NST Proceedings
🔒 OPEN ACCESS

Conference Paper

Assessment of Service Quality in Community Health Center Using Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA)

Endang Pudji Widjajati*, Mega Cattleya Prameswari Anissa Islami

Department of Industrial Engineering, Faculty of Engineering, Universitas Pembangunan Nasional "Veteran" Jawa Timur, Surabaya 60294, Indonesia

*Corresponding author:
E-mail:
endangpudjiti@gmail.com

ABSTRACT

The spread of the virus makes the presence of health facilities very important. The public health center must provide health services to improve the health status of the community. Its operation, there are several complaints about the existing facilities at the Kedamean Gresik Health Center, so it is necessary to research the quality of service in that place. The purpose of this study is to analyze the value of service satisfaction and determine the attributes that need to be evaluated to improve services at the public health center. Data was collected by distributing questionnaires to 100 respondents who were patients at the public health center. The data obtained were processed using the Customer Satisfaction Index (CSI) and Importance-Performance Analysis (IPA) methods. The results showed a customer satisfaction index of 70.8% which means that customers at the Kedamean Gresik Health Center are satisfied with the services provided, but it is necessary to make improvements in certain attributes. Based on the results of the analysis of attributes that need to be improved, they consist of A3, B2, B3, C2, C3, and E1 in quadrant B, and service attributes consisting of A2, A4, C1, and D1 in quadrant A.

Keywords: Patient satisfaction, customer satisfaction index, importance-performance analysis

Introduction

The high spread of the virus in Indonesia makes the goal of a "healthy Indonesia" in national development in the health sector still needs improvement. The addition of the number of transmissions of the COVID-19 virus caused by mutations of new variants of omicron BA.4, BA.5, and BA.2.75 as well as the emergence of other infectious diseases such as monkeypox, makes all aspects of society need to be more sensitive to health functions. One of the handlers of the government to realize a "healthy Indonesia" is to function and build the development of health facilities for various groups of people. One of the health facilities provided by the government for the lower middle class is the. Community Health Center or Puskesmas. The Community Health Center is a health service facility that organizes public health efforts and first-level individual health efforts, by prioritizing promotive and preventive efforts, to achieve the highest public health status. These health efforts are carried out with an emphasis on services for the wider community to achieve optimal health degrees, without neglecting the quality of services to individuals. Puskesmas has several functions such as functional health organizational units, community health development centers, building community participation, and providing comprehensive and integrated services to the community (Wu et al., 2022; Pitocco et al., 2022 & Røe et al., 2022). So service is the main factor for Puskesmas, to meet the health needs of the community in various circles.

High-quality care can be felt by the community at the Community Health Center or Puskesmas at a cost that is not too high (Huguet et al., 2022; Toathong et al., 2018; Liang et al., 2022 & Kumar et.al, 2022). Complete and good health service facilities can also have an impact on the health of patients or customers at the Puskesmas (Zaver et al., 2021; Zimer et al., 2021 & Falisse et al., 2020). To its vision and mission, Puskesmas need to provide good services for the community to improve the health of the community in their environment. Kedamean Gresik Health Center is one of the health centers that is quite important because it is a place that many people go to when it comes to their health. So that the service facilities provided to the community are the main points that must be considered by the puskesmas (Mendoza-Gómez et al., 2022; Chaitkin et al., 2022 & Feyman et.al., 2021). Based on the results of initial observations, there were several complaints felt by the community regarding the health services available at the Kedamean Gresik Health Center. In addition, since the establishment of the Puskesmas, there has never been an assessment of customer satisfaction with health services at the Puskesmas. So this research needs to be done to be able to analyze the value of service satisfaction and determine the attributes that need to be evaluated to improve services at the Puskesmas. The analysis was carried out using the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA) methods. These two methods are very useful to find out what percentage of customer satisfaction with an item or service they buy or use.

