



Research on the Impact of AI Customer Service Remedial Communication Strategies on User Satisfaction in the Context of Meituan Waimai's (Meituan Food Delivery) Delivery Errors

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Abstract. This study aims to investigate the role of AI customer service communication strategies on customer satisfaction from the perspective of service failures on food delivery platforms, such as Meituan Food Delivery. According to the theory of service remediation, the present study seeks to investigate the role of communication strategies, especially the expression of empathy, on the post-service failure evaluations made by the customer. In addition, the present study seeks to investigate the underlying psychological mechanism through which communication strategies affect customer satisfaction, especially the role of perceived being valued as the underlying mechanism, as well as the role of the severity of the service failure as an important situational factor. The present study synthesises the existing empirical findings on the subject to argue that the expression of empathy is an important mechanism through which the customer-provider relationship is repaired in the context of applying AI in customer service. However, due to time constraints, the research design is modified into a literature-based paper. The review from the literature indicates that the empathy-oriented communication approach is more effective compared to a standard communication response in raising customer satisfaction levels, especially when there is a case of service failure.

Keywords: AI customer Service; Empathy Expression; Service Recovery; Customer Satisfaction; Perceived Value

1 Introduction

With the development of artificial intelligence (AI) technology, the role of AI customer service in the digital platform service system is becoming increasingly important. For instance, in food delivery platforms, when customers experience problems in the food delivery service, such as delayed delivery or incorrect delivery, customers will first contact the AI customer service by phone instead of human customer service. Therefore, AI customer service is gradually becoming the first executor of service remediation, playing the role of problem diversion and information collection.

In the previous studies on service marketing, the factor of service errors has been regarded as a key factor that influences customer satisfaction and loyalty [1]. However, according to the Service Recovery Theory, remedial actions can help reduce customer dissatisfaction and even lead to the Service Recovery Paradox, in which the customer is more satisfied with the service remediation than he/she would have been without errors. The previous studies on service remediation have mainly focused on the aspects of apology techniques, compensation strategies, and quality of human interaction in customer service. However, in recent years, with the rising popularity of intelligent customer service on the internet, a new research question is gradually arising: whether the communication channels of intelligent customer service can function as service remediation without the need for emotional expression.

Studies have shown that customers not only focus on the resolution of the issues during the service encounter, but they also focus on being respected and understood [2]. Moreover, the expression of empathy is considered one of the important factors for enhancing customer satisfaction and trust. Empathy expression is the expression of the service provider's understanding, recognition, and concern for the customer's feelings, situations, and difficulties through language during the interaction process. AI customer services are generally characterized by the high templated and programmatic nature of the response methods, which lack the expression of emotions to meet the customer needs.

In such a setting, additional research needs to be conducted to ascertain whether alternative modes of communication can serve as substitutes for the absence of emotional display and boost customer satisfaction during the process of service restoration and their entire experience with the platform. Against this backdrop, the research done today, based on the experience of delivery failures on Meituan, aims at evaluating the impact of different communication strategies used by the AI customer service on customer satisfaction with the service restoration.

The research at hand aims to assess the importance of different communication strategies employed by AI customer service with regard to user satisfaction of the service restoration process. It also aims to test the hypothesis that user perception of value is a mediating factor in the relationship mentioned above and whether the intensity of delivery failure mediates the relationship.

2 Literature review and research hypotheses

2.1 Service Remediation Theory and User Satisfaction

The service remedy theory argues that once a service error occurs, companies are able to remedy customer relationships and customer satisfaction by such actions as apologizing, explaining, compensating, and showing emotional responses. Previous research studies have indicated that the quality of service recovery is an important determinant of customer satisfaction and loyalty. For instance, in an experimental study of service error remediation, Miao et al. revealed that customer satisfaction is significantly influenced by the remediation process in the case of service errors [1].

