SERVICE QUALITY ASSESSMENT PT. DISTRIBUTOR REAGENT: COMBINATION OF SERVICE QUALITY AND IMPORTANCE-PERFORMANCE ANALYSIS METHODS

Kuat Watini
Department of Technology Management, Institut Teknologi Sepuluh Nopember
Surabaya 60111 Indonesia, E-mail: kuatwatini@gmail.com

Moses Laksono Singgih
Department of Technology Management, Institut Teknologi Sepuluh Nopember
Surabaya 60111 Indonesia, E-mail: moseslsinggih@ie.its.ac.id

ABSTRACT

The need for laboratory reagents is currently an essential need, this condition is due to the growing development of research in the field of science and the increase in health checks in the community, especially due to pandemic conditions. The need for these reagents is also met by imports through designated distributors in Indonesia. PT. Distributor of Reagents is one of the importing companies for Laboratory reagent products in Indonesia. One of the main products that are needed a lot at this time is the Genomics product which is a product for the completeness of the Covid-19 examination using the PCR technique. However, customer demand did not increase in line with the increase in cases. The number of new competitors selling this product is one of the causes, the reduced demand for reagents. In addition, several complaints about the quality of service were also complained by customers. One of the company's efforts in facing competition is to improve the quality of service to customers to differentiate themselves from competitors of other reagent distributor companies. The purpose of this study is to assess the quality of service to customers that have been carried out at PT. Distributor Reagents use the service quality (SERVQUAL) method and identify elements of service quality that are considered important for customers with the Importance Performance Analysis (IPA) technique. Data were obtained by quota sampling as many as 42 customers who were selected based on the purchase value of genomic products and did not make purchases again at a certain time. The results showed the average value of the gap analysis of the SERVQUAL method at PT. Distributor Reagent is -0.27 with a suitability level of 92.94% so the quality of service is still relatively good. Furthermore, there are 3 attributes with high importance and performance in Quadrant I, then 6 attributes with high importance and low performance which should be the main priority to be improved in Quadrant II. Based on these results, the recommendation for management is to improve its analysis by examining the performance level of competitors on each attribute used to determine the performance of the services provided.

Keywords: *reagents, distributors, Service quality (SERQUAL), Importance Performance Analysis*

1. INTRODUCTION

The need for laboratory reagents is now an essential need, this condition is due to the development of research in the field of science and the increasing number of health checks in the

community. In addition, Laboratory reagents are also still dependent on products from abroad. The fulfillment of their needs is carried out by importing through a designated distributor, PT. Reagent Distributor is one of the importing companies for Laboratory reagent products in Indonesia. PT. Reagent distributors classify these products into 3 major groups, namely Genomics, Proteomics, and Culture products. From the three product groups, the author will choose one of the products to be discussed, namely Genomic products. This is because the most needed Genomic products are related to Covid-19 examinations, especially for PCR examinations. In addition, there are many competitors who sell Genomic products due to the increasing need for examinations in the community to deal with Covid-19 cases, this condition will also be a challenge for the company to continue to exist among competitors. This competition is very much felt by the addition of new distributors from various producing countries, this can also be seen from the increase in recommendation kits used for inspection, from the initial dozens to hundreds.

This concern is reinforced by the latest sales data for several major Genomics products which decreased significantly in demand when compared to the demand in the previous year. In addition to these conditions, some customers also complained about the services that occurred at PT. Distributor of Reagents, such as:

1. Late arrival of goods, not according to the promised time
2. Administrations that are too rigid cannot revise the invoicing if there is a change in customer administration data or something else
3. Too focused on reagents for pandemic needs, neglected reagent needs for other research
4. The product maintenance team cannot conduct training and consultation directly with customers, especially those located outside the city (head office)
5. Limited technicians and resolving customer complaints are usually done with a queuing system

Some of the reasons that have been described previously, one of the company's efforts in facing competition is the need to improve the quality of service to customers to differentiate themselves from competitors of other reagent distributor companies. The purpose of this study is to identify elements of service quality that are considered important for customers of PT. Distributor of Reagents and assessing the quality of service to customers that have been carried out at PT. Reagent Distributors. The model for measuring service quality used is the SERVQUAL model. The results from SERVQUAL are analyzed using the IPA (Importance Performance Analysis) technique, the aim is to identify what dimensions must be considered or become priorities in an effort to improve service quality.

