Establishment of Performance Evaluation Model for the Bank Industry Service Quality

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ABSTRACT
The study modified importance-satisfaction model to determine items of priority for improvement. Therefore, this study develops an integrated model to improve service quality in the bank industry. This study therefore adopts an improvement priority methodology—based on customer perceptions of importance and satisfaction of after service. A questionnaire is designed to determine the priority of improvement objectives derived from certain questionnaire items that do not fall into the appropriate performance control zone (APCZ) of the performance control matrix. A large performance control matrix index value indicates that customer satisfaction needs to be improved in these items. The survey results of this case study demonstrate that the parking spaces, the maximum rights of customers, and the waiting time of service and so on must have priority to improve.

Keywords: Appropriate performance control zone, importance-satisfaction model, performance control matrix

1.0 Introduction

Bank industry has frequent interaction with customers, so the service quality and customer satisfaction are very important to it. Hence the bank industry has invested numerous resources to improve its service quality. Because, high service quality results in customer satisfaction and loyalty, greater willingness to recommend to someone else, reduction in customer complaints, and improved customer retention rates [Zeithaml, Berry and Parasuraman, 1996]. To maintain viability and to improve competitiveness, banks in many Asian countries are currently restructuring the operation of branch networks [Manandhar and Tang, 2002]. On the one hand, the banks are facing the problem of operating performance, and its must be to establish new tool and management system. The banks are forced to reevaluate what drives and how to improve the bank operating efficiency. The availability of appropriate tools for performance analysis of bank can contribute positively in this effort [Manandhar and Tang, 2002]. Therefore, banking industry in developed countries has faced the dilemma in managing their business and it has brought up the growing awareness of performance measurement. Banks in Taiwan has faced the same problem as well. Between 1988 to 2005, the number of bank had grown dramatically from 24 to 52 banks and the number of bank branch has also increased from 927 to 3120 branches in total [Taiwan Ministry of Finance]. This is because of the liberalization of banking and they are allowed to establish new banks. Due to the growing competition between banks, many local banks, however, do not only allocate their resources properly but on service and this further caused the poor quality issues and crisis in developing their business. Consequently, the bank industry is fiercely competitive, and must establish seamless, integrated models applicable to practical strategies

Service quality measurement methods are very plenteous, but these methods have its own advantages and disadvantages. In particular, some methods are unable to obtain accurate improvement priorities [Lweis, 1993]. Many performance evaluation methods help business superiors to detect improvement in service items [Hung, Huang and Chen, 2003], but remain incomplete. Taiwanese bank industry has some foresaid weaknesses, which required establishing proper performance evaluation model. Therefore, this study develops an integrated model to improve service quality. This performance evaluation model also considers the items of surplus resource investment, which can be included in improvements, thereby avoiding resource wastage.

2.0 Performance evaluation model background

Excellent service quality and high customer satisfaction is the important issue and challenge for service industry [Hung et al., 2003]. Today, service quality is considered a critical measure of organizational performance and continues to compel the attention of managers and academics [Lassar et al., 2000]. Studies on service quality have extensively examined service quality measurement to help superiors effectively manage service quality delivery [Parasuraman, Zeithaml and Berry, 1988]. Most businesses agree that customer service quality provided to their target customers affect global business performance to some degree and becomes a crucial business strategy [Hung et al., 2003].

2.1 Importance-Satisfaction model

Yang [2003] considered low-quality attributes should not be the only consideration when designing improvement plans. Usually, the customer measures the quality of goods or services based on several important attributes [Berry et al., 1990]. The customer evaluates product or service quality by considering several important quality attributes; therefore firms must take actions to improve the important attributes with lower satisfaction levels. **Fig. 1** shows the analytical results of an I-S model survey conducted by Yang (2003). The results for each quality attribute are placed in the model and then improvement strategies are considered based on the areas of each item.