Further research has found that customer satisfaction with the remediation process is not only influenced by the compensations received during the process, but also by customer satisfaction with the emotional and fairness-related needs in the interaction with the company. Maxham & Netemeyer used the empirical research method on the complaint handling process and found that perceived interactive fairness and perceived procedural fairness in the company's remediation process significantly positively influence customer satisfaction. Interactive fairness had a greater impact on the complaint handling process [2].

In the digital platform-based service environment, the impact of service errors on service satisfaction is also considerable. For example, the errors or delays in food delivery may interfere with the immediate consumption experience of the customer. The customer's negative emotions will not be effectively alleviated through the communication strategies. The customer's negative emotions will be associated with the quality of the service provided by the platform, which may negatively influence the service satisfaction. In terms of the effectiveness of the AI customer service's service remediation process, the communication strategies play an important role.

However, in recent years, research on technology intermediary services has suggested that digital communication strategies may have some effects on fairness in customer service and satisfaction. For instance, van Doorn et al. noted that in service systems, there may exist some advantages in efficiency; however, without emotional expressions, customers may perceive a weaker relationship [3]. Based on the above research results, it can be concluded that in service errors, AI customer service communication strategies may have some effects on customer satisfaction by affecting the remediation process of customers.

Therefore, this study puts forward the following hypothesis:

H1: Compared with the communication strategy based on templates, the AI customer service communication strategy that expresses empathy can significantly improve user satisfaction.

2.2 AI Customer Service Communication Strategies, Perceived Importance, and User Satisfaction

The research on service remedy highlights the significance of interactive justice in the process of complaint handling. Interactive justice is described as the level of respect customers feel and are treated with politeness during the interaction process. The empirical research indicates that interactive justice is significantly positive for customer satisfaction and trust [2].

Empathy communication is linked to emotion recognition, emotional response, and expression of care, which may lead to an improvement in customers' perception of care. In a study on catering services, Lee indicated that expressing empathy is significant for improving customer satisfaction during the process of remedy [4].

On the contrary, template-based communication is more concerned with standardized and procedural communication. Though it may be successful in some ways, due to a lack of personalization and emotional response, it may influence customers' perception of a relationship. A study on automated services has shown that when customers

perceive a lack of humanized care in service response, there is a decrease in satisfaction and trust [5].

Most importantly, the survey has shown that customers' emotional response during the complaint-handling process directly influences customers' perception of service satisfaction. A study by Maxham & Netemeyer has shown that customers who feel respected and valued in remedial measures are more likely to increase their satisfaction. It can be assumed that customers' perception of being valued is influenced by AI customer service communication strategies, which may influence their satisfaction [2].

From the empirical results of the literature review, it can be assumed that perceived importance is one of the psychological mechanisms by which AI customer service communication strategies influence customers' satisfaction.

Based on this, this study proposes the following hypothesis:

H2: Perceived importance is a mediating variable that affects the impact of AI customer service communication strategies on customer satisfaction.

2.3 Severity of Delivery Errors

The severity of service errors is considered an important contextual variable for the effectiveness of remediation. The severity of service errors is considered important in customer expectations for remedial measures by Miao et al. [1]. When the severity of service errors is low, customer expectations for remedial measures are also low. When the severity of service errors is high, customer expectations for remedial quality and emotional responses will also be high.

The severity of service errors also increases the effectiveness of remedial measures on customer satisfaction. When the service error is high, interactive fairness and emotional support have a significant effect in remedying the errors. The role of emotional responses and apologies is also emphasized by Lee [4].

From the above research, it may be inferred that template-based communication may be sufficient to satisfy customer needs with slight delays; however, in the case of errors occurring during product delivery, the role of emotional support and empathetic expression is more emphasized, and thus the effectiveness of empathetic communication will be even more.

Therefore, this study proposes the following hypothesis:

H3: The severity of delivery errors moderates the relationship between the AI customer service communication strategy and user satisfaction. Thus, in cases of severe errors, the effectiveness of empathetic communication is more significant.

