

# Analysis of Resident Satisfaction Evaluation at St. Titus Brandsma Dormitory Using Importance Performance Analysis Method

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St. Titus Brandsma Dormitory was built to provide temporary housing for male students of Santo Thomas Catholic University Medan. To date, the evaluation is determined by the priest at the end of the semester through a collective discussion in the dormitory hall. This study aims to measure the level of satisfaction of dormitory residents and determine service attributes that are priority for improvement using the Importance Performance Analysis (IPA) method. Research data were obtained through distributing questionnaires to dormitory residents using a Likert scale that measures the level of importance and performance. The results of the analysis show that most residents are in the satisfied category with the facilities and services provided. The study results on dormitory resident satisfaction revealed that 33.93% of respondents felt highly satisfied, whereas 42.86% indicated that they were satisfied. In addition, 19.64% of the respondents felt fairly satisfied, whereas 1.79% expressed dissatisfaction and another 1.79% indicated that they were very dissatisfied. The results of the Importance Performance Analysis also showed that the availability of a stable Wi-Fi signal across the dormitory area was categorized in Quadrant I, meaning it became the main priority for improvement. Therefore, enhancing the Wi-Fi service should be addressed immediately to increase resident satisfaction.

**Keywords:** Resident satisfaction, student dormitory, service quality, Importance Performance Analysis, IPA.

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## 1. Introduction

Student dormitories are temporary housing facilities that not only function as a place to live, but also as an environment for character development, discipline, and self-development of students [1]. St. Titus Brandsma Dormitory is present as a place for student development through various facilities and services that support the academic, social, and spiritual development of residents. Therefore, the quality of the facilities and services provided by the dormitory must be good to support resident satisfaction during their stay in the dormitory [2].

Service quality is closely related to user satisfaction. A higher quality of service generally leads to greater user satisfaction [3]. Nevertheless, in reality, several residents remain unsatisfied with certain facilities and services provided in the dormitory, which may influence their comfort and enthusiasm during their stay. The level of satisfaction experienced by users is strongly related to how well the service provider delivers its services [4].

Resident satisfaction evaluations have been conducted through group discussions in the dormitory hall. This method produces descriptive information and is unable to provide an in-depth picture of the factors influencing resident satisfaction. Furthermore, verbal evaluation methods tend to be less objective and are not based on clear indicators [5].

To overcome this problem, it is necessary to use an evaluation approach that can objectively assess both the importance and performance of every service attribute. The Importance Performance Analysis (IPA) method measures the degree of conformity between user expectations and perceived service performance. The analysis results are mapped into four quadrants, making it easier for organizations to prioritize service improvements [6]. Using the IPA method, this study aims to measure the level of satisfaction of residents of the St. Titus Brandsma Dormitory and identify service attributes that need to be prioritized for improvement.

## 2. Literature Review and Problem Statement

Evaluation is a systematic process carried out to assess the level of success of an activity, program, or service based on predetermined objectives. Evaluation serves as a basis for decision-making and continuous improvement of service quality [7]. Evaluation also plays a role in determining the effectiveness of a system or service so that it can be used as a consideration in improving the quality of the services provided [8]. In the context of service, user satisfaction is an important indicator used to determine the extent to which the service provided has met user expectations. The higher the level of conformity between expectations and the service received, the higher the level of user satisfaction [9].

The Importance Performance Analysis (IPA) method is an analytical method used to measure the level of satisfaction based on a comparison between the level of importance and the level of performance of a service attribute. The results of the IPA analysis are mapped into four quadrants of a Cartesian diagram, namely Quadrant I (High Priority), Quadrant II (Maintain Performance), Quadrant III (Low Priority), and Quadrant IV (Excessive). This method has been widely used in service evaluation research because it is able to help organizations determine priorities for improving service quality effectively [10].

Based on the existing conditions at the St. Titus Brandsma Boys' Dormitory, the evaluation process is still carried out manually, making it difficult to measure residents' satisfaction objectively. In addition, there is currently no system available to manage satisfaction data systematically and provide recommendations for determining service improvement priorities. Therefore, the Importance Performance Analysis (IPA) method is needed to identify service attributes that are the main priority for improvement and determine the level of dormitory resident satisfaction more accurately [11].

