

Measuring Service Quality for Bakeries in Central Jakarta using the CSI and IPA Methods

Fuji Rahayu W.^{1*}, Herlina², Maekel Tan Wijaya³

^{1,2,3} Universitas Bunda Mulia

Jalan Lodan Raya No 2, Ancol, Jakarta Utara

l1614@lecturer.ubm.ac.id

Article history:

Received 20 October 2025
Revised 10 November 2025
Accepted 28 November 2025
Available online 2 December 2025

Keywords:

Service Quality,
CSI,
Servqual,
IPA.

Abstract

One of the companies engaged in the food industry (bakery) which is well known to many people in Indonesia is PT. Mustika Citra Rasa or better known as Holland Bakery. The results of the GMP audit show that the average GMP value for the Holland Bakery counter in the Central Jakarta area is below 75% which is the standard for the Holland Bakery company. Therefore, research is needed to determine customer satisfaction and improvements that need to be made for customer satisfaction. This study uses the Customer Satisfaction Index (CSI) method to identify customer satisfaction, the Servqual method identifies attribute gaps that cause dissatisfaction with service implementation, the Importance Performance Analysis (IPA) method to determine the variables that need improvement by dividing them on a Cartesian diagram. This study shows that customer satisfaction is in the satisfied category with an index value of 80.64%, obtained 14 attributes have a negative gap, 9 attributes are in quadrant I and 1 attribute is in quadrant III, the order of priority in improving service quality for 10 attributes that are in the priority quadrant, and SOPs that can be carried out to overcome the causes of problems or improve service quality.



This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. ©2025 by author.

I. INTRODUCTION

Industry plays a significant role because industry creates high added value to increase Indonesia's economic growth. Industry also increases welfare and reduces poverty because industry can create new and wider employment opportunities thereby reducing unemployment (Yuliawati, 2017). In national economic growth, one of the manufacturing sectors that makes a major contribution is the food and beverage industry. The bakery industry is a part of the food and beverage industry. Bakery is a food made from wheat flour and processed by baking. Examples of products include bread, biscuits, pastries, donuts and other products

^{1*} Corresponding author

(Malonda, M. Wangke and Moniaga, 2018). The cake industry in Indonesia already includes the small and medium enterprise (SME) sector. SMEs This is an industry that has a significant impact on improving the economies of developing countries (Wilujeng, F. R., Palullungan, D., & Regina, T., 2021)

Competition between bakery companies resulted in each company trying to increase the number of sales to increase the target market for each company's customers. In uncertain market developments, all companies are required to develop a market-oriented marketing strategy in order to be able to anticipate and adapt to changes that occur in the market (Alfurqan, Jopang and Liwaul, 2020). Good service quality is one of the points to evaluate the development of a company. This can be measured from customer satisfaction regarding the services provided by the company. Good service is needed to gain consumer trust (Indrajaya, 2018).

One of the companies engaged in the food industry (bakery) which is well known to many people in Indonesia is PT. Mustika Citra Rasa or better known as Holland Bakery. The GMP audit results show that the average value of GMP (Good Manufacturing Practice) for Holland Bakery counters in the Central Jakarta area is below 75%, which is the company standard for Holland Bakery. It can be seen from the results of the GMP audit conducted, there are several parameters regarding service quality which are considered to be lacking. Therefore, research is needed to determine customer satisfaction at Holland Bakery counters in the Central Jakarta area and the improvements that need to be made for customer satisfaction.

The methods used in this study are the CSI and IPA methods. The Customer Satisfaction Index (CSI) method for identifying customer satisfaction by looking at the attribute measurement approach (Ardianti and Waluyo, 2021). The Importance Performance Analysis (IPA) method is used to find out the variables that need improvement by dividing them into a chart diagram (Howin and Prasetya, 2020).

II. LITERATURE REVIEW

Customer satisfaction

Customer satisfaction is an emotional response that validates the pleasure felt in consuming a product, it is the difference between successful companies and failed companies. Since customer satisfaction is the cornerstone of customer loyalty, which results in repurchase and higher market share, it should be considered as the most important objective (Udofia et al., 2021).