The point of view of customer quality can refer to: customers, service providers, service recipients (customers and communities), and service partners (Laura & Mazzulla, 2021). Customer satisfaction depends on the idea that a service/product is judged to be of good quality if it meets the needs and expectations of consumers (Bertaccini et al., 2021). Customer satisfaction assessment usually uses the Customer Satisfaction Index (CSI) method. The Customer Satisfaction Index (CSI) is an evaluation system based on customers and measures the quality of a service or product according to the customer's consumption or usage experience (Munoz et al., 2020). Importance Performance Analysis (IPA) used in this study aims to place more emphasis on attributes and appropriate managerial actions that make it more relevant as a management strategy that needs to be improved. Based on the satisfaction value obtained, it will be used as a reference for whether the goods or services used by customers are included in the high or low satisfaction level. If it is at a low, it is necessary to evaluate to find out what attributes need to be evaluated to increase customer satisfaction. Importance Performance Analysis (IPA) involves plotting the performance and importance of selected attributes of the service provided, as rated by the customer, into the following four quadrants: Quadrant I: High Performance – High Importance (Keep up the good work), Quadrant II: High Performance – Low Importance (Possible overkill), Quadrant III: Low Performance – Low Importance (Low priority), and Quadrant IV: Low Performance – High Importance (Concentrate here) (Esmailpour et al., 2020; Chem et al., 2020).

Material and Methods
Questionnaire design and data collection
This study aims to assess the quality of health services at the Kedamean Gresik Health Center based on the CSI and IPA methods. The questionnaires distributed were the customer satisfaction level questionnaire and the customer interest level questionnaire to the management which contained 36 questions related to the quality of sanitation services in five dimensions, namely Tangibility (5 questions), Reliability (5 questions), Responsiveness (4 questions), Assurance (4 questions).) and Empathy (4 questions). Questions from these dimensions were selected based on a comprehensive literature review. Questionnaire items are rated on a five-point Likert scale in a structured format with verbal statements of 'strongly disagree' and 'strongly agree' anchored to points 1 and 5. Data were collected by distributing questionnaires to 100 respondents who were patients at the Kedamean Gresik Health Center.

Validity and reliability of the questionnaire

In any survey-based primary research, measuring the validity and reliability of questionnaire items is very important to determine whether the items and questions cover the entire range of problems or problems being measured or not. To measure the validity of the 36 questionnaire items using SPSS software, while to measure the reliability of the questionnaire items using Cronbach's alpha method.

Methods

The customer Satisfaction Index (CSI) method represents the level of satisfaction of the Kedamean Gresik Public Health Center patients based on the perception of the health center's service performance. The Customer Index (CSI) can be achieved by multiplying the weight of each attribute by the perception (P) of each attribute (Alam & Mondal, 2019). The final Customer Satisfaction Index (%) is assessed by the sum of all CSIs for each attribute as a percentage. CSI is further categorized qualitatively. In this paper, CSI is used to assess the level of satisfaction with the quality of health services at the Kedamean Gresik Health Center.

Importance Performance Analysis (IPA) is a simple, yet effective instrument, which is widely used because of its practicality and its direct implications for management (Mimbs et al., 2020). The Importance-Performance Analysis (IPA) diagram consists of four quadrants. Quadrant I: High Performance – High Importance (Keep up the good work): attributes in this category represent major strengths that have succeeded in achieving a standardized level of performance. Customers are satisfied with the attributes of this category and consider them important. The budget allocated to attributes of this category is recommended to be maintained or expanded. Quadrant II: High Performance – Low Importance (Possible overkill): attributes in this category, which reflect secondary and insignificant strengths, have the least potential impact on attracting customers. Customers perceive that the performance of attributes in this category is satisfactory and optimal, but do not regard them as important. These attributes can squander resources unnecessarily and so the budget intended for this category should instead be allocated to attributes of other categories (especially those in Quadrant IV). Quadrant III: Low Performance – Low Importance (Low priority): attributes in this category are low performing for customers, but do not threaten an organization because of their low importance and, indeed, are sub-weaknesses. There is a low preference for allocating funds to the attributes of this category. If attributes of this category do not yield reliable results, then attempting to improve them is unnecessary. Quadrant IV: Low Performance – High Importance (Concentrate here): attributes in this category indicate primary weaknesses. If left uncontrolled, these attributes can threaten an organization in attracting customers and competing with other organizations. Allocation of further budget and considerable effort is fundamental to improving these attributes.