## 3. Method

This study uses a quantitative approach with the research object being the residents of the St. Titus Brandsma Boys' Dormitory. The research data was obtained by distributing questionnaires to all dormitory residents using a Likert scale with two assessment aspects, namely the level of importance and the level of performance. The variables measured include dormitory facilities, cleanliness and environmental comfort, food, security, management services, and accessibility [12].

The research process starts by identifying existing problems and establishing the attributes that affect resident satisfaction. After that, a questionnaire was designed using the SERVQUAL dimensions as the basis, namely Tangible, Reliability, Responsiveness, Assurance, and Empathy [13]. The data obtained were then processed using the Importance Performance Analysis (IPA) method with the formula [14]:

### 1. Determining Average Performance

To determine the average performance score for each attribute, the following formula can be used:

$$\bar{X}_i = \frac{\sum X_i}{n}$$

Description:

$\bar{X}_i$  = the average performance score for the i-th attribute

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$\sum X_i$  = the total performance score collected from previous respondents  
 $n$  = the number of respondents studied

2. Determining Average Importance

To determine the average importance score, the following formula can be used:

$$\bar{Y}_i = \frac{\sum Y_i}{n}$$

Description:

$\bar{Y}_i$  = the average importance score for the i-th attribute

$\sum Y_i$  = the total importance score from all previously collected respondents

$n$  = the number of respondents studied

3. Calculating the Level of Conformity

The main IPA formula for seeing the match between performance and expectations:

$$TK_i = \frac{\bar{X}_i}{\bar{Y}_i} \times 100\%$$

Description:

$TK_i$  = level of suitability of attribute i

$\bar{X}_i$  = average performance

$\bar{Y}_i$  = average importance

Interpretation:

> 100% = exceeds expectations

= 100% = meets expectations

< 100% = does not meet expectations

4. Determining the Center Line of a Cartesian Diagram

To determine the quadrant dividing point:

Average of all performance

$$\bar{\bar{X}} = \frac{\sum \bar{X}_i}{k}$$

Average of all interests

$$\bar{\bar{Y}} = \frac{\sum \bar{Y}_i}{k}$$

Description:

$k$  = number of question attributes

$\bar{\bar{X}}$  = average total performance

$\bar{\bar{Y}}$  = average total interest

This value serves as the dividing line between the X and Y axes on the Cartesian diagram. These attributes are then translated into a Cartesian diagram [15]. The Cartesian diagram can be seen in Figure 1 below:



Figure 1. Cartesian Diagram

The mapping results occupy one of the quadrants within the Cartesian quadrant, namely [16]:

a. Quadrant I: Top Priority

Top Priority is an area that shows attributes with a high level of importance but still low levels of performance. The attributes included in this quadrant become the main priority for immediate improvement since they have a strong influence on resident satisfaction.

b. Quadrant II: Maintain Performance

Maintain Performance indicates attributes with a high level of importance and a high level of performance. This position indicates that the service provided meets resident expectations and therefore needs to be maintained.

c. Quadrant III: Low Priority

Quadrant III (Low Priority) contains attributes with a low level of importance and a low level of performance. The attributes in this quadrant are viewed as having lower importance by residents, so they are not considered a major priority for service enhancement.

d. Quadrant IV: Excessive

Quadrant IV (Excessive) indicates attributes with a low level of importance but a high level of performance. This indicates that the management is paying excessive attention to aspects that are not actually considered important by the residents, so that resources can be diverted to other attributes that are of higher priority.

5. Determining the Level of Satisfaction

The formula for determining the level of satisfaction is:

$$\bar{X}_r = \frac{\sum X_r}{n}$$

Description:

$\bar{X}_r$  = average respondent satisfaction

$\sum \bar{X}_r$  = total respondent performance score

$n$  = number of questions

Then, the average results are categorized into value intervals and satisfaction categories as follows:

4.21 – 5.00 = Very Satisfied

3.41 – 4.20 = Satisfied

2.61 – 3.40 = somewhat Satisfied

1.81 – 2.60 = Dissatisfied

1.00 – 1.80 = Very Dissatisfied

## 4. Results and Discussion

### Conformity Level Analysis

The Importance Performance Analysis (IPA) method was used to analyze the level of satisfaction of residents of the St. Titus Brandsma Boys' Dormitory with the dormitory's facilities and services. The data were calculated from 56 respondents and included 20 resident satisfaction attributes. The calculation results were automatically generated using a web-based system. The following attributes were analyzed in Figure 2.

