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Improving the Quality of Services In Junior High School 1 Malang

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Abstract
This study aims to determine which services need to be improved so that the number of new students increases. Using 5 research variables, namely tangible, reliability, responsiveness, assurance and empathy with the Quality Function Deployment (QFD) method approach which will produce a House of Quality matrix, a total of 12 service attributes need to be improved. After knowing the 12 service attributes that must be improved, the researcher conducted an interview with the Principal of JHS Muhammadiyah 1 Malang, so that eight technical responses were obtained, namely conducting discipline and character training for teachers, adding additional equipment, namely main textbooks, rulers, markers, erasers and attendance books. class, holding disciplinary training and human resource relations to staff, installing CCTV in the school area, namely in front of the teacher's room, each class and where students pass by (sports fields, bicycle / motorbike parking lots, and gazebos), adding gazebos and Wi-Fi in the school area then adding fiction story books in the library, adding school facilities such as toilets, improving school layouts so that the distance between classrooms and canteens, laboratories and libraries is close and maximizing social media such as Instagram, Facebook, and the school website in school promotion.

Keywords: *School, House of Quality, Quality Function Deployment*

Abstrak
Penelitian ini bertujuan untuk mengetahui layanan yang perlu diperbaiki agar jumlah siswa baru meningkat. Menggunakan 5 variabel penelitian yaitu *tangible, reliability, responsivenes, assurance* dan *empathy* dengan pendekatan metode *Quality Function Deployment* (QFD) yang akan menghasilkan matriks *House of Quality*. Sebanyak 12 atribut layanan perlu ditingkatkan. Setelah mengetahui 12 atribut layanan yang harus diperbaiki maka peneliti melakukan wawancara dengan Kepala Sekolah Junior High School Muhammadiyah 1 Malang, sehingga didapatkan delapan respon teknis yaitu mengadakan pelatihan kedisiplinan dan budi pekerti kepada guru, menambah perlengkapan tambahan yaitu buku pelajaran pokok, penggaris, spidol, penghapus dan buku absensi kelas, mengadakan pelatihan kedisiplinan dan hubungan sumber daya manusiakepada staf, pemasangan cctv di area sekolah yaitu di depan ruang guru, setiap kelas dan tempat siswa berlalu lalang (lapangan olahraga, parkiran sepeda/motor, dan gazebo), penambahan gazebo dan wifi pada area sekolah lalu penambahan buku cerita fiksi di perpustakaan, penambah fasilitas sekolah seperti toilet, melakukan perbaikan layout sekolah sehingga jarak antara ruang kelas dengan kantin, laboratorium dan perpustakaan dekat serta memaksimalkan media sosial seperti *instagram, facebook,* dan *web* sekolah dalam promosi sekolah.

Kata kunci: Sekolah, *House of Quality, Quality Function Deployment*

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INTRODUCTION

Companies are divided into two types, namely manufacturing companies and service companies. Manufacturing companies carry out the production process by converting inputs into outputs in the form of goods, while service companies carry out the production process by converting inputs into outputs in the form of services. Today many companies compete to be the best. Services are intagible or cannot be seen but can be felt, meaning that consumers cannot physically see the services provided by the company but consumers can feel them. This makes service companies have to pay attention to the services provided to customers. Quality Function Deployment is a research method to translate consumer wants and needs into a product development plan so that the product can meet consumer wants and needs. When the services perceived by consumers are not comparable to their expectations, then these services need to be made improvements so that consumers become loyal and will attract new consumers to feel the service. Schools are also service companies where schools provide services in the form of educational services.

One of the business charities in the field of education under the Regional Leadership of Muhammadiyah (PDM) Malang City, namely the Oro-Oro Dowo Muhammadiyah College, and one of which is incorporated in the college is the Muhammadiyah 1 Malang Junior High School which is located in the area / Brigjend Slamet Riadi Street No.134, Oro-oro Dowo, Kec. Klojen, Malang City, East Java. Competition that is quite tight in the world of education makes Muhammadiyah 1 Malang Junior High School quite difficult in getting new students. The total classes of new students at Junior High School Muhammadiyah 1 Malang from 2015 were 4 classes, in 2016 there were 3 classes, in 2017 there were 2 classes, then in 2018 there were 1 class until 2019. But when looking at the number of SD and MI graduates in Klojen District from 2015 to 2019, there was no significant decrease in the number of SD and MI graduates. So it can be concluded that the factors causing the decline in the number of new students do not come from the number of SD and MI graduates. From this, further research is needed on the causes of the decline in the number of school students for the development of the quality of services provided in order to optimize the additional service facilities needed by Junior High School Muhammadiyah 1 Malang.

