Developing Coffeeshop Improvement Strategy by Considering Voice of Customer

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Abstract

The improvement strategy of coffee shop was created by first analyzing the quality of product, service, and pricing of coffee shop to determine the customer requirements using questionnaire. 105 customers of Legend Coffee filled the questionnaire. From 30 attributes, 13 of them needed improvement as their performance rating were below their respective importance, thus resulted in low customer satisfaction. Some product quality and service attributes located in the Concentrate Here quadrant, which requires immediate improvement. Based on those results, then strategic improvements will be made with management using QFD. The highest prioritized improvement strategies are increase in human resources with training in accordance with the job description, increase supervision of each division, and clearer preparation and more detailed SOPs. Improvement strategies then developed based on the voice of the customer with a discussion with management.

Keywords: *coffee shop, importance performance gap analysis, quality function deployment, voice of customer.*

1. INTRODUCTION

Culinary industry is one of the strategic sectors for the development of the Indonesian economy. Based on data obtained from the Indonesian Creative Economy Agency (BEKRAF) it is known that the culinary industry sector has contributed around 41.1% of Indonesia's GDP in 2016. This value is far superior compared to fashion, which accounted for 18.01% and the media with 8.27 %. With a wide market share and high needs, resulting in the development of the culinary industry in Indonesia to be more creative and innovative with various forms of products.

In Yogyakarta, culinary industry experience a vast growth. One of the fastest growing culinary industry is coffee shop or café. Based on the data compiled from Badan Pusat Statistik Yogyakarta, the number of café/coffee shop and restaurant in Yogyakarta experience a vast growth in numbers. From just 56 units in 2012 to 961 units in 2016 or around 1616% than the previous 5 years. This growth in numbers resulted in a fiercer competition among various café that already exist in Yogyakarta. With more modern concept, menu, and aesthetic architecture, this newcomer have brought serious threat to existing coffee shop. One of the existing coffee shop that had been impacted is Legend Coffee. Based on the coffee shop management data, the number of visitors from 2016-2018 had been going down, from around 227.826 customer in 2016 to 166.397 in 2018. This shows a vast decline, around 27% of decline in customer numbers. To be able to compete against the fierce competition, management needs to develop an improvement strategy.

For this improvement strategy to work according to what is necessary, it is important to understand what the customer needs is. One of the way to understand the customer needs is by using voice of customer. Voice of Customer is a word used to describe customer needs that are stated and not stated. In general, the purpose of capturing the voice of customer is to capture all relevant customer attributes so that we have enough information to create a detailed functional requirement, specification parameters and process variables (Yang, 2008).

Voice of customer analysis can be done by several methods, in this study used the Importance Performance GAP Analysis method to analyze the level of customer satisfaction with product quality, service, and price variables. Importance Performance GAP Analysis is an integration between two methods namely Importance Performance Analysis and GAP Analysis. According to Lin et al. (2009), the IPGA model is not like the traditional IPA model, where in this method the X-axis and Y-

axis coordinate matrixes are replaced with Relative Performance (RP) and Relative Importance (RI). Understanding the existence of this gap is very important for the success of a company and as a benchmark for company quality.

Quality Function Deployment (QFD) is used as a method to develop the coffee shop improvement strategies based on the voice of customer obtained from IPGA analysis. Madu (2006) argues that Quality Function Deployment (QFD) listens to the "voice of customer" and systematically translates customer needs through each stage of product development as a requirement that must be met by the product. Customers' needs are then changed into needs that must be able to meet the quality of the next product or service. The purpose of this research is to determine the customer requirements of coffee shop's customer and then develops the improvement strategy based on the requirements.

2. MATERIAL AND METHODS

2.1 Research Approach

This study was conducted in February 2019 until June 2019 in Legend Coffee Yogyakarta and around Yogyakarta. The main variable used in this research is:

a. Service Quality, which consist of Tangible, Reliability, Responsiveness, Assurance, and Empathy. (Al-Tit, 2015; Cheng et al., 2015; Manshori, 2018; Parasuraman et al,. 1985; Saneva et al,. 2018)
b. Product Quality, which consist of Performance, Features, Reliability, Conformance, Durability, Serviceability, Aesthetics, and Perceived Quality. (Chadwick et al., 2018; Garvin, 1988).
c. Price, which consist of Affordable Price, The Fair Price, Discounted Price, Competitor Price, and Price Suitability (Kotler and Armstrong, 2012; Razak, 2016).

