

The Assessment of BRT Trans Semarang Service Quality

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The Assessment of BRT Trans Semarang Service Quality

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Abstract. Semarang city is one of the metropolitan cities that has congestion problems. The existence of BRT Trans Semarang becoming an alternative to reduce city congestion problems. Besides the service performance of BRT Trans Semarang, the service quality is also important in considering the travel modes choice. Tangibles are assessed based on the condition of the facility, the existence of information boards, the presence of officers, and the availability of information. Empathy is assessed based on the existence of accident insurance. Reliability is assessed based on service personnel. Responsiveness is assessed based on officer responsiveness. Assurance is assessed based on the level of knowledge and politeness of the officers. The main purpose of this research is to assess the service quality of BRT Trans Semarang related to tangibles, empathy, reliability, responsiveness, and assurance on weekdays and weekend. This research used the Kano Model to assess the service quality of BRT Trans Semarang based on user preferences. The results of the Kano Model analysis dividing the service quality indicators into several treatments can be repaired or added, can be used as a strategy, and can be prepared for the future. The government must prioritise improvements in corridor five because that corridor has the most deficiencies and need for improvement.

1. Introduction

Bus Rapid Transit (BRT) is one of the popular transportation systems as a more alternative affordable travel against trains. BRT is a medium mode of transportation between conventional buses and trains, so BRT has the speed and flexibility of an affordable train like conventional buses [1].

BRT system is one approach to solve the congestion problems in urban areas. BRT has the privilege from capacity, low cost, and being a priority alternative in big cities, considering its short application [2]. BRT is one of the mass transportation services that fast and efficient service against to conventional buses, and has low fares but still pay attention in terms of comfort, security, safety, time and cost efficiency [3].

SERVQUAL is a combination of several measures that have good reliability and validity and can be used to understand service expectations and user perceptions for improving service quality [4]. Measuring service quality is used to understand the needs and desires of users by analysing based on user experience and satisfaction with the services provided. The purpose of measuring service quality is to increase the productivity of service quality [5]. SERVQUAL is divided into five dimensions, tangibles, empathy, reliability, responsiveness and assurance. Tangibles are assessed by the appearance of physical facilities, equipment used, personnel, and communication materials. Empathy is assessed by the caring from service providers and attention to passengers. Reliability is assessed by the ability to provide reliable and accurate services. Responsiveness are assessed by the willingness to help passengers and provide quickly services. Assurance are assessed by the knowledge and politeness of officers and the ability to provide trust and confidence [4].

In Indonesia, BRT is one solution that is being intensively used in big cities, to reduce the level of congestion, one of which is in Semarang City. Public opinion regarding BRT services is also



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important to provide an assessment of the service provided. Assessment by involving the community will be used as input for improving the service quality so that it can attract more users. The more public transport users, in this case, BRT, can reduce congestion, especially in Semarang City.

1.1 Methodology

This research uses a descriptive quantitative method by observing the condition of BRT service quality in the Semarang city based on user preferences on weekdays and weekend. The data that has been collected then compiled based on each indicator of BRT service quality for each line. The methodology of the research study will be described in the Figure 1.

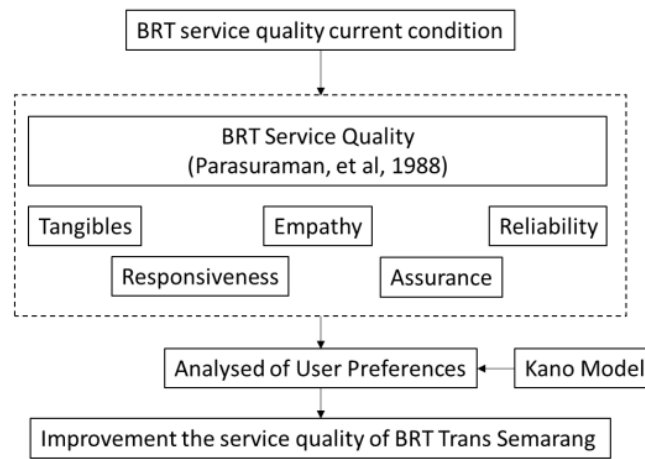


Figure 1. The methodology of the Research Study.

