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THE QUALITY OF TRANS METRO PEKANBARU PUBLIC TRANSPORT BASED ON ROUTE SERVICE (STUDY CASE : ROUTE 1 AND 4B)

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ABSTRACT
Public transport has become the only solution to prevent traffic jam, especially in Pekanbaru. The existence of the Trans Metro Pekanbaru really needs to be developed consistently and continuously. Each service route has its own characteristics related to the type of service and the characteristics of the route served. The purpose of this study is to determine the quality of service in each transport route so that it becomes a consideration in calculating the quality of public transportation services in the Trans Metro Pekanbaru for each of these routes. The limitation of this study is to compare only two travel routes, namely route 1 connecting Ramayana - Pandau (commercial and residential routes) and route 4B connecting the Mayor's House-BPRS Terminal (Tourist route). The results showed that there were differences in each trip route. Thus, the strategy to improve quality in terms of service time is a serious concern for Trans Metro Pekanbaru to achieve a better transportation system and towards sustainable transportation in the city of Pekanbaru.

KEYWORDS: transportation, Trans Metro Pekanbaru, Quality of service, route characteristic

INTRODUCTION
Background
Transportation is an important thing for people daily activities. Despite the fact of that, transportation is not a primary need for the community, but as a derivative or supporter of the main needs needed by the community. Today, people, especially in urban areas, are more likely to use private vehicles to carry out transportation activities than public transportation modes. This is done by the community because the level of flexibility offered by private vehicles is much higher compared to other transportation. Even so, private vehicles also make negative impacts on life, such as pollution, traffic jams, noise etc. This is also reinforced by many researchers, such as Steg (2001), Eriksson (2011) and Litman (2010) who state that the problems experienced by private transportation to human life must always be considered in order to achieve sustainable transportation activities.

There are so many solutions related to transportation happened especially in urban area, and one of them is sustainable transportation. Kenworthy (2014) and Gerike et al (2013) state that a sustainable transportation system is an effective solution for urban transportation, one of which is through a good public transportation system that is attractive to the urban community so that it is able to support development in the region. The role of public transportation for the community is to fulfil the effective and efficient means needed for the mobility activities of the urban community itself.

Commuter activity is one of the daily travel activities, especially in this case, students in their lives. Sustainable transportation for commuter activities for students can be achieved with the development of public transportation. Evaluation of the level of expectation and perception of public transport passengers obtained is able to attract more passengers. Munawar (2006) states that public transportation will create an alternative transportation mode for transportation and the quality of its services is related to the expectations of public transport users. Improving the quality of services from public transportation can make the public; especially students tend to choose public transportation as a mode of transportation for commuter activities.

Purpose of Research

This study aims to discuss Trans Metro Pekanbaru services as one of the public transportation in Pekanbaru city based on route characteristics. Passengers as the final consumers have a considerable role in the development of Trans Metro Pekanbaru. The choice of transportation mode itself is influenced by the community perception factor based on the quality of services provided by the transportation mode according to the student's point of view.

The results of this study are expected to provide information on the characteristics of the Trans Metro service based on the characteristics of the route in order to be taken into consideration by the parties involved in the investment policy of transportation planning and the development of transportation modes in the city of Pekanbaru, especially for students.

Limitation of Research

In a study, the limitations of the research are considered necessary included in order to make obtained resluts. In this study, the limitations includes:

a. This research is based only on two Trans Metro Pekanbaru routes, namely route 2 (route BRPS-Kulim) and route 3 (Ramayana-UIN Suska Panam).

b. To analyze Trans Metro services, it only uses the perception of consumers, without verifying the characteristics of the services performed by the Trans Metro Pekanbaru operator.

