



A Research on the Structure of Customer's Service Recovery Expectation

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Abstract

Aiming at the actuality that the research about customer service recovery prediction structure is relatively deficient under the background of China culture, based on literature analysis, profound interview, opening investigation and expectation research, we adopt exploratory factor analysis method and confirmatory factor analysis method to develop and validate the scale used to measure customer service recovery expectation in this article. The confirmatory result shows that the scale possesses better reliability and validity level, and the basic content of customer service recovery expectation includes recovery attributes, failure attribution and empowering employees for problem solutions, and in these three factors, the dimension of failure attribution has the largest influences to the satisfaction after customer service recovery.

Keywords: Service Recovery, Customer Satisfaction with Service Recovery, Failure Attribution, Recovery Attributes, Empowerment

1. Introduction

The process property implementing with production and consumption of service product makes service failure inevitable, so the "zero failure" of service quality will never happen, and the service industry has to face the problem how to make customers "secondary" satisfaction when failure occurs in the service. Service recovery is the action that the service provider should adopt for the service failure (Gronroos, 1988, P.10-13). Researches indicated that the service recovery could enhance customers' perceptive value, satisfactory feeling, loyalty and credit, and the satisfactory service recovery is propitious to reduce customers' conversion intention and fluidity (Bitner, 1990, P.71-84, Brown, 1996, P.32-46, Lewis, 2004, P.6-17 & Cong, 2007, P.54-63). McCollough's "service recovery paradox" even pointed out that customer's satisfaction after service recovery would exceed customer's satisfaction without service failure, which more showed the importance of service recovery (Boshoff, 1999, P.236-249).

Customer Satisfaction with Service Recovery is that customer's actual experience to service recovery is better than his expected psychological evaluation and perception. To confirm customer's expectation for service recovery is the premise and important base to study and establish the strategy of service recovery for enterprises. The researches about service recovery expectation in existing literatures involve three dimensional opinions, four dimensional opinions and five dimensional opinions. Aiming at aviation service and bank service, Boshoff et al put forward the three factors including attribution, apology and empowerment of service recovery expectation by the method of experiment through the investigation to 239 informants, and emphasized that the importance of every factor to the customer is not same, and the attribution of assuming mistake is more important than other dimensions (Boshoff, 1998, P.24-47). Through the researches about 700 key service events including Bank, catering, hotel and aviation, Bitner et al found that successful service recovery should include four key factors such as admitting failure, explanation, apology and compensation (Bitner, 1990, P.71-84). Bell et al thought that the service recovery should at least include apology, urgent repair, pure-hearted understanding, symbolic compensation and follow. Subsequently, Bell et al put forward another opinion of five factors and thought the apology, fair solution, pure-hearted treatment, compensation, promise and other service recovery modes could be used to eliminate customer's unsatisfactory emotion when they studied the service recovery of training department for enterprise (Bell, 1992, P.58-63). When Boshoff studied the service recovery for bank customer satisfaction, they identified that six expectations including communication, explanation, atonement, empowerment, feedback and tangibles existed in customer's satisfactory service recovery through the empirical method (N>700), and

developed the satisfactory scale after service recovery which was called RECOVSAT (Boshoff, 1999, P.236-249 & Boshoff, 2005, P.410-425). Boshoff et al reported that the scale possessed higher reliability ($\alpha = 0.899$), construct validity and predictive validity, and pointed out that the importance degrees of various dimensions of service recovery to customer's satisfaction are different, and the importance of communication was stronger than other dimensions.

Through simple review to existing literatures, we found that past researches emphasized theoretical deduction and situational experiment for the research method, and they had not passed strict empirical test (Bowen, 1995, P.73-84), which might be the main reason to reduce the cognition divergence among peoples for the service recovery expectation (Boshoff, 1998, P.24-47). More importantly, because of different cultural backgrounds, consumers in different countries have different expectations to service recovery (Kanousi, 2005, P.57-69 & Lorenzoni, 2004, P.11-25). Though service recovery relates to factors such as service sort and the degree of service failure, but according to Tax and Brown's service recovery justice theory (Tax, 1998, P.60-67), customer's expectation to satisfactory service recovery certainly had commonness, so it is the necessary premise and important base to analyze and know these service recovery expectations for that the service industry establish the strategy of service recovery. Therefore, based on the summarization of literatures, in this article, starting from customer interview, we use the questionnaire of service recovery expectation, adopt many empirical research methods such as exploratory factor analysis and confirmatory factor analysis, try to describe the basic structure and content of customer service recovery expectation under China background through sample investigation of service failure/ service recovery evolved in many service industries, in order to offer references for the service recovery management practice in the service industry and further study the service recovery.

