

A Study on the Effects of Information Systems Quality and Emotional Labors on the Organizational Performance for the Airline Call Centers

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Abstract

The perception that call center operators' interactions with customers make effects on service quality or customer satisfaction is getting proliferated. Accordingly, emotional labor of call center operators attracts attentions. Call Center Information System plays very important role in interactions between call center operators and customers, and call center operators can reduce their stress when they can use information system effectively. It would decrease emotional labor of call center operators and increase performances of individuals and organization. Accordingly, in this study a hypothesis is made that call center information systems quality and emotional labors make effects on the organizational performance. In test of hypothesis, it is verified that the information systems quality makes effects on emotional labor of call center operators, and emotional labor makes effects on organizational performance, in other words it makes effects on customer-orientedness and organizational satisfaction.

Keywords: Airline Call Centers, Emotional Labors, Expectation-Confirmation, Information Systems Quality, Organizational Performance.

1. Introduction

Call Center is a complicated social technology system, which have customers, customer information system and call center operators in the middle of the system. Generally, call centers have a system and handle inbound and outbound calls efficiently. They may create profits through operational activities such as recruiting new customers and maintaining existing customers using productivity enhancement, service enhancement and customer relations system.

The perception that call center operators' interactions with customers make effects on service quality or customer satisfaction is getting proliferated and more attentions are given on emotional labors of call center operators who play core roles in customer satisfaction. Here, the role of call center information system is getting more important. If an information system supplies accurate information quickly so that operators can process consultation smoothly, confidence in work and job satisfaction will be increased. Therefore, supplying accurate information quickly will resolve dissatisfaction, minimize stress, reduce emotional exhaustion and increase organizational performance [17] [6].

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Many previous studies focused on the effects of individual characteristics of call center operators, organizational characteristics and information system characteristics on job satisfaction or job performance but there are few studies focusing on interactions between call center operators and information system which is necessary during the customer service process in a call center. The quality of call center services is determined by accurate and prompt processing of customers' inquiries and complaints. In this sense, interaction between call center operators and the information system is a key determinant of service quality, and this emphasizes the keen need of positive research on interaction between call center operators and information system and its results. Thus, this study purposed to examine the effects of the quality of a call center information system on the operators' emotional labor, and furthermore, to explain its effects on organizational performance, namely, customer-orientedness and organizational satisfaction [14].

2. Theoretical Background and Research Model

This study tried to identify the usefulness and satisfaction factors of information system among organization members who use information system of the call center. It is also tried to find how these success factors are connected to emotional labors of call center operators and then to customer-orientedness and organizational performances based on the below theoretical backgrounds. Call center operators use an information system which is involuntarily introduced to perform their job to respond to customers' requirements and manage customer information. Therefore, the modified information system success model by DeLone and McLean [8] and study of Seddon [17] were used as theoretical backgrounds to measure performance of information system. Additionally, Task-Technology Fit factors were induced as precedence factors of success of information system. Goodhue and Thompson's [12] Task-Technology Fit(TTF) theory assumes that fitness between system functionalities and task demands will induce positive user evaluation on the information system.

2.1. The Quality of Information System and Expectation Congruency

In their information system quality model, DeLone and McLean [7] asserted that the quality of an information system influences the system users' satisfaction, and suggested a model on the performance of information system quality [7]. According to their findings, the quality of an information system affects the system users' satisfaction by facilitating their work performance using the information system. In addition, Goodhue [11] identified the limitations of common information system performance scales such as user satisfaction, attitude toward information system, and MIS fitness, and proposed the Task-Technology Fit (TTF) model that the performance effect is determined by fitness between task demands and system functionalities [12]. In his TTF model, he maintained that when the characteristics of an information system fit its tasks, the system can contribute to organizational performance through the use of the system. In this context, this study set up hypotheses as follows.

Hypothesis 1: The information quality will have a significant effect on expectation congruency.

Hypothesis 2: The system quality will have a significant effect on expectation congruency.

Hypothesis 3: The service quality will have a significant effect on expectation congruency.

Hypothesis 4: The TTF will have a significant effect on expectation congruency.

2.2. Expectation Congruency, Self-efficacy, and Emotional Labor Performance

It has been suggested that self-efficacy is formed under the influence of four factors enactive mastery experience, vicarious experience, verbal persuasion, and physiological and affective states, and of the four factors, enactive mastery experience is most influential in the formation of self-efficacy [2].

According to Benbow [3], exhaustion occurs when one gives high value on his work but he cannot achieve the goal, and Greenglass and Burke [13] addressed that low self-efficacy showed significant correlation with composition of exhaustion. According to Friedman [9], one of major causes lowering self-efficacy is stress arising from difference between the expectation of successful work performance and satisfaction with actual performance results, and with such stress, one experiences a low sense of achievement, frustration, and exhaustion, and after all, burnout [9]. That is, he suggested that a person's low self-efficacy and sense of achievement are caused by the gap between expected and actual knowledge and skills as a professional, job characteristics, interpersonal relationships, job results, etc.