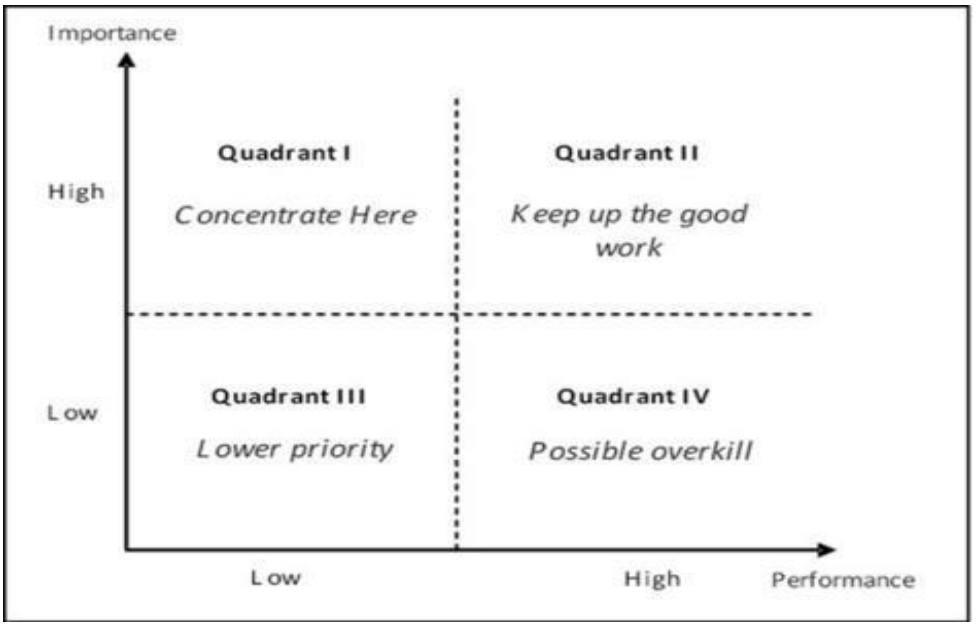
c. The parameters used in the IPA analysis are only 15 parameters which are derived from the library source.

Theory Based

Albalate and G. Bell (2010) describe transportation as a means of connection between two or more different places will play an important position especially on mobility. This will affect the urban environment itself. In a transportation plan, a transportation approach that is appropriate to the state of the region or the object of the planning is needed. The system approach is considered to be one of the right approaches for transportation planning. Djakfar et al (2012) state that in a system approach, a plan must be a thorough analysis or all factors related to existing problems must be considered. Therefore, it is very necessary to do an in-depth analysis of the characteristics of the existing transportation system for better transportation planning.

Quality of service has been defined as the value received by customers (consumers) of products or services provided by service providers (providers). LA. Guedesa (1998) adapted by Sultana and Rana (2010) explains that service is a process of negotiation between consumers as service appraisers and service providers as a source of services where resources and management have been carried out in a balanced manner between perceived service quality (products) and job satisfaction its employees. Parasuraman, et al (1990) explain that service quality depends on how the service of the operator is able to meet consumer expectations. The perception of consumers determines how the performance of these services. Perception is one component in a service user experience that plays a role in satisfaction and builds the quality of service from the service. Oliver (1997), adapted by Pedersen et al (2011) states that customer satisfaction is one of the assessments of consumers' views of how the service is able to meet consumer expectations. Joewono and Kubota (2007) state that performance is one of the important aspects for evaluating public transport operators, not just about profitability. Performance makes the effect of satisfaction from customers. Loyalty and consumer interest in the use of services is the ultimate goal of customer satisfaction obtained.

Importance-Performance analysis (IPA) is a statistical analysis that shows the relationship between the performance of a service and the importance of the customer (in this case, passengers) that is useful to determine the priority level in order to improve the quality of existing services. This analysis is very simple, but it can show an identification of parameters that need to be improved, improved, or even eliminated in the future. This analysis was discovered by Martilla and James in 1977, which through a graphical depiction to facilitate the depiction of performance and importance parameters which are then linked to each other. The graph is illustrated in the image below:



Figures 1. IPA graphic analysis (Source : Martilla and ames,1977)

2. RESEARCH METHODOLOGY

Approach

The analysis carried out is aimed at finding out the performance of the Trans Metro Pekanbaru service to passengers, especially on route 1 and route 4B. The method approach taken is qualitatively through the Likert method to analyze the performance of the transportation mode services used and get a picture of the potential of how these modes can influence in the selection of the transportation mode. While in the analysis phase, IPA analysis is used to determine the performance characteristics that need to be improved by Trans Metro for each route.