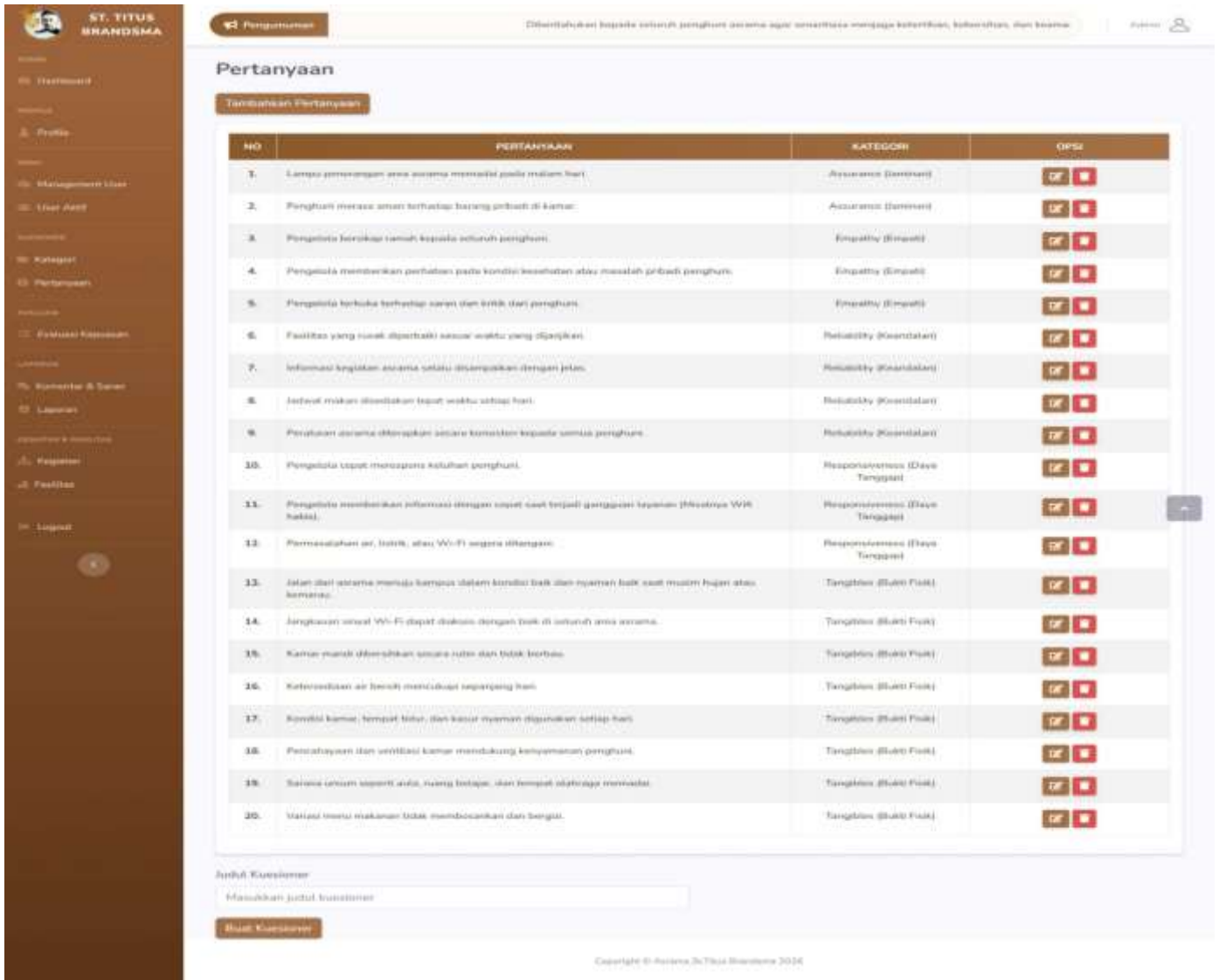


Figure 2. Research Attributes

Calculations using the Importance Performance Analysis (IPA) method are made using a Cartesian diagram. However, the level of conformity is first calculated. The results of the level of conformity for all attributes are shown in Figure 3 below.