2. Scale design and data collection

2.1 Questionnaire design

Conforming to Churchill's scale exploitation program, we first comprehensively scan literatures evolving customer service recovery expectation and enterprise service recovery strategy, form proper items from quantitative and qualitative views, and confirm basic item though bidirectional translation. Then we implement customer interview to the formative basic item, which main intention is to test the adaptation degree. Through the interview to 67 consumers, we found that almost half of items were opposed by informants, so we used opening questionnaire to investigate 145 customers (including student, worker, manager, teacher and administrative and finance employees) including 67 informants, required them to write their demands to service recovery, and ranked the importance (five items), and classified and summarized all involved items through the discussion by one enterprise management doctor and one enterprise management master, and design the items of questionnaire and make initial questionnaire based on that. Finally, the initial questionnaire was sent to doctor tutor, bank customer service manager, hotel duty manager, supermarket compliant disposal employees and relative persons to evaluate the adaptation and rationality of questionnaire, and then we modified the initial questionnaire according to their opinions, obtained the advance questionnaire with 26 items including four aspects such as employee trustiness, mode of service recovery, solution and service failure attribution. Then we used the advance questionnaire to investigate 112 consumers, and returned 94 effective questionnaires. We used the factor analysis method to analyze the item validity and the questionnaire structure, and found that the item load of employee trustiness was lower (<0.4), and the phenomena of multiple loads existed, and the formal questionnaire including 19 items formed after eliminating these multiple load items (Nunnally, 1978).

2.2 Samples

In the investigation, informants were required to recall whether they had displeasing and unsatisfactory experiences when they accepted service lately, and if they had the displeasing experiences, they were required to fill the accord degree between the treatments and questionnaire items, and the filling adopted Likert 5 point scale, and 1 represented "very discord", and 5 represented "very accord", and finally the informants were required to fill their satisfaction degrees for the treatment results, and 1 represented "very unsatisfactory", and 5 represented "very satisfactory". The investigation put out 453 questionnaires, returned 259 effective questionnaires, and the effective return rate was 57.17%. The consumers' occupations evolved in the samples included student, employee, manager, civil servant, teacher, medical employee and professional technical employee, and the basic characters of sample included that the male and female sex proportion was 1.07:1, and the age distribution was that the personnel below 20 occupied 8.1%, the personnel from 21 to 30 occupied 46.3%, the personnel from 31 to 40 occupied 39.4%, and the personnel above 40 occupied 6.2%. In the samples, the personnel with senior high school experiences occupied 40.9%, the personnel with collegial experience occupied 50.2%, the personnel with master and above master experiences occupied 8.9%. The month income level in the samples mainly centralized in 1000 Yuan to 3000 Yuan and occupied 67.5%, and the area below 1000 Yuan occupied 15.1%, and the area above 3000 Yuan occupied 17.4%. The service failure/recovery event of sample happened in bank (25.1%), eatery (24.7%), telecom (17%), supermarket (10.8%), and aviation (8%). Therefore, the sample distribution for the vital statistics character was balanced.

3. Data analysis and scale validation

Next, we would audit, treat and analyze the return investigation materials. We adopted the factor analysis method of SPSS13.0 statistical software to explore the structure dimension of service recovery, and adopted the confirmatory factor analysis method of Lisrel 8.54 statistic software to validate the exploratory research results.

3.1 Unidimensionality and reliability test

(1) Exploratory factor analysis

The exploratory factor analysis indicated that the KMO test and Bartlett test of samples showed that the original data suited for factor analysis, and then we adopt the principal component analysis and the VARIMAX factor rotation method to implement factor analysis to data. In the analysis, we adopt following three standards to select proper measure variable. First, the minimum load of the variable on certain factor is 0.4. Second, the cross load between variable with other variables is low. Third, the connotation of certain variable must keep consistent with the connotation of other variable of same factor. Only the variable which could fulfill one or two above standards could be kept. Through this process, we adopt the factor which latent root exceeds 1, hold 15 measure variables and obtain a clear 3D structure where 15 items could better vest in 3 component factors, the factor load of every measure item exceeds 0.5, the multiple load doesn't exist and the difference explanation rate exceeds the level of 60% (Hair, 1998).

