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Applying Kano Model to Explore Demand for Supermarket Service Quality

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Abstract: *This study used the Kano model for analysis and found 5 items that can both highly increase customer satisfaction of H Supermarket and highly reduce customer dissatisfaction, including: employees can respond quickly to customer needs; staff can provide reliable services ; employees can give priority to the interests of customers; the workplace provides services that make customers feel at ease; employees can provide conscientious services; commodity prices are clearly marked . Supermarkets may strengthen these items to improve customer satisfaction and increase revenue.*

Keywords: *Kano model, Supermarket, customer satisfaction*

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I. Introduction

Supermarkets are large retail stores usually with chain operation. Supermarkets sell a variety of items so that customers can buy nearly everything they need in one supermarket. As supermarkets are gradually reaching saturation and competition is becoming increasingly fierce, businesses need to provide their own original services, master customer needs, and provide customers with satisfactory service quality, so as to attract more customers to consume here. This study was based on the SERVQUAL scale proposed by Parasuraman et al. (1988), where the measurement dimensions were divided into responsiveness, tangibles, reliability, empathy and assurance. The "benefit improvement service quality attributes" that can increase customer satisfaction and reduce customer dissatisfaction at the same time were searched for according to the questionnaire data. The results from the analysis can assist supermarkets in identifying items where service quality needs to be strengthened, thereby enhancing competitiveness.

II. Literature Review

The literature review mainly consists of two parts, namely the review of service quality and the Kano two-dimensional quality model.

2.1 Service quality

Parasuraman et al. (1988) suggested that service quality includes five major dimensions, including (1) reliability; (2) responsiveness; (3) assurance; (4) empathy; (5) tangibles. Tsiotsou (2006) considered service quality as a comprehensive evaluation of all advantages, disadvantages and grades of the product. Lovelock and. Wirtz (2011) regarded service quality as the experience and evaluation of customers in the consumption process. Haywood-Farmer (1998) proposed that service quality can be divided into three major dimensions, which are respectively (1) device, process and procedure; (2) service personnel's behavior; (3) service personnel's professional judgment. This study was based on the SERVQUAL scale proposed by Parasuraman et al., with the quality measurement dimensions of responsiveness, tangibles, reliability, empathy and assurance. The questionnaires of Mohsin & Ryan (2005), Chung & Chen (2015), Ugboma et al. (2007) and Parasuraman et al. (2005) were referred to for the quality measurement items, and the items were modified according to the characteristics of supermarkets.

2.2 Kano Two-dimensional Quality Model

In the Kano two-dimensional quality model, quality items are divided into five categories (Kano et al., 1984), including Attractive Quality Element (A), One-Dimensional Quality Element, (O), Must-Be Quality Element (M), Indifferent Quality Element, (I), and Reverse Quality Element (R). Matzler and Hinterhuber (1998) proposed a two-dimensional quality element classification table for the modified Kano model, as shown in Table 1. The classification of each quality attribute can be determined according to Table 1. Matzler and Hinterhuber (1998) proposed " Coefficient of Customer Satisfaction ", and the calculation formula is as follows:

C (1): Coefficient to increase customer satisfaction = (A+O)/(A+O+M+I)
C (2): Coefficient to reduce customer dissatisfaction = (O+M)/(A+O+M+I)×(-1)
A: Attractive Quality; O: One-Dimensional Quality; M: Must-Be Quality; I: Indifferent Quality

Table 1 Categories of two-dimensional quality elements of Matzler and Hinterhuber

Negative / Positive	I like it that way	Take it for granted	It does not matter	Can be tolerated	Dislike
I like it that way	Uncertain	Attractive Quality	Attractive Quality	Attractive Quality	One-Dimensional Quality
Take it for granted	Reverse Quality	Indifferent Quality	Indifferent Quality	Indifferent Quality	Must-Be Quality
It does not matter	Reverse Quality	Indifferent Quality	Indifferent Quality	Indifferent Quality	Must-Be Quality
Can be tolerated	Reverse Quality	Indifferent Quality	Indifferent Quality	Indifferent Quality	Must-Be Quality
Dislike	Reverse Quality	Reverse Quality	Reverse Quality	Reverse Quality	Uncertain