Types of Data Collection

This study uses questionnaire survey data as the main data. The object of this study is passengers who use Trans Metro services as a mode of transportation. In general, the data needed in this study consists of two groups, namely primary data and secondary data. Primary data is obtained through random distribution of questionnaires to passengers, both on route 1 and route 4B. This questionnaire contains two main components, namely the first component concerning the characteristics of Trans Metro Pekanbaru passengers. The second component contains students' perceptions regarding performance and expectations in the Trans Metro Pekanbaru service. The data collection method in this study is that students who are respondents are asked to fill out the questionnaire accompanied by a surveyor, then the questionnaire will be immediately brought back by the surveyor after all questions have been filled. Planning the number of samples in the study is based on Roscoe (1975) quoted by Uma (2006) where the general reference to determine the sample size is as follows,

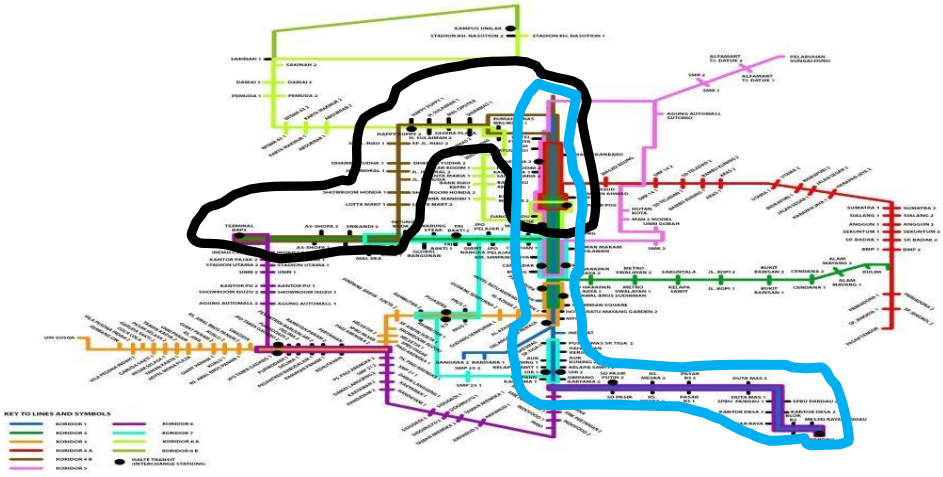
a. A sample size of more than 30 and less than 500 is appropriate for most studies

b. If the sample is broken down into subsamples (male / female, junior / senior, etc.), a minimum sample size of 30 for each category is appropriate

c. In mutivariate studies (including multiple regression analysis), the sample size should be 10x larger than the number of variables in the study

d. For simple experimental studies with strict experimental control, successful research is possible with small sample sizes between 10 and 20.

In this study, a size between 30 - 500 questionnaires was used to obtain Trans Metro passenger data, both on route 1 and route 4B on the Trans Metro Pekanbaru trip.



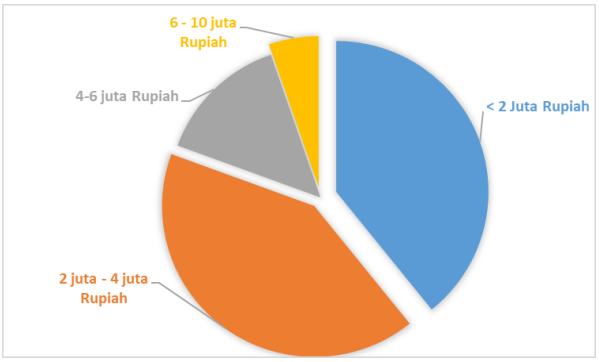
Figures 2. Trans Metro Pekanbaru Route

DISCUSSION AND ANALYSIS

General Description

This study uses questionnaire data from Trans Metro Pekanbaru (TMP) passengers, especially on route 1 and route 4B. The data obtained were 279 samples on each trip route. The questionnaire data has been tested for validity and reliability for feasibility in the analysis. Based on this test, the two data groups have a valuation value of 0.98 which means it can be used in the next data analysis stage.

