

Does Standardized Service Quality Matter for Bus Terminal?

Agung Riyardi¹, Kusdiyanto², Triyono³, Sujadi⁴
{Agung.Riyardi@ums.ac.id¹, kus189@ums.id², tri258@ums.id³}

Economics Department, Universitas Muhammadiyah Surakarta
Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo, Jawa Tengah 57162¹³,
Management Department, Universitas Muhammadiyah Surakarta
Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo, Jawa Tengah 57162²,

Abstract. Assuming the importance of road transport system to strengthen economy, the purpose of this study is developing the concept of Standardized Service Quality, measuring bus terminal performance and measuring the bus terminal willingness to pay and demand. The research methods are conversion from Service Standard to Service Quality, measuring bus terminal performance from the importance and satisfaction perceptions and measuring willingness to pay and demand of 300 Tirtonadi bus terminal users. The results show that the concept of Standardized Service Quality exists. User appreciate positively all of terminal attributes but need improvement of some of them. Another result is terminal user willingness to pay is dominated by low willingness to pay group and terminal user demand is dominated by the infrequent group. All of the results show that Standardized Service Quality for bus terminal matters but its improvement is needed so that terminal can attract higher level of users.

Keywords: Service Standards, Service Quality, Important-Performance Analysis, Willingness to pay, Demand, Bus Terminal

1. Introduction

Service standard is very important for bus terminal. Various benefits can be obtained from service standard such as ensuring service to terminal users, increasing good perception from terminal users and uniting the diversity of various different terminals from one another, such as international bus terminals, integrated bus terminals, large bus terminals, and small bus terminals. In addition, service standard supports competition between buses and other land transportation such as trains and private vehicles. Service standard for bus terminal is needed to support economy.

Various studies have mentioned the bus terminal service standards. Low service standards cause poor service and users feeling ignored by the terminal management [1]. Service standards must include terminal services for the disabled, pregnant women, and nursing mothers [2]. Service standards must pay attention to aspects of safety, security, accessibility, information, connection reliability, the environment, and various related facilities [3]. Service standards can be obtained from the perspective of users and terminal managers [4]. The bus terminal service standard in Indonesia which is determined by the Indonesian government through the Minister of Transportation Decree number 40 of 2015 covering aspects of Safety, Security, Reliability, Convenience, Ease and Equality [5]. Minister of Transportation Decree 40/2015 is more appropriate to be used as a basis for surveying perceptions of terminal users

compared to regulations that require public satisfaction surveys from the Ministry of Administrative Reform and Indonesian Bureaucracy Reform [6].

However, there are various studies that analyze the perception of terminal users on the basis of the concept of Service Quality. In fact there are differences between Service Standards and the concept of Service Quality. Service Standards include aspects of Safety, Security, Reliability, Convenience, Ease and Equality, while the concept of Service Quality covers aspects of Tangible, Reliability, Responsiveness, Assurance, and Empathy. Service Standards are derived from government regulations while the concept of Service Quality came from research results.

There are two research groups that analyze terminal Service Quality. The first group clearly states Tangible, Reliability, Responsiveness, Assurance and Empathy attributes as practiced by [7], [8], [9] and [10]. The second group implicitly mentions the Service Quality elements as practiced by [11] [12] and [13].

Based on the differences between Service Standard and Service Quality this research try to answer question wether Service Standards can be combined to the concept of Service Quality. There are two important things behind this first research question and interest. First, there is no research that combines it yet. Ngoc, Hung, & Tuan stated that service standards are important, but considered that the standards did not yet exist and must be established from the perception of users and managers of the terminal [4]. Second, to strengthen what has been done by [14] and [12]. Accommodating perceptions from the side of users and terminal managers as stated Diab, Badami, & El-Geneidy [14] is indeed an excellent strategy to improve services. Likewise, if it is followed up within the Transit Quality framework as stated by Barabino & Di Francesco [12]. However, without clear service standards, the perceptions put forward, the strategies they produce, and their management become useless. Therefore, it is important to combine between Service Standards and Service Quality concepts.

This research is also interested to answer the second research question about the implementation of the concept of Standardized Service Quality based on user perception, radar diagram and the Importance-Performance Analysis (IPA) cartesian diagram. User perception, radar diagram and IPA is a method widely used to measure user perceptions and terminal performance [15]. In addition, various studies have examined user perceptions and measured terminal performance based on Importance-Performance Analysis (IPA). Some of them combine the Importance-Performance Analysis (IPA) method with other methods [16], [17] and [3]. Others employ the Importance-Performance Analysis (IPA) method without any combination [7], [8], [18] [19], and [10]. However, all of them do not assume Standardized Service Quality.