III. Research Method

This study referred to the questionnaires of Mohsin & Ryan (2005), Chung & Chen (2015), Ugboma et al. (2007) and Parasuraman et al. (2005) for the service quality measurement items, and they were modified according to the characteristics of supermarkets. The research subjects were the customers of H Supermarket, and 49 questionnaires were collected from January 1 to January 30, 2021. Variable items measured included: (1) responsiveness: the contents included: employees can quickly respond to customer needs (Item 1); employees can provide detailed job descriptions (Item 2); staff are willing to assist and serve customers (Item 3). (2) tangibles: the contents included: employees keep clean clothing and appearance (Item 4); there are modern and professional equipment inside (Item 5); the internal facilities, movement lines and guidelines are clearly indicated (Item 6); the service facilities meet the needs of customers (Item 7). (3) reliability: the contents included: staff can provide reliable services (Item 8); employees can truly fulfill their promises to customers (Item 9); employees can do things right at one time (Item 10). (4) empathy: the contents included: employees can take the initiative to take care of customers individually (Item 11); employees can give priority to the interests of customers (Item 12); employees can understand individualized customer needs (Item 13); the workplace understands the customer needs to provide the required services (Item 14). (5) assurance: the contents included: they have sufficient professional knowledge to respond to customer problems (Item 15); the workplace provides services that make customers feel at ease (Item 16); employees can provide conscientious services (Item17); commodity prices are clearly marked (Item18).

IV. Research Results

This study has identified 5 "benefit improvement service quality items" that can increase customer satisfaction and reduce customer dissatisfaction at the same time (as shown in Table 2), the items included (Item 1); (Item 8); (Item 12); (Item 16); (Item 17); (Item18). The businesses can continue to maintain good service quality for these quality items. The results obtained from this analysis can help identify the priority of service quality improvement.

Table 2 Kano Two-dimensional Quality Attribute Classification and Coefficient of Customer Satisfaction

Item	A	O	M	I	R	Q	Category	C(1)	C(2)
1	30	13	0	6	0	0	A	※0.939	※0.612
2	29	13	2	5	0	0	A	0.857	0.306
3	24	12	2	9	2	0	A	0.766	0.298
4	19	21	4	5	0	0	O	0.816	※0.510
5	30	11	0	8	0	0	A	0.837	0.224
6	20	21	2	6	0	0	O	0.837	※0.469
7	25	16	3	5	0	0	A	0.837	※0.388
8	27	17	2	3	0	0	A	※0.898	※0.388
9	16	30	0	3	0	0	O	0.878	0.265
10	31	15	0	3	0	0	A	※0.939	0.306
11	27	12	0	9	1	0	A	0.813	0.25
12	26	18	1	3	0	1	A	※0.917	※0.396
13	28	13	0	8	0	0	A	0.837	0.265
14	33	12	1	2	1	0	A	※0.938	0.271
15	33	14	0	2	0	0	A	※0.959	0.286
16	26	19	1	3	0	0	A	※0.918	※0.408
17	26	19	2	2	0	0	A	※0.918	※0.429
18	12	33	2	2	0	0	O	※0.918	※0.714
Average								0.879	0.377

A: Attractive Quality; O: One-Dimensional Quality; M: Must-Be Quality; I: Indifferent Quality; Reverse Quality Element (R); Q: uncertain;

C (1): Coefficient to increase customer satisfaction

C (2): Coefficient to reduce customer dissatisfaction

※ indicates absolute value of the coefficient>absolute value of average value of overall coefficient

V. Conclusion and Suggestion

Supermarkets are gradually reaching saturation. It is necessary to grasp customer needs and provides quality satisfactory to customers in order to attract more customers to consume here. This study used the Kano model for analysis and found 5 items that can both highly increase customer satisfaction of H Supermar

ket and highly reduce customer dissatisfaction, including: employees can respond quickly to customer needs (Item 1); staff can provide reliable services (Item 8); employees can give priority to the interests of customers (Item 12); the workplace provides services that make customers feel at ease (Item 16); employees can provide conscientious services (Item17); commodity prices are clearly marked (Item18). Supermarkets may strengthen these items to improve customer satisfaction and increase revenue.

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