The description of the research data shows that the average public transport user is a user who has an income range of less than 2 million rupiah. The group in this range is the income range that is still less than the UMR City of Pekanbaru, which is 2.5 million rupiah, or can be said to be the lower middle class. This supports Muttaqin (2017) which states that consumers who are served by public transport in Indonesia are predominantly the lower user community groups who are assumed to have no other alternative options for transportation.



Figures 3. The passenger income range of Trans Metro Pekanbaru route 2 and 3

A deeper discussion related to the relationship of income to public transportation can be seen in the relationship of income with the frequency of use of public transportation and daily use of vehicles. Table 1 states that in the entire income range group, motorbikes are still the number one choice for the community before choosing another mode of transportation. This supports the statement of Muttaqin (2018), Irawan and Sumi (2011) and Devi (2015), which states that the dominance of motor vehicles, especially motorcycles is still relatively dominant in Indonesia, aside from the increasing supply of motorcycles, ease factors and The flexibility of the motorcycle mode is one of the causes of this dominance. Therefore, the development of public transportation,

both in quantity and quality is still very much needed to reduce the growth of motorized vehicles and achieve sustainability in the urban transportation sector.

Table 1. Range of income, vehicle use and frequency of public transportation

Range of Income (Rupiah)	**< 2 million**	**2 - million**	**4 - 6 million**	**6 - 10 million**
Daily vehicle				
Bicycle	0.0%	2.4%	0.0%	3.7%
Motorcycle	56.0%	57.8%	70.8%	63.0%
Car	2.5%	4.7%	13.9%	22.2%
Drive with friends	9.5%	3.3%	1.4%	3.7%
Public transport	21.0%	27.5%	13.9%	7.4%
Etc	11.0%	4.3%	0.0%	0.0%
Total	100.00%	100.00%	100.00%	100.00%
Frequency of Public transport use				
Everyday	10.00%	20.85%	6.94%	7.41%
3 times in a week	5.50%	2.84%	6.94%	7.41%
2 times in a week	7.00%	5.69%	9.72%	3.70%
Once in a month	3.00%	6.16%	12.50%	3.70%
Can't be described	67.50%	55.92%	62.50%	70.37%
Once in a week	0.00%	0.95%	1.39%	3.70%
Never	7.00%	7.58%	0.00%	3.70%
Total	100.00%	100.00%	100.00%	100.00%

In addition, table 1 also shows that in each income range group, passengers on route 1 and route 4B of Trans Metro Pekanbaru are active users of public transportation. The frequency of use of public transportation for passengers is dominated by uncertainty, which means that passengers will only use public transportation as an alternative mode of transportation when conditions do not meet the expectations of the users themselves. This is not related to the range of income owned by passengers. On the other hand, from table 1 we can see that the higher the income, the choice to ride public transportation tends to decrease. This shows that people's desire to choose public transportation is getting smaller when income is greater.

Based on the results of the other descriptions show the results stating that passengers tend to choose Trans Metro Pekanbaru transportation due to safety, comfort, and environmentally friendly factors. This applies to all routes, both route 1 and route 4B. This was also proven by the T-test which proved that there were no significant changes between the two routes (p-value> 0.05) related to these parameters. This shows that the reason for the use of public transportation for the public is not limited by the route of public transportation itself. Passengers on Route 1 and 4B Trans Metro Pekanbaru assume that the reason for choosing public transportation is not related at all to the type of route to be addressed, but rather to the internal interests of the passengers.

