

Research on Online Banking Quality Management Requirements

Yi -Chan Chung¹, Yao-Wen Hsu² and Tzu-Yun Hu¹

Abstract

Due to the fierce competition in online banking, banks need to provide quality services, understand customer needs, and satisfy customers with the quality of services. Only then can the bank attract more customers for transactions and generate higher revenue. This study utilizes Importance Performance Analysis (IPA) to investigate customer satisfaction and emphasize service quality. It establishes priority service quality improvement items and employs the Kano model to assess the service quality of J online banking operators. Identify items for improving efficiency and service quality. The questionnaires for this study will be distributed from October 2023 to November 2023. Respondents will be customers of J online banking operators. A total of 65 questionnaires were distributed, and 56 valid questionnaires were recovered. Online banking operators must prioritize enhancing service quality and improving efficiency to maintain high standards and enhance competitiveness.

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Keywords: Online banking, IPA, Kano model, Service quality.

¹ Department of Business Administration, Yuanpei University of Medical Technology, Taiwan.

² Department of Industrial Engineering and Management, Minghsin University of Science and Technology, Taiwan.

1. Introduction

Due to the rapid development of online banking transactions, the number of users has also increased, and competition has become increasingly fierce. Online banking operators must develop their unique brand positioning, comprehend customer needs, and ensure customer satisfaction with the quality of their services to attract a larger customer base. This study utilizes the Importance Performance Analysis (IPA) method to analyze and comprehend variances in the importance and satisfaction levels of online banking customers regarding service quality items. Through the research results, we can understand the differences in customers' opinions on online banking. The importance and satisfaction of each service quality item are analyzed to identify the service items that urgently need improvement and to make corrections and enhancements. This study utilizes the Kano model to assess the quality of the J online banking service, identify areas for improving service efficiency, and prioritize projects aimed at enhancing service quality to sustain competitiveness. This study offers recommendations for J online banking as a business strategy to help companies avoid investing excessive manpower, resources, and time in implementing inappropriate strategies. By following these suggestions, companies can achieve optimal results with limited resources.

The purpose of this study is (1) to apply Importance-Performance Analysis (IPA) to explore customer satisfaction and the importance of service quality, and to identify priority service quality improvement projects; (2) to use the Kano model to explore the online bank efficiency improvement service quality project; and (3) to identify service quality needs based on research results and provide suggestions for improving service quality.

2. Literature Review

The literature review includes three parts: the discussion of service quality, Importance-Performance Analysis (IPA), and the Kano model.

2.1 Service Quality

Amjad et al. (2013) pointed out that service quality is defined as the extent to which the needs or expectations of customers are met. Lovelock and Wirtz (2011) define service quality as the experience and evaluation that customers receive during the consumption process. Kankam (2023) compiled various concepts of service quality proposed by researchers, all of whom agreed that it involves meeting customer requirements. According to Prasad and Prasad (2015), service quality is synonymous with meeting customer expectations and fulfilling customer needs. Each type of banking service characteristic must meet customer requirements and provide timely and secure services to both banks and customers (Fragoso & Espinoza, 2017). Parasuraman et al. (1988) believe that service quality includes five main aspects: dependability, responsiveness, trustworthiness, empathy, and tangibility. Based on the scale proposed by Parasuraman et al. (1988), this study

categorizes the measurement aspects of service quality into responsiveness, tangibility, reliability, empathy, and assurance. The measurement items for the five aspects of service quality in this study are based on the questionnaires developed by Prasad & Prasad (2015), Chung & Chen (2015), Phan & Phan (2021), Deng & Lee (2007), and Parasuraman et al. (1988), with modifications to suit the characteristics of Internet banking.

2.2 Importance-Performance Analysis

Martilla and James (1977) argued that market research can provide insight into customer acceptance of specific quality attributes. According to Kasnad and Indrayani (2019), Importance Performance Analysis (IPA) is a tool used to compare the level of service users' satisfaction with the performance of services against their expected satisfaction. IPA categorizes and prioritizes product attributes based on their relative importance and performance (Martilla and James, 1977; Khan et al., 2014). As shown in Figure 1. It is performed based on a four-quadrant plot with the y- and x-axes representing the importance score and performance score, respectively. Each product attribute belongs to one of four quadrants, and different improvement strategies are proposed based on the quadrants as follows (Kim and Kwak, 2023): Quadrant 1: Customers consider the attributes in this quadrant to be important, and they are satisfied with the current performance of these attributes. Quadrant 2: Focus on enhancing the attributes in this quadrant. Customers rated these attributes as very important but were less satisfied. Quadrant III: Attributes in this quadrant should be given low priority. There is no need to increase the performance level of these attributes because they are relatively unimportant to customers. Quadrant 4: Beware of possible overkill because the attributes in this quadrant are less important to customers. Overinvestment should be avoided.