Customer loyalty

Consumer or customer loyalty is defined as the attitude of consumers in making repeated purchases of a brand or company (Monferrer, Moliner and Estrada, 2019). Consumer or customer loyalty leads to consumer or customer loyalty over time to a brand, product or service. This shows how satisfied consumers or customers are with the services they receive (Makudza, 2021).

Service Quality

Service quality is the level of excellence expected where the control is aimed at meeting customer needs. Good service quality is a type of service that meets expectations and meets customer needs, while poor service quality can be assessed by the type of service that is below standard or does not meet customer expectations (Ardianti and Waluyo, 2021).

The following 5 dimensions are used to determine service quality (Meirizha and Rahmawati, 2019):

1. Tangibles (physical evidence) regarding physical facilities, equipment, and the appearance of employees and the presence of users.
2. Reliability regarding the ability of employees to provide services accurately, reliably and satisfactorily.

3. Responsiveness (responsiveness) regarding the willingness of employees to help and pay attention to customers.
4. Assurance (guarantee) regarding employees having extensive knowledge and being polite so as to give customers a sense of trust.
5. Empathy (empathy) regarding the care and attention of employees to customers.

Customer Satisfaction Index (CSI)

The Customer Satisfaction Index (CSI) is a method used to measure the level of customer satisfaction regarding services and products as a whole. Measurement of the Customer Satisfaction Index is used to determine customer satisfaction and become a reference for setting targets in the future (Ardianti and Waluyo, 2021).

The following steps are taken to determine the value of CSI (Pambudi and Martini, 2017):

1. Determine the Mean Importance Score (MIS) and Mean Satisfaction Score (MSS)
2. Create Weight Factors (WF)
3. Make a Weight Score (WS)
4. Determine the Customer Satisfaction Index (CSI)

The CSI score criteria can be seen in Table 1 which consists of several categories.

Table 1. Customer Satisfaction Index (CSI) Value Criteria

Index Number	Interpretation
$X \leq 64\%$	Very Poor
$64\% \leq X \leq 71\%$	Poor
$71\% \leq X \leq 77\%$	Cause for concern
$77\% \leq X \leq 80\%$	Borderline
$80\% \leq X \leq 84\%$	Good
$84\% \leq X \leq 87\%$	Very good
$87\% \leq X$	Excellent

Importance Performance Analysis (IPA)

Importance Performance Analysis (IPA) is a method used to find out where the quadrants of each attribute are measured to see what are the company's strengths and weaknesses (Wilujeng, Wijaya and Andreas, 2020). IPA uses two components of product or service attributes to measure satisfaction from customer satisfaction surveys: the importance of the product or service to customers and the performance of the organization in providing that product or service (Phadermrod, Crowder and Wills, 2019).

In Importance Performance Analysis (IPA) mapping is carried out into 4 quadrants for all attributes. The following is an explanation of the division of quadrants in the Cartesian or IPA diagram (Andry, Christianto and Wilujeng, 2019):

- Quadrant 1

Quadrant 1 is between the high expectation line and the low performance line.

- Quadrant 2

Quadrant 2 is between the high expectation line and the high performance line.

- Quadrant 3

Quadrant 3 is between the low expectation line and the low performance line.

- Quadrant 4

Quadrant 4 is between the low expectation line and the high performance line.

The division of quadrants in IPA can be seen in Figure 1 (Andry, Christianto and Wilujeng, 2019).



Figure 1. Quadrants in Importance Performance Analysis

III. METHODS

Data collection

Data collection was carried out using a questionnaire which was distributed to customers who had visited and purchased products at the Holland Bakery counter in Central Jakarta. The required number of respondents is determined by each attribute of the questions asked having at least 5 respondents (Hair et al., 2014). The number of respondents needed in this study is as follows:

Minimum number of respondents = number of question attributes $\times$ score 5

Minimum number of respondents = 20×5

Minimum number of respondents = 100

Description of Respondents

The description of the respondents used in this study is gender, age, and occupation. The following is a description of the 105 respondents in this study:

1. Gender

Based on the 105 questionnaires that had been collected, 64 male respondents and 41 female respondents were obtained.