The quadrant in Kano Model analysis divided into 4 (four), i.e. [6]:

- a. Must be
If a product or service doesn't exist, it will make users dissatisfied, but the existence of a product or service doesn't have a significant effect on user satisfaction
- b. One dimensional
The attributes have a parallel correlation with the satisfaction level of a product or service. The higher level of service, the higher the level of user satisfaction.
- c. Attractive
The attributes have a parallel correlation between satisfaction and level of performance. User satisfaction increasing along with the increase in product or service performance, but the decline in product or service performance doesn't reduce the level of user satisfaction.
- d. Indifferent
The existence of attributes will not affect the user satisfaction level

Based on the importance and satisfaction level divided into 4 (four), i.e. [7]:

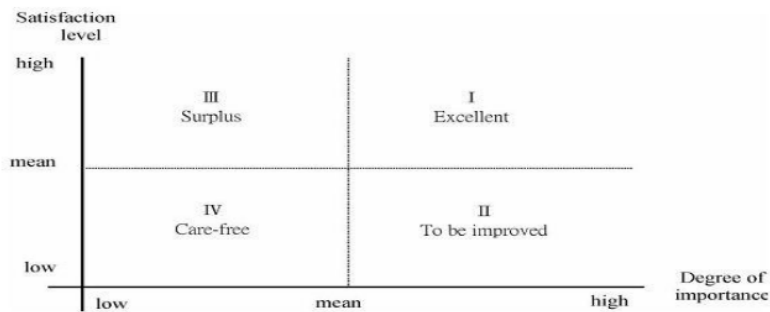


Figure 2. Importance and Satisfaction Model.

- a. Quadrant 1 – excellent
Attributes in this area considered to be important by users, so the performance of this attribute be continued.
- b. Quadrant 2 – to be improved
Attributes in this area considered important for users, but have not been satisfactory or as expected. Improvements should be made to the attributes.
- c. Quadrant 3 – surplus
The attributes quality in this area are not very important to users, but users feel very satisfied. This attributes can put in additional, depend on the priority cost.
- d. Quadrant 4 – care-free
The attributes have a low satisfaction level and importance level. These attributes can be eliminated from the evaluation process.

3. Service Quality of BRT Trans Semarang

3.1. Tangibles

The assessment for BRT Trans Semarang service quality uses several tangibles indicators, such as the condition of bus stop, conditions on the bus, information boards at the bus stop, information boards on the bus, officers at the bus stop, officers on the bus, information availability at the bus stop, and information availability on the bus.

3.2. Empathy

The assessment for BRT Trans Semarang service quality uses one empathy indicator, that is accident insurance.

3.3. Reliability

The assessment for BRT Trans Semarang service quality uses two reliability indicators, service officers at the bus stop and on the bus.

3.4. Responsiveness

The assessment for BRT Trans Semarang service quality uses two responsiveness indicators, the responsiveness of the officers at the bus stop and on the bus.

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3.5. Assurance

The assessment for BRT Trans Semarang service quality uses several assurance indicators, knowledge of the officers at the bus stop and on the bus, and also politeness of officers at the bus stop and on the bus.

3.6. TERRA

From the results of the analysis based on several indicators of tangibles, empathy, reliability, responsiveness, and assurance on weekdays and weekend. There are several alternative strategies from

assessing the quality service of BRT Trans Semarang. There are three alternative strategies from TERRA, improvements/addition, strategy, and preparation for the future. The result will be shown in **Table 1** for weekday, and **Table 2** for the weekend.

Table 1. TERRA Indicators Weekday.