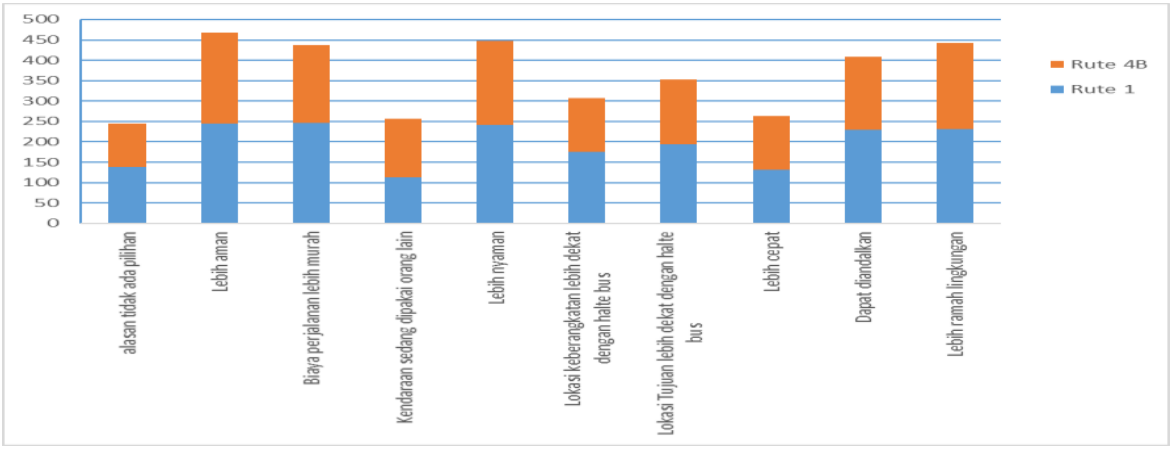


Figure 3. Reasons for Using Public Transportation for Trans Metro Pekanbaru passengers

Quality of Public Transportation

This study aims to determine how the quality of public transportation based on passenger perception for each route held by the Trans Metro Pekanbaru public transportation. Characteristics between transport routes and differences in operators will lead to differences, especially in terms of the quality of the transportation service. This study uses 25 parameters as a comparison between Trans Metro public transport routes (table 2).

No.	Quality of parameters	Correlations	Significations	No.	Quality of parameters	Correlations	Significations
1	The bus fleet already modern and up to date	.810**	p<0.05	14	Staffs are polite, kind and friendly	.495**	p<0.05
2	Cleanliness in the bus	.682**	p<0.05	15	Staffs are ready to serve passengers	.544**	p<0.05
3	Cleanliness in the bus stop	.332**	p<0.05	16	Bus services are carried out quickly and responsive	.589**	p<0.05
4	Bus facilities	.725**	p<0.05	17	Ease of getting tickets	.515**	p<0.05
5	Seat facilities	.709**	p<0.05	18	Security on the bus	.506**	p<0.05
6	Staff's performances	.616**	p<0.05	19	Security inside the bus stop	.376**	p<0.05
7	Convenience in the bus	.574**	p<0.05	20	Arrival of the bus in accordance with scheduled time	.517**	p<0.05
8	Comfortability while waiting for the bus	.267**	p<0.05	21	Information at the bus stop Trans Metro is very clear	.543**	p<0.05
9	The crewa are concern to the passenger	.528**	p<0.05	22	Easy access to Trans Metro Pekanbaru bus stop	.506**	p<0.05
10	Waiting time at the bus stop	.338**	p<0.05	23	Ticket prices are affordable	.390**	p<0.05
11	Bus service operating time	.564**	p<0.05	24	Ease of getting a seat on the bus	.348**	p<0.05
12	The attitude of the driver while driving	.571**	p<0.05				
13	Staffs are providing clear information on passenger	.287**	p<0.05				

Table 2 shows that all parameters to be tested have a fairly high correlation with the general quality of the Trans Metro Pekanbaru service. Sarwono (2006) states that a correlation value of 0.25 is considered sufficient to do the next processed data, but with the condition that all parameters have been marked as having high significance with a p value <0.05. From the results above (table 2) shows that all parameters have entered into these requirements so that the next data can be processed.