In this research, we used survey method to obtain the importance and performance of attributes of the coffee shop from their customer. The survey was done by questionnaire and interview to customer of Legend Coffee and to management. The questionnaire used three main variables, which is service quality, product quality, and price. The following Table 1 shows the attribute and variable used in this research.

Table 1. Questionnaire Variable and Indicator

Variable	Indicator
Features	Variations of the menu offered by the café are attractive (P1)
Serviceability	Orders can be served quickly (P2)
Reliability	Orders that served is similar with customer orders (P3)
Aesthetics	Presentation of the products attractive and can arouse appetite (P4)
	The appliances used is clean and attractive (P5)
Conformance	Presentation of the product in accordance with the description in the menu book (P6)
Durability	Products are served hot / cold according to the type of product (ex. Main course, dessert) (P7)
Performance	The product has good taste (P8)
	The product has a taste that matches its appearance (P9)
Perceived Quality	Cafe has a quality product (P10)
Tangible	Interesting interior design and cafe furniture (L1)
	The layout of the room is neat and comfortable (L2)
	Owned facilities (wifi, meeting rooms, games, electrical outlets) are complete and function well (L3)
	The appearance of the employees is neat and clean (L4)
	Parking space provided by the cafe is easy to access (L5)
	Promotions given by the café are interesting (L6)
	Social media is easy to reach and communicative (L7)
	Access the cafe facilities are easy to reach (L8)
Empathy	Waiter's behavior in serving customers is good (L9)
	Waiter behavior shows concern for customers (L10)

Variable	Indicator
Assurance	Waiters can answer product/menu related questions well (L11)
Responsive-ness	Waiters respond quickly to customer calls (L12)
	The service provided by the cafe is fast and responsive (L13)
	Waiters are able to respond to customer complaints well (L14)
Reliability	Waiter's attitude in serving customers is friendly and polite (L15)
Affordable Price	The price of cafe products is affordable for me (H1)
Fair Price	The price offered by the cafe is appropriate when compared to other cafes (H2)
Price Suitability	Product prices are in accordance with the quality obtained (H3)
Discounted Price	Promotion that the café implied are interesting (H4)
Competitor Price	Product prices are competitive when compared to other cafe prices (H5)

2.2. Sampling Method

The total of respondent needed in this research is 100 persons. The respondent used in this research is the customer of Legend Coffee and the selected competitor of Legend Coffee based on the result of questionnaire.

3. RESULTS

3.1 IPGA Analysis

IPGA method in this research was used to identify the customer requirements based on the questionnaire result in Legend Coffee. This customer later will be used as the voice of customer in QFD to develop the improvement strategy that must be done by the coffee shop management. Based on the result of IPGA analysis in Table 2 and Figure 1, it shows that there are 13 attributes located in the second quadrant (Concentrate Here). From product quality, those attributes are P1, P2, P6, P8, P9, and P10. Based on the questionnaire result we can learn that the menu variation in the coffee shop has not been able to keep up with the trend and lacks creativeness. Consistency of the food and services given to the customer were also a problem, especially during prime time. The selection of utensils that are used also needs some adjustment. For service quality variable, the attributes are L1, L2, L8, L10, L11, L13, and L15. The design and aesthetics of the facility were the main thing here according to our respondent. Compared to the competitors, the design and layout of the facilities needs further renovation and readjustment to meet customer expectation. The quickness, hospitality, and attention from the waiter also needs some improvement according to the customer. The attributes that located in Quadrant II have low RP and high RI score, thus require further improvement because it has low-performance rating but have high-importance for the customers.