LITERATURE REVIEW

Product development is one or more activities carried out to better respond to the possibility of product changes (Assauri, 2011). Meanwhile, according to Heizer & Render (2014) product development is changing a product so that it can be turned into a viable product. According to Heizer & Render (2011), service is an economic activity whose results are intangible or intangible, and are usually consumed at the same time as production and provide added value to consumers. Chuong S.C. (2014) argued that services have several characteristics, namely intangible, impermeable, heterogeneous and perishable. According to research by Heizer & Render (2014), quality is a satisfactory function as a whole, and the quality that meets customer needs and expectations can be determined. According to Ishak et al. (2020), QFD is a systematic matrix which describes a quality product design approach. According to Devani & Kartikasari (2012), there are four stages used in the QFD method, including product planning matrix, deployment matrix, process planning matrix, and manufacturing production planning. According to Evans & Lindsay (2017), the House of Quality matrix is a matrix that can act as a liaison between the voice of the consumer and the technology used, component requirements, process control, and manufacturing operations. The components of the House of Quality matrices are as follows:

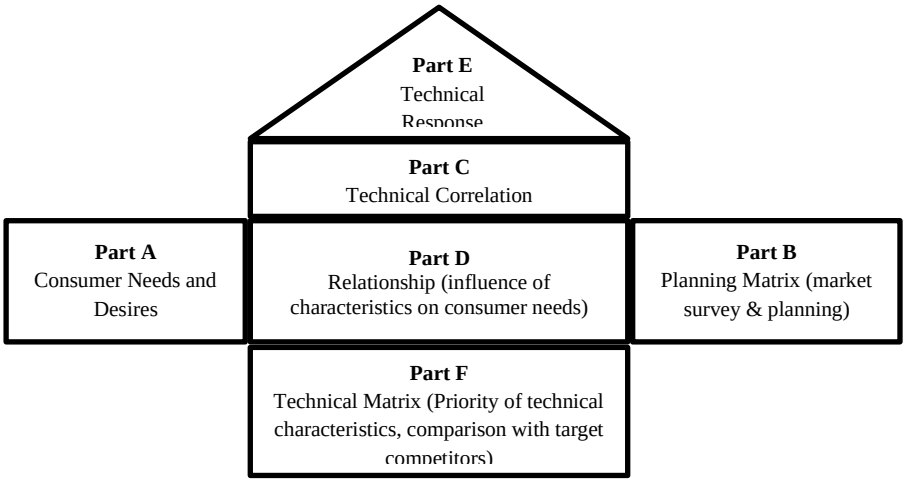


Figure 1. *House of Quality Model* (Wijaya, 2011)

According to Yuri and Nurcahyono (2013) the steps in the preparation of the House of Quality describes in the figure below:

