A study of public health center user satisfaction with importance-performance analysis approach in Semarang city

PrahitaIndriana Raniasmi\textsuperscript{1*}, Reni Murnita\textsuperscript{1}, Pandu Hanif Suhito\textsuperscript{1}

\textsuperscript{1}STIKES HAKLI Semarang, Dinas Kesehatan Kota Semarang, Indonesia

*Corresponding author:
PrahitaIndrianaRaniasmi
JalanKintelan no 290, RT 06 RW 03
KelBendungan, Kec. Gajahmungkur
Kota Semarang
Phone numbers: +6289504848500
E-mail address: prahita.indriana@gmail.com

Abstract

**Background:** PUSTAKA (public health center without queue in Semarang City) has been used and developed since 2018 so that people can make online orders (via WhatsApp or Android-based applications), but there has never been an analysis of user satisfaction or its effectiveness regarding quality services. This study aims to explain the characteristics of respondents, assess the user satisfaction of public health centers’ service and determine the priority improvements that should be taken. **Methods:** This research is a cross sectional study conducted using Importance-Performance Analysis approach. The respondents were 400 service users of public health centers in Semarang City in 2020. **Results:** Out of 400 respondents, 64% respondents knew about PUSTAKA. 64% of them knew from socialization by health workers, 11% from social media, and the rest from leaflets and billboards. Respondents who used PUSTAKA for more than 5 times were 19%, while 23% used it 2-5 times and 58% used it once. From analysis results using IPA approach, it was found that the dimensions included in quadrant I were: tangible and assurance, quadrant II: responsiveness, quadrant III: reliability, and quadrant IV: empathy. Thus, the priority improvements that must be made by public health centers are in the tangible and assurance dimensions, including health workers competence, procedures clarity, cleanliness, and safety. Meanwhile, the calculation result of Customer Satisfaction Index was 80.5%, which belonged in the Good category. **Conclusions:** In general, user’s satisfaction was in the good category. However, it needs improvement in the tangible and assurance dimensions.

**Keywords:** Satisfaction, service, public health center, PUSTAKA

Annals of Tropical Medicine & Public Health http://doi.org/10.36295/ASRO.2021.24143
Introduction

The goal of health services is to achieve a degree of public health that satisfies the expectations and needs of the community through effective services. Based on a research conducted by FKM Undip (2009) at the Srondol Public Health Center, Semarang City, the smallest value of the Community Satisfaction Index was the speed of service (66.25%). This also happens in registration service. In another study conducted by Tunjungsari (2015) it was shown that the quality of basic health services at the Kedungmundu Public Health Center in Semarang City had gotten aCSI value of 69.85, meaning that the quality of service and performance were good. However, in the Cartesian diagram of the 14 service elements in the CSI, some elements were not performing well, namely the speed and convenience of service.¹

This problem was influenced by the length of queues and waiting times for services. Waiting time at health services is an indicator of service satisfaction for the community (patients). Esti, Puspita, and Rusmawati (2015) have stated that a short waiting time until the examination will increase the satisfaction of the patients served.²

According to Permenkes (Ministry of Health Regulation) No. 129/Menkes/SK/II/2008, it is stated that the minimum service standard for outpatient services is no more than 60 minutes.³ Based on the data, it takes an average of 60 minutes for a patient to get services at public health centers in Semarang City, so it is time to shorten the waiting time for health services at public health centers.

Upon seeing the problems that had occurred, the Department of Health of Semarang City developed PUSTAKA (Public Health Center Without Queue in Semarang City). This innovation combines telecommunication and application-based patient services and is integrated with the Public Health Center Management Information System (SIMPUS). This innovation is in the form of queue management for patients in all public health centers in Semarang City. The supporting devices used are SMS, Whatsapp, and an Android application that can be downloaded on the Google Playstore. The community can choose one of the easiest methods to register to obtain health services.

In addition, a breakthrough which was taken by the Semarang City Health Office was the policy to extend service hours at public health centers until the afternoon. Services on Monday-Thursday starts at 7 a.m - 5p.m, on Friday service starts at 7 a.m - 3 p.m, and on Saturday service starts at 7 a.m-12 p.m.⁴ With longer public health centers service hours, it is possible to increase the number of patients who visit the public health centers. It is known that in 2018, the number of outpatient visits to the public health centers was 1,197,860 visits.⁵
Since the implementation of PUSTAKA and the new service hours of public health centers, there has never been an analysis of the user satisfaction of PUSTAKA or its effectiveness in regard to the service quality of public health centers. For this reason, this study uses the Importance-Performance Analysis (IPA) method. The IPA method has the main function of displaying information related to service factors which according to consumers greatly affect their satisfaction and loyalty as well as service factors that consumers think need to be improved because the current conditions are not satisfactory.