Results and Discussion

Validity & reliability test

Testing the validity of all the results of the questionnaire (respondents' perceptions and expectations) was carried out with the help of SPSS software. With a sample size of 100; = 5%, then the rtable is 0.195. (see table r product moment) contained in appendix C. The criteria for a data can be declared valid if (rCount ≥ rtable). The magnitude of good reliability is 1 and the lowest is 0. The greater the value obtained, the more reliable the attribute is. The criteria for data are declared reliable (Cronbach's alpha ≥ rtable). All attributes are declared valid and reliable.

Customer Satisfaction Index (CSI)

The CSI value obtained is 70.9%. This illustrates that patients at the Kedamean Gresik health center are satisfied with the services provided, but are still not optimal as a whole. To provide maximum satisfaction in the future, the Gresik Kedamean Health Center must improve the service

performance attributes that have not been maximized. The results of IPA (Importance-Performance Analysis) are presented in the IPA diagram in the following figure 1.
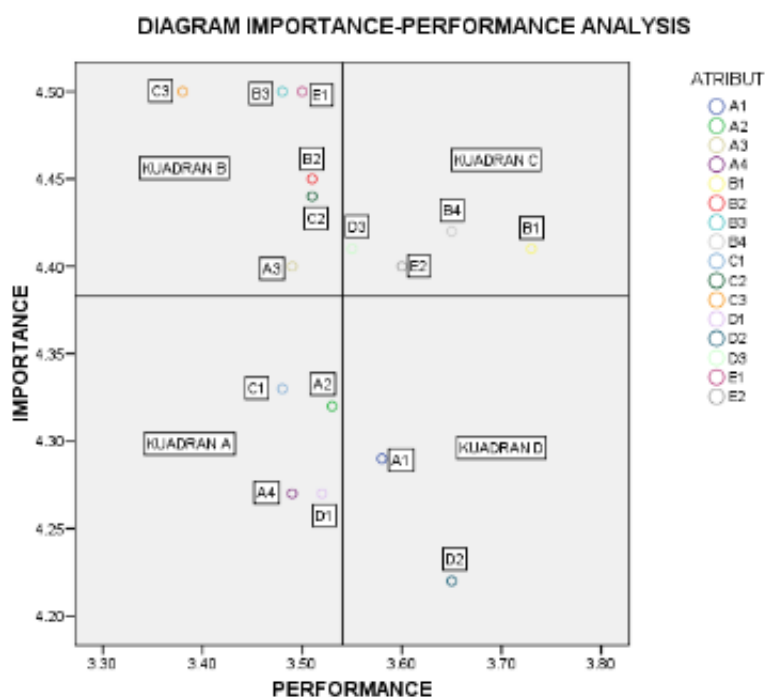

Figure 1. IPA diagram of Kedamean Gresik health center services

The results of the analysis of the IPA diagram are that in Quadrant A, attributes A2, A4, C1, and D2 are obtained. The attributes in this quadrant are relatively small in terms of providing benefits to customers and puskesmas management because the level of importance is relatively low and the performance is also relatively low. In Quadrant B, attributes A3, B2, B3, C2, C3, and 1 are obtained. In this quadrant, improvements are prioritized for attributes because the attributes in this quadrant have a relatively high level of importance but are considered to have relatively low performance. In Quadrant C, the attributes B1, D1, D4, and E2 are obtained. The attributes in this quadrant are very good, so they need to be maintained because the service for the attributes in this quadrant is considered by the customer to be very satisfying and in Quadrant D, the attributes A1, and D3 are obtained. In this quadrant, the attributes are considered respondents. (patient) has a relatively low level of importance but provides a relatively high level of satisfaction.

In Figure 2, it can be seen that the attributes that fall into quadrants A, B need to be improved. Proposed improvements, namely in quadrant A for the attribute (A2), it is necessary to renovate the interior and exterior layout of the room to provide comfort to patients or visitors, attributes (A4) hospital staff are required to be in uniform and have a neat appearance and preferably clean by setting a written regulation at the Kedamean Health Center, attributes (C1) doctors and nurses need to evaluate each period to provide input to improve the performance of their employees, attributes (D1) doctors, nurses and puskesmas officers are accepted to work at the puskesmas by taking into account the skills by the qualifications required by the puskesmas. The proposed improvement in quadrant B, namely the attribute (A3) needs to be completed in the form of sophisticated medical equipment and the need for routine and sterile maintenance so as to provide comfort to the patient and can support the performance of all employees of the kedamean health center, attribute (B2) needs to be analyzed appropriate treatment by experienced doctors for patient complaints so that problems faced by patients will be resolved more quickly (treated), attribute (B3) service schedules are determined through written regulations and are known by all