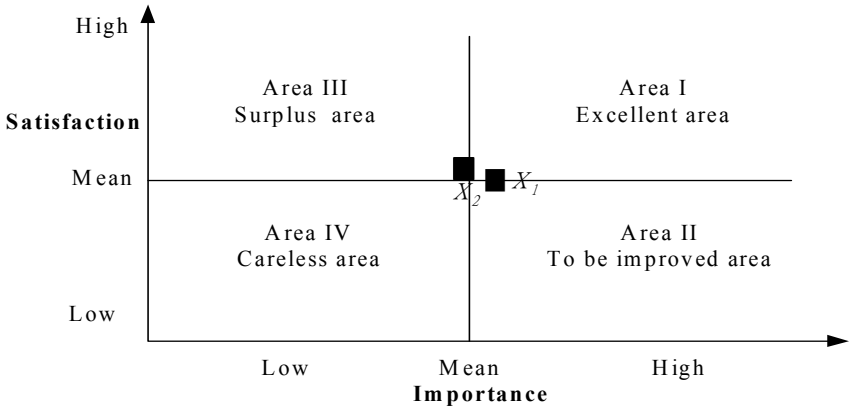

Fig. 1. Importance-satisfaction model [Source: Yang, 2003]

3.0 Establishment of performance evaluation model

To determine the best strategy for improving service quality and satisfaction of family members, the present study modified an importance-satisfaction model. The performance matrix is divided into four performance zones that represent the effectiveness of various system-improvement items (see **Fig. 2**). With $i=j$, the importance of two performance zones B_{11} and B_{22} equals satisfaction with improvement. B_{21} demonstrate that importance is greater than satisfaction; resources to be invested must increase to improve satisfaction. B_{12} indicate that importance is less than satisfaction; resources to be invested should be decreased to prevent waste.

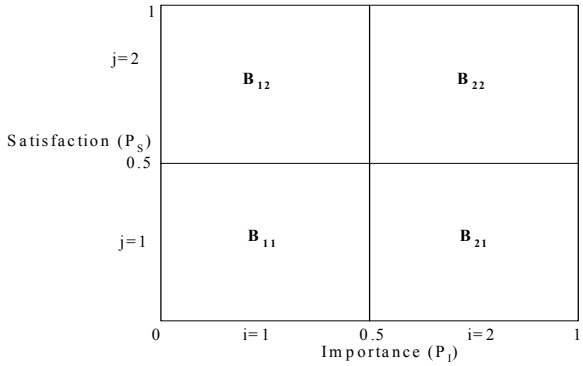

Fig. 2. Performance matrix

In what follows, the random variable I denotes importance, whereas S denotes satisfaction. A 5-point scale was adopted to evaluate the importance and satisfaction of each item. The indices of importance and satisfaction are defined as follows:

$$P_I = \frac{\mu_I - \min}{R} \quad \text{.....(1)}$$

$$P_S = \frac{\mu_S - \min}{R} \quad \text{.....(2)}$$

P_I: index of importance P_S: index of satisfaction *min*: the minimum value of the k scale
μ_I: mean of importance μ_S: mean of satisfaction R: the full range of the k scale

μ_I and μ_S are the means of importance (I) and satisfaction (S) respectively. Moreover, min=1 represents the minimum of the k scale and $R=k-1$ is the full range of the k scale. A lower value corresponds to an item that is of lesser importance or lesser satisfaction. Clearly, these two indices are within (0, 1). For example, on a 5-point scale ($k=5$) with $R=5-1=4$, when the importance (or satisfaction) exceeds 3 (medium), the corresponding index will exceed 0.5 and the integral average importance (or satisfaction) will be positive. In contrast, when the average importance (or satisfaction) is below 3 (medium), indices will be below 0.5 and the integral average importance (or satisfaction) will be negative. Consequently, the values of the indices represent a convenient and efficient tool with which business management can evaluate the effectiveness of an improvement strategy.

But, the matrix still has some foresaid flaws which required proper revision; the study adopted the "control chart" of Montgomery [1991] method, the performance matrix limits its range to the area within 2 bold lines to obtain the new appropriate performance control zone (APCZ) (see **Fig. 3**). Performance upper control limit (PUCL), performance control center limit (PCCL) and performance lower control limit (PLCL) were established according to the coordinates value enabling objective diagnosis and judgment of required improvements to be performed. The service quality items are mapped onto the performance control matrix. Service quality items are fall into the bottom right (Zone A) demonstrate that importance is greater than satisfaction; resources to be invested must increase to improve satisfaction. The zone is called the "resources insufficient zone". Accordingly, when the items fall into the upper left (Zone B) indicates that importance is less than satisfaction; resources to be invested should be decreased to prevent waste. The zone is called the "resources misspend zone". Generally speaking it is a few that the items fall into the zone. Manager attends to only with the items located outside the control lines for improvement. This new performance matrix by the author is called the "performance control matrix". Therefore, the Performance control matrix index (PCMI) of integrating importance and satisfaction indices can be expressed as follows:

$$P_{S-I} = P_S - P_I \quad \text{.....(3)}$$

P_{S-I}: Performance control matrix index
P_I: index of importance
P_S: index of satisfaction