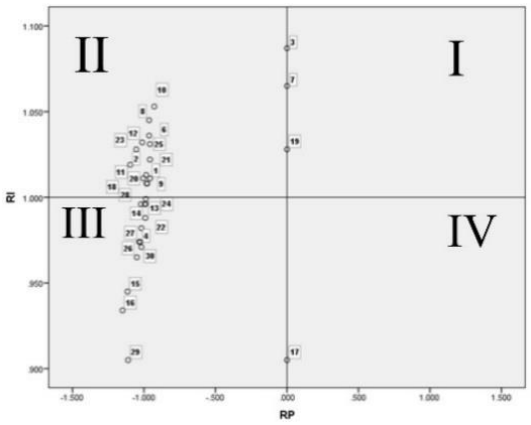

Figure 1. Importance-Performance Gap Analysis Diagram

Moreover, IPGA also calculate the distance between the coordinate of the attributes and the center axis coordinate (0, 1) in order to calculate the priorities. Attributes with higher distance (Dj) equals higher priorities to be improved by management. Based on the result in Figure 1, the order of priorities of the indicator that needs immediate action can be seen in Table 3. The further the distance between center axis coordinate and attribute coordinate the higher resource allocation needed to improve it (Cheng et al., 2015).

Table 2. IPGA Analysis of Quality Indicators

No	Variabel	Atribut	Pj	Ij	*t-value*	RP	RI	Kuadran	*Dj*
1	Product Quality	P1	3.26	3.38	-2.309*	-0.958	1.011	II	0.897
2		P2	2.85	3.41	-7.026*	-1.096	1.019	II	1.063
3		P3	3.63	3.64	-.179	0.000	1.087	Boundary	
4		P4	3.04	3.26	-3.238*	-1.027	0.974	III	-
5		P5	3.07	3.29	-3.928*	-1.018	0.982	III	-
6		P6	3.24	3.47	-4.189*	-0.964	1.036	II	1.111
7		P7	3.48	3.56	-1.686	0.000	1.065	Boundary	
8		P8	3.24	3.50	-1.797*	-0.964	1.045	II	1.216
9		P9	3.19	3.37	-3.896*	-0.978	1.008	II	0.904
10		P10	3.36	3.52	-3.436*	-0.928	1.053	II	1.311
11	Service Quality	L1	3.17	3.39	-3.715*	-0.984	1.013	II	0.933
12		L2	3.09	3.36	-3.892*	-1.012	1.032	II	1.105
13		L3	3.16	3.34	-2.584*	-0.987	0.999	III	-
14		L4	3.14	3.33	-3.749*	-0.993	0.996	III	-
15		L5	2.80	3.16	-4.512*	-1.115	0.945	III	-
16		L6	2.71	3.12	-5.857*	-1.150	0.934	III	-
17		L7	2.90	3.03	-1.879	0.000	0.905	Boundary	-
18		L8	3.18	3.37	-3.221*	-0.981	1.008	II	0.907
19		L9	3.32	3.44	-1.973	0.000	1.028	Boundary	
20		L10	3.10	3.38	-4.303*	-1.005	1.011	II	0.939
21		L11	3.26	3.42	-2.603*	-0.958	1.022	II	0.967
22		L12	3.15	3.30	-2.359*	-0.990	0.988	III	
23		L13	2.96	3.33	-6.638*	-1.054	1.028	II	1.093
24		L14	3.15	3.33	-3.366*	-0.990	0.996	III	-
25		L15	3.26	3.45	-3.889*	-0.958	1.031	II	1.045
26	Price	H1	2.97	3.23	-4.246*	-1.050	0.965	III	-
27		H2	3.02	3.26	-3.982*	-1.034	0.974	III	-
28		H3	3.06	3.33	-4.508*	-1.021	0.996	III	-
29		H4	2.81	3.03	-3.376*	-1.111	0.905	III	-
30		H5	3.07	3.25	-2.801*	-1.018	0.971	III	-