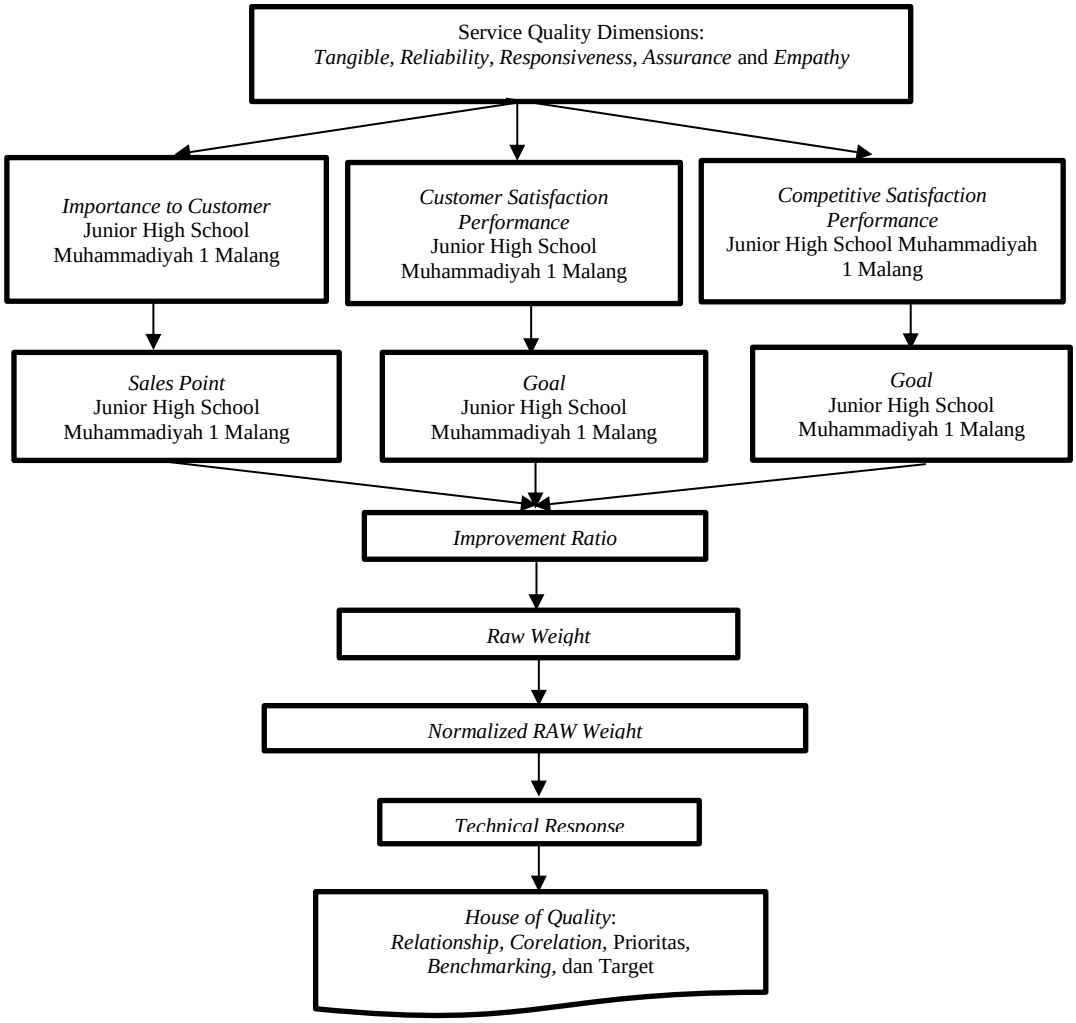


Figure 2. Research Model Heizer & Render (2011)

RESEARCH METHOD

The research was conducted at Junior High School Muhammadiyah 1 Malang which is located on Brigjend Slamet Riadi Street No.134, Oro-oro Dowo, Kec. Klojen, Malang City, East Java Province, Indonesia. The research conducted is a type of applied research. The population is all students of Junior High School Muhammadiyah 1 Malang and MTs Muhammadiyah 1 Malang. Because this study uses census data collection techniques, this study does not use a sample, but only uses the population. The variables used in this study were tangible, reliability, responsiveness, assurance and empathy. The data needed in this study is data on the needs and desires of students at Junior High School Muhammadiyah 1 Malang. To obtain this data, researchers distributed questionnaires to all students of Junior High School Muhammadiyah 1 Malang. The questionnaire in this study was distributed by census using google form to students from Junior High School Muhammadiyah 1 Malang. In this study, researchers used a semantic differential measurement scale with an interval value of one to seven suggested by Malhotra (2005). The data analysis technique used is Quality Function Deployment, with steps, namely collecting consumer voices (VOC), creating a planning matrix, compiling a technical response, determining the relationship between consumer needs and technical response, calculating the weight of technical response, determining priorities, determining technical correlation. and benchmarking targets.