Hasil IPA

P	Y	X	Gap	Tingkat Kesesuaian	Interpretasi
P1	4.52	4.43	-0.09	98.01%	Belum Memenuhi Harapan
P2	4.46	4.16	-0.3	93.27%	Belum Memenuhi Harapan
P3	4.2	3.79	-0.41	90.24%	Belum Memenuhi Harapan
P4	4.52	4.3	-0.22	95.13%	Belum Memenuhi Harapan
P5	4.38	3.36	-1.02	76.71%	Belum Memenuhi Harapan
P6	4.45	4.11	-0.34	92.36%	Belum Memenuhi Harapan
P7	4.23	3.23	-1	76.36%	Belum Memenuhi Harapan
P8	4.21	3.05	-1.16	72.45%	Belum Memenuhi Harapan
P9	4.43	4.29	-0.14	96.84%	Belum Memenuhi Harapan
P10	4.09	4.07	-0.02	99.51%	Belum Memenuhi Harapan
P11	4.2	3.79	-0.41	90.24%	Belum Memenuhi Harapan
P12	4.48	4.29	-0.19	95.76%	Belum Memenuhi Harapan
P13	4.16	3.68	-0.48	88.46%	Belum Memenuhi Harapan
P14	4.14	3.59	-0.55	86.71%	Belum Memenuhi Harapan
P15	4.38	3.45	-0.73	82.54%	Belum Memenuhi Harapan
P16	4.46	4.21	-0.25	94.39%	Belum Memenuhi Harapan
P17	4.25	3.79	-0.46	89.18%	Belum Memenuhi Harapan
P18	4.43	4.13	-0.3	93.23%	Belum Memenuhi Harapan
P19	4.34	4.05	-0.29	93.32%	Belum Memenuhi Harapan
P20	4.18	3.89	-0.29	93.06%	Belum Memenuhi Harapan

Figure 3. Level of Conformity

After obtaining the level of conformity, the next step is to determine the dividing points for the X and Y quadrants.