According to previous studies on information system users' expectation congruency and self-efficacy, differences between their expectations before the use of the information system and results after the use of the system are closely associated with their satisfaction with the information system and the performance of the system. Thus, if operators, as information system users, see agreement between their expectations from the information system and their work performance using the system, they will recognize the usefulness of the information system, and their experiences in high work achievements through the information system and their successful use of the system will enhance the operators' self-efficacy.

As shown above, it was found in previous studies that agreement between expected and actual work performance brings forth a positive emotion out of a high sense of achievement, but if performance falls short of expectation, it induces negative emotions such as frustration and stress. What is more, self-efficacy was found to play the role of inhibiting emotional burnout. This implies that expectation congruency and self-efficacy are crucial factors for inhibiting emotional burnout. In these contexts, this study set up hypotheses as follows.

Hypothesis 5: Expectation-congruency will have a significant effect on emotional labor performance.

Hypothesis 6: Self-efficacy will have a significant effect on emotional labor performance.

2.3. Emotional Labor Performance, Customer-orientedness, and Organizational Satisfaction

When closely examining the studies on the results of emotional labors, Adelman [1] addressed that emotional labors group had low job satisfaction and sense of identity, poor health, and there were more who were aware of depression. Morris and Feldman [15] maintained that emotional labor induces emotional disharmony and causes physical and mental problems, and after all, have a negative effect on the laborer's job satisfaction and organizational commitment [15]. Schaubroeck and Jones [16] explained that the process of service provision consumes a lot of efforts and energy for hiding positive or negative emotions, and consequently, causes emotional fatigue along with physical symptoms [16]. In the study of Brotheridge and Grandey [4] as well, emotional labor was found to lower job satisfaction and raise the level of job stress [4].

These results of previous studies demonstrate that emotional labor performance has a negative effect on job satisfaction and organizational commitment, and personally causes

mental problems such as stress. In this context again, this study set up hypotheses as follows.

Hypothesis 7: Emotional labor performance will have a significant effect on emotional labor performance.

Hypothesis 8: Emotional labor performance will have a significant effect on organizational satisfaction.

Hypothesis 9: Customer-orientedness will have a significant effect on organizational satisfaction.

2.4. Research Model

In this study, information systems quality and task-technology fitness are set as independent variables, and customer-orientedness and organizational performances are set as performance variables. Additionally, the relation among expectation congruency, self-efficacy and emotional labor performance is identified and the above hypotheses are made. Research model based on the hypotheses are shown in Figure 1.

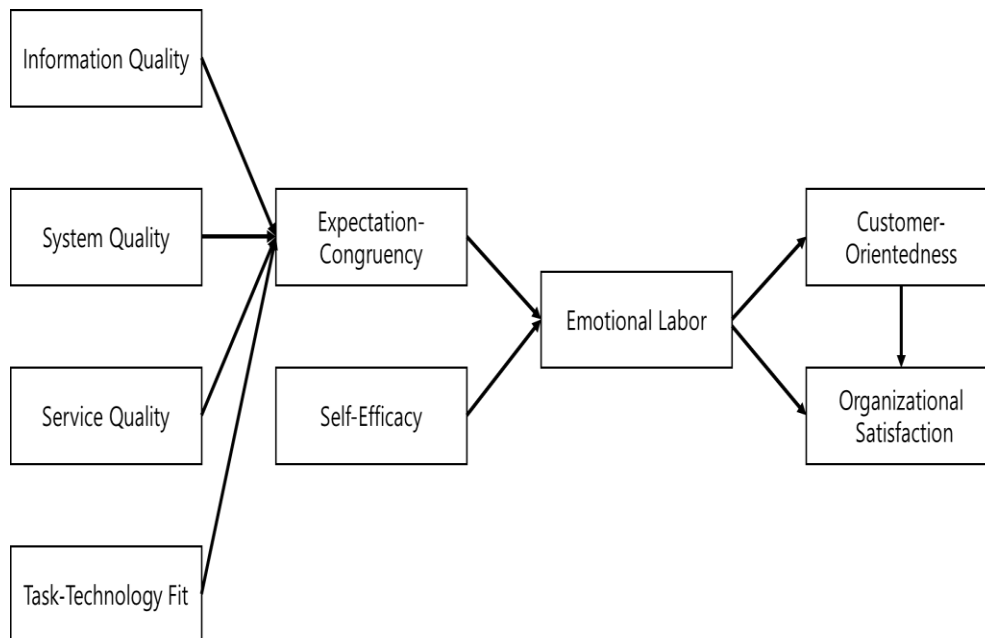


Figure 1. Hybrid Multilayered Perceptron Network

3. Analysis Results

3.1 Sample Data

For this study, an airline call center, which was operating airline reservation systems TOPAS, ABACUS, GALILEO, and WORLDSPAN together, was surveyed using a questionnaire. A survey was made in October, 2013. Survey paper distribution and collection was made through personal visits. Distributed surveys were 100 in total 150 to A Airline Call Center, 130 to B Airline Call Center, 80 to D Airline Call Center and 100 to other Airline Reservation System Center. Out of 460 distributed surveys 440 were collected. Actual collection rate was about 95 %. As surveys collected via personal visits collection rate was quite high. Excluding 4 surveys with insincere answers, 436 surveys were used for final analysis.

