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ANALYSIS OF HIGHER EDUCATION ACADEMIC SERVICE SATISFACTION LEVELS USING THE SERVICE QUALITY AND IMPORTANCE-PERFORMANCE ANALYSIS METHODS

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Abstract

The academic services of the college today have undergone very significant changes in a very fast time. For these changes, and evaluation of academic services is carried out by measuring the performance of the services provided. To obtain the level of satisfaction, the Service Quality (Servqual) method is used, and to obtain performance from the attributes of the questionnaire to improve its performance, the Importance-Performance Analysis (IPA) method is used. The results of the analysis and data processing using the servqual method at gap 5 showed the gap score gap of each variable so that the Guarantee variable with a score of -0.27, Reliability -0.31, Empathy -0.34, Date Power -0.42 and Tangibles with a score of -0.49. Overall the gap score is -0.37. This shows that any level of service satisfaction expected by students for academic services has not met expectations, as well as the variables of the servqual method. To determine the proposed service improvement based on the attributes of the questionnaire using the Importance-Performance Analysis (IPA) method, 8 attributes are in quadrant I that need to be prioritized for improvement. The attributes are attribute number 4 with a respondent suitability rate of 84.70%, attribute number 5 with a respondent suitability rate of 85.90%, attribute number 10 with a respondent suitability rate of 88.59%, attribute number 15 with a respondent suitability rate of 89.88%, attribute number 16 with a respondent suitability rate of 87.62%, attribute number 17 with a respondent suitability rate of 90.14%, attribute number 18 with a respondent conformity rate of 89.22% and attribute number 27 with a respondent conformity rate of 88.87%.

Keywords: service satisfaction, service quality, importance-performance analysis, academic

1. Introduction

The academic services of the college today have undergone very significant changes in a very fast time. This change must be made as a result of the impact of the Covid-19 pandemic that has hit the world. For these changes, the Institute Kesehatan Lubuk Pakam conducted an evaluation of academic services by measuring the performance of the services they provided. Measurement is carried out by distributing

questionnaires first to students then data processing is carried out. To obtain the level of satisfaction, the Service Quality (Servqual) method is used, and to obtain performance from the attributes of the questionnaire to improve its performance, the Importance-Performance Analysis (IPA) method is used.

The Servqual method is a method to compare two main factors, namely customer perception of the real service students receive with the actual service expected/desired [1]. If reality is more than expected, then the service can be said to be of higher quality, while if the reality is less than expected, then the service is said to be of no quality. If reality is the same as expected then the service is satisfactory. The measurement of service quality in the servqual model is based on a multi-item scale designed to measure customer expectations and perceptions, as well as the gap between the two on five dimensions of service quality, namely: Tangibles, Reliability, Responsiveness, Assurance, and Empathy [2].

IPA is conceptually a multi-attribute model. This technique identifies the strengths and weaknesses of the service by using two criteria, namely the relative importance of attributes and customer satisfaction. The Cartesian IPA diagram is a diagram that is divided into 4 (four) parts and is limited by 2 (two) lines that intersect perpendicular to the point (x, y), where x is the average of the performance appraisal score (performance), while y is the average of the importance score of service users [3].

2. Method

In this section, sequences are established that explain in detail the stages of research from solving the problems that have been formulated.

2.1 Research Approach

This research is quantitative with the phenomenon studied by measuring the level of student satisfaction with the quality of academic services during the Covid-19 pan-demic. The variables in this study are grouped into two, namely independent variable variables, namely variables that affect or cause changes, or variables that cause bound variables [10]. These free variables consist of Tangibles (X1), Reliability (X2), Responsiveness (X3), Assurance (X4), and Empathy (X5). And a dependent variable is a variable that is affected or that becomes a result due to the existence of a free variable and consists of Satisfaction (Y) [4].