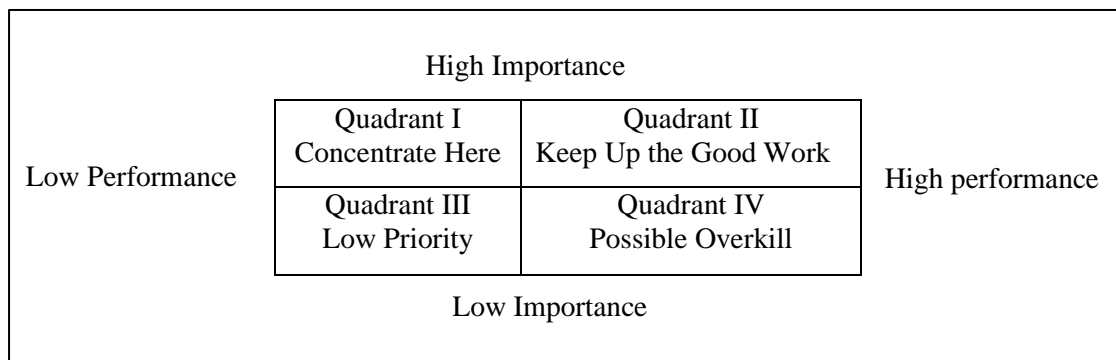


Figure 1: IPA matrix

2.3 Kano Two-Dimensional

Kano et al. (1984) proposed the Kano two-dimensional quality attribute model, which categorizes quality attributes into five groups: attractive quality elements, one-dimensional quality elements, must-be quality elements, indifferent quality elements, and reverse quality elements. Quality elements. Matzler and Hinterhuber (1998) divided service quality attributes into six categories, including attractive quality (A), one-dimensional quality (O), necessary quality (M), irrelevant quality (I), reverse quality (R), and suspicious (Q) types, as listed in Table 1. The Kano Questionnaire is designed to understand customers' cognitive feelings about each quality item when they own and do not own it. According to Table 1, the classification of each quality attribute can be determined. Each quality attribute will be assigned a cumulative frequency in a two-dimensional quality classification, with the highest frequency representing the classification of this attribute. Then Berger et al. (1993) introduced the customer satisfaction coefficient to analyze whether satisfaction can be improved by meeting customer requirements, or whether meeting these requirements can prevent customer dissatisfaction (Berger et al., 1993). The customer satisfaction coefficient comprises two indicators:

$$\text{Satisfaction Increment Index (SII)} = (A + O) / (A + O + M + I)$$

$$\text{Dissatisfaction Decrement Index (DDI)} = (O + M) / (A + O + M + I) \times (-1)$$

A: attractive quality; O: one-dimensional quality; M: must-be quality;

I: indifferent quality.

Table 1: Two-dimensional quality attributes classification

Functional	Dysfunctional				
	Like	Must-be	Neutral	Live with	Dislike
Like	Q	A	A	A	O
Must-be	R	I	I	I	M
Neutral	R	I	I	I	M
Live with	R	I	I	I	M
Dislike	R	R	R	R	Q

3. Methodology

The questionnaires for this study will be distributed from October 2023 to November 2023. Respondents will be customers of the J Internet Banking Industry. A total of 65 questionnaires were distributed, and 56 valid questionnaires were recovered. The questionnaire is divided into three parts: Part 1 focuses on customer satisfaction and concern for service quality, including five aspects: (1) Responsiveness; (2) Tangibility; (3) Reliability; (4) Empathy; and (5) Guarantee. Part 2: Kano Model Questionnaire. Customers have five options to determine if they

have a quality item. The selection results are divided into categories such as like, must, neutral, coexist, and dislike. Part 3: Basic information, including gender, age, education, and occupation. Classification of service quality in this research questionnaire. Dimensions and items include:

1. Responsiveness Dimension:

Including service staff who are willing to assist customers (item 1); service staff who can respond to customer needs promptly (item 2); service staff who thoroughly describe the work process (item 3); service staff who proactively inquire about customer status (item 4); Service staff will not neglect customers due to being busy (item 5).

2. Tangible Dimension:

Including a beautiful layout of web content (item 6); clear web design (item 7); web services that meet customer needs (item 8); web pages that clearly announce promotions (item 9); and web pages that utilize smart AI to respond immediately (item 10).