2.4 Research Framework

To sum up, the theoretical model of this study is as follows: AI customer service communication strategies (independent variable) influence user satisfaction (dependent variable); Perceived importance as a mediating variable; The severity of delivery errors is a moderating variable.

3 Research methods

3.1 Research Design and Data Collection

The research design for this study is the scenario-based survey method. This is a method used to design scenarios close to real-life situations for the respondents to make judgments. This method is widely used in the research on service marketin.

According to the research hypotheses and variables, the questionnaire design is divided into two scenarios: communication strategies and the severity of the error. The interviewee will be randomly assigned to one of the two scenarios. The respondents are normal users who have experience with food delivery apps. The data collection is planned to be carried out through an online questionnaire platform, with the sample size set to no less than 300 to ensure the statistical analysis requirements for the regression test and the test for the mediation effect.

3.2 Variable Measurement

All continuous variable measurement scales used in this study were based on a 7-point Likert scale, where 1 represents "strongly disagree" and 7 represents "strongly agree".

AI Customer Service Communication Strategy (Manipulating Variables). The manipulated variable of this research is related to AI customer service communication strategies. The communication strategies have two scenarios: template-based communication and empathetic communication. The subjects of this research read different versions of customer service response texts to enter the experimental scenario.

The template-based communication version uses standardized expressions based on the process, such as: "The system has received your feedback, please be patient and wait for the processing results"

The empathetic communication version uses emotional expression based on the process, such as: 'We are very sorry for the poor experience this delivery has brought you. We fully understand your disappointment and will handle it as soon as possible.'

This research used a manipulation test to assess the efficacy of the variables. The manipulation test has the following items: "Customer service responses reflect their understanding and concern for me." The scale of the test is a 7-point Likert scale ranging from "strongly disagree" to "strongly agree," where 1 means "strongly disagree" and 7 means "strongly agree."

User Satisfaction. User satisfaction is the satisfaction scale developed by Miao et al., which is a three-scale measurement [1].

The participants have to rate their level of satisfaction based on the context provided, such as 'I am satisfied with the handling of the platform'; This service remedy meets my expectations

The scale is a 7-point Likert scale ranging from 1 for 'strongly disagree' and 7 for 'strongly agree'.

Perceived Importance. The study will use this variable to measure the level of respect and attention provided to the participants during the remediation process. For instance, 'I believe that my question has received sufficient attention.' 'The customer service response indicates that she understands my situation'

The study will use a 7-point Likert scale ranging from 1 for 'strongly disagree' and 7 for 'strongly agree'.

Severity of delivery errors (manipulated variables). The severity of errors in the delivery process is a regulator that can be manipulated by context, where errors range from slight to extreme.

In order to verify the manipulation effect, a measurement item of "perception of severity" was created, such as "I think that kind of transmission error is very serious." The scale applied in this study is a 7-point Likert scale, where 1 represents "strongly disagree" and 7 represents "strongly agree."

3.3 Data Analysis Methods

This study will apply SPSS 26.0 and PROCESS to perform data analysis.

Descriptive Statistics, Reliability, and Validity Analysis. This study will start to perform descriptive statistic tests on the variable data collected after completing the data collection task. In this regard, the purpose of this study is to present the mean, SD, and correlation coefficient of variable data.

This study will then perform reliability tests on multiple measurement variable data. In particular, Cronbach's alpha coefficient reliability testing will be applied in this study. Generally, if the value of the alpha coefficient is higher than 0.70, the scale can be regarded as reliable. In particular, if the value of the alpha coefficient is higher than 0.80, the scale has strong internal consistency.

In addition, in order to guarantee the structural validity of this measurement tool, this study will further examine the convergent validity and discriminant validity of this measurement tool using exploratory factor analysis and confirmatory factor analysis for each variable. If the factor loading of each measurement tool is significant and higher than 0.50, and there is a good level of differentiation between different structures, this would indicate a good level of construct validity for this measurement tool.