3.2. Analysis Methods

In order to ensure the validity and reliability of the questionnaire, this study adopted Partial Least Square (PLS) among the Structural Equation Modeling (SEM) techniques, and conducted confirmatory factor analysis using SmartPLS ver.2.0 M3.

3.3. Reliability and Validity of Constructs

Reliability of major study variables (constructs) which were though traditional validity verification test were verified using PLS. Analysis results showed that although System Quality Complex Reliability and Average Variance Extracted (AVE) values are the lowest among major research variables, the values were 0.905937 and 0.658679 respectively, which were considerably bigger than standard value such as 0.7 and 0.5. Thus, it can be judged that reliability of indexes is secured. Table 1 summarized the results of testing the Reliability of constructs.

Table 1. The Results of Reliability

construct	item	CR	AVE
Information Quality	7	0.931983	0.662097
System Quality	5	0.905937	0.658679
Service Quality	10	0.966832	0.744701
Task-Technology Fit	3	0.961481	0.892711
Exp.-Congruency	3	0.967573	0.908651
Self-Efficacy	4	0.933530	0.778459
Emotional Labor	6	0.936646	0.711689
Cust.-Orientedness	9	0.956392	0.709319
Org.-Satisfaction.	7	0.953297	0.744976

Next, discriminant validity was evaluated by two conditions that Gefen and Straub [10] proposed. First, in confirmatory factor analysis, validity of judgment of each item can be secured when loadings with theoretically related factors are bigger than cross loadings. From the factor analysis, loadings of most of indexes exceeded cross loadings and only one index was approximately same as the standard value. Secondly, square root of average variance extracted (AVE) of all variables should be larger than the correlation coefficient with other variables [5]. Judgment validity is secured, as correlation between major research variables is higher than correlational coefficient of other variables of AVE.

3.4. Results of Hypothesis Testing

Table 2 summarized the results of testing the hypotheses of this study.

Table 2. The Results of Hypothesis Test

Path	coeff.	t-value	result
H1. Information quality → Expectation-congruency	0.101	2.10*	support
H2. System quality → Expectation-congruency	0.240	4.521**	support
H3. Service quality → Expectation-congruency	0.113	2.561*	support
H4. TTF → Expectation-congruency	0.484	10.260**	support
H5. Expectation-congruency → Emotional labor	0.100	1.717†	support
H6. Self-efficacy → Emotional labor	0.496	7.349**	support
H7. Emotional labor → Customer-orientedness	0.688	15.151**	support
H8. Emotional labor → Organizational satisfaction	0.094	1.280	rejected
H9. Customer-Orientedness → Organizational satisfaction	0.214	3.052**	support

4. Conclusions

According to the results of hypothesis testing, first, the four quality factors of information system, namely, information quality, system quality, internal service quality, and TTF had a positive effect on expectation congruency. This suggests that the managers, administrators, and system managers of the airline call center should concentrate their efforts on enhancing the operators' expectation and performance in the use of the call center information system, and especially they need to optimize operators' task demands and the supporting capacities of the information system.

Second, call center operators' expectation congruency and self-efficacy were found to have an effect on emotional labor performance, confirming that congruency between operators' expectation and their performance using the call center information system, and their confidence in their capabilities to use the information system may have a positive effect on their emotional labor performance. This provides important managerial points to various stakeholders involved in the works of airline call centers by revealing the association between information system (information technology) as a technical factor for the work performance of consultation and emotional labor performance as the operators' internal and psychological factor.

Third, call center operators' emotional labor performance was found to contribute organizational satisfaction through their customer-orientedness. That is, operators' emotional labor performance leads to their willingness to help customers, positive attitude, courtesy, etc., which, in turn, can be translated into the operators' job satisfaction and organizational commitment, and their organizational satisfaction including job continuity.

Fourth, call center operators' emotional labor performance was not in a direct association with organizational satisfaction. It is probably because operators carry out rather standardized works according to expression rules set by the organization than active works, and therefore, they behave and approach customers for satisfying the customers' needs in the best way of serving the customers' interests.

Lastly, in a positive analysis on the relationship between the technical factors of the airline call center including the quality factors of the information system, and the operators' psychological and internal factors and organizational performance, call center operators' emotional labor was found to have a mediating effect on the relationship between the quality of information system as a technical factor and organizational performance. This finding suggests that the improvement of call center operators' individual performance and organizational performance requires not only high-quality information systems and information technologies, but also the effective management of individual operators' emotional labor as a prerequisite.

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