RESULT AND DISCUSSION

Based on the results of the research that has been done, there were 50 respondents from Junior High School Muhammadiyah 1 Malang and 50 people from MTs Muhammadiyah 1 Malang because in this study using census techniques, however, only 50 students from each school filled out the questionnaire. Based on the results of the validity test of the respondents' answers, it shows 8 tangible variable instruments, 3 reliability variable instruments, 3 responsiveness variable instruments, 11 assurance variable instruments and 7 empathy variable instruments that have a value above r table, namely 0.2732 with an alpha of 0.01 (1 %) significance level for two-way test which means valid. Whereas in the reliability test, all variables show the calculated r value of more than 0.60, meaning that the variable can be used more than once, and it is possible to produce consistent data. In the first stage, namely voice of customer, interviews were conducted with the Principal of Junior High School Muhammadiyah 1 Malang and 50 students of Junior High School Muhammadiyah 1 Malang. From the interview, it was found that the service attributes needed and desired by students of Junior High School Muhammadiyah 1 Malang were as follows.

Table 1. Customer Need from Junior High School 1 Malang

No	Customer Need
1	Number of science teaching aids in school laboratories
2	Number of class teachers per number of students
3	Number of basic textbooks per copy with students in each subject
4	Number of supporting books per copy with students in each subject
5	Number of rulers, markers, erasers and class attendance books
6	Number of toilets in the school compared to the number of students
7	The number of mukenas borrowed at the school mosque for congregational prayers with students
8	Number of room for student learning activities with the total number of students
9	The smooth process of teaching and learning activities carried out
10	Schedule of lessons run
11	Teacher's ability in delivering subject matter
12	The speed of the teacher's response when there are students who ask questions
13	The friendliness of the teacher in responding to student questions

No	Customer Need
14	Ease of meeting the teacher when students want to ask questions outside of class hours
15	Service officer discipline
16	Timeliness of staff when providing administrative services to students
17	Mastery of teacher material when giving material to students
18	Responsible service officer
19	The teacher always speaks politely
20	The teacher is always neatly dressed
21	Teacher behavior during school activities
22	School reputation
23	Personal character of the teacher
24	Physical safety of students at school
25	Frequency of theft of bicycles, electronic devices and personal belongings of students
26	The proximity of the Muhammadiyah 1 Malang JHS school location to the highway
27	Distance between classrooms, canteens, libraries, laboratories and toilets
28	Relationship between school staff and students
29	Teacher communication style in communicating with students
30	Educators can be consulted
31	Student interest in choosing JHS Muhammadiyah 1 Malang
32	Students feel happy when they are at JHS Muhammadiyah 1 Malang

Based on the Table 1, it can be concluded that there are 32 service attributes related to the services of Junior High School Muhammadiyah 1 Malang. In addition, calculations related to Importance to Customer (ITC), Customer Satisfaction Performance (CuSP) and Competitive Satisfaction Performance (CoSP) can be seen in the House of Quality image. This value is obtained from the results of distributing questionnaires to 50 respondents. In addition, the improvement ratio (IR) will be calculated for each attribute. The values are as follows:

Table 2. Goal

No.	Attribute (Variabel)	CuSP	Goal	Note.	IR
1.	Number of science teaching aids in school laboratories	5.46	6.26	No need to repair	0.87
2.	Number of class teachers per number of students	5.54	6.28	No need to repair	0.88
3.	Number of basic textbooks per copy with students in each subject	6.62	5.38	repair	1.23
4.	Number of supporting books per copy with students in each subject	6.26	6.44	No need to repair	0.97
5.	Number of rulers, markers, erasers and class attendance books	6.64	6.52	repair	1.02
6.	Number of toilets in the school compared to the number of students	5.54	5.24	repair	1.06
7.	The number of mukenas borrowed at the school mosque for congregational prayers with students	6.34	6.38	No need to repair	0.99
8.	Number of room for student learning activities with the total number of students	5.54	6.64	No need to repair	0.83
9.	The smooth process of teaching and learning activities carried out	6.26	6.32	No need to repair	0.99
10.	Schedule of lessons run	6.34	6.32	No need to repair	1.00
11.	Teacher's ability in delivering subject matter	5.54	6.64	No need to repair	0.83
12.	The speed of the teacher's response when there are students who ask questions	6.52	6.58	No need to repair	0.99
13.	The friendliness of the teacher in responding to student questions	6.56	6.74	No need to repair	0.97
14.	Ease of meeting the teacher when students want to ask questions outside of class hours	6.40	6.64	No need to repair	0.96
15.	Service officer discipline	6.84	5.54	repair	1.23
16.	Timeliness of staff when providing administrative services to students	6.32	6.38	No need to repair	0.99
17.	Mastery of teacher material when giving material to students	6.52	6.56	No need to repair	0.99
18.	Responsible service officer	6.66	6.78	No need to repair	0.99
19.	The teacher always speaks politely	6.74	6.92	No need to repair	0.97
20.	The teacher is always neatly dressed	6.64	6.88	No need to repair	0.97
21.	Teacher behavior during school activities	6.88	6.78	repair	1.02
22.	School reputation	6.34	6.84	No need to repair	0.93