2. LITERATURE REVIEW

The business process carried out as a distributor begins with registering the company as an importer with a business license in the form of a distributor of chemicals/medical devices and laboratory equipment. To support the formation of this business process, there are at least seven components, including outcome (output), customer (customer), actor (process actor), object (process object), event (event), and decision point (point of decision making). According to Dumas (2013), the result of a business process is an output that can be positive or negative, which provides value to customers who are actors in the business process.

Imported products are reagents, which are substances added to a system to carry out a chemical reaction or in other words added to see the occurrence of a certain reaction. Reagents can be found in solid (solid) form, or in liquid form. Some reagents are used as basic components in specific biomolecules and some serve as kits and tests used to detect organisms that are difficult to

find under conventional imaging devices. Usually, reagents are used for research purposes such as raw materials in molecular biology, forensic use, blood or serology tests, immunology, gram testing, and pharmaceutical processes (Lattanzi,2012). This reagent will be supplied, to several customers to meet the needs of the Laboratory.

One of the measurements used to assess the quality of service to customers is the service quality model (SERVQUAL). SERVQUAL provides techniques for assessing and managing service quality. As stated by Adil (2013), many studies have used the SERVQUAL dimension as the basis of their research, so that it has a great impact on business and the academic community so that it can be said as a practical framework used in service quality management. The service quality scale operationalizes service quality by calculating the difference between expectations and perceptions, evaluating them in relation to 22 questions that represent the five dimensions of service quality (Kotler & Keller, 2016), as explained in the following table below:

Table 1. The five dimensions of service quality

Tangibles	The appearance of physical facilities, equipment, staff, and communication materials.
Reliability	The ability to perform the promised service dependably and accurately
Responsiveness	The willingness to help customers and provide prompt service
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence.
Empathy	The provision of caring, individualized attention to customers.

Each item is measured based on responses from two statements, namely measuring customer expectations regarding services (E) and perceptions of actual services provided by companies in the service sector (P). The gap for each item was calculated as the perception score minus the expectation score (P-E). According to Yousapronpaiboon (2014), the results of these calculations can be concluded as follows:

1. A positive gap score implies that expectations have been met or exceeded, service quality is considered satisfied.
2. Negative gap score implies that expectations have not been met, quality is considered unsatisfactory

Furthermore, Importance-Performance Analysis (IPA) has become a popular tool for understanding customer satisfaction and prioritizing service quality improvement since Martilla and James in 1977, first demonstrated this technique. IPA has been used as a tool to understand customer needs and wants so as to develop marketing strategies to respond to them. IPA is widely used in many fields where customer satisfaction is key to a thriving business including higher education, tourism, government services, convenience stores, and banking services.

This customer satisfaction is a function of customer perception, which involves the quality of the organization's products or services and customer expectations. Therefore, as stated by Kwon & Chung (2018), IPA measures satisfaction from customer satisfaction surveys based on two components of product or service attributes, namely the importance of the product or service for customers and the performance of the organization in providing the product or service. Furthermore, according to Kotler & Keller (2016), the ranking of elements in the IPA is divided into four quadrants according to in the picture below:
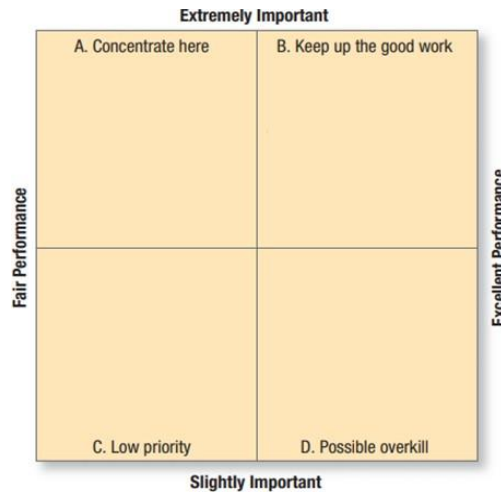
Figure 1. Importance Performance Analysis