If the reliability and validity tests in the above steps meet the statistical requirements, this study will proceed with hypothesis testing analysis.

Main Effect Test (H1). In order to examine the main effect of AI customer service communication strategies on user satisfaction, independent sample t-tests and regression analysis will be conducted to validate this result. Following this, the independent variable will be communication strategy, which is template 0, empathy 1, and the dependent variable will be user satisfaction. If a significant result is found, then it would be hypothesized that H1 will be supported.

Intermediary Effect Test (H2). PROCESS macro model 4 will be used to test the mediation effect. After that, the Bootstrap method will be used to generate 5000 duplicate samples to form a 95% confidence interval. If the confidence interval of the indirect effect does not include 0, it means the mediating effect is significant, thus supporting hypothesis H2.

Adjustment Effect Test (H3). To verify the moderating effect of error severity, this study will use hierarchical regression analysis and PROCESS macro model 1. Firstly, the independent and moderating variables will be added to the regression equation. After that, the interaction terms will be added to the regression equation, including combinations of communication strategies. If the impact of the interaction term is significant, it means that the moderation effect will be effective.

4 Research Findings

4.1 Communication Quality in Service Remediation

Based on existing research, it is identified that although compensation and problem resolution outcomes are indeed significant in determining the effectiveness of service remediation, it also highly depends on the effectiveness of communication throughout the process. In the context of online food delivery platforms like Meituan, service failures like wrong or missing orders are well-known to be fairly frequent in fast-paced digital service environments, and typically demand immediate interaction between customers and customer service systems, which can include AI. An example is that in 2021, Meituan had a malfunction of its APP that prevented deliverymen from locating the order addresses and prevented consumers from contacting them. Even an hour after an order was placed, some consumers had not gotten their orders, which resulted in a significant number of users being dissatisfied. Within this scenario where a large number of users' dissatisfaction must be addressed at once, it is a significant factor to consider the use of AI to soothe users' emotions when it comes to reducing the crisis experienced by this company.

In preliminary studies on service remediation, it was established that outcome-based factors including monetary compensation and corrective actions were critical determinants of the effectiveness of service remediation.

This phenomenon can be explained with the aid of the theory of justice. In the case of Meituan's AI customer service, interactive justice is of the essence; without vocal tone or facial expressions, customers will only use textual cues to determine whether they are addressed with respect and genuine concern.

Empirical research has also shown that certain communication styles like making apologies and providing clear explanations greatly contribute to customer satisfaction even after accounting for the amount of compensation given [2]. The effects are especially high among food delivery services since service failure is more likely to lead to negative emotions among the users, e.g., frustration or anger, immediately after service failure. When customers experience service failure in food delivery services such as

Meituan, they would look to AI customer service to seek service recovery. In this case, when the emotion of the users cannot be dealt with by the service offered by the AI customer service, the evaluation of the service will probably be negative.

It is thus clear that in the circumstances of the failure of the food delivery service of Meituan, the role of the communication strategy, particularly with the integration of the AI-based customer service system, has evolved into not being a secondary support system, but one of the major determinants of the effectiveness of the remediation of the service failure in the aspects of the satisfaction of the service user, and the quality of the communication being the decisive factor instead of the compensation itself.

4.2 The Role of Empathy Expression

In terms of the use of AI customer service in the context of food delivery, like Meituan, empathy expression was identified as a valuable concept that is central to effective service remediation. Empathy expression has been identified as “a set of language strategies that service providers, either in person or through AI-based interfaces, apply to convey their understanding and concern for customers’ emotional states” [5]. In circumstances where service failures take place, e.g. food delivery failures, empathy expression has been identified as an essential factor in dealing with service failures because service failures not only influence the functionality of service delivery, but also the customer-provider relationship.

Taking into account the fact that service failures are always bound to affect customer trust, which is normally linked to negative emotional consequences, empathy expression will form the basis of solving the service failures as it has the potential to restore customer-provider relationships by acknowledging customer emotional states, and thus it generates a feeling of being respected or valued, a core element of achieving satisfaction.