2. Age

Based on the 105 questionnaires that have been collected, it was found that respondents aged 17-25 years totaled 61 people, aged 26-35 years totaled 30 people, and aged 36-50 years totaled 14 people.

3. Jobs

Based on the 105 questionnaires that have been collected, it was found that 36 respondents with student work, 4 civil servants, 33 private employees, 14 entrepreneurs, 8 housewives, and 10 others.

Data Validity Test

The validity test in this study used SPSS 26 software. The significance level used in the data validity test in this study was 5% for the population or $N = 105$. The r table value ($\alpha = 0.05$ and degree of freedom (df) = $105 - 2 = 103$) is 0.1918. The results of the validity test show that all variables from the questionnaire results are valid.

Data Reliability Test

The reliability test in this study used SPSS 26 software. The questionnaire was said to be reliable if the Cronbach's Alpha value for each attribute was ≥ 0.6 . The results of the reliability test show that all variables from the questionnaire results are reliable.

CSI method

Processing with the CSI method to calculate the percentage of CSI is carried out through several steps, namely calculating the Mean Importance Score (MIS), Weighted Factor (WF), Mean Satisfaction Score (MSS), and Weighted score (WS). Table 2 shows the results of the calculations that were passed to calculate the percentage of CSI.

Table 2. Calculation of the CSI Method

No.	Attribute	X	Y	MIS	MSS	WF	WS
1	Cleanliness of the counter area	407	489	4,6571	3,8762	0,0538	0,2084
2	Convenience of the counter area with the presence of air conditioning	428	479	4,5619	4,0762	0,0527	0,2147
3	Complete equipment for picking up products	429	410	3,9048	4,0857	0,0451	0,1842
4	Cleanliness of equipment for picking up products	405	487	4,6381	3,8571	0,0536	0,2066
5	The products served are tasty or delicious	452	445	4,2381	4,3048	0,0489	0,2106
6	Variety of products served	410	467	4,4476	3,9048	0,0514	0,2005
7	The texture of the product is according to the customer's wishes	431	437	4,1619	4,1048	0,0481	0,1972
8	Employees are fast in serving orders	425	430	4,0952	4,0476	0,0473	0,1914
9	Employees correctly present the product according to the order	448	444	4,2286	4,2667	0,0488	0,2083
10	Employees quickly and accurately enter prices at the cash register	453	435	4,1429	4,3143	0,0478	0,2064
11	Payments can be made easily (cash/debit/e-payment)	464	431	4,1048	4,4190	0,0474	0,2094
12	Employees can solve problems well when something goes wrong in the buying process	399	460	4,3810	3,8000	0,0506	0,1922
13	Employee response is fast when there is a complaint	405	466	4,4381	3,8571	0,0512	0,1976
14	Employees respond responsively to customer requests	406	472	4,4952	3,8667	0,0519	0,2007
15	Employees are able to understand customer needs	404	455	4,3333	3,8476	0,0500	0,1925

16	Product prices are proportional to the size and quality of the product or affordable prices	412	460	4,3810	3,9238	0,0506	0,1985
17	Products are packaged properly (can maintain product quality)	431	469	4,4667	4,1048	0,0516	0,2117
18	Halal product provided	479	445	4,2381	4,5619	0,0489	0,2232
19	Attention to criticism and suggestions given by customers	384	459	4,3714	3,6571	0,0505	0,1846
20	Employees greet and welcome customers in a friendly manner	406	454	4,3238	3,8667	0,0499	0,1930
	Total			86,6095			4,0319

After all the steps have been completed, the CSI calculation can be performed using the total value of WS and HS.

$$CSI = \frac{4,0319}{5} \times 100\% = 80,64\%$$

IPA method

In processing using the IPA method, the first thing to do is to calculate the score and the average reality and expectation value of each attribute. The results of calculating the score and the average value of reality and expectations for each attribute are shown in Table 3.