1. Quadrant A in the figure shows important service elements that are not being performed at the desired level.
2. Quadrant B shows important service elements that are being performed well; the company needs to maintain this high performance.
3. Quadrant C shows minor service elements that are being delivered in a mediocre way but do not need any attention
4. Quadrant D shows that a minor service element, "Send out maintenance notices," is being performed in an excellent manner.

3. METHODS

The sampling technique used is quota sampling which is a non-probability sampling technique by selecting samples that have certain characteristics in the amount of quota determined by the number of respondents as many as 42 customers who make purchases of Genomic products (March-July 2020) and do not make purchases again (January-May 2021). The SERVQUAL attribute was compiled based on interviews with the management team, a database of customer complaints, and previous research literature. The data from the questionnaire were tested for validity with Pearson's Product Moment and for reliability using Cronbach's Alpha. Valid results will be analyzed using SERVQUAL and IPA, if not valid, they will not be included in the analysis calculation. Before filling out the questionnaire, the customer will fill in the demographic data form, such as education, position, the purpose of the purchase, length of time being a customer at PT. Reagent Distributors. This is done to find out the customers who fill out the questionnaire according to the appointed respondents.

4. RESULTS
4.1 SERVQUAL Attributes

Table 2. Respondent demographic data

Demographic Variables		Total
Education	S2	20
	S1	15
	S3	5

Table 2. Respondent demographic data

Demographic Variables		Total
Education	D3	2
Position	Researcher	11
	Unit Head	9
	Laboratory Staff	7
	Laboratory Coordinator	7
	Analyze	6
Purchase purpose	Government project	18
	Private Company Project	13
	Personal Project	11
Time for being customer	More than 2 years	31
	Between 1-2 years	8
	Less than 1 years	3

The demographic data information can be accordance with the selection of sample data, namely quota sampling which represents sampling based on certain characteristics. In this case, the respondents who were appointed were those with the purchase of genomic products and demographically, based on the level of education, position, the purpose of purchasing the product, and length of time being a customer of PT. Distributors Reagent. This data will help researchers to know the characteristics of respondents, especially in deciding to purchase products offered by PT. Distributor Reagent.

4.2 SERVQUAL Attributes

Table 3. SERVQUAL Attributes

Variable		SERVQUAL Attributes
Tangible	Q1	The quality of the products offered
	Q2	Warehouse stock update information
	Q3	Promo and product information (brochures, journals, flyers)
	Q4	The storage, packing and shipping
Reliability	Q5	Provide after-sales service or maintenance
	Q6	The ability of employees to answer customer questions
	Q7	Provide solutions to help customer difficulties
	Q8	The employee communication skills to customers
	Q9	Provide timely delivery service as promised
Responsiveness	Q10	Perform function tests and presentations to customers
	Q11	Willingness to help customers anytime
	Q12	Speed and accuracy in responding to customers
	Q13	Willingness to accept complaints and resolve them
Assurance	Q14	Customer support facilities
	Q15	Customer payment time options
	Q16	Security, comfort and convenience in transactions
	Q17	Product guarantee received in good condition
	Q18	Guarantee if there is a delay in the order
Empathy	Q19	Company participation in providing support (sponsorship)
	Q22	Participate in social and humanitarian activities

The attributes in the SERVQUAL questionnaire were obtained from interviews with the management team in this case the marketing manager, field observations when meeting customers, a database of customer complaints that had been submitted to the sales team, and literature obtained from previous research.