3. Reliability Dimension:

Including the ability of service personnel to complete tasks efficiently (item 11), provide accurate and reliable services (item 12), properly preserve customer information (item 13), fulfill commitments to customers effectively (item 14), and make every effort to assist customers in problem-solving (item 15).

4. Empathy Dimension:

Including service personnel who take the initiative to care for customers (item 16); service personnel who prioritize customers' interests (item 17); providing customized services according to customer needs (item 18); and providing necessary services based on customers' financial situation (item 19).

5. Guaranteed dimensions:

Includes personnel who provide reliable services (item 20); Able to safeguard customer information from leaks (item 21); Have the expertise to address customer inquiries (item 22); Problem-solving attitude enhances customer confidence (item 23); The website offers security services to its customers (item 24).

The scoring method of Importance-Performance Analysis adopts the Likert 5-point scale method. The satisfaction level of the quality items is determined based on the answers selected by the subjects. When "strongly agree" is checked, the score will be provided. 5 points, 4 points for "agree", 3 points for "normal", 2 points for "disagree", and 1 point for "strongly disagree". The importance is calculated based on the answers checked by the subjects. When "very important" is checked, 5 points are given. When "important" is checked, 4 points are given. When "normal" is checked, 3 points are given. When "not taken seriously" is checked, 2 points are given. Lastly, when "not important" is checked, 1 point is given. The higher the score, the more significant the importance. The higher the importance. The Kano model scoring method involves incorporating service quality items into questionnaire items, whether they are present or not. The response items are divided into five categories: like, must-be, neutral, live with, and dislike, and then classified based on different answers. The questionnaire items used in this study were

compiled and developed concerning relevant domestic and foreign literature. Before distributing the questionnaire, interviews were conducted with practitioners to ensure that the semantics could accurately convey the original meaning, followed by a pre-test. The content of the questionnaire was then revised to ensure its considerable validity. Reliability refers to the degree of consistency of a measurement. Nunnally (1978) believes that in exploratory research, the reliability should be above 0.7. From Table 2, it can be seen that the Cronbach's α value of the questionnaire in this study is greater than 0.7, indicating that the questionnaire is acceptable.

Table 2: The Cronbach's α coefficients for all variables in this study

Questionnaire Dimensions	Cronbach's α	
	Satisfaction	Importance
Responsiveness	0.853	0.813
Tangibility	0.797	0.764
Reliability	0.866	0.832
Empathy	0.775	0.810
Assurance	0.861	0.842

4. Research results

According to the results of the analysis of the questionnaire survey, out of the 56 questionnaires, 30 were completed by males and 26 by females. The age distribution was as follows: 5 respondents were under 20 years old, 34 were between 21 and 40 years old, and 17 were between 41 and 60 years old. The respondents are mainly concentrated between the ages of 21 and 40. The distribution of the respondents' educational level is as follows: 37 people have a college/university education, 12 people have high school vocational education, and 7 people have graduate school education or above. The respondents mainly focus on college or university. The occupational distribution of the interviewees included 7 students, 13 individuals in the service industry, 9 individuals in the technology industry, 8 individuals in the financial industry, 11 individuals in the catering industry, and 8 individuals in the military, public, and education sectors.

4.1 Analysis of the importance and performance of service quality

This study applies Importance-Performance Analysis (IPA) to explore the differences in customer importance and satisfaction with various service attributes, identify the advantages and disadvantages of service quality, and assist operators in determining directions and improvement priorities. Sequence to Improve Service Quality. The measurement is based on a 5-point Likert scale. The service quality attributes and the analytical results are shown in Table 3. In the IPA analysis, there are 12 items falling in the "keep up the good work" area, namely questionnaire items 1, 3, 6, 11, 13, 15, 16, 17, 21, 22, 23, and 24. These items are service items that

customers consider to be very important and have a high level of performance. These are strengths and should be maintained. Two items fall into the possible overkill zone, namely questionnaire items 4 and 20. The service items in this quadrant exhibit a high level of performance, but customer attention is low. There are a total of 7 items falling in the low-priority improvement area, namely questionnaire items 5, 8, 10, 12, 14, 18, and 19. For customers, these items are less important and less satisfying than other quality items, so the industry can reconsider them. Three items fall into the "concentrate here" area, namely questionnaire items 2, 7, and 9. It means that customers attach great importance to these services, but their satisfaction is low, and J online banking should review and make corrections.