Variable	Sub Variable	Weekday		
		Improvements/ additions	Strategy	Preparation for the future
Tangibles	Bus stop conditions	All corridors	-	-
	Conditions on the bus	Corridor 1, 3, and 4	-	Corridor 2 and 5
	Information board at the bus stop	All corridors	-	-
	Information board on the bus	Corridors 1, 2 and 3	Corridor 5	-
	Officers at the bus stop	Corridor 1 and 4	Corridor 3	Corridor 5
	Officers on the bus	Corridor 3 and 4	Corridor 1 and 5	-
	Information availability at the bus stop	Corridor 1, 2, 3, and 4	-	-
	Information availability on the bus	Corridor 1 and 4	-	-
	Empathy	Corridor 2, 3, and 5	-	-
Reliability	Service officers at the bus stop	Corridor 3, 4, and 5	Corridor 1	Corridor 2
	Service officers on the bus	Corridor 2, 3, 4, and 5	Corridor 1	-
Responsiveness	Responsiveness of the officers at the bus stop	Corridor 2, 3, 4, and 5	Corridor 1	-
	Responsiveness of the officers on the bus	Corridor 3 and 5	Corridor 2	Corridor 1 and 4
Assurance	Knowledge of the officers at the bus stop	Corridor 4	Corridor 2, 3 and 5	Corridor 1
	Knowledge of the officers on the bus	Corridor 2	Corridor 1 and 4	Corridor 3 and 5
	Politeness of officers at the bus stop	Corridor 4 and 5	Corridor 2	Corridor 1 and 3
	Politeness of officers on the bus	All corridors	-	-

Table 2. TERRA Indicators Weekend.

Variable	Sub Variable	Weekend		
		Improvements/ additions	Strategy	Preparation for the future
Tangibles	Bus stop conditions	Corridor 2, 3, and 4	-	Corridor 1 and 5
	Conditions on the bus	Corridor 1, 2, 3, and 4	-	Corridor 5
	Information board at the bus stop	All corridors	-	-
	Information board on the bus	All corridors	-	-
	Officers at the bus stop	Corridor 1, 2, and 4	Corridor 3	Corridor 5
	Officers on the bus	Corridor 2	Corridor 3, 4, and 5	Corridor 1
	The information available at the bus stop	Corridor 1, 2, and 4	-	-
	The information available on the bus	Corridor 1	Corridor 2 and 4	Corridor 3
	Empathy	Corridor 1, 2, 4, and 5	-	-
Reliability	Service officers at the bus stop	Corridor 2, 3, and 5	-	-
	Service officers on the bus	Corridor 2, 3, 4, and 5	Corridor 1	-
Responsiveness	Responsiveness of the officers at the bus stop	Corridor 1, 3, 4, and 5	Corridor 2	-
	Responsiveness of the officers on the bus	Corridor 2	Corridor 1 and 5	Corridor 3 and 4
Assurance	Knowledge of the officers at the bus stop	Corridor 4	Corridor 1, 2, and 5	-
	Knowledge of the officers on the bus	Corridor 1 and 3	Corridor 2, 4, and 5	-
	Politeness of officers at the bus stop	Corridor 3 and 5	Corridor 1 and 4	Corridor 2
	Politeness of officers on the bus	Corridor 3	Corridor 1 and 4	Corridor 2 dan 5

4. Results

The service quality of BRT Trans Semarang based on user preference shows that for tangibles, sub-variables that prioritised during the weekday are the conditions on the bus for corridor 3 and 4, while during the weekend is information available on the bus stop for corridor 2. For empathy, no prioritised sub-variables. For reliability, sub-variables that prioritised during the weekday are service officers at bus stops for corridors 3, 4, and 5, and also service officers on the buses for corridor 5, while during

the weekend is service officers on the buses for corridor 3. For responsiveness, sub-variables that prioritised during the weekday is the responsiveness of the officers at the bus stop for corridor 3, while during the weekend is the responsiveness of the officers at the bus stop for corridors 1 and 5. For assurance, sub-variables that prioritised during weekday are politeness of officers at the bus stop for corridor 5, and politeness of officers on the buses for corridor 1, 4, and 5, while during weekend are politeness of officers at the bus stop for corridor 5, and politeness of officers on the buses for corridor 3.

5. Discussion

For improving the service quality of public transportation, it should pay attention to user preferences. This is because users can feel directly related to the service quality of public transportation. User preferences are juxtaposed with service evaluations that have been carried out previously, can improve service quality that appropriates in terms of user standards and needs.

6. Recommendation

This research can be used as a recommendation for the Government of Semarang City related to improving the service quality of BRT Trans Semarang. Prioritised improvement in corridor 5, because that corridor has the most deficiencies and needs to improve. To improve the service quality of BRT Trans Semarang, the role of the community is needed.

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