parties concerned (all employees of the Kedamean Health Center) and provide sanctions for those who violated so that the service will run according to the specified schedule, attribute (C2) it is necessary to provide information services for patients or customers who come in the form of customer service, or a place for information services related to the kedamean health center, attribute (C3) is carried out Rolling the doctor and nurse schedules to keep watch on set every working day so that when patients need doctors and nurses they are always there and ready to serve, the attribute (E1) that all employees of the public health center have is a good, polite, and friendly attitude in serving patients, so that patients are happy and feel cared for when seeking treatment at the hospital. kedamean health center.

Conclusion

Based on the results of the research or discussion that has been carried out, it can be concluded that the value of the CSI (Customers Satisfaction Index) user satisfaction level for the services of the Kedamean Gresik health center is 70.8166%. This means that customers (patients) at the Kedamean Gresik health center are satisfied with the performance of the services provided. To improve the quality of services at the Gresik Kedamean Public Health Center, the Gresik Kedamean Health Center requires a technical response by improving several attributes, including those that are included in quadrant A, namely the attributes of the exterior and interior arrangement of the room (A2), the tidiness and cleanliness of the appearance of the officers (A4) including the Tangibles dimension. , the ability of doctors and nurses to respond quickly to patient complaints (C1) including the Responsiveness dimension, and the skills of doctors, nurses, and other officers at work (D1) including the Assurance dimension. And the attributes in quadrant B are the completeness, readiness, and cleanliness of the tools used (A3) including the Tangibles dimension, proper and appropriate inspection and treatment services (B2), and the service schedule is carried out on time (B3) including the Reliability dimension. , Officers provide information that is clear and easy to understand (C2), Quick action when the patient needs (C3) including the Responsiveness dimension, Attention to patient complaints (E1) including the Empathy dimension.

References

Alam, M. S., & Mondal, M. (2019). Assessment of sanitation service quality in urban slums of Khulna city based on SERVQUAL and AHP model: A case study of railway slum, Khulna, Bangladesh. *Journal of Urban Management, 8*(1), 20-27.

Bertaccini, B., Bacci, S., & Petrucci, A. (2021). A graduates' satisfaction index for the evaluation of the university overall quality. *Socio-Economic Planning Sciences, 73,* 100875. Doi:10.1016/j.seps.2020.100875

Chaitkin, M., McCormick, S., Torreano, J. A. S., Amongin, I., Gaya, S., Hanssen, O. N., Johnston, R., Slaymaker, T., Chase, C., Hutton, G., & Montgomery, M. (2022). Estimating the cost of achieving basic water, sanitation, hygiene, and waste management services in public health-care facilities in the 46 UN designated least-developed countries: a modelling study. *The Lancet Global Health, 10*(6), e840-e849. Doi: 10.1016/S2214-109X(22)00099-7

Chen, K. S., Lin, K. P., & Lin, L. J. (2020). Evaluating the environmental protection strategy of a printed circuit board manufacturer using a Tw fuzzy importance performance analysis with Google Trends. *Expert Systems with Applications, 156*(15), 113483. Doi.org/10.1016/j.eswa.2020.113483

Esmailpour, J., Aghabayk, K., Vajari, M. A., & De Gruyter, C. (2020). Importance–Performance Analysis (IPA) of bus service attributes: A case study in a developing country. *Transportation Research Part A: Policy and Practice, 142*, 129-150. Doi:10.1016/j.tra.2020.10.020

Falisse, J. B., & Ntakarutimana, L. (2020). When information is not power: Community-elected health facility committees and health facility performance indicators. *Social Science & Medicine, 265,* 113331. Doi.org/10.1016/j.socscimed.2020.113331

Feyman, Y., Legler, A., & Griffith, K. N. (2021). Appointment wait time data for primary & specialty care in veterans health administration facilities vs. community medical centers. *Data in Brief, 36,* 107134. Doi: 10.1016/j.dib.2021.107134