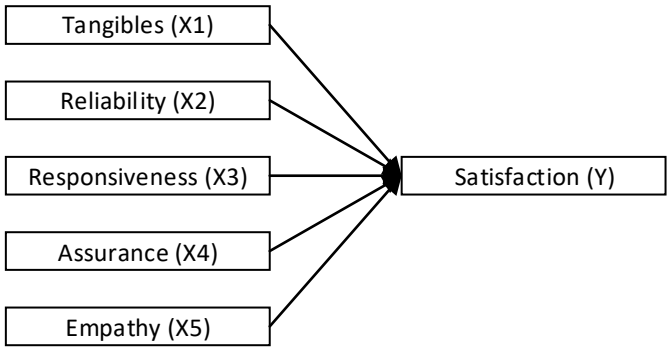

Figure 1. Relationship of free variables to bound variables

2.2 Research Design

To achieve the objectives of the research here is outlined a research design that describes the steps applied in conducting research. This is applied so that this research can be carried out in a gradual and structured manner as shown in Figure 2.

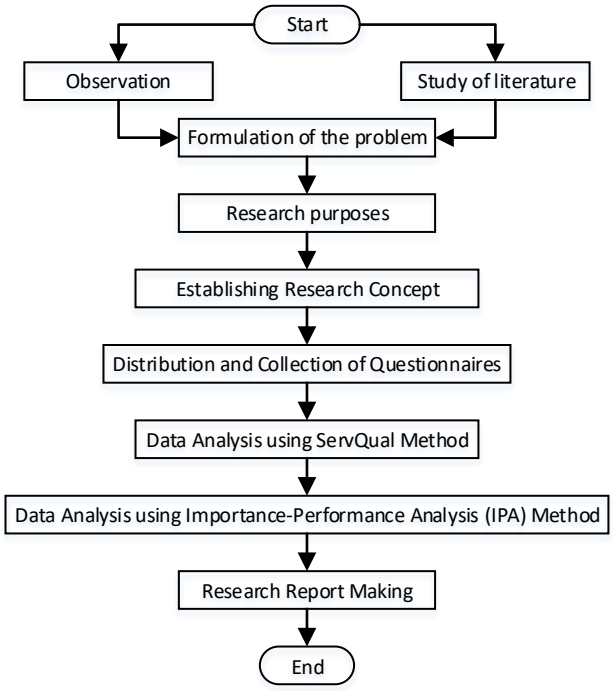

Figure 2. Research Design

2.3 Population and Research Samples

In this study, the population amounted to 3835 people. The amount of population was obtained from the total active students of the 2020/2021 Academic Year from 15 existing departments. They will be analyzed for their level of satisfaction by comparing the performance of academic services during the Covid-19 pandemic against expectations from students. Meanwhile, the sample studied was 362 people, calculated based on the Slovin formula [3].

2.4 Data Collection Methods

Based on its function and characteristics, the data used in the study consists of primary data obtained based on information from sources or collected at the time of observation in the field. The data is obtained directly from data providers and sources who are considered known and can be trusted. Secondary data was obtained from sources of a documentation nature. Data is collected from documents, scientific books, research reports, scientific essays, lecture notes, and other written sources that are still closely related to the methods used by researchers in analyzing the level of satisfaction with academic services.

2.5 Data Collection Techniques

For data collection, researchers carry out several ways, namely: Questionnaires, from the distribution of questionnaires, researchers get a general description of students, the reality of the services obtained by students, and student expectations of the quality of services they want to get; Interviews, this technique is used by researchers when conducting preliminary studies to find the problems to be studied. With interview techniques, researchers intend to find out the opinions of service providers in the academic and lecturer departments about the performance they have performed during the Covid-19 pandemic; Documentation and data collection are carried out by taking materials or references from books, other literature related to this research of a documentation nature.

2.6 Data Collection Tools

The data collection tool in this study was in the form of a questionnaire consisting of 31 statement attributes and distributed to students as respondents. Determination of the level of student satisfaction with each attribute (question) using a five-level scale (Likert) [5].