Conversely, empathy expression was found to be a critical construct in ensuring customer satisfaction in service encounters. Wu et al. performed a meta-analysis, which found that the effectiveness of communicative strategies involving emotional expressions in diminishing customer dissatisfaction in service encounters was established. Miao et al., on the other hand, found that empathy expression in virtual service encounters was effective in increasing customer satisfaction and customer loyalty. The findings can be applied in the scenario of AI customer service in Meituan, where service remediation is provided through an interface [1].

The two mechanisms have been argued to be the foundation of the effectiveness of empathy expression. First, emotionally, empathy expression helps reduce customers’ negative emotions, including anger and frustration, caused by mistakes made in deliveries [4]. Secondly, in terms of relationships, the expression of empathy strengthens customers’ perceptions of being valued and respected, thus building trust [6]. When considering the example of Meituan, where the customers turn to AI customer service with their issues, these mechanisms of empathy expression become a necessity to make customers satisfied in spite of the failures of the platform.

However, it is always noted in the literature that empathy can only work effectively not just when it is present, but most importantly, when it is perceived to be sincere by the customer. Expressions of empathy can be created using pre-designed templates or

algorithms in AI-mediated interactions. In fact, such expressions may also be interpreted by the customers as insincere or templated, which can backfire, potentially exacerbating negative feelings and causing the loss of brand trust [7]. This is especially tricky in the AI customer service environment in Meituan where customers are deprived of genuine interactions and therefore are more susceptible to insincere expressions of empathy.

Thus, in the case of the Meituan food delivery service failure, empathy expression can be considered as not only a communicative strategy but also the process that can restore the relationship that was broken by service failure. Whether the expression of empathy succeeds or fails is not only dependent on its expression but also on its perception by the service users as natural, sincere, and relevant to the situation.

4.3 The Mediating Role of Perceived Being Valued

Among the mediating variables which are found to be germane in the literature on the subject is the perceived importance of the customers, i.e., how far the customers believe that the service provider is attentive enough to their problems. Although it is founded on interactive justice, ‘perceived being valued’ has recently been developed in literature as a key psychological process that converts fair treatment in service recovery into positive customer outcomes such as satisfaction and loyalty [8]. The Meituan food delivery service failure concept is especially applicable in terms of the significance that the customers feel they are being given through the AI customer service interactions.

In their research, Miao et al. demonstrated that in the process of service recovery customers do not merely evaluate whether their issues were solved or not [1]. Rather, customers also determine whether or not the organization has shown genuine concern for their issues. Whenever customers develop the impression that an organization has gone a long way in trying to learn about their issues, their satisfaction is significantly enhanced. But even when the customers believe that the organization has merely been going through the motions of interacting with them, it does not create positive assessments even when they believe that the organization has addressed their issues. It is especially so when it comes to customers of food delivery apps since customers who have issues with their deliveries might be already emotionally charged.

This is even more conspicuous in AI-mediated service settings. Customers, according to De Keyser et al., are more likely to use linguistic cues in the absence of human interaction to determine the extent to which the firm regards them [9]. The empathy expression is extremely important in the Meituan AI-mediated service environment as the majority of the recovery interactions are text-based, and the perceived importance of the user is evaluated. That is, an honest and contextually suitable display of empathy will most likely promote the feeling of being valued by the service platform in the user.

In addition, van Doorn et al. posited that the perceived significance of the service can also impact the acceptance of the service technology, particularly in an AI-mediated service setting [3]. In the Meituan AI-mediated service scenario, where the AI system will tend to “care” about the issue the user is having, the perceived significance of the service will tend to affect the acceptance of the AI service interaction by the user.

4.4 Moderating Effect of Severity of Service Errors

The severity of service error is among the situational factors that has been well agreed to be a major factor in the efficacy of service remediation strategies. As applied to food delivery services on Meituan, service errors can be less serious, such as delays, and more serious, such as food delivery errors, or missing food items. The degree of severity creates various customer expectations: minor failures could require swift efficiency, whereas significant failures could require a considerable amount of compensation and empathetic interaction, thus influencing their assessment of their interactions with AI customer service.