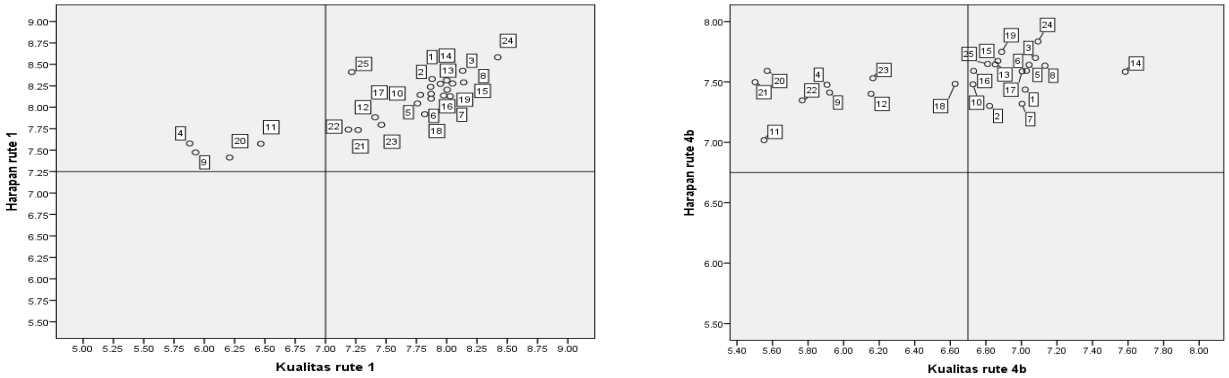
Table 3. Strength of correlation numbers

0	:	Tidak ada korelasi
0,00 – 0,25	:	Korelasi sangat lemah
0,25 – 0,50	:	Korelasi cukup
0,50 – 0,75	:	Korelasi kuat
0,75 – 0,99	:	Korelasi sangat kuat
1	:	Korelasi sempurna

The parameters addressed by public transport users are directly related to the quality of the performance of public transport. In addition, the test results related to validity and reliability statistically through the SPSS

program tools show that the data collected is valid and can be used for further analysis. This is evidenced by the data reliability value of 0.98 in both route 1 and route 4B data.

Based on the IPA (Importance Performance Analysis) analysis, the results of the analysis show that all parameters, both in route 1 and route 4B of the Trans Metro Pekanbaru public transport, are in Quadrants I and II. This shows that the quality of public transportation still needs to be improved on every trip route. Of the 25 parameters studied, route 1 and route 4B show that there are parameters found in quadrant 1 (need special attention) and the rest are in quadrant II (worth keeping). The parameters of special concern, especially for public transport services are parameters in the Trans Metro Pekanbaru bus stop factor, including waiting time, security, comfort, availability of information within the stop, service operating time, timely arrival time and easy access to the stop (Figures 4).



Figures 4. Graphic analysis of route 2 (left) and route 3 (right) of Trans Metro Pekanbaru

This shows that the bus stop factor as a Trans Metro Pekanbaru bus transit point in public transport services is very much needed a comprehensive overhaul. This is more because the bus stop is the first and last place for public transport passengers in undergoing transportation activities using the Trans Metro Pekanbaru. While the other parameters are in the second quadrant. This quadrant shows that the parameters in it have been able to be implemented well by the Trans Metro Pekanbaru operator both on route 1 and route 4B, such as comfort in the bus, cleanliness, employee services to the price of tickets that are affordable for consumers. However, this parameter must still be maintained and become a standard of quality for Trans Metro Pekanbaru services, especially for the future.

From the results of the IPA analysis the results show that there is no difference between route 1 and route 4B in service of both routes. However, in detail, the bus stop factor in quadrant I has a difference in the value of the difference in quality and expectations on route 2 and route 3 of the public transport (Table 4). For example, on route 1, the main priority in improving service at the bus stop is related to the long waiting time. Different results are shown on route 4B where the comfort factor while on a bus is also the highest priority in improving Trans Metro public transport services. The difference in priority over this improvement is more due

Different route characteristics between route 1 and route 4B. Route 1 (Pandau-ramayana) Trans Metro Pekanbaru has the characteristics of a route that passes through many residential and commercial areas so that the characteristics of passengers who ride the route are passengers who need fast time in carrying out their transportation activities such as workers, and people associated with the BPRS terminal, such as people who want to travel outside the city and others so that the time factor becomes the first priority in the improvement of Trans Metro, especially route 1 in the bus stop service. Whereas route 4B (Mayor's House-BRPS Terminal) has the characteristics of a route that passes through many tourist areas. This results in different passenger characteristics, where passengers on the tourist route enjoy the trip while they are on the way to the destination. This difference in priority can lead to differentiation in improving the Trans Metro Pekanbaru's image in serving passengers effectively and efficiently both now and in the future.