Table 1.
Questionnaire

Dimension	No.	Statements	Variable
Tangibles	1.	Selection of varied online learning platforms	X1.1
	2.	Ease of access and connection of online learning platforms	X1.2
	3.	Use of interactive tools for online learning	X1.3
	4.	Has a complete Digital Library	X1.4
	5.	Availability of reference books in the form of ebooks in the Digital Library	X1.5
Reliability	6.	Consistency of lecturers giving lectures well	X2.1
	7.	Lecturers provide time for discussions and questions and answers	X2.2
	8.	Supplement teaching materials (handouts, modules, etc.) given to students to complete lecture materials	X2.3
	9.	Lecturers provide exam/ assignment results with objective scores	X2.4
	10.	Lecturers start online lectures on time	X2.5
	11.	Adequate lecturers following their field of expertise	X2.6
	12.	Lecturers provide Lecture Event Units for online	X2.7
	13.	The ability of academic staff to serve student administration online	X2.8
	14.	Quality of academic staff services to meet the interests of students	X2.9
Responsiveness	15.	Availability of Counseling Supervisors for students online	X3.1
	16.	Providing Scholarships for underprivileged students	X3.2
	17.	Lecturers respond quickly and efficiently to student needs during online learning	X3.3
	18.	The availability of time from the Head of the College and its Staff for parents of students to consult	X3.4
	19.	The information provided by the lecturer or staff is easy to understand	X3.5
	20.	Providing a sense of security and comfort to students	X3.6
Assurance	21.	Academic administration staff are polite in providing services online	X4.1
	22.	Student problems/complaints are handled through PA (Academic Advisor) lecturers	X4.2
	23.	Student problems/complaints are handled through counseling guidance lecturers	X4.3
	24.	Every job/assignment is always returned to the student	X4.4
	25.	Lecturers use time effectively during online learning	X4.5
	26.	The sanctions that have been set for students who violate the rules apply to all students without exception	X4.6
Empathy	27.	The concern of universities in understanding the interests and difficulties of students during online learning	X5.1
	28.	Higher Education monitors student progress through academic supervisors or counseling guidance lecturers	X5.2

	29.	Lecturers are willing to help students who experience difficulties in the academic field/course	X5.3
	30.	Lecturers are open, and cooperative with students	X5.4
	31.	The College seeks to understand the interests and talents of students and strives to develop them	X5.5

Table 2.
Likert Scale

No.	Hope			Fact	
	Information	Score		Information	Score
1.	Sangat Tidak Penting (STP)	1		Sangat Tidak Setuju (STS)	1
2.	Tidak Penting (TP)	2		Tidak Setuju (TS)	2
3.	Cukup Penting (CP)	3		Cukup Setuju (CS)	3
4.	Penting (P)	4		Setuju (S)	4
5.	Sangat Penting (SP)	5		Sangat Setuju (SS)	5

2.7 Data Analysis

To provide meaning for the collected data and get good results from the research. This research is divided into 2 main discussions. The first discussion is to conduct data analysis with the method Servqual and the second discussion is to conduct data analysis using the IPA method.

Analysis by the Servqual Method

In this discussion stage, analysis data to measure gaps in service quality gaps and patient satisfaction using the Servqual method at Gap 5.

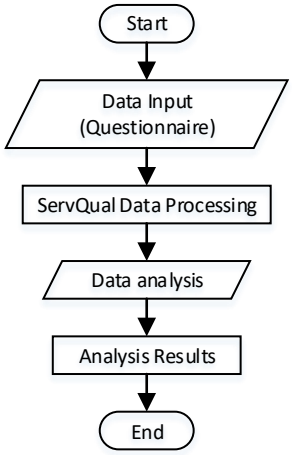

Figure 3. Stages of Analysis with the Servqual method

The questionnaire that has been filled out by the respondent will be the input of data into the number processing application. The data that has been inputted is then processed using formulas owned by servqual. The variables processed in the Servqual method are as follows: Tangibles (X1), Reliability (X2), Responsiveness (X 3), Guarantee (X4), Empathy (X5), and Satisfaction (Y). The results of data processing will result in a gap in the satisfaction score of each respondent, the entire respondent, and each item of the questions. The scores of the respondents' analysis will then be grouped with a pattern: If the score is smaller

than 0 (< 0) then it is called "Dissatisfied" or If the satisfaction score is greater than or equal to 0 (>= 0) then it is called "Satisfied".