Table 3. Score and Average Value of Reality and Expectations

No.	Attribute	Reality		Expected	
		Score	Avverage	Score	Avverage
1	Cleanliness of the counter area	407	3,8762	489	4,6571
2	Convenience of the counter area with the presence of air conditioning	428	4,0762	479	4,5619
3	Complete equipment for picking up products	429	4,0857	410	3,9048
4	Cleanliness of equipment for picking up products	405	3,8571	487	4,6381
5	The products served are tasty or delicious	452	4,3048	445	4,2381
6	Variety of products served	410	3,9048	467	4,4476
7	The texture of the product is according	431	4,1048	437	4,1619

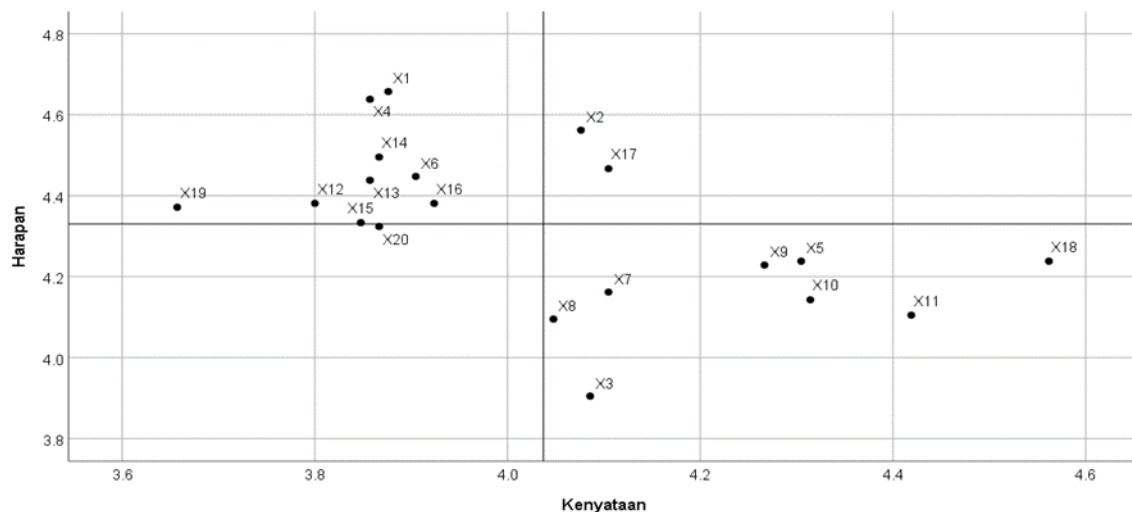
	to the customer's wishes				
8	Employees are fast in serving orders	425	4,0476	430	4,0952
9	Employees correctly present the product according to the order	448	4,2667	444	4,2286
10	Employees quickly and accurately enter prices at the cash register	453	4,3143	435	4,1429
11	Payments can be made easily (cash/debit/e-payment)	464	4,4190	431	4,1048
12	Employees can solve problems well when something goes wrong in the buying process	399	3,8000	460	4,3810
13	Employee response is fast when there is a complaint	405	3,8571	466	4,4381
14	Employees respond responsively to customer requests	406	3,8667	472	4,4952
15	Employees are able to understand customer needs	404	3,8476	455	4,3333
16	Product prices are proportional to the size and quality of the product or affordable prices	412	3,9238	460	4,3810
17	Products are packaged properly (can maintain product quality)	431	4,1048	469	4,4667
18	Halal product provided	479	4,5619	445	4,2381
19	Attention to criticism and	384	3,6571	459	4,3714

	suggestions given by customers				
20	Employees greet and welcome customers in a friendly manner	406	3,8667	454	4,3238

After the scores and average values of reality and expectations of each attribute are obtained, the data is mapped into a Cartesian diagram which functions to place the 20 attributes into quadrants I to IV so that they can see in more detail the attributes that need to be improved.

Cartesian diagram mapping is done using SPSS software. The results of the distribution of each attribute in each quadrant of the 20 attributes are shown in Figure 2.

Figure 2. Cartesian diagram



IV. RESULTS AND DISCUSSIONS

Based on Table 1, the CSI value obtained shows that customer satisfaction is in the Satisfied category because it has an index value between 66% - 80.99%. The CSI value indicates that the customer is quite satisfied, but increasing the maximum CSI value so that the customer feels very satisfied can be done by the company.