This research was conducted to explain the characteristics of respondents, user satisfaction of public health center services, and to find out which service improvement priorities should be taken to improve the quality of public health centers in Semarang City.

Subjects and Methods
This is a cross-sectional study using the IPA (Importance-Performance Analysis) approach on users of Semarang City Public Health Centers in 2020.

Sample Calculation
The population is the number of outpatient visits in 2018: 1,197,860. Calculated using the Slovin formula, the minimum number of samples taken is:

\[ n = \frac{N}{1 + N(d)^2} \]

\[ n = \frac{1,197,860}{1 + 1,197,860 (0.05)^2} \]
\[ n = \frac{1,197,860}{2,995,65} = 399, 86 = 400 \text{ respondents} \]

\[ n : \text{sample size} \]
\[ N : \text{Population} \]
\[ d : \text{Level of confidence 5\%} \]

**Mapping**

Mapping between the importance and performance levels into a Cartesian Importance-Performance Analysis diagram which is divided into four quadrants was conducted.\(^7\)

**Figure 2. Cartesian Diagram of Importance-Performance Analysis**

The following are the explanations of each quadrant in the Cartesian diagram.

1. **Quadrant I (Concentrate These)**
   Contains factors that are considered important by customers, but in reality, these factors have yet to meet customer expectations. The variables that fall into this quadrant must be improved.

2. **Quadrant II (Keep Up the Good Work)**
   Contains factors that are considered important by customers, and the factors that the customers consider as appropriate to what they feel. Variables that are included in this quadrant must be maintained.

3. **Quadrant III (Low Priority)**
   Contains factors that are considered less important by customers, and their performance is not that special. The improvement of variables included in this quadrant can be reconsidered because the effect is very small.

4. **Quadrant IV (Possible Overkill)**
   Contains factors that are considered less important by customers, and which are considered too excessive. Variables that fall into this quadrant can be reduced.
Customer Satisfaction Index

The Customer Satisfaction Index (CSI) is used to determine the overall level of user satisfaction of a service provider. It uses an approach that considers the user's assessment of the performance of the attributes being measured. Interpretation of CSI values can be seen in the following table:

Table 1: Customer Satisfaction Index Interpretation

<table>
<thead>
<tr>
<th>Angka Indeks</th>
<th>Interpretasi</th>
</tr>
</thead>
<tbody>
<tr>
<td>X \leq 64%</td>
<td>Very Poor</td>
</tr>
<tr>
<td>64% &lt; X \leq 71%</td>
<td>Poor</td>
</tr>
<tr>
<td>71% &lt; X \leq 77%</td>
<td>Cause for Concern</td>
</tr>
<tr>
<td>77% &lt; X \leq 80%</td>
<td>Borderline</td>
</tr>
<tr>
<td>80% &lt; X \leq 84%</td>
<td>Good</td>
</tr>
<tr>
<td>84% &lt; X \leq 87%</td>
<td>Very Good</td>
</tr>
<tr>
<td>87% &lt; X</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

X = CSI value

Results

Validity and Reliability Test

Validity test is conducted to correlate the item score with the total score. The technique used is the product-moment correlation with SPSS version 23. If r count > r table, then the questionnaire is valid, and if r count < r table, then the questionnaire is invalid. In this study, all questions were valid because the value of r count was > 0.0824. Thus, all of the questions could be used in the questionnaire. After the validity test was carried out, a reliability test was conducted, provided that if some items or questions were not valid, they were not included in the next analysis. The reliability of this questionnaire was calculated using the Cronbach alpha formula. The following are the results of the reliability test using SPSS at the performance level and importance level.

Table 2. Reliability Test Results

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Cronbach's Alpha value</th>
<th>Criteria value</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>0.909</td>
<td>0.6</td>
<td>reliable</td>
</tr>
<tr>
<td>Importance</td>
<td>0.890</td>
<td>0.6</td>
<td>reliable</td>
</tr>
</tbody>
</table>
The measurement is declared reliable if the Cronbach alpha value is greater than 0.6, which means that this questionnaire is reliable and suitable for use as a research instrument.