Table 3. Priorities of Attribute in 2nd Quadrant

Code	Attribute
P10	Café has a quality product
P8	The product has good taste
P6	Presentation of the product in accordance with the menu description in the menu book
L2	The layout of the room is neat and comfortable
L13	The service provided by the café is fast and responsive
P2	Orders can be served quickly
L15	Waiter's attitude in serving customers is friendly and polite
L11	Waiters can answer questions related to product/menu
L10	Waiter behavior shows concern for customers
L1	Interesting interior design and café furniture
L8	Access of café facilities are easy to reach
P9	The product has a taste that matches its appearance
P1	Variations of the menu offered by the café are attractive

3.2 Quality Function Deployment

From the IPGA result, we know that 13 attributes located in Quadrant II and need immediate improvement to fulfill customer needs. Those attributes are P10, P8, P6, L2, L13, P2, L15, L11, L10, L1, L8, P9, and P1. This result then will be integrated into QFD method as its voice of customer. Based on the result of the questionnaire, we choose Silol as the benchmark competitor of the coffee shop as it has the highest result. This study then uses HoQ of QFD to analyze them to provide the most appropriate improvement strategies and their order of priority. In QFD analysis, we also invite the management of the coffee shop as for focus group discussion and interview to discuss those attributes and develop feasible improvement strategies for the attribute.

3.3 Planning Matrix

Planning matrix used in HoQ as a tool to analyze the voice of customer. By performing planning matrix, we can determine the priorities of attributes that needed immediate respond from management in the form of improvement strategies. Based on the Raw Weights and Normalized Raw Weights result in Figure 2, we can determine the priorities of each attributes according to customer satisfaction and the capabilities of the management. Raw weights is a score that were used to emulates importance score of each customers' needs according to the Importance to Customer, improvement ratio, and sales point. Normalized Raw Weight is a proportion of each Raw Weight divided to total Raw Weight. Customer needs in following order are as follows:

3.3.1 Technical Response

Technical Response is an advanced stage taken to translate customer needs into technical responses that can be done by management to improve existing attributes to meet customer needs. The preparation of technical response is done by conducting interviews and discussions with the coffee shop's management. Based on the interview and discussion, the management responses are as follows:

a. Improving the quality of human resources through training under their respective job descriptions

Improving the quality of HR owned by the coffee shop must be done first to improve the capabilities of their employees in terms of waiters, kitchen crew, cleaning service, technicians and management. On product variables, customer needs for interesting menu variations, good and quality product flavors and fast serving certainly require the sufficient resources. Therefore, improving the quality of human resources through training tailored to the job description of each employee becomes the main focus of the coffee shop in making improvements.

b. Increased supervision of each division

To maintain the consistency and suitability of each product and service provided, it is necessary to increase supervision by each manager and head in each division. With increased supervision, it is expected that each employee provides a more stable performance and can continue to grow under customer need. The function of each head or captain of each division is not only to maintain the performance of each employee but also can help improve performance by mentoring.

Relation Level	Symbol
Strongly Positive	●
Positive	○
Negative	▽
Strongly Negative	▼

Relation Level	Symbol	
Strong	●	9
Normal	○	3
Weak	▽	1

Arah Perbaikan	Simbol
Improved	↑
Lowered	↓
Suitable	⬭
Better Improved	↑
Better Lowered	↓