Another interest is to measure terminal's willingness to pay and demand. The assumption behind this interest is willingness to pay and demand as a result of good performance of Terminal. The higher is the performance, the higher is the willingness to pay and demand. However, there is little research that reveals willingness to pay and demand for bus terminals. An example is research conducted by Syed Adnan & Kadar Hamsa [20] that discussed the demand for parking facilities around terminals in Putrajaya, Malaysia, in the form of one level and two levels is influenced by the extent of the parking lot, the convenience of the parking lot and parking security. Another example is research conducted by Pietro & Salvo [21] that measured the willingness to pay information system for bus and metro users in Palermo Italy. The research that is mostly done is research about willingness to pay and demand for public land transportation modes. Vanany, et al. [22] analyzed the willingness to pay for mass transportation in Surabaya influenced by the flexibility of transportation arrival, distance and operating time in a day. Nursita, Yulianto, & Legowo [23] measured teachers, school staff and

student potential demand, ability to pay and willingness to pay to use city bus in Surakarta, Indonesia. Jalil, Anggraini, & Sugiarto [24] analyzed willingness to pay and ability to pay along with operational costs affecting the Trans KoetaRadja Corridor III bus fare level, BUEHLER & PUCHER [25] compared that the demand for public transportation in Germany was higher than in United States because public transport policies in Germany are better than in the United States in terms of public transportation services, public transport tickets, availability of public vehicles that lead to regional integration, high taxation of private vehicles and land use, Aljoufie (2014) analyzed low demand for public transportation in Jidda because 50% of the population does not have access to the public transportation system and supporting infrastructure, Ubaidilla [26] analyzed that demand for land transportation in Malaysia from 1980 to 2010 is influenced by real national income factors, road length, urban population and fuel prices, Poku-Boansi & Adarkwa [27] analyzed that Kumasi, Ghana residents demand is less for bus transportation than metro and taxi because bus transportation consumes time than other transportation systems, Jain, Sarkar, Vibhuti, & Arora Arora [28] analyzed the demand for small public vehicle in Dwarka India is influenced by costs and transportation time. Therefore, we interested to answer question about wilingness to pay and demand of bus terminal user.

Research hypotheses and aims are derived from the research interests and questions. The tentavive statement is Standardized Service Quality matters from combination between service standard and quality, user perception and user willingness to pay and demand for bus Terminal. The aim of the research is combining service standard and quality, measuring bus terminal user perception and measuring bus terminal user willingness to pay and demand. If the research questions are answered, hyphotheses are proven and aims are achieved, then the concept of Standardized Service Quality that is a combination of service standard and quality matters.

The research method was performed in three stages. First, converting service standards to become an attribute of the concept of Service Quality. This method converts the Service Standards contained in the Minister of Transportation Decree 40/2015 which consists of Safety, Security, Reliability, Convenience, Ease and Equality into attributes of the concept of Service Quality which consists of Tangible, Reliability, Responsiveness, Assurance and Empathy. The assumption of conversion is that each standard can be converted into an attribute because it has similarities. The results of the conversion are called the concept of Standardized Service Quality. Second, measuring user perception and terminal performance using the concept of Standardized Service Quality. The measurement is based on the perception of 300 terminal users consisting of bus crews, business operators, and bus passengers at Tirtonadi Terminal in Surakarta. They provide quantitative opinions about the level of importance and satisfaction of bus terminal attributes which were improved based on the concept. The terminal user opinions were surveyed during July-August 2019. Third, measuring terminal user willingness to pay and demand. Measurement is done by grouping users' willingness to pay and demand. The measurement of willingness to pay is based on their spending during in terminal, income and ratio of spending to income, while the measurement of demand is based on their intensity to use terminal.

The results show that the concept of Standardized Service Quality exists. The concept is derived from the conversion of Service Standards to the concept of Service Quality. The results also show that the concept of Standardized Service Quality implementation is appreciated positively by terminal users. They express the importance of and satisfaction to the implementation. In addition, terminal users are dominated by low to middle willingness to pay and infrequent demand users.

This paper is further divided into several sections. The second part contains the research method. The third part contains the results and discussion. The fourth part contains conclusions and suggestions.

2. Method

The research method consist of research data and process. The research method is an important part to show that this research has improved various previous studies. It produces the specific form of bus terminal services, user perceptions and user willingness to pay and demand, whereas previous research produced them separately or do not produce them. In addition, it produces standardized service quality that is not observed yet.

Data is collected from Tirtonadi bus Terminal, Surakarta, Indonesia. Survey is conducted from July to August 2015. Data consists of Ministry of Transportation Regulation number 40/2015 about bus terminal service standard and 300 Tirtonadi bus Terminal user perception, willingness to pay and demand.

Research process consist of combining Service Standards to the concept of Service Quality, measuring terminal user perception and grouping terminal user willingness to pay and demand. The assumption behind the conversion is Service Standards can be converted into the concept of Service Quality because there are similarities. The results of the conversion are called the concept of Standardized Service Quality.

The Terminal Service Standards are obtained from the Minister of Transportation Decree number 40/2015 that states the importance of six Standards and forty-one secondary standards for terminal service. The concept of Service Quality is obtained from theory that states the importance of five service attributes. The Terminal Service Standards and the concept of Service Quality come from different sources but can be combined.

The conversion was performed by two stages. The first stage is comparing the elements of Service Standards with the attributes of the concept of Service Quality. The comparison is based on the degree of similarity, and performed until all elements of the Standard are the same as the service quality concept attribute. In the second stage, we include the secondary Standard in each sub-attribute so that each attribute in the Service Quality concept has sub-attributes derived from the secondary Standard. (See