(2) Confirmatory factor analysis

The confirmatory factor analysis is used to test the stability of 3D structure of service recovery expectation. According to primary result, the fitting degree should be further improved, and one item is eliminated because it displays weak confirmation character. Table 1 is the final analysis result, and the total fitting indexes of the model include $\chi^2=118.67$ ($p=0.00$), $df=53$, $\chi^2/df=2.239$ (<3), $GFI=0.94$ (>0.90), $SRMR=0.048$ (<0.06), $RMSEA=0.060$ (<0.08), $NNFI=0.97$ (>0.95), $CFI=0.98$ (>0.95). Though the statistic of χ^2 test is notable, but other fitting indexes indicate the 3D model could be accepted (Bagozzi, 1988, P.74-94 & Hou, 2004, P.382-414), which shows that good fitting exists between explanation models with data.

(3) Scale reliability test

The Cronbach's Alpha coefficient of service recovery expectation scale is 0.834, and the Cronbach's Alpha coefficient of three dimensions respectively are 0.843, 0.805 and 0.768, and the composing reliability based on Lisrel respectively are 0.860, 0.834 and 0.797, and all t values possess strong statistical significance (>3.29), which shows the measure model possesses good interior coherence and the scale credit is tested.

3.2 Construct validity test

The construct validity is used to test whether the scale could really measure the variable and differentiate convergent validity and discriminate validity. We first use the confirmatory factor analysis to test whether the average variances extracted (AVE) of various potential variables exceeds 0.5, and whether the factor load of every measure variable index on the potential factor possess statistical significance (Anderson, 1998, P.411-423). As seen the line B in Table 1, the loads of all factors exceed 0.5, and the test result of Table 3 shows that the AVE value of various potential variables exceeds 0.5, and values of t achieve the significant level, and all mode coefficients (seen in line B of Table 1) are double times than corresponding standard errors (seen in line C of Table 1), and the composing credits are higher than the advice values by above 0.7, which means the scale possesses good differentiation validity. For the test of discrimination validity, according to Fornell and Larcker's advices, we compare whether the arithmetic square roots of various AVE values exceed the relative coefficients between them and other factors. From Table 2, the arithmetic square roots of various AVE values obviously exceed the relative coefficients between them and other factors, which indicate that the scale possesses good discrimination validity (Fornell, 1981, P.382-389).

3.3 Predictive validity test

We select the satisfactory variable after service recovery to be customer's prediction concept for service recovery expectation in order to test the predictive validity of scale. The satisfaction after service recovery includes three items (totally speaking, the recovery measure of enterprise is satisfactory, and the recovery measure of enterprise accords with your expectation or prediction, and the recovery measure of enterprise achieves ideal level). The Spearman correlation coefficient is 0.709 ($p<0.01$, 2-tailed), and the regression equation is $SAT=0.029+0.199\xi_1+0.339\xi_2+0.233\xi_3$, which indicates that customer's perception to the scale item of service recovery possesses significant predictive ability to form satisfaction feeling, and the prediction validity is tested.

4. Result and discussion

4.1 Analysis of factor

Through above analysis, we obtain the 3D structure result of service recovery expectation. The first factor is composed

by explanation, apology, compensation, the satisfactory feeling communication after recovery and other measure items (seen in Table 1), and it is closely correlative with concrete modes of service recovery, and it can be summarized as the factor of “recovery mode”. The second factor indicates that the customer hopes service providers assume the responsibility for service failure, and it is correlative with service failure attribution, and it can be explained as “failure attribution”. The measure items included in the third factor reflect that customers hope the employees accepting complaints could solve the problems themselves, and the third factor is correlative with the authorization level of service enterprise, and it can be reduced as the “authorization solution”. Therefore, the basic structure of customer service recovery expectation under China background is composed by three factors including recovery mode, failure attribution and authorization solution. The factor of “failure attribution” embodies the theory of customer attribution to certain extents, and the factor of recovery mode and the factor of authorization solution embody the theory of customer justice including result justice (such as solving problem and compensation), process justice (such as explanation and the speed to solve problems) and the justice of mutual treatment (such as apology and satisfaction after inquiring recovery) to different extents.

4.2 Analysis of factor importance

From the regression equation, three dimensions of service recovery expectation have different influencing degrees to the satisfaction after customer service recovery. The dimension of failure attribution is the most important factor for forming customer’ satisfaction after service recovery ($\beta=0.339$), and the conclusion is consistent to Boshoff and Leong’s researches, but the importance of the service recovery factor is the lowest one ($\beta=0.199$), and the importance of authorization solution factor is between above two factors ($\beta=0.233$). Under the cultural background of China, we can understand and explain the result. When the conflict occurs and is solved, the traditional culture of China always requires people to follow the principle of “essentiality, benefit and strictness”. In the service recovery expectation, customers emphasize that service provider admits the factor of service failure, because customers hope they could be the reasonable party and require employees to solve problem and explain and apologize.