The average of all performance

$$\bar{X} = \frac{\sum \bar{X}_i}{k} = 3.88$$

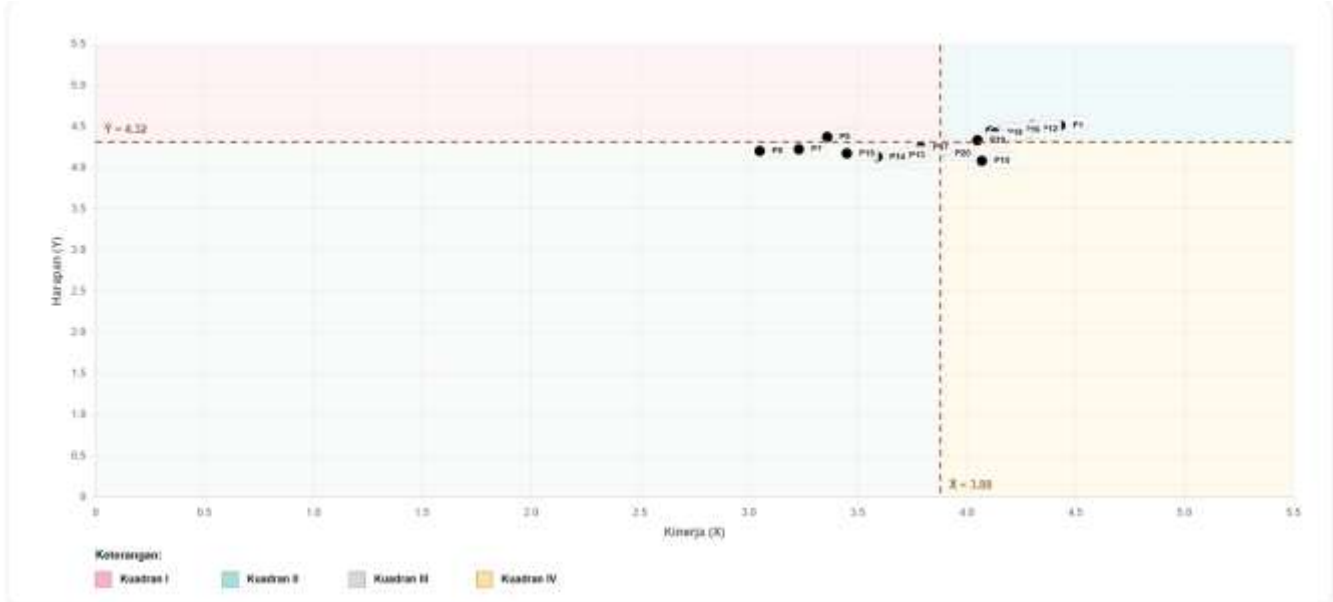
Average of all interests

$$\bar{Y} = \frac{\sum \bar{Y}_i}{k} = 4.32$$

The higher average importance level compared to the average performance level indicates that there are still several service attributes that have not fully met the expectations of dormitory residents. This condition indicates a gap between the services received and the level of residents' expectations regarding dormitory facilities and services. According to research [6], a low level of conformity indicates that these service attributes need to be a concern for managers because they can affect the level of satisfaction of service users.

**Cartesian Diagram Analysis Importance Performance Analysis**

Then the results from Table 2. The Level of Conformity are described in a Cartesian diagram with the center line X as the average of all performance and Y as the average of all interests, the results can be seen in Figure 4 below.



**Figure 4.** Results of the Cartesian Diagram of Importance Performance Analysis

Based on Figure 4, service and facility attributes are divided into 4 quadrants as in Table 1 below.

**Table 1.** Importance Performance Analysis Quadrant Classification

Quadrant	Description	Attribute
I	Top Priority	P5
II	Maintain Achievements	P1,P2,P4,P6,P9,P12,P16,P18,P19
III	Low Priority	P3,P7,P8,P11,P13,P14,P15,P17
IV	Excessive	P10,P20

Details of the attributes that have been entered into each quadrant can be seen in Figure 5 below.

Detail Atribut per Kuadran

**Kuadran I – Prioritas Utama (1 atribut)**

P5 – Jangkauan area Wi-Fi dapat diakses dengan baik di seluruh area asrama.

**Kuadran II – Pertahankan Prestasi (9 atribut)**

P1 – Kredit kamar tempat tidur dan kamar nyaman digunakan setiap hari.

P2 – Pencahayaan dan ventilasi kamar mendukung kenyamanan penghuni.

P4 – Ketersediaan air bersih memenuhi kebutuhan penghuni.

P6 – Suasana umum seperti aula, ruang belajar, dan tempat olahraga tersedia.

P9 – Fasilitas makan disediakan tepat waktu setiap hari.

P12 – Informasi kegiatan asrama selalu disampaikan dengan jelas.

P18 – Partisipasi mahasiswa dalam kegiatan sosial di kelas.

P19 – Pengelola terapkan sanksi tegas terhadap pelanggaran.

P20 – Pengelola memberikan perhatian pada kredit kesehatan atau masalah pribadi penghuni.

**Kuadran III – Prioritas Rendah (8 atribut)**

P3 – Kamar mandi dibersihkan secara rutin dan tidak berbau.

P7 – Ubin dan asrama selalu terjaga dalam kondisi baik dan nyaman baik saat hujan atau kemarau.

P8 – Ventilasi kamar mahasiswa tidak terhambatkan dan bergizi.

P11 – Fasilitas yang rusak diperbaiki sesuai waktu yang dijanjikan.

P13 – Pengelola dapat menerima keluhan penghuni.

P14 – Permutasi kamar tidur atau Wi-Fi selalu dibagikan.

P15 – Pengelola memberikan informasi dengan cepat saat terjadi gangguan layanan Internet Wi-Fi kelas.

P17 – Layanan pengamanan area sekitar kampus terjaga malam hari.