Huguet, N., Hodes, T., Holderness, H., Bailey, S. R., DeVoe, J. E., & Marino, M. (2022). Community health centers' performance in cancer screening and prevention. *American journal of preventive medicine, 62*(2), e97-e106. Doi: 10.1016/j.amepre.2021.07.007

Kumar, G., & Reshmi, R.S. (2022). Availability of public health facilities and utilization of maternal and child health services in districts of India. *Clinical Epidemiology and Global Health*, 101070. Doi.org/10.1016/j.cegh.2022.101070

Laura, E., & Mazzulla, G. (2021). Customer satisfaction as a measure of service quality in public transport planning. *International Encyclopedia of Transportation*, 220-224. Doi:10.1016/b978-0-08-102671-7.10643-8

Liang, L. D., Chan, T. C., Leung, K. B., Scheuermeyer, F., Chakrabarti, S., Andelius, L., Deakin, J., Heidet, M., Fordyce, C. B., Helmer, J., & Christenson, J. (2022). Utilization and cost-effectiveness of school and community center AED deployment models in Canadian cities. *Resuscitation, 172,* 194-200. Doi.org/10.1016/j.resuscitation.2021.12.035

Mendoza-Gómez, R., & Ríos-Mercado, R. Z. (2022). Location of primary health care centers for demand coverage of complementary services. *Computers & Industrial Engineering, 169,* 108237. Doi.org/10.1016/j.cie.2022.108237

Mimbs, B. P., Boley, B. B., Bowker, J. M., Woosnam, K. M., & Green, G. T. (2020). Importance-performance analysis of residents' and tourists' preferences for water-based recreation in the Southeastern United States. *Journal of Outdoor Recreation and Tourism, 31,* 100324. Doi.org/10.1016/j.jort.2020.100324

Munoz, C., Laniado, H., & Córdoba, J. (2020). Development of a robust customer satisfaction index for domestic air journeys. *Research in Transportation Business & Management, 37,* 100519. Doi.org/10.1016/j.rtbm.2020.100519

Pitocco, D., Laurenzi, A., Tomaselli, L., Assaloni, R., Consoli, A., Di Bartolo, P., Guardasole, V., Lombardo, F., Maffeis, C., Rossi, A., & Gesuita, R. (2022). *Health care organization and use of technological devices in people with diabetes in Italy: Result from a survey of the working group on diabetes and technology.* Nutrition, Metabolism and Cardiovascular Diseases.

Røe, C., Bautz-Holter, E., Andelic, N., Søberg, H.L., Nugraha, B., Gutenbrunner, C., Boekel, A., Kirkevold, M., Engen, G. and Lu, J., 2022. Organization of rehabilitation services in randomized controlled trials-which factors influence functional outcome? A systematic review. *Archives of Rehabilitation Research and Clinical Translation, 4*(2), 100197. Doi.org/10.1016/j.arrct.2022.100197

Toathong, T., Trijutakarn, T., Sawangpon, S., Chantanis, A., & Pannoi, T. (2018). A Time-driven activity-based cost study of primary care pharmacy service of chronic diseases among the elderly at Community Health Center, Krabi Hospital and Sai Thai Contract Units Of Primary Care, Krabi Province, Thailand. *Value in Health, 21*(2), S51. Doi:10.1016/j.jval.2018.07.386a

Wu, J. H., Lin, L. M., Rai, A., & Chen, Y. C. (2022). How health care delivery organizations can exploit eHealth innovations: An integrated absorptive capacity and IT governance explanation. *International Journal of Information Management, 65*, 102508. Doi.org/10.1016/j.ijinfomgt.2022.102508

Zaver, H. B., Moktan, V. P., Harper, E. P., Bali, A., Nasir, A., Foulks, C., Kuhlman, J., Green, M., Algan, G. A., Parth, H. C., & Wu-Ballis, M. (2021). Reduction in health care facility–onset clostridioides difficile infection: A quality improvement initiative. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes, 5*(6), 1066-1074. Doi: 10.1016/j.mayocpiqo.2021.09.004.

Zimmer, A.J., Heitkamp, P., Malar, J., Dantas, C., O'Brien, K., Pandita, A., & Waite, R. C. (2021). Facility-based directly observed therapy (dot) for tuberculosis during COVID-19: a community perspective. *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases, 24,* 100248. Doi: 10.1016/j.jctube.2021.100248