Analysis With IPA method

In the discussion at this stage, analysis data for proposed improvements to the attributes of the question using the IPA method.

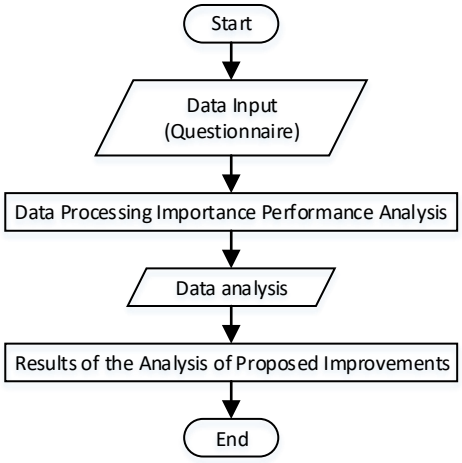

Figure 4. Stages of Analysis with the IPA method

The questionnaire that has been filled out by the respondent will be the input of data into the number processing application. The data that has been inputted is then processed using formulas owned by IPA. The results of data processing will result in the location of the coordinate points of the question attributes based on the X and Y axes of the IPA diagram quadrant [6]. The results of data analysis that place the attributes of the question based on the values obtained from the IPA analysis will produce proposed improvements based on the IPA diagram which is divided into 4 quadrants of the diagram.

3. Results and Discussion

In this chapter, the researcher will explain the results and discussion of the research as well as matters related to this study.

3.1 Characteristics of Respondents

Respondents to this study were active students from the Institut Kesehatan Lubuk Pakam who were affected by the Covid-19 pandemic. The distribution of questionnaires was carried out by teaching lecturers to 362 respondents. Based on the results of the questionnaire collection, the following are presented the characteristics of respondents by gender which can be seen in figure 5.

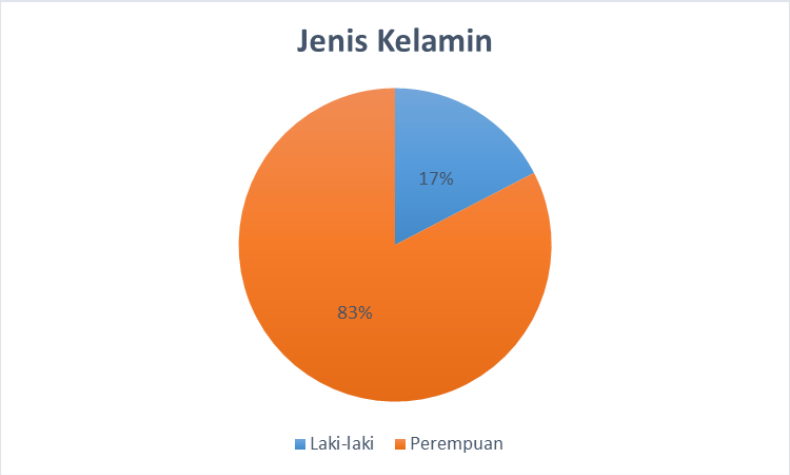

Figure 5. Characteristics Respondents by Gender

Based on Figure 5 above, it can be seen that respondents with a female gender are 83% (299 people) and respondents with a male gender are 17% (63 people).

Table 3.
Characteristics Respondents by Departments

No.	Departements	Sum	Percentage
1	Keperawatan - S1	9	2,49
2	Profesi Pendidikan Profesi Ners	7	1,93
3	Kebidanan - D4	7	1,93
4	Fisioterapi - S1	146	40,33
5	Profesi Pendidikan Profesi Fisioterapis	8	2,21
6	Keperawatan - D3	14	3,87
7	Kesehatan Masyarakat - S2	9	2,49
8	Kesehatan Masyarakat - S1	107	29,56
9	Gizi - S1	16	4,42
10	Farmasi - S1	7	1,93
11	Profesi Pendidikan Profesi Apoteker	7	1,93
12	Teknologi Laboratorium Medik - D4	8	2,21
13	Kebidanan - S1	9	2,49
14	Profesi Pendidikan Profesi Bidan	7	1,93
15	Kebidanan - D3	1	0,28
Total		**362**	**100,00**

Based on table 3 shows the characteristics of respondents based on the department, it can be seen that the most respondents are in the Physiotherapy department – S1 with a total of 146 people (40.33%) and the lowest in the Midwifery department – D3 with a total of 1 person (0.28%).