**Kuadran IV – Berlebihan (2 atribut)**

P10 – Fasilitas asrama dibersihkan secara berlebihan kepada semua penghuni.

P20 – Pengelola berlaku berlebihan dalam sanksi dan kredit dari penghuni.

**Figure 5.** Cartesian Diagram Attributes

P5, which refers to Wi-Fi signal coverage, is located in Quadrant I. This shows that internet access is considered highly important by dormitory residents. Many activities carried out by residents depend on a stable internet connection, especially activities related to learning. Even though internet access is considered important, the service provided has not fully satisfied residents. For this reason, improving Wi-Fi coverage remains an important issue for dormitory management.

Room comfort, clean water availability, environmental safety, and management friendliness are among the attributes classified in Quadrant II. These attributes have good performance and are considered important by residents. Therefore, the quality of these services should be maintained. The results suggest that the main services provided by the dormitory have generally met residents' expectations. Quadrant III contains attributes that were rated low in terms of both importance and performance. Therefore, improvements to these aspects can be carried out gradually rather than being prioritized. However, management still needs to make gradual improvements to ensure service quality continues to improve. The results provide useful input for management when deciding which service areas require more attention. For this reason, they are not the main priority for improvement at the moment. However, management should still pay attention to these aspects and make improvements when needed. On the other hand, the attributes in Quadrant IV have shown good performance even though residents do not consider them highly important. These findings can be used by management to identify which aspects should be prioritized for future improvements.

### Analysis of Resident Satisfaction Level

To calculate the level of respondent satisfaction, the average performance score of all questions answered by respondents was determined. The results of the analysis of respondent satisfaction were very satisfied at 33.93%, satisfied at 42.86%, quite satisfied at 19.64%, dissatisfied at 1.79%, and very dissatisfied at 1.79%. The results of the analysis of the level of resident satisfaction can be seen in Figure 6 below.