According to Miao et al., customers apply different criteria to assess service encounters based on the severity of service errors. In minor cases of issues, like a minor delay in food delivery, customers might also be preoccupied with the effectiveness and promptness of service resolution. In this case, communication with AI customer service might be adequate in terms of ensuring customer satisfaction. However, in more critical cases like the mistake of delivering the food or the absence of certain food products, customers not only suffer a loss but also experience negative emotions such as frustration and disappointment.

In such circumstances, communication, in particular the expression of empathy, carries a far greater weight. In the situation of Meituan AI customer service, this implies that the user of the service will tend to form his or her opinion of the AI service based on the level of expression of empathy, concern, and responsibility. In case the empathy communication is effective, the service user is bound to be satisfied despite the failure.

The impact of the communication strategies of AI customer service, thus, depends on the level of the severity of service failure. The differences in the communication approaches might not play a large role when the failure of the service is not severe, whereas the effectiveness of empathetic communication is far higher when the service failure is severe. This highlights the significance of the notion of contextual matching in service failure, and it implies that Meituan AI customer service must apply differentiated communication strategies based on the severity of the service failure.

4.5 Characteristics of AI Customer Service

As AI technology advances, the AI customer services have gained popularity in the service remediation of Meituan, particularly in the scenario of failed food delivery services. Although AI customer services have undeniable benefits in terms of timeliness, consistency, and cost-efficiency, a significant limitation lies in the area of emotional intelligence and authentic affective expression, which is useful in the efficiency of services in high-frequency service scenarios [5].

Nevertheless, despite the benefits of AI customer services, it has been discovered that AI customer services tend to be inadequate in terms of emotional expression. Wu et al. claim that AI customer services can be insufficient in terms of emotional expression since AI services are usually grounded on rules or algorithmic responses, which are usually mechanical in nature. In the case of failed delivery services on Meituan, it has been identified that emotional expression is essential since customers who undergo

failed services not only require remediation services but also emotional expression. Despite the remediation services, when the emotional expression of AI customer services is poor, it is observed that the level of user satisfaction is adversely influenced.

Recent studies are also looking at ways of improving emotional communication by AI, including the use of large language models (LLMs) to produce more contextually sensitive and tailored empathetic messages [9]. Indicatively, research has established that strategies like the expression of empathy, personalisation, and contextualisation of communication in services can partly counter the shortcomings of AI in the area of expression of emotions [9]. In the case of Meituan, it means an avenue to proceed along which AI customer service can be programmed to provide answers based on the specific type and severity of the delivery failure encountered in the delivery services.

It is interesting to note that Howcroft and Blake suggest that in standardized scenarios, AI's empathetic expressions can match human effectiveness. Nevertheless, the generalizability of this conclusion to the very emotional setting of food delivery failures should be explored further in human customer services. This implies that the biggest challenge of AI in customer services is not the technology, but the creation of effective communication strategies. The reason is that the effectiveness of AI in remediation services is not so much related to the ability of the technology to solve problems, but to the nature of the communication in the remediation services.

5 Discussion

5.1 Interpretation of Service Remediation Theory in the Context of AI

With the literature provided in Chapter 2 of this dissertation and the findings synthesised in Chapter 4, this paper reinterprets the conventional service remediation theory within the framework of AI customer service, particularly in the case of Meituan food delivery failures. The traditional service remediation theory proposes service recovery as a problem-solving process and a service relationship restoration process, in which the focus is on fairness and emotional interactions.

This paper uncovers a key observation: even though interactions are becoming mediated by AI, the key psychological expectations of respect, understanding, and care as the building blocks of interactive justice do not change from the traditional theory of service remediation. Although the communication is mediated by AI, the customers measure service recovery on whether they were treated with respect, understanding, and care, which are critical aspects of interactive fairness, thereby demonstrating that the psychological needs of the customers were not different even with the change in communication media.