Direction of Improvement	↑	↑	↑	↑	↑	↑	⬭	↑	Planning Matrix							
Customer Requirements (WHATs)	Improving the quality of human resources through training in their respective job	Increased supervision of each division	More efficient layout structuring	Evaluation of the sustainability of infrastructure	Renewal of facilities and infrastructure	Clearer and more detailed SOP	A more rigorous employee recruitment system	Improving facility maintenance	Customer Satisfaction Performance		Importane to Customer	Target	Improvement Ratio	Sales Point	Raw Weights	Normalized Raw Weights
	Technical Response(HOWs)								L	S						
Variations of the menu offered by the cfe are attractive	●	○					○		3.26	3.29	3.38	4	1.23	1.5	6.23	7.81%
Orders can be served quickly	●		●			●			2.85	2.79	3.41	4	1.40	1.5	7.18	9.01%
Presentation of the product in accordance with the description in menu boo				●	●				3.23	3.16	3.47	4	1.24	1.2	5.15	6.46%
The product has good taste	●	●				●	○		3.24	3.06	3.50	4	1.24	1.5	6.48	8.12%
The product has a taste that matches it's appearance	○	●				○	○		3.19	2.98	3.37	4	1.25	1.5	6.34	7.95%
Café has quality product	●		○	○		●			3.36	3.23	3.52	4	1.19	1.5	6.29	7.89%
Interesting interior design and café furniture				●	●			●	3.17	3.54	3.39	4	1.26	1.5	6.41	8.04%
The layout of the room is neat and comfortable		▽	○	○	●	▽		●	3.09	3.27	3.36	4	1.30	1.5	6.54	8.20%
Access of café facilities are easy to reach			○		○			○	3.18	2.85	3.37	3	0.94	1.5	4.77	5.98%
Waiter behavior shows concern for customers	●	●				●	●		3.10	2.96	3.38	4	1.29	1.5	6.53	8.19%
Waiters can ancswer question related to product/menu	●	●					▽		3.15	2.98	3.33	4	1.27	1.2	5.08	6.36%
The service provided by the café is fast and responsive	○	●	●		●	●	○		3.12	2.91	3.33	4	1.28	1.5	6.40	8.03%
Waiter's attitude in serving customers is friendly and polite	●	●				●	●		3.26	3.10	3.45	4	1.23	1.5	6.35	7.96%
Difficulty Level of Technical Response	5	5	4	5	4	5	5	5								
Priority	546.0	451.2	219.5	178.8	294.5	474.8	247.5	164.1								
Normalized Priority	21.19%	17.51%	8.52%	6.94%	11.43%	18.43%	9.61%	6.37%								
Ranking	1	3	6	7	4	2	5	8								

Figure 1. House of Quality Matrix

c. More efficient work layout structuring

The current work layout cannot yet accommodate service for responsive customers, this is because the layout of the waiters' layout is still unevenly distributed so it is less responsive to customers. Besides, the work layout of the kitchen crew also needs to be reorganized so that it can serve food or beverage products faster. The target of this technical requirement is the optimal layout design for waiters and kitchens.

d. Evaluation of the sustainability of infrastructure

Evaluation of the sustainability of facilities and infrastructure is carried out through board of directors meetings, where facilities and infrastructure will be adjusted to the new concept that will be carried by the coffee shop. Based on the results of the evaluation, then the facilities and infrastructure will be determined what must be maintained or removed. The target of this technology need is to eliminate facilities and infrastructure that are not used and are not following the new concept being carried.

e. Renewal of facilities and infrastructure

Facilities and infrastructure are important factors to support the productivity of employees. Besides, the design and completeness of the facility is one of the important factors to attract customers to come. Management plans to renovate the entire building of the coffee shop to change the design to become more aesthetic and modern. Besides, the management will also renew the facilities and supporting infrastructure to improve productivity and work efficiency. Facilities and infrastructure such as the new cashier billing system will speed up the order process and can minimize input order errors.

f. Clearer and more detailed SOP (Standard Operational Procedure)

According to management, the existing SOPs still need to be detailed to be more effective and easily understood by employees. The SOP is made by holding an internal meeting between management and the heads of each division. Detailed SOP is expected to provide a more consistent taste and quality products and better service. The target of this technology need is the revision of coffee shop's SOP for each division which is more detailed and easy to understand.

g. A more rigorous employee recruitment system

Employees are the main component in an industry. Employees with good resources can provide maximum contribution to the company. Therefore, to optimize the human resources that the coffee shop can obtain, management needs to tighten the existing employee recruitment system. The implementation of a more stringent recruitment system is carried out with the application of more specific employee requirements and a more detailed interview system.

h. Improving facility maintenance

To maintain the facilities owned by the café so that they remain in good condition and can be used properly, maintenance is very important to be carried out routinely. According to management, cleanliness is one of the main problems that need attention to provide the best experience for customers. Besides, maintenance for supporting facilities such as bathrooms, air conditioners, etc. needs to be tightened for scheduling.

the standard in some countries, the density charcoal briquettes of mung bean peel waste is not all treatments meet the standards, such as the Japanese standard (1.0 - 1.2 g/cm3) and the USA amounted to 1.0 g/cm3, but for the UK standard for 0.46 g/cm2 and Indonesia amounted to 0.44 g/cm3 to meet the standard.