Based on the results obtained from the Cartesian diagram, it can be seen that the attributes that are in quadrant I (concentrate these) or attributes that are considered important by the customer but the implementation has not been as expected so that the main priority for improvement is the cleanliness of the counter area, cleanliness of equipment to pick up the product, the variety of products presented is complete, employees can solve problems properly when an error occurs in the purchasing process, employee response is fast when there is a complaint, employees respond responsively to customer requests, employees are able to understand customer needs, product prices are proportional to the size and product quality or affordable prices, and attention to criticism and suggestions given by customers.

Attributes that are in quadrant II (keep up the work) or attributes that are considered important by the customer and the implementation is as expected so it needs to be maintained is the comfort of the counter area with air conditioning and the product is packaged properly (can maintain product quality) .

Attributes that are in quadrant III (low priority) or attributes that are considered less important by customers and whose implementation is not very good are employees greeting and welcoming customers in a friendly manner.

Attributes that are in quadrant IV (possible overkill) or attributes that are considered less important by the customer but the implementation is good are the completeness of the equipment to take the product, the product served is tasty or delicious, the texture of the product is in accordance with the wishes of the customer, the employees are fast in serving orders, employees correctly present products according to orders, employees quickly and accurately enter prices at the cash register, payments can be made easily (cash/debit/e-payment), and the product provided is halal.

V. CONCLUSIONS

Based on Calculation of the CSI index obtained a value of 80.64% which is in the satisfied category with an index value between 66% - 80.99%. The value of the CSI index indicates that the customer is quite satisfied with the quality of service provided.

In IPA, the 20 attributes are mapped onto a Cartesian diagram. Attributes that are included in quadrant I (concentrate these) or attributes that are considered important by the customer but the implementation has not been as expected so that the main priority for improvement is the cleanliness of the counter area, cleanliness of equipment to take products, complete product variations presented, employees can solve problems properly when an error occurs in the purchasing process, employees respond quickly when there are complaints, employees respond responsively to customer requests, employees are able to understand customer needs, product prices are comparable to product size and quality or affordable prices, and attention to criticism and suggestions given by customers. Attributes that are included in quadrant III (low priority) or attributes that are considered less important by customers and whose implementation is not very good are employees greeting and welcoming customers in a friendly manner.

Suggestions for further research is to try to integrate the methods used in this study with other methods so that the results obtained are better and can find the advantages and disadvantages of each method used.

VI. REFERENCES

- [1] Yuliawati, L. (2017) 'Analisis Struktur, Perilaku, dan Kinerja Industri Makanan dan Minuman di Indonesia', *Jurnal Ecodemica*, 1(2), p. 267.
- [2] Malonda, J. A., M. Wangke, W. and Moniaga, V. R. B. (2018) 'Profil Usaha Industri Bakery pada Perusahaan "New Segar" Di Kelurahan Pinaasaan Kecamatan Wenang Kota Manado', *Journal Agri-SosioEkonomi*, 14, pp. 35–44.
- [3] Rahayu, F., Palullungan, D., & Regina, T. (2021) 'Improving the Production Quality Processes at Bread SMEs in Jakarta', *Applied Technology and Computing Science Journal*, 4(1), 10-15.
- [4] Alfurqan, M., Jopang and Liwaul (2020) 'Analisis Pengembangan Produk Roti Holland Bakery dalam Menghadapi Persaingan Bisnis', 5(2), pp. 552–560.
- [5] Indrajaya, D. (2018) 'Analisis Kualitas Pelayanan Terhadap Tingkat Kepuasan Konsumen Menggunakan Metode Importance Performance Analysis dan Customer Satisfaction Index', *Jurnal IKRA-ITH Teknologi*, 2(3), pp. 1–6.
- [6] Ardianti, N. P. and Waluyo, M. (2021) 'Analisis Kepuasan Pelanggan Terhadap Kualitas Pelayanan Menggunakan Metode CSI dan PGCV di Toko XYZ', *Journal of Industrial Engineering and Management*, 16(2), pp. 96–107. doi: 10.33005/tekmapro.v16i2.219.
- [7] Howin, R. and Prasetya, W. (2020) 'Penerapan Metode IPA dan PGCV untuk Menganalisis Kualitas Layanan PT. Bank X berdasarkan Dimensi Servqual', *Jurnal METRIS*, 21(02), pp. 92–102. doi: 10.25170/metriz.v21i02.2493.
- [8] Udofia, Ekpenyong Ekpenyong et al. (2021) 'Supply Disruption in The Wake of COVID-19 Crisis and Organisational Performance: Mediated by Organisational Productivity and Customer Satisfaction', *Journal of Humanities and Applied Social Sciences*, 3(5), pp. 319–338. doi: 10.1108/jhass-08-2020-0138.