Table 3: Analysis of service quality importance and satisfaction

Items	Importance	Satisfaction
	Average	Average
1	4.339	4.179
2	4.286	3.911
3	4.232	4.143
4	4.214	4.143
5	4.125	3.929
6	4.25	4.143
7	4.268	3.911
8	4.179	4.054
9	4.357	4.036
10	4.143	4.000
11	4.25	4.143
12	4.161	3.946
13	4.268	4.071
14	4.179	4.054
15	4.232	4.143
16	4.232	4.107
17	4.304	4.196
18	4.125	4.036
19	4.179	3.946
20	4.161	4.089
21	4.25	4.089
22	4.232	4.089
23	4.25	4.107
24	4.232	4.071
Average	4.227	4.064

4.2 Efficiency Improvement in Service Quality

This study utilizes Matzler and Hinterhuber's (1998) two-dimensional quality attribute items to enhance customer satisfaction classification and calculate the customer satisfaction coefficient. The aim is to identify ways to improve service efficiency and decrease customer dissatisfaction. It has a total of five items (as shown in Table 4). Operators can focus on these quality items and continue to maintain good service quality to obtain maximum benefits. Furthermore, a two-dimensional quality classification was performed for J online banking service quality items. Thirteen items were classified as attractive quality, while eleven items were classified as one-dimensional quality (as shown in Table 4).

Table 4: quality attribute classification and customer satisfaction coefficient

Items	A	O	M	I	R	Q	Classification	SII	DDI
1	22	21	4	7	0	2	A	*0.796	*0.463
2	26	16	1	11	0	2	A	*0.777	0.315
3	16	20	4	12	1	3	O	0.692	*0.462
4	28	12	1	13	1	1	A	0.741	0.241
5	29	13	2	8	3	1	A	*0.808	0.288
6	25	18	1	11	1	0	A	*0.782	0.345
7	18	21	3	10	2	2	O	0.750	*0.462
8	25	17	6	6	1	1	A	*0.778	0.426
9	17	22	3	13	1	0	O	0.709	*0.455
10	28	9	2	12	0	5	A	0.725	0.216
※11	25	22	2	5	1	1	A	*0.870	*0.444
※12	17	22	3	7	4	3	O	*0.796	*0.510
13	6	30	10	4	0	6	O	0.72	0.8
※14	13	30	4	5	1	3	O	*0.827	*0.654
15	15	22	4	9	2	4	O	0.740	*0.520
16	28	14	1	12	0	1	A	0.764	0.273
17	25	20	1	8	2	0	A	*0.833	0.389
18	31	14	1	9	0	1	A	*0.818	0.273
19	22	17	2	11	2	2	A	0.750	0.365
20	18	21	5	12	0	0	O	0.696	0.464
21	8	32	6	9	0	1	O	0.727	*0.691
22	20	18	5	10	1	2	A	0.717	0.434
※23	16	28	4	7	0	1	O	*0.800	*0.582
24	13	25	4	10	1	3	O	0.731	0.558
Average								0.765	0.437

Note: A - Attractive Quality; O - One-Dimensional Quality; M - Must-Be Quality; I - Indifferent Quality; Reverse Quality; Q: uncertain;

SII: Satisfaction Increment Index

DDI: Dissatisfaction Decrement Index

* Denotes the absolute value of a coefficient that is greater than the absolute value of the mean of all coefficients.

※Efficiency Improvement in Service Quality

5. Conclusion

This study focuses on online banking customers as the research subjects. This study uses IPA to identify priority items for improving service quality. It also utilizes the Kano model to identify areas for improving efficiency and service quality, offering operators metrics to enhance service quality and develop business strategies for future growth. According to the results of the Importance-Performance Analysis, there are three items in the priority improvement area: service personnel responding to customer needs promptly, clarity of the web page, and clear promotion announcements on the web page. These three items are the priority for improving service quality. Improvement suggestions include ensuring that service staff can respond to customer needs immediately. It is recommended to address customer needs in the shortest possible time. If the questions asked require processing time, the situation must be explained to the customer. When interacting with customers, it is advisable to request an explanation of the incident handling process at a later time. Additionally, it is recommended that the web design of J online banking be clear and uncluttered, with a simplified structure and a well-defined website menu to facilitate customers in quickly locating the necessary information. Moreover, promotional activities should be prominently displayed on the webpage, either through clear announcements throughout the site or by creating a dedicated section for promotions to ensure customers can easily access this information.

This study identified five service quality items that can enhance efficiency, increase customer satisfaction, and decrease customer dissatisfaction simultaneously. These items include the service staff's willingness to assist customers, ability to complete tasks in one go, provision of accurate and reliable services, fulfilment of commitments to customers, and a problem-solving attitude that fosters customer confidence. J online banking operators must improve service quality projects based on these five benefits and continue to enhance and maintain good service quality to boost the competitiveness of J online banking.

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