3.2. Processing and analysis results of data using the Servqual method

From the results of the questionnaire data processing, it shows that service performance has not been following expectations or "Dissatisfied" from students as a whole with a satisfaction score of -0.37 as in Table 4 The statement can be proven by a comparison of the percentage of satisfaction levels of "Satisfied" students of 33.43% or a total of 121 respondents and those who were "Dissatisfied" " as many as 66.57% or as many as 241 respondents from a total of 362 people who were used as research samples.

Overall, the dependent variables showed a gap in the satisfaction level score derived from the difference between reality and expectations from the five dimensions of the servqual contained in Table 4 showing consecutive "Dissatisfied" performance starting from the Tangibles variable with a score gap of -0.49, Responsiveness with a score gap of -0.42, Empathy with a score gap of -0.34, Reliability with a score gap of -0.31 and Guarantee with a score gap of -0.27.

Table 4.
Gap Score Attribute Statement Attributes

Attribute No.	Variable	Average Values		Score Gap	Average Gap Score
		Fact	Hope		
Tangibles					
1	X1.1	3,69	4,03	-0.34	-0,49
2	X1.2	3,64	4,07	-0,43	
3	X1.3	3,65	4,09	-0,44	
4	X1.4	3,61	4,26	-0,65	
5	X1.5	3,67	4,27	-0,60	
Reliability					
6	X2.1	3,98	4,31	-0,33	-0,31
7	X2.2	4,12	4,36	-0,24	
8	X2.3	3,91	4,28	-0,37	
9	X2.4	4,07	4,25	-0,18	
10	X2.5	3,84	4,33	-0,49	
11	X2.6	4,14	4,36	-0,22	
12	X2.7	3,96	4,24	-0,28	
13	X2.8	3,89	4,23	-0,34	
14	X2.9	3,93	4,25	-0,32	
Responsiveness					
15	X3.1	3,85	4,29	-0,44	-0,42
16	X3.2	3,87	4,42	-0,55	
17	X3.3	3,89	4,31	-0,42	
18	X3.4	3,82	4,28	-0,46	
19	X3.5	3,95	4,30	-0,35	
20	X3.6	4,01	4,33	-0,32	
Assurance					
21	X4.1	4,03	4,26	-0,23	-0,27
22	X4.2	3,97	4,29	-0,32	
23	X4.3	3,86	4,21	-0,35	
24	X4.4	3,84	4,10	-0,26	

25	X4.5	4,04	4,29	-0,25	
26	X4.6	4,02	4,21	-0,19	
Empathy					
27	X5.1	3,84	4,32	-0,48	
28	X5.2	3,92	4,25	-0,33	
29	X5.3	4,02	4,32	-0,30	-0,34
30	X5.4	4,04	4,31	-0,27	
31	X5.5	3,98	4,28	-0,30	
AVERAGE SATISFACTION					**-0,37**

3.4 Data processing and analysis using the IPA method

To obtain proposed improvements from each attribute of the statement of service, it first measured the performance and importance of each attribute. The performance and importance measurements of each attribute will result in the Importance-Performance Matrix found in Table 5. In the matrix table, the values of the performance and importance of each attribute will be placed into 4 cartesian quadrants, each of which has its assessment. The assessment will be a benchmark for determining priorities for improvement.