No.	Attribute (Variabel)	CuSP	Goal	Note.	IR
23.	Personal character of the teacher	6.32	6.84	No need to repair	0.92
24.	Physical safety of students at school	6.84	6.82	repair	1.00
25.	Frequency of theft of bicycles, electronic devices and personal belongings of students	6.56	5.52	repair	1.19
26.	The proximity of the Muhammadiyah 1 Malang JHS school location to the highway	5.54	6.32	No need to repair	0.88
27.	Distance between classrooms, canteens, libraries, laboratories and toilets	6.26	5.54	repair	1.13
28.	Relationship between school staff and students	6.74	6.60	repair	1.02
29.	Teacher communication style in communicating with students	5.54	6.74	No need to repair	0.83
30.	Educators can be consulted	6.26	6.74	No need to repair	0.93
31.	Student interest in choosing JHS Muhammadiyah 1 Malang	6.64	6.50	repair	1.02
32.	Students feel happy when they are at JHS Muhammadiyah 1 Malang	6.80	6.48	repair	1.05

In the Table 2, it can be seen that 12 attributes require improvement with an improvement ratio of more than one. Meanwhile, the attributes that did not need improvement were 20 attributes with an IR value of less than one. The next stage is looking for sales points (SP), raw weight (RW) and normalized raw weight (NRW). Then, making the HOQ matrix begins with determining the technical response. Determination of technical response is done through interviews with the Principal of Junior High School Muhammadiyah 1 Malang. The technical response is as follows.

Table 3. Technical Response

No.	Repair Attribute
1.	Adding additional equipment, namely basic textbooks, rulers, markers, erasers and class attendance books
2.	Adding school facilities such as toilets
3.	Improve the school layout so that the distance between classrooms and canteens, laboratories and libraries is close
4.	Conducting discipline and character training for teachers
5.	Conduct disciplinary training and human resource relations for staff
6.	Installation of cctv in the school area, namely in front of the teacher's room, every class and where students pass by (sports field, bicycle/motorcycle parking, and gazebo)
7.	Maximizing social media such as instagram, facebook, and school web in school promotion
8.	Adding a gazebo and Wi-Fi to the school area and adding fiction books to the library

There are 8 technical responses to attributes that need improvement. Furthermore, the calculation of the relationship matrix is carried out to determine the relationship between the attributes and the technical response. There are 4 symbols of the Relationship Matrix, namely 0 = no relationship, 1 = maybe there is a relationship, 3 = little relationship and 9 = strong relationship (Wijaya, 2018). The results of the calculation of the relationship matrix between the attributes and the technical response can be seen in the House of Quality image. The next step is to determine the priority of the technical response. This value is used to determine the order of improvement in the technical response obtained from the sorting value of the distribution results between the Contribution and the Total Contribution.

Table 4. Priority

No.	Technical Response	Value	Priority
1.	Conducting discipline and character training for teachers	1.556	1
2.	Adding additional equipment, namely basic textbooks, rulers, markers, erasers and class attendance books	1.350	2
3.	Conduct disciplinary training and human resource relations for staff	1.270	3
4.	Installation of cctv in the school area, namely in front of the teacher's room, every class and where students pass by (sports field, bicycle/motorcycle parking, and gazebo)	1.041	4

No.	Technical Response	Value	Priority
5.	Adding a gazebo and wifi to the school area and adding fiction books to the library	0.924	5
6.	Adding school facilities such as toilets	0.891	6
7.	Improve the school layout so that the distance between classrooms and canteens, laboratories and libraries is close	0.755	7
8.	Maximizing social media such as instagram, facebook, and school web in school promotion promosi	0.519	8

