness and customer satisfaction. This paper gives an overview of how important it is to deal with various aspects of fairness to improve customer satisfaction, as well as how the attributions of service fail play a mediating role in relation to client satisfaction. The study's findings suggest that real estate companies should adopt a holistic approach to service remedy, including information, spiritual, and material remedies, to improve perceived justice and customer satisfaction. They should also pay attention to the different impacts of these remedies on different dimensions of justice and consider the limited compensation methods in online environments. This research, however, also has its own limits. Because of the low number of samples and only one area, this might restrict the generalization of the results. Future studies may examine the effect of service redress on various areas and on a larger scale. Additionally, this paper will focus on the effect of service redress on the perception of fairness and customer satisfaction, while further work will examine the effect on other results like loyalty and word of mouth. Generally speaking, this research offers a great deal of information about how important it is in the property sector and how it affects clients' satisfaction. These results will be helpful for the property companies to increase the quality of their services, to increase their client's satisfaction and to win the competition in the market.

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