Table 5.
Importance-Performance Matrix

No.	Performance					Importance					Xi	Yi	Tki (%)	Coordinate Points	
	STS	TS	CS	S	SS	STS	TS	CS	S	SS					
	1	2	3	4	5	1	2	3	4	5				X	Y
1	13	23	72	211	43	7	9	30	235	81	1334	1460	91,37	3,69	4,03
2	12	25	82	205	38	11	5	37	204	105	1318	1473	89,48	3,64	4,07
3	18	22	69	213	40	10	5	28	220	99	1321	1479	89,32	3,65	4,09
4	22	32	78	164	66	8	6	15	188	145	1306	1542	84,70	3,61	4,26
5	16	25	78	187	56	4	7	14	199	138	1328	1546	85,90	3,67	4,27
6	5	10	51	218	78	4	2	13	202	141	1440	1560	92,31	3,98	4,31
7	7	5	31	214	105	4	1	9	195	153	1491	1578	94,49	4,12	4,36
8	7	6	59	229	61	5	2	13	210	132	1417	1548	91,54	3,91	4,28
9	3	6	32	243	78	4	2	9	231	116	1473	1539	95,71	4,07	4,25
10	5	15	77	201	64	1	4	10	205	142	1390	1569	88,59	3,84	4,33
11	6	0	36	216	104	2	2	6	206	146	1498	1578	94,93	4,14	4,36
12	5	8	50	232	67	2	0	23	220	117	1434	1536	93,36	3,96	4,24
13	3	15	64	216	64	3	3	16	227	113	1409	1530	92,09	3,89	4,23
14	3	15	59	214	71	2	5	18	212	125	1421	1539	92,33	3,93	4,25
15	2	18	75	203	64	3	2	19	202	136	1395	1552	89,88	3,85	4,29
16	21	15	55	170	101	3	2	8	177	172	1401	1599	87,62	3,87	4,42
17	12	11	61	199	179	5	4	10	196	147	1408	1562	90,14	3,89	4,31
18	9	17	61	219	56	1	5	11	220	125	1382	1549	89,22	3,82	4,28
19	3	9	62	216	72	2	1	16	211	132	1431	1556	91,97	3,95	4,30
20	4	13	46	210	89	2	1	19	193	147	1453	1568	92,67	4,01	4,33
21	4	5	47	226	80	3	2	17	216	124	1459	1542	94,62	4,03	4,26
22	5	11	50	221	75	2	3	12	216	129	1436	1553	92,47	3,97	4,29
23	9	9	63	225	56	2	4	23	219	114	1396	1525	91,54	3,86	4,21

24	3	13	77	215	54	2	5	38	227	90	1390	1484	93,67	3,84	4,10
25	1	5	54	221	81	3	1	7	228	123	1462	1553	94,14	4,04	4,29
26	6	9	43	216	88	2	10	19	209	122	1457	1525	95,54	4,02	4,21
27	8	18	67	201	68	2	2	13	207	138	1389	1563	88,87	3,84	4,32
28	4	9	55	237	57	3	1	9	238	111	1420	1539	92,27	3,92	4,25
29	5	9	40	226	82	3	0	8	219	132	1457	1563	93,22	4,02	4,32
30	9	2	42	220	89	3	0	11	214	134	1464	1562	93,73	4,04	4,31
31	10	7	46	217	82	4	3	13	208	134	1440	1551	92,84	3,98	4,28
CUTTING POINT QUADRAN														**3,90**	**4,26**

The results of data processing using the IPA method provide the results of a cartesian diagram in which it contains each statement attribute of the questionnaire which is placed according to their respective coordinates as shown in Figure 6.