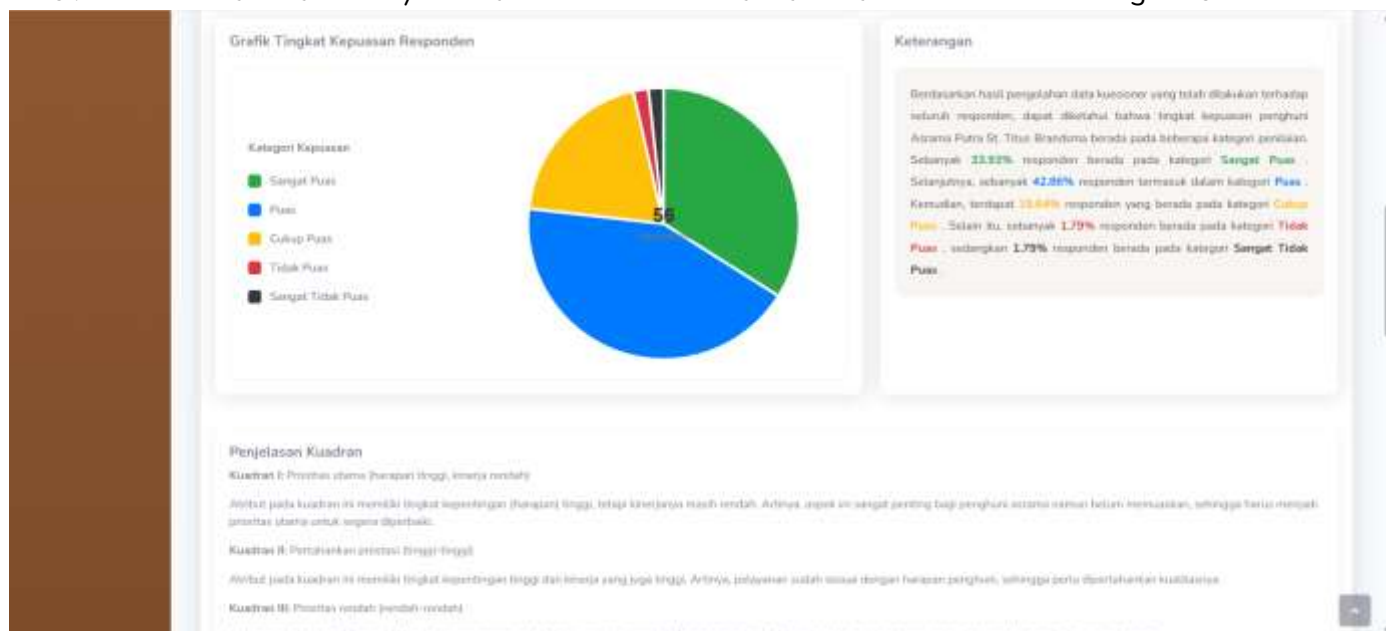


Figure 6. Analysis of Satisfaction Level

Based on the IPA results, most of the service attributes were classified in Quadrant II. This finding shows that the dormitory has performed well in providing facilities and services that match residents' needs and expectations. Residents gave positive assessments to several aspects, including room comfort, the availability of clean water, the safety of the dormitory environment, and the attitude of the management staff. Since these aspects have been performing well, they should continue to be maintained in order to

keep residents satisfied with the dormitory services. The results of this study are in line with the research of [3] which states that service quality has a close relationship with the level of user satisfaction. The better the service provided, the higher the level of user satisfaction. In addition, research by [10] also explains that the IPA method is effective in determining service attributes that need to be prioritized in improving service quality. Thus, the results of this study strengthen the evidence that the IPA method can be used as an effective evaluation tool in measuring dormitory resident satisfaction.

The results indicate that Wi-Fi signal coverage falls into Quadrant I. This means that residents consider internet access to be important, but the performance of this service is still not satisfactory. Internet connectivity is widely used by residents for academic purposes, including studying and completing coursework. Because the quality of the Wi-Fi service does not match its level of importance, it becomes one of the factors that affects resident satisfaction. The result also demonstrates how the growing dependence on digital technology influences residents' evaluations of dormitory facilities and services. The IPA results also show that bathroom cleanliness, menu variety, and complaint-handling speed are included in Quadrant III. These attributes are considered less important compared to other service aspects. Even so, management should continue to improve them gradually to maintain the overall quality of services provided. In contrast, the attributes located in Quadrant IV have performed well, although residents do not consider them highly important. Therefore, management can use these findings to determine service priorities and allocate resources more effectively. Overall, the research results indicate that implementing a web-based evaluation system can assist dormitory managers in processing satisfaction data in a more structured, objective, and documented manner. The system also simplifies the analysis of the evaluation results process so that decision-making related to improving service quality can be carried out more effectively and on target.

## 5. Conclusion

The results of this research show that the Importance Performance Analysis (IPA) method could be effectively utilized to evaluate the satisfaction level of residents at the St. Titus Brandsma Boys' Dormitory. The analysis showed that most residents were generally satisfied with the facilities and services provided by the dormitory management. In addition, the development of a web-based evaluation system supported the management of satisfaction data by making it more organized, properly stored, and easier to process for further analysis. The Cartesian diagram analysis revealed that the Wi-Fi signal coverage attribute became the main aspect requiring immediate improvement because it was considered highly important by residents, while its current performance was still below expectations. On the other hand, several attributes such as room comfort, availability of clean water, environmental safety, and the friendliness of dormitory managers were considered satisfactory and should therefore be maintained. Therefore, the results of this research can serve as a reference for dormitory management in designing more effective and targeted strategies to improve service quality.

The results of this study should be interpreted with some limitations in mind. Data were collected only from residents of the St. Titus Brandsma Men's Dormitory, so the findings describe the conditions of this dormitory and may not be suitable for representing other student dormitories. In addition, the analysis was carried out using only the Importance Performance Analysis (IPA) method. Because of this, the study focused on how residents assessed the importance and performance of the services they received. The number of respondents in this study was relatively small and limited to a single dormitory. Therefore, future research may include participants from several dormitories to obtain findings that better reflect the satisfaction levels of dormitory residents. Future researchers may also use other methods in addition to IPA to examine the data from different perspectives and obtain more detailed findings. Another aspect that can

be considered is the development of a mobile-based evaluation system equipped with automatic analysis features to make the evaluation process easier and more practical.

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