Special parameters of burning rate (mg/s) and the loss of mass (g) the pressure applied to the pressing of the best (highest calorific value and low moisture content), 50 kg/cm2 with a variety of adhesive ratio of 5%, 10% and 15%. Tests conducted during the burning time 42 minutes. The results of the second test the performance parameters show a relatively similar pattern, namely for mass reduction rate; of the initial mass of the three treatments are relatively similar ranges between 40.13 - 40.18 g at the end of consecutive testing of adhesive ratio of 5, 10 and 15% live 5.41, 4.22 and 3.77 g. In the process, the briquettes are derived from the ratio of the adhesive 5% reduction in its mass tends to be slower. Similarly to the parameter rate of combustion, of the three treatments also showed relatively the same phenomenon, namely the peak combustion occurs in the sixth consecutive minutes starting from a ratio adhesive 5, 10 and 15% is 45.92, 50.4, 53.42 mg/s and at the end of the process

(42 minutes) the firing rate stayed 2.75, 3.17 and 3.17 mg/s.

3.3.2 Relationship Matrix

Relationship matrix used to calculate the relationship level between the customers' needs and the technical response from management. Relationship matrix is very important to determine the priorities of the technical response or in this research the improvement strategies. The result of relationship matrix can be seen on Figure 2, in the middle part of the House of Quality Matrix. Each symbol that used in relationship matrix represents a numerical score ranging from 9, 3, and 1.

3.3.3 Technical Correlation Matrix

Technical correlation matrix were used to determine the relationship between each technical response. Determining either between each responses have positive relationship, which could support each other, or it have negative relationship, which could eventually slows the application of as responses. The correlation matrix can be seen on Figure 2, on the top portion of the House of Quality Matrix.

3.3.4 Technical Matrix

Based on the calculation result of Normalized Raw Weight in Planning Matrix and the relationship score of Relationship Matrix, we can determine the priorities of the technical responses by calculating the result between Normalized Raw Weights and Relationship Score of each technical responses attribute. The result of calculation can be seen in Figure 2, whereas the priorities ranking are as follows:

Table 3. Technical Response Priorities

Rank	Technical Response
1	Improving the quality of human resources through training under their respective job descriptions
2	Clearer and more detailed SOP
3	Increased supervision of each division
4	Renewal of facilities and infrastructure
5	A more rigorous employee recruitment system
6	More efficient work layout structuring
7	Evaluation of the sustainability of infrastructure
8	Improving facility maintenance

CONCLUSIONS

From the result of customer needs questionnaire, we can conclude that there are 13 attributes belongs in Quadrant II of IPGA diagram that needs to be improved by the management of the coffee shop immediately as it has low performance rating but has high importance rating according to the customer. These attributes are, café has a quality product, the product has good taste, presentation of the product in accordance with the menu description in the menu book , the layout of the room is neat and comfortable, the service provided by the café is fast and responsive, orders can be served quickly, waiter's attitude in serving customers is friendly and polite, waiters can answer questions related to product/menu, waiter behavior shows concern for customers, interesting interior design and café furniture, access of café facilities are easy to reach, the product has a taste that matches its appearance, and the variations of the menu offered by the café are attractive.

Based on the result from IPGA, the improvement strategies were formed using eight technical responses from the coffee shop's management. By using the house of quality from QFD, the priorities of the responses can be determined as follows Improving the quality of human resources through training under their respective job descriptions, clearer and more detailed SOP, increased supervision of each division, renewal of facilities and infrastructure, a more rigorous employee recruitment system, more efficient work layout structuring, evaluation of the sustainability of infrastructure, improving facility maintenance

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