Table 4. The order of priority for the improvement of the Trans Metro Pekanbaru service

No.	Parameter	Route 1		Route 4B	
		The deviation of quality and expectation	Priority order of improvement	The deviation of quality and expectation	Priority order of improvement
1	Waiting time at the bus stop	0.450	9	0.416	23
2	Security at the bus stop	0.369	10	0.480	22
3	Bus arrival on schedule	0.293	15	0.620	17
4	Kep it clean of Trans Metro Pekanbaru	1.699	1	1.570	4
5	The information at the bus stop is clear	0.362	11	0.599	18
6	Bus stop security	0.229	19	0.563	20
7	Easy access to the bus stop	0.100	24	0.315	24
8	The comfortability at the bus stop	0.149	23	0.502	21
9	ease of getting a seat	1.546	2	1.491	5
10	Afordable ticket prices	0.285	16	0.753	15
11	Ease of getting a ticket	1.108	5	1.466	6
12	Bus services are carried out quickly and responsively	0.474	7	1.247	8
13	Cleanliness on the bus	0.325	13	0.792	14
14	Bus service operating time	0.313	14	0.000	25
15	Comfortability on the bus	0.229	18	0.806	13
16	Bus crew's concern for passengers	0.161	22	0.860	10
17	Employees are always ready to serve passenger requests	0.285	17	0.584	19
18	Facilities on the bus	0.100	25	0.857	11
19	Seating Facilities	0.201	20	0.860	9
20	The employees are kind, friendly and polite	1.205	3	2.022	1
21	Employees provide clear information to passengers	0.550	6	1.996	2
22	Driver's attitude in driving	0.466	8	1.581	3
23	General Quality	0.333	12	1.366	7
24	Staffs performance	0.161	21	0.742	16
25	The bus fleet is modern and up to date	1.193	4	0.839	12

CONCLUSIONS

A knowledge of passenger perceptions in determining the quality of the Trans Metro Pekanbaru service is something important in achieving a sustainable transportation system, especially in urban areas. From a theoretical point of view, the service quality of a service is able to produce a profitability indirectly due to customer satisfaction and loyalty in the use of the service. In terms of public transport, performance is an important thing for evaluating public transport operators, not only about profitability, but also the loyalty and interest of passengers in using public transport in the present and the future. Differences in route characteristics coupled with differences in public transport operators will present differences in service quality between the Trans Metro routes. The results of the analysis show that the average public transport user is a user with an income range of less than 2 million rupiah or the middle to lower class. The results of the IPA analysis show that Route 1 and Route 4B Trans Metro Pekanbaru have the same service characteristics. The bus stop factor and bus factor are two different groups where the bus stop factor is in quadrant I and the bus factor is in quadrant II. In detail, quadrant I parameters have different priorities on route 1 and route 4B. On route 1, the service factor in the form of waiting time during stops is the first priority for service improvement compared to other factors. Whereas on route 4B, the service factor while in the bus is one of the determinants related to the quality of service assessed by Trans Metro Pekanbaru passengers on the route. As for the other factors included in quadrant II, it shows that the Trans Metro Pekanbaru service has been going well so that it is able to meet consumer expectations. However, in the future, re-evaluation is still needed because the services are continuous and produce something different from the service of a product that tends to be monotonous.

SUGGESTION

In general, this study aims to find out what are the effects of increased performance for the willingness of the public to use a service from the company. The limitation of this research included only two routes, namely route 2, the BRPS - Kulim terminal which mostly passes through the office area and route 3 namely UIN Panam - Ramayana. We suggest that further research will be more focused on different routes, and other parameters needed such as consumer expectations, and current and future consumer expectations regarding Trans Metro Pekanbaru's services.

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