Moreover, the importance of communication strategies is emphasized given the role that technology plays in mediating service interactions. Technology-mediated services can affect the salience of the relational connection in customers' perceptions, as van Doorn et al. note [3]. This research builds on the observation that this decrease is not absolute but is highly the result of the lack of emotional expression in communication with AI agents. In the example of the AI customer service offered by Meituan, where

all that customers can do is to interact through text in response to a delivery error, communication is the only channel through which the relationships can be expressed.

The paper therefore develops the service remediation theory by showing that interactive justice, in the AI-mediated setting, is completely discursively constructed; each indicator of fairness has to be carefully coded in the language output of the system. Communication is not only about the transfer of information anymore but an indispensable process of relationship perception and satisfaction recovery.

5.2 Meaning of Empathy Expression

This research builds upon the existing literature to further elaborate the concept of expression of empathy by not only thinking of it as a communication tool, but as a crucial tool in repairing relationships in the case of service remediation. With Meituan food delivery services, it does not only have a functional challenge in the breakdown of the service, e.g., wrong or missing orders, but also a challenge in the relationship bond between the customer and the service provider. This is normally reflected in the form of a reduced level of trust, a heightened level of negative sentiment, and critical evaluation of the service provider.

Hence, the final aim of service remediation is not only to resolve the problems but to rebuild relationships in their entirety. The expression of empathy is an important component in this regard as it fulfills emotional and cognitive needs. On the one hand, the expression of empathy may aid in reducing negative emotions caused by the failure of the service, e.g., anger, frustration, and disappointment in customers [4]. In this regard, expression of empathy is regarded as a customer emotion regulating instrument. Conversely, expression of empathy has a big role in enhancing customer perceptions that their needs are being understood, thus enhancing trust and relationship strength.

Within AI-mediated situations, empathy expression plays an even more significant role, as a leading proxy for the human warmth and concern that otherwise would have indicated relational commitment. In this regard, customers are not able to use physical interactions with service representatives to determine the attitude of the firm. Expressing empathy is one of the only tools that Meituan AI customer service can apply to create a sense of responsibility in the context of AI customer service. A weakness that this study identifies is that the expression of empathy depends on the perception of customers that it is genuine. In case the customers feel that empathy expressions are pre-programmed or mechanical, then the effectiveness of this tool is eliminated.

So, the given work adds to the current body of research on this topic, showing that, in the context of AI in customer service interactions, not only is the presence of effective empathy expression important, but so is the quality and perception of such an expression. Therefore, so that empathy expression is effective in repairing a relationship under such interactions, the expression must be felt to be natural, contextual, and sincere. It is a valuable addition to the knowledge base on the role of empathy in technology-mediated interactions in customer service.

5.3 Perceived Being Valued

This study suggests "customers' perceived being valued" as a crucial psychological concept moderating the link between AI customer service communication tactics and customer happiness in Meituan delivery failure situations, drawing on the findings in

Chapter 4 and earlier research. Based on interactional fairness theory and backed by Maxham & Netemeyer [2], it has been demonstrated that customer satisfaction results are strongly influenced by how much they feel respected and understood. This technique is particularly important in AI-mediated service environments, as consumers rely only on language content and style to determine whether their worries are truly valued due to the lack of non-verbal indicators like tone and facial expression. Customers' overall assessment of service recovery is strengthened when more sympathetic language is used because empathy expression serves as a main conduit through which perceived value is transferred. Additionally, consumers' propensity to interact with automated services is significantly influenced by perceived interaction quality, as suggested by van Doorn et al. [3]. This suggests that wider user attitudes toward AI customer service are similarly influenced by the perception of being valued. As a result, this construct functions as a fundamental aspect of the AI-mediated customer experience rather than only acting as a mediator of communication strategy impacts on satisfaction.