5. Conclusions and revelations

In this article, we use the questionnaire of service recovery expectation and adopt exploratory factor analysis method and confirmatory factor analysis method to open out the basic content of customer service recovery expectation under the background of China including three dimensions such as recovery attributes, failure attribution and empowering employees for problem solutions. The empirical result also finds that Chinese customers’ expectation to the service recovery mode requires the intervention of manager, and their perceptions to three basic dimensions of service recovery have different influencing degrees to their satisfaction feelings. The dimension of failure attribution is the most important one, and the importance of the service recovery attributes factor is the lowest one. Concretely speaking, when the service failure occurs, Chinese customers require service providers could assume responsibilities for the failure, anticipate the employee accepting the complaint could rapidly solve their problems, and hope the employees and managers of service enterprises could explain and apologize the service failure and offer certain compensations.

We adopt the empirical research method to discuss the structure dimension of customer service recovery expectation under the background of China, and the empirical result and the measure scale can not only enrich relative researches in the service recovery domain theoretically, but offer references for future empirical researches. First, for the effect evaluation of service recovery, the service enterprises could utilize the effective scale offered in the article to measure their behaviors of service recovery, and improve the management properly to the weak part of service recovery according to the measure result. Second, for the service recovery management, the service enterprises could establish corresponding strategy of service recovery accruing to the empirical result in the article, for example, the relative training aiming at employees’ works of service recovery could be implemented to make service employees could attribute the service failure at the first time, and to make managers could face complaining customers and treat huffish customers by good attitude and recovery mode. In addition, from the empirical result of the research, the service recovery making customer “secondary” satisfaction must depend on the basic employees have the ability to prepare resources to solve service failure, and that needs service enterprises implement proper authorization based on employee ability training, and encourage basic employees to rapidly solve customers’ complaints through establishing corresponding management system and service recovery project, and furthest enhance the interactive relationship between enterprise and customers.

Because the samples of service industry evolved in the article mainly include bank, catering, telecom and supermarket, so the research conclusion may possess certain limitation for other service industries. And though the quantity of sample exceeds the required minimum sample quantity (Nunnally pointed out that it could be accepted that the sample quantity exceed 10 times of measure items (Nunnally, 1978)), so future research could increase the quantity of sample to further validity the empirical result, enhance the quality of the measure scale, and provide guarantees for future customer service recovery satisfaction measure and relative empirical researches.

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Table 1. Results of exploratory factor analysis and confirmatory factor analysis

Variable index	Factor 1(F1) A(B)(C)	Factor 2(F2) A(B)(C)	Factor 3(F3) A(B)(C)	Credit A(B)
Offering satisfactory explanation by employees	0.72(0.76)(0.06)			0.843 (0.860)
Apologizing by managers	0.79(0.70)(0.08)			
Offering additional compensation	0.77(0.73)(0.07)			
Explaining by managers	0.78(0.76)(0.06)			
Asking whether the compensation is satisfactory	0.76(0.76)(0.07)			
We suffer no losses		0.76(0.76)(0.07)		0.805 (0.834)
Admitting service failure		0.73(0.74)(0.06)		
Don't ascribe responsibilities to others		0.74(0.73)(0.07)		
Responding for failure		0.76(0.76)(0.07)		
Solving before asking for instructions layer upon layer			0.54(0.58)(0.08)	0.768 (0.797)
Don't solve the failure by other employees			0.78(0.72)(0.06)	
Could solve problems by himself			0.81(0.84)(0.05)	
One faces and solves the problem			0.82(0.70)(0.05)	
Complaining no transfer among employees			0.56(0.59)(0.08)	
Note: Line A is the result of exploratory factor analysis, line B is the result of confirmatory factor analysis and line C is the standard errors in the confirmatory factor analysis.				

Table 2. Structure validity test

	AVE value	F1	F2	F3
F1	0.552	0.743		
F2	0.557	0.54	0.746	
F3	0.569	0.54	0.45	0.754
Note: From the third line, the number on the diagonal is the arithmetic square root of various AVE values, and the number below the diagonal is the correlative coefficient among factors.				