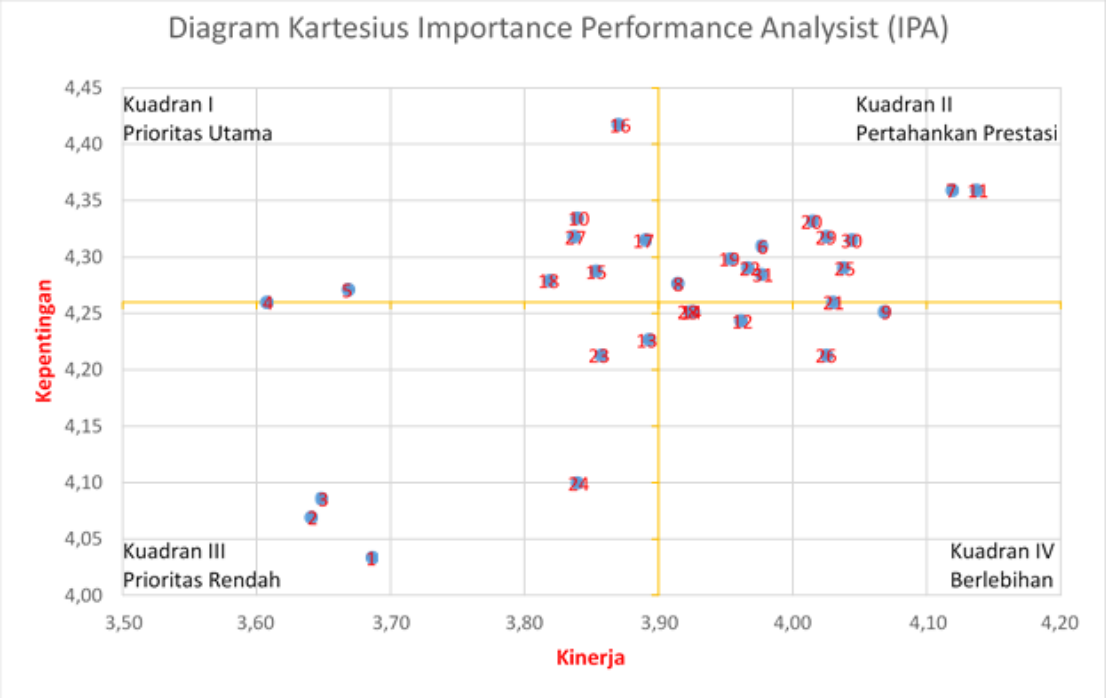

Figure 6. Student Satisfaction Measurement Diagram

Based on the coordinate compressing of each attribute in figure 6. then it can be known that:

a. Quadrant I (Top Priority)
   The handling of attributes that are in this quadrant needs to be prioritized for improvement because the existence of these attributes is considered very important, but the performance is still not satisfactory. The attributes in this quadrant are 4, 5, 10, 15, 16, 17, 18, and 27.
b. Quadrant II (Maintain Achievements)
   The performance of the attributes included in this quadrant needs to be maintained because in general, the performance and interests have been following the expectations of students. The attributes in this quadrant are 6, 7, 8 11, 19, 20, 21, 22, 25, 29, 30 and 31.

c. Quadrant III (Low Priority)
The existence of attributes in this quadrant is considered less important for students and their performance falls into the usual or sufficient category. The attributes in this quadrant are 1, 2, 3, 13, 23, and 24.

d. Quadrant IV (Redundant)
The implementation of the performance of the attributes in this quadrant is done very well and satisfactorily, but the students themselves consider it not too important to the existence of these attributes. The attributes in this quadrant are 9, 12, 14, 26, and 28.

4. Conclusions

The results of the analysis and data processing using the servqual method at gap 5 showed the gap score gap of each variable so that the Guarantee variable with a score of -0.27, Reliability -0.31, Empathy -0.34, Date Power -0.42 and Tangibles with a score of -0.49. Overall the gap score is -0.37. This shows that any level of service satisfaction expected by students for academic services has not met expectations, as well as the variables of the servqual method. To determine the proposed service improvement based on the attributes of the questionnaire using the IPA method, 8 attributes are in quadrant I that need to be prioritized for improvement. The attributes are attribute number 4 with a respondent suitability rate of 84.70%, attribute number 5 with a respondent suitability rate of 85.90%, attribute number 10 with a respondent suitability rate of 88.59%, attribute number 15 with a respondent suitability rate of 89.88%, attribute number 16 with a respondent suitability rate of 87.62%, attribute number 17 with a respondent suitability rate of 90.14%, attribute number 18 with a respondent conformity rate of 89.22% and attribute number 27 with a respondent conformity rate of 88.87%.

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