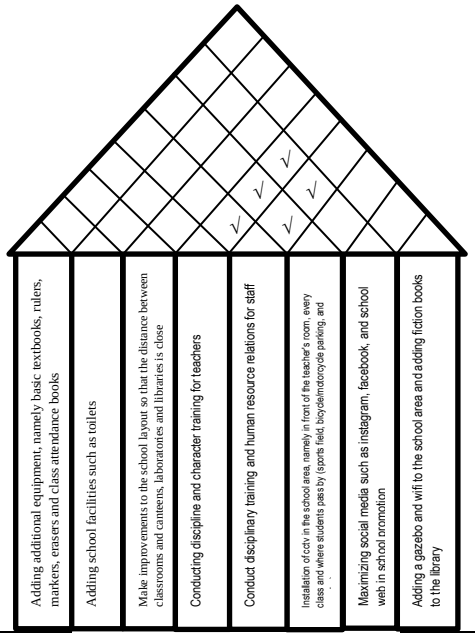
The technical response is to conduct discipline and character training for teachers. Furthermore, on technical correlation, identification of the relationship of each technical response is carried out to determine whether there is a positive effect (√) and a negative effect (X). The results of the technical correlation can be seen in the House of Quality.

Table 5. GAP value

No.	Technical Response	Priority Value CuSP	Priority Value CoSP	GAP	Target
1.	Conducting discipline and character training for teachers	42,6	43,3	-0.678	
2.	Conduct disciplinary training and human resource relations for staff	34,7	35,3	-0.556	
3.	Adding additional equipment, namely basic textbooks, rulers, markers, erasers and class attendance books	37,5	37,0	-0.534	
4.	Installation of cctv in the school area, namely in front of the teacher's room, every class and where students pass by (sports field, bicycle/motorcycle parking, and gazebo)	28,5	28,9	-0.418	
5.	Adding a gazebo and Wi-Fi to the school area and adding fiction books to the library	22,4	22,8	-0.378	
6.	Adding school facilities such as toilets	24,4	24,8	-0.358	
7.	Improve the school layout so that the distance between classrooms and canteens, laboratories and libraries is close	20.6	20.9	-0.296	
8.	Maximizing social media such as instagram, facebook, and school web in school promotion promosi	14.1	14.3	-0.16	

Based on the table 5, it can be seen that all technical responses of Junior High School Muhammadiyah 1 Malang have gaps with the technical responses of MTs Muhammadiyah 1 Malang. The highest gap is in the technical response. Conducting discipline and character training to teachers with a value of -0.678. While the lowest gap is in the technical response of maximizing social media such as Instagram, Facebook, and the school website in school promotion with a value of -0.16.