- [9] Monferrer, D., Moliner, M. A. and Estrada, M. (2019) 'Increasing Customer Loyalty Through Customer Engagement in The Retail Banking Industry', *Spanish Journal of Marketing - ESIC*, 23(3), pp. 461–484. doi: 10.1108/SJME-07-2019-0042.
- [10] Makudza, F. (2021) 'Augmenting Customer Loyalty Through Customer Experience Management in The Banking Industry', *Journal of Asian Business and Economic Studies*, 28(3), pp. 191–203. doi: 10.1108/jabes-01-2020-0007.
- [11] Ardianti, N. P. and Waluyo, M. (2021) 'Analisis Kepuasan Pelanggan Terhadap Kualitas Pelayanan Menggunakan Metode CSI dan PGCV di Toko XYZ', *Journal of Industrial Engineering and Management*, 16(2), pp. 96–107. doi: 10.33005/tekmapro.v16i2.219.
- [12] Meirizha, S. nova and Rahmawati (2019) 'Identifikasi Tingkat Kepuasan Pelanggan dengan Menggunakan Metode Servqual (Studi Kasus : PT. Perawang Kencana Motor)', *Jurnal Surya Teknik*, 1(04), pp. 75–81. doi: 10.37859/jst.v1i04.1191.
- [13] Pambudi, F. N. and Martini, E. (2017) 'Analisis Service Recovery Layanan Indihome Triple Play Kota Bandung Menggunakan Metode Customer Satisfaction Index (CSI) dan Importance Performance Analysis (IPA)', *Jurnal Manajemen dan Bisnis Sriwijaya*, 15(2), pp. 119–126. doi: 10.29259/jmbs.v15i2.5699.
- [14] Wilujeng, F. R., Wijaya, T. and Andreas, D. (2020) 'Analisis Kualitas Layanan dengan Metode Fuzzy Servqual, Importance Performance Analysis (IPA) dan Regresi Linier Berganda di Pasar Swalayan Giant', *Seminar Nasional Terapan Riset Inovatif (SENTRINOV)*, 6(1), pp. 1119–1126.
- [15] Phadermrod, B., Crowder, R. M. and Wills, G. B. (2019) 'Importance Performance Analysis Based SWOT Analysis', *International Journal of Information Management*, 44, pp. 194–203. doi: 10.1016/j.ijinfomgt.2016.03.009.
- [16] Andry, J. F., Christianto, K. and Wilujeng, F. R. (2019) 'Using Webqual 4.0 and Importance Performance Analysis to Evaluate E-Commerce Website', *Journal of Information Systems Engineering and Business Intelligence*, 5(1), p. 23. doi: 10.20473/jisebi.5.1.23-31.
- [17] Hair, J. F. et al. (2014) *Multivariate Data Analysis*. 7th edn, *Pharmaceutical Quality by Design: A Practical Approach*. 7th edn. United Kingdom: Pearson Education Limited. doi: 10.1002/9781118895238.ch8. J. Li, X. Mei, D. Prokhorov, and D. Tao, "Deep neural network for structural prediction and lane detection in traffic scene," *IEEE Trans. neural networks Learn. Syst.*, vol. 28, no. 3, pp. 690–703, 2016.
- [18] J. M. Ward and P. M. Griffiths, *Strategic planning for information systems*. John Wiley & Sons, Inc., 2007.
- [19] R. D. Galliers and D. E. Leidner, *Strategic information management: challenges and strategies in managing information systems*. Routledge, 2014.