**Characteristics of respondents**

Based on the graphic below, out of 400 respondents, 64% respondents knew about PUSTAKA, while 36% did not know. 64% of them knew from socialization by health workers, 11% from social media, and the rest from leaflets and billboards. Respondents who used PUSTAKA for more than 5 times were 19%, while 2-5 times of that number, 23% and 58% used it once.

**Figure 3. Respondents knowledge about PUSTAKA**

![Figure 3](image1)

**Figure 4. Source of Respondents knowledge about PUSTAKA**

![Figure 4](image2)

**Figure 5. Frequency of Using PUSTAKA**

![Figure 5](image3)
Importance performance analysis

Recapitulation of the results of the questionnaire regarding the level of importance and users’ assessment of service performance can be seen in Table 3 and 4. The level calculation was carried out by measuring the suitability (ratio) between the importance level and performance level, then calculating the average of each attribute.

Table 3. The Level of Importance

<table>
<thead>
<tr>
<th>No</th>
<th>Dimension</th>
<th>Very important</th>
<th>Important</th>
<th>Moderate</th>
<th>Not too important</th>
<th>Unimportant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliability</td>
<td>403</td>
<td>1072</td>
<td>115</td>
<td>9</td>
<td>1</td>
<td>1600</td>
</tr>
<tr>
<td>2</td>
<td>Responsiveness</td>
<td>429</td>
<td>1088</td>
<td>83</td>
<td>0</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td>3</td>
<td>Assurance</td>
<td>367</td>
<td>1159</td>
<td>73</td>
<td>1</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td>4</td>
<td>Emphaty</td>
<td>367</td>
<td>1135</td>
<td>95</td>
<td>3</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td>5</td>
<td>Tangible</td>
<td>808</td>
<td>2207</td>
<td>184</td>
<td>1</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>2374</td>
<td>6661</td>
<td>550</td>
<td>14</td>
<td>1</td>
<td>9600</td>
</tr>
</tbody>
</table>

Table 4. The Level of Performance

<table>
<thead>
<tr>
<th>No</th>
<th>Dimension</th>
<th>Very good</th>
<th>Good</th>
<th>Moderate</th>
<th>Poor</th>
<th>Very poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliability</td>
<td>214</td>
<td>1244</td>
<td>134</td>
<td>8</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td>2</td>
<td>Responsiveness</td>
<td>241</td>
<td>1227</td>
<td>128</td>
<td>4</td>
<td>0</td>
<td>1600</td>
</tr>
<tr>
<td>3</td>
<td>Assurance</td>
<td>178</td>
<td>1273</td>
<td>144</td>
<td>2</td>
<td>3</td>
<td>1600</td>
</tr>
</tbody>
</table>

Annals of Tropical Medicine & Public Health: http://doi.org/10.36295/ASRO.2021.24143
The next stage was to map the importance and performance level into a cartesian diagram. It can be seen that the five dimensions of measurement are divided into four quadrants.

1. Quadrant I (concentrate these) shows that the tangible and assurance dimensions were still not up to the expectation of the users, so public health centers as a service provider must be able to pay more attention and improve these factors.

2. Quadrant II (keep up the good work) shows that the responsiveness dimension was considered as appropriate by users of public health centers’ services. This must be maintained because these factors make Semarang City public health centers superior according to its users.

3. Quadrant III (low priority) shows that the dimension of reliability was not a matter that was too important to the users, and in fact, the performance was not that much special. The improvement of the factors that fall into this quadrant can be reconsidered as the effect on perceived user benefits is very small.

4. Quadrant IV (possible overkill) shows that the dimension of empathy was not important, but users felt that the service providers were too excessive in doing such kind of service.
Determination of Customer Satisfaction Index

Analysis of the Customer Satisfaction Index (CSI) was used to determine the level of satisfaction of the users of public health centers’ services as a whole using criteria values. Based on the results of the calculation, CSI value of 80.5% was obtained, which belonged in the good category. This means that the service provided by the public health center in Semarang City can be considered as satisfying, but it still need attention to be improved.

Discussion

From this study, it can be seen that in general, the user satisfaction of public health centers’ services was in the good category. However, improvements are needed in some public health centers’ services. What needs to be prioritized in the service improvement process are attributes in the tangible and assurance dimensions, including the skills of policemen, the ability of doctors to answer questions, clarity of public health centers’ service procedures, public health centers’ cleanliness, and public health centers’ safety. Meanwhile, several types of services that have been conducted well, thus allowing them to be reduced, are in the dimension of empathy, including the closeness of health workers to patients.

Acknowledgement

The authors would like to thank the support of the Ministry of Research and Technology as a funder in this study.
References