5.4 Situational Dependence

Any service remediation strategy's effectiveness is essentially context-dependent, with the severity of the service breakdown appearing as a particularly important situational aspect. Failures on the Meituan platform can vary from little delays to serious problems like missing orders, and each has unique psychological repercussions for consumers. This article further suggests that users' expectations of emotional reaction also change in accordance with the degree of the failure, building on Miao et al. 's assertion that remedial expectations fluctuate. Standardized AI communication is often effective in low-severity circumstances because users value effective resolution; but, as severity grows, users' emotional arousal increases and the significance of empathic communication increases accordingly. This demonstrates that service repair is a contextual process where consumers' psychological demands change based on the situation. As a result, this study comes to the conclusion that no communication approach is intrinsically good or bad; rather, its worth depends on how well it fits the particular service scenario, especially the degree of the failure.

5.5 Challenges of AI Customer Service Remedial Measures

This paper identifies deep-seated limitations in AI-mediated service remediation, using Meituan's food delivery failures as a primary case. While AI customer service offers well-documented advantages in response speed, consistency, and cost efficiency, these benefits do not reliably translate into user satisfaction when emotional support is required during service recovery [5]. In delivery failure scenarios — such as missing or incorrect orders — users frequently seek not only a functional resolution but also a sense of being understood and valued, a need that current AI systems often fail to meet adequately, as discussed in Chapter 4. This tension reflects what Wu et al. describe as the efficiency-experience paradox: AI excels at standardized task execution but struggles to deliver the emotionally resonant interactions that drive deeper customer satisfaction. The paradox is especially pronounced on the Meituan platform, where high-frequency emotional events make users acutely sensitive to how they are treated during remediation [7]. Accordingly, this paper argues that the core challenge lies not in AI's

technical capabilities, but in its communication approach, and calls for more sophisticated strategies — including empathy expression and adaptive communication styles — that go beyond operational efficiency.

6 Suggestions

According to the findings of the existing literature, the following recommendations are proposed by this article regarding the design of AI customer service systems and service recovery strategies of online food delivery platforms and other digital service enterprises: The design of AI customer service systems is proposed to be based on a customercentric orientation, which focuses on emotional experience, as well as on efficiency in operations, since the context of service recovery requires more than the resolution of functional problems. Even though AIbased customer service possesses the benefits of quick response speed and manageable cost, it is not easily possible to address emotional needs of the customers with standardized responses in the case of service failure.

Secondly, AI customer service should be designed in such a way that the language design enhances the naturalness of empathy expression. Studies have shown that the manifestation of customer service that is powered by AI can harm the customers' perception of empathy. Thus, businesses must enhance the personification of the communication process through the introduction of situational expressions, dynamic content generation, as well as personalized addressing, etc., to enhance the feeling of being valued by the customers.

Thirdly, the enterprises need to implement differentiated remedial measures based on the level of service errors. In cases of minor issues, automated customer service promotion can be considered; But in cases of severe service failure, human customer service intervention should be considered with the aim of developing an emotionally supportive communication experience, therefore enabling businesses to balance efficiency with user experience [9].

Moreover, the service user must not be overlooked by the business when recovering the service, not merely with regard to the problemsolving process per se, but also with regard to the psychological experience of the service user [10]. As an example, the sense of being valued by the service provider can be enhanced by the feedback mechanisms, thereby encouraging the loyalty of the service user in the long run.

7 Conclusion

This study looks at how AI customer service communication techniques, including empathy expression, affect user satisfaction when Meituan's food delivery platform is recovering from delivery failures. The results show that users' assessments of service repair are influenced by both issue resolution and the way empathy is communicated, with the degree of delivery errors modulating the relative significance of emotional acknowledgment vs quick resolution. These findings imply that since customers' basic

requirements to feel understood and appreciated are constant even in technology-mediated interactions, AI customer support systems should implement diverse communication tactics tuned to the kind and degree of service failures.

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