4.3 Validity & Reliability Test Results

Table 4. Validity Test Results

Variable	R-Count	R-Table	Results
Form expectation	0.778	0.3044	Valid
Form performance	0.729	0.3044	Valid
Form Importance	0.703	0.3044	Valid

The calculation results are expressed by this Pearson correlation, where the correlation measures the existence of a linear relationship between attributes. If the attribute is not valid, r count is smaller than the r table, then it is not included in the next analysis. With the number of respondents as many as 42, then obtained df = 42-2 = 40. with a significant level of 5%, then the results of the validity of each variable on the reality, expectations, and interests form are obtained as the Table. 4. Validity Test Results. The results of the calculation of the validity test above obtained valid results, namely the r-count are greater than the r-table so that the statement can be used as an instrument for the questionnaire.

Table 5. Reliability Test Results

Variable	Cronbach's Alpha Coefficient Value	Results
Form expectation	0.951	very good
Form performance	0.949	very good
Form importance	0.828	good

The results of the reliability test from Alpha's Cronbach for the form of statements of hope, reality, and interests have an average value of > 0.9 which means that the questionnaire used is reliable, as shown in Table 3. The results of the reliability test of each statement.

4.4 SERVQUAL Results

Table 6. Calculation of the Average Level of Compliance Dimensions of Service Quality

SERVQUAL Dimension	Average Important	Average Performance	Service Quality Performance (%)
Tangibles	4.20	3.91	93.09
Reliability	4.14	3.87	93.47
Responsiveness	4.14	3.96	95.65
Assurance	4.10	3.85	93.90
Empathy	3.86	3.42	88.60
Averages	**4.08**	**3.80**	**92.94**

The Calculation of the average level of suitability for service quality dimensions shows that the average SERVQUAL dimension for service quality is 92.94% with each dimension such as tangible 93.09%, reliability 93.47%, responsiveness 95.65%, assurance 93.90%, and empathy by 88.60%. Based on the results of this research data, overall service quality as seen from the percentage value of the five dimensions of SERVQUAL has a very good suitability value according to customer. This is based on research conducted by Ansari et al., (2019), The results of the service quality research data are seen from the five dimensions of SERVQUAL at Commercial Banks in Indonesia with an average level of conformity of 80.40% having a very good suitability value according to customers.

The gap between expectations and customer perceptions in Gap 5 is measured by subtracting the total average value of the statement of reality (perception) items with the total average value of expectations (expectations) on each attribute. From the calculation data, the results are obtained in accordance with Table 7. The results of the gap score of expectations and reality are below:

Table 7. The Results of the gap score of expectations and reality

Variable		Importance (I)	Performance (P)	GAP (P-I)
Tangible	Q1	4.29	4.10	-0.19
	Q2	4.21	3.71	-0.50
	Q3	4.00	3.69	-0.31
	Q4	4.31	4.14	-0.17
Reliability	Q5	4.00	3.71	-0.29
	Q6	4.17	3.79	-0.38
	Q7	4.12	3.79	-0.33
	Q8	4.26	4.14	-0.12
	Q9	4.17	3.93	-0.24
Responsiveness	Q10	4.07	3.74	-0.33
	Q11	4.19	3.98	-0.21
	Q12	4.17	4.12	-0.05
	Q13	4.14	4.02	-0.12
Assurance	Q14	4.10	3.57	-0.52
	Q15	4.10	3.95	-0.14
	Q16	4.19	4.05	-0.14
	Q17	4.21	4.07	-0.14
	Q18	3.90	3.60	-0.31
Empathy	Q19	3.90	4.36	-0.40
	Q22	3.81	3.33	-0.48
		4.12	**3.85**	**-0.27**

From the results of the calculation of the gap obtained, all indicators obtained negative results, meaning that the company's perception was still unable to satisfy customer expectations (Sianturi & Singgih, 2011). Even though, this gap analysis shows the average level of service quality at PT. Distributor Reagent of -0.27 which means it is still quite good. According to Parasuraman in Ansari et al., (2019) if the result of the gap <-1 means good, and the result >-1 means the quality of service provided is not good.