The PCMI is positive value indicates that importance is less than satisfaction; resources to be invested should be decreased to prevent waste. Accordingly, the PCMI is negative value demonstrates that importance is greater than satisfaction; resources to be invested must increase to improve satisfaction.

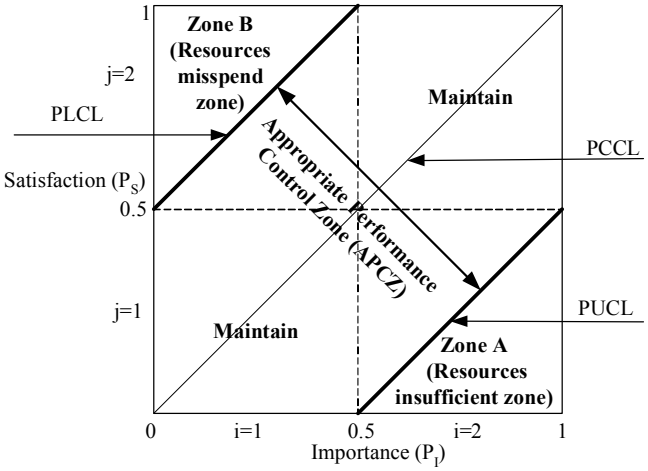

Fig. 3. Appropriate performance control zone of performance control matrix

Different coordinates [P_I, P_S] of performance indices form different positions. Therefore, the ±3 standard deviation was used to establish the PUCL and PLCL as follows:

PUCL = T+3σ
PCCL = T=0……..……...(4)
PLCL = T-3σ

4.0 Empirical analysis

The standard deviation (σ) of in the performance control matrix is 0.079662. The PUCL and PLCL were calculated using Equations 4. As the target value is 0, the PUCL and PLCL may be defined as 3σ, which lie between 0.2389 and –0.2389. When an overall index value P_{S-I} is higher than ±0.2389, it is called "abnormal items". A positive or negative value was then assigned to the performance control matrix index of each set of abnormal coordinates. These coordinates were mapped into the performance control matrix (see Fig. 4). The abnormal coordinates outside PUCL and PLCL were located after drawing the control lines. Abnormal coordinates were found outside PLCL in item only 3. This indicated that resources should be reduced in these items to avoid waste. Items found outside PUCL included items 4, 5, 13, 22 and 23. This indicated that resources should be increased in these items to promote customer satisfaction.

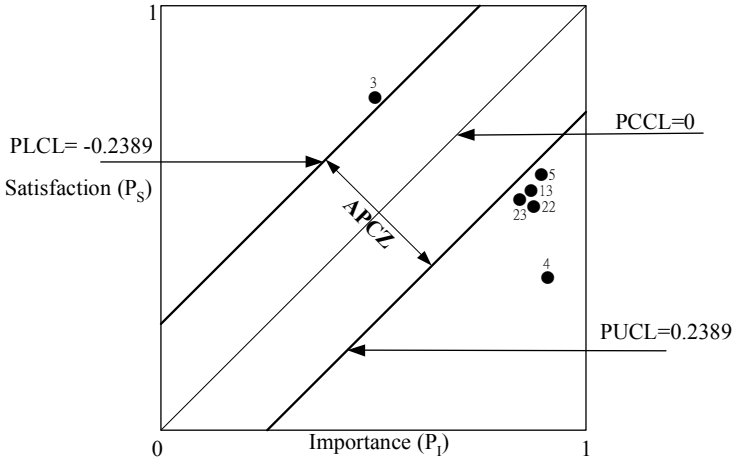

Fig. 4. Performance control matrix of case study

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