Figure 3. House of Quality



									ItC	CuSP	CoSP	Goal	IR	SP	RW	NRW
Number of science teaching aids in school laboratories	9								6.26	5.46	6.26	6.26	0.87	1.5	8.17	0.030
Number of class teachers per number of students									6.28	5.54	6.28	6.28	0.88	1.2	6.63	0.024
Number of basic textbooks per copy with students in each subject	9								5.38	6.62	5.38	5.38	1.23	1.2	7.94	0.035
Number of supporting books per copy with students in each subject	9								6.44	6.26	6.44	6.44	0.97	1.2	7.50	0.027
Number of rulers, markers, erasers and class attendance books	9								6.52	6.64	6.52	6.52	1.02	1.5	9.98	0.037
Number of toilets in school compared to number of students	3	9							5.24	5.54	5.24	5.24	1.06	1.2	6.67	0.035
The number of mukenas borrowed at the school mosque for congregational prayers with students									6.38	6.34	6.38	6.38	0.99	1.5	9.47	0.024
Number of rooms for student learning activities with the total number of students		9	1						6.64	5.54	6.64	6.64	0.83	1.5	8.27	0.030
The smooth process of teaching and learning activities carried out			9	9	3	3		3	6.32	6.26	6.32	6.32	0.99	1.2	7.51	0.027
Schedule of lessons run									6.32	6.34	6.32	6.32	1.02	1.5	9.67	0.035
Teacher's ability in delivering subject matter				3					6.64	5.54	6.64	6.64	0.83	1.5	8.27	0.030
The speed of the teacher's response when there are students who ask questions				1					6.58	6.52	6.58	6.58	0.99	1.5	9.77	0.029
The friendliness of the teacher in responding to student questions				3					6.74	6.56	6.74	6.74	0.97	1.2	7.85	0.029
Ease of meeting the teacher when students want to ask questions outside of class hours			1						6.64	6.40	6.64	6.64	0.96	1.5	9.56	0.029
Service officer discipline					9				5.54	6.84	5.54	5.54	1.23	1.5	10.22	0.037
Timeliness of staff when providing administrative services to students					9				6.38	6.32	6.38	6.38	0.99	1.5	9.47	0.035
Mastery of teacher material when giving material to students									6.56	6.52	6.56	6.56	0.99	1.2	7.79	0.028
Responsible service officer					3	1			6.78	6.66	6.72	6.72	0.99	1.2	8.05	0.029
The teacher always speaks politely				9		1			6.92	6.74	6.92	6.92	0.97	1.2	8.05	0.029
The teacher is always neatly dressed				9		1			6.88	6.64	6.64	6.88	0.97	1.2	8.01	0.029
Teacher behavior during school activities				9		3			6.78	6.88	6.76	6.76	1.02	1.5	10.37	0.038
School reputation	3			3	3	3	3	3	6.84	6.34	6.84	6.84	0.93	1.2	7.63	0.028
Personal character of the teacher				3					6.84	6.32	6.84	6.84	0.92	1.2	7.55	0.028
Physical safety of students at school						9			6.82	6.84	6.82	6.82	1.03	1.5	10.54	0.039
Frequency of theft of bicycles, electronic devices and personal belongings of students						9			5.52	6.56	5.52	5.52	1.19	1.5	9.85	0.036
The proximity of the Muhammadiyah 1 Malang Junior High School school location to the highway									6.32	5.54	6.32	6.32	0.88	1.2	6.67	0.024
Distance between classrooms, canteens, libraries, laboratories and toilets		9	9					3	5.54	6.26	5.54	5.54	1.13	1.5	9.39	0.034
Relationship between school staff and students					9				6.60	6.74	6.60	6.60	1.02	1.5	10.10	0.037
Teacher communication style in communicating with students				3					6.74	5.54	6.68	6.68	0.83	1.2	6.71	0.025
Educators can be consulted									6.74	6.26	6.70	6.70	0.93	1.2	7.52	0.028
Student interest in choosing Junior High School Muhammadiyah 1 Malang			1				9	9	6.50	6.64	6.50	6.50	1.02	1.2	7.96	0.036
Students feel happy when they are in Junior High School Muhammadiyah 1 MalangMalang			3		1		3	9	6.48	6.80	6.48	6.48	1.05	1.5	10.21	0.037
Contribution	1.350	0.891	0.755	1.556	1.270	1.041	0.519	0.924								
Total Contribution					7,38											
Normalized Contributon	0.183	0.121	0.102	0.211	0.172	0.141	0.070	0.111								
Priority	**2**	6	7	1	3	4	8	5								
Priority CuSP	37.0	24.4	20.6	42.6	34.7	28.5	14.1	22.4								
Priority CoSP	37.5	24.8	20.9	43.3	35.3	28.9	14.3	22.8								
GAP	-0.534	-0.358	-0.296	-0.678	-0.556	-0.418	-0.16	-0.378								

CONCLUSION

After doing research at Junior High School Muhammadiyah 1 Malang using the Quality Function Deployment method, the results obtained are that from the 32 attributes there are 8 technical responses that will be able to meet the 32 customer needs that have been found so that when the 8 technical responses are applied, it is expected that an increase will occur the number of new students. The eight technical responses are: conducting discipline and character training for teachers, adding additional equipment, namely basic textbooks, rulers, markers, erasers and class attendance books, conducting disciplinary training and human resource relations to staff, installing cctv in the school area, namely in front of teachers' room, each class and places where students pass by (sports fields, bicycle / motorbike parking lots, and gazebos), adding gazebos and wifi to the school area then adding fiction story books in the library, adding school facilities such as toilets then making improvements to the school layout so that the distance between classrooms with canteens, laboratories and libraries close by, and maximizing social media such as Instagram, Facebook, and the school website in school promotion. Of the 8 technical responses, the attributes of conducting discipline and character training for teachers are the top priority in improving the quality of services at Junior High School Muhammadiyah 1 Malang.

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