4.5 IPA Results

Importance Performance Analysis (IPA) in this study was conducted on all respondents using a comparison between surveys the level of importance to customers with the performance given by the company can be seen in Table 8. The results of the average score for calculating the level of customer interest with the performance of the services provided by the company are as follows:

Table 8. The results of the average score for calculating the level of customer interest with the performance of the services provided by the company

	SERVQUAL Attributes	Importance	Performance
Q13	Willingness to accept complaints and resolve them	5.19	4.02
Q5	Provide after-sales service or maintenance	4.45	3.71
Q17	Product guarantee received in good condition	4.29	4.07
Q1	The quality of the products offered	4.21	4.10
Q4	The storage, packing and shipping	4.21	4.14
Q9	Provide timely delivery service as promised	4.21	3.93
Q2	Warehouse stock update information	4.17	3.71
Q7	Provide solutions to help customer difficulties	4.14	3.79
Q16	Security, comfort and convenience in transactions	4.12	4.05
Q12	Speed and accuracy in responding to customers	4.10	4.12
Q15	Customer payment time options	4.05	3.95
Q6	The ability of employees to answer customer questions	4.02	3.79
Q14	Customer support facilities	4.02	3.57
Q11	Willingness to help customers anytime	4.00	3.98
Q18	Guarantee if there is a delay in the order	4.00	3.60
Q8	The employee communication skills to customers	3.98	4.14
Q10	Perform function tests and presentations to customers	3.93	3.74
Q3	Promo and product information (brochures, journals, flyers	3.83	3.69
Q19	Company participation in providing support (sponsorship)	3.67	3.50
Q22	Participate in social and humanitarian activities	3.67	3.33

The analysis of interests and performance seen from the average score of the above calculation will assess various attributes of the service variable and identify the actions required by the company. The results of the analysis of the average score of the calculation of customer interests and company performance, from the order of the highest importance value to the lowest are the attributes Q13, Q5, Q17, Q1, Q4, Q9, Q2, Q7, Q16, Q12, Q15, Q6, Q14, Q11, Q18, Q8, Q10, Q3, Q19, and Q22. Most of the average scores of this attribute have a performance value smaller than the level of customer importance. This shows that customers feel these attributes are very important but are not done well by the company.

The results of decision-making with the IPA method are in accordance with Figure. 2 The results of the IPA analysis based on the Quadrant above show that the service quality in Quadrant I (high interest or low performance) is also called (concentrate here), including attributes that require immediate corrective action. There are 3 attributes including Q5, Q2, and Q7. This statement is also supported by the result that the average score of importance is quite high but the average score of performance is low. Then, Quadrant II (interest and high performance) is referred to as (keep up the good work) which represents the strong side and competitive advantage of the company, its task is to continue to maintain the quality of the attributes in it. There are 6 attributes in this quadrant, namely attributes Q1, Q4, Q9, Q13, Q16, and Q17. These results can be concluded that customers are very

satisfied with the services provided by the company. This attribute also has a high average score of importance, so the company must maintain this service quality attribute.

Seven attributes in Quadrant III (Low priority) are Q3, Q6, Q10, Q14, Q18, Q19, and Q22. This attribute is considered to have low importance and performance, this condition does not represent any threat to the company, but managers should think about options to transfer resources from these attributes to attributes that require immediate action (Ormanovic and Ciric, 2017). This quadrant also has the most attributes among the other quadrants.

There are 4 attributes in Quadrant IV (Possible Overkill), namely Q8, Q11, Q12, and Q15. This quadrant has low importance and high performance. The customers are satisfied with the company's performance. However, this attribute is actually not very important but its performance is relatively high. Respondents are satisfied with organizational performance, but managers should consider efforts on this Quadrant attribute as excessive or unnecessary.
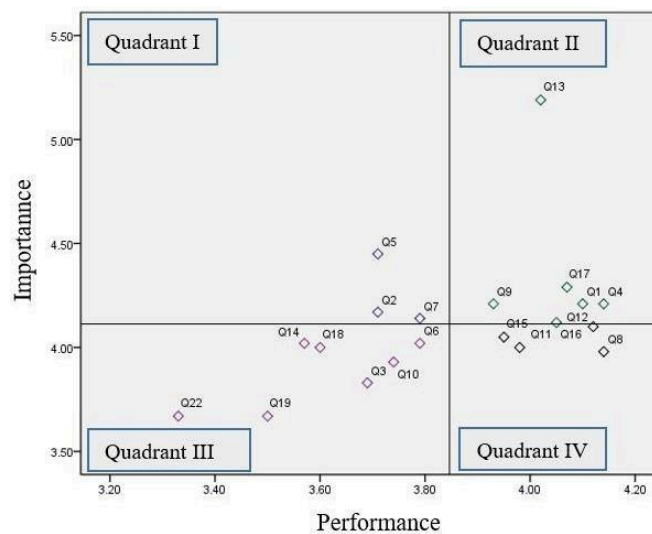

Figure 2. The Cartesian Diagram of Science Analysis Results

6. CONCLUSIONS

The quality of service to customers has been passed by PT. Distributor Reagents are classified as good, the value of gap analysis using the SERVQUAL method shows the average level of service quality at PT. Distributor Reagents of -0.27, as well as the value of the level of conformity of 92.94% which means good according to customers. There are 3 attributes with high importance and performance in Quadrant I, then 6 attributes with high importance and low performance which should be the main priority to be improved in Quadrant II. Based on these results, the recommendation for management is to improve its analysis by examining the performance level of competitors on each attribute used to determine the performance of the services provided.

REFERENCES

Adil, M., Ghaswyneh, O.F.M., Albkour, A.M (2013). SERVQUAL and SERVPERF: A Review of Measures in Services Marketing Research. *Global Journal of Management and Business Research Marketing.* (13) 6 Version 1.0.

Ansari Harahap, D., Hurriyati, R., Disman,.Gaffar, V., & Amanah, D. (2019). An Analysis of Service Quality using Importance Performance Analysis and Gap Analysis at a Commercial Banks in Indonesia. November, 161–168. https://doi.org/10.5220/0008437901610168

Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). Fundamentals of Business Process Management. *In Fundamentals of Business Process Management*. https://doi.org/10.1007/978-3-642-33143-5

Lattanzi, A (2012). *Organic & Biomolecular Chemistry*. RSC Green Chemistry No. 40, Cambridge CB4 Owf, UK.

Ormanović. S., Ciric. A., Talovic. M., Alic. H., Jeleskovic. E., Causevic. D., (2017). Importance-Performance Analysis: Different Approaches. *Acta Kinesiologica 11 Supp.* 2: 58-66

Philip Kotler, P., Keller. K. L. (2016). *Marketing Management,* 15th Edition*,* Pearson Education Limited, England.

Sianturi, H. P., & Singgih, M. L. (2011). Peningkatan Kualitas Pelayanan Kesehatan Pasien Unit Instalasi Rawat Jalan Rumkital Dr. Ramelan Surabaya Dengan Menggunakan Metode SERVQUAL dan QFD, *Prosiding Seminar Nasional Manajemen Teknologi XIV*. Surabaya, Indonesia.

Yousapronpaiboon, K. (2014). SERVQUAL: Measuring Higher Education Service Quality in Thailand. *Procedia - Social and Behavioral Sciences*, 116, 1088–1095. https://doi.org/10.1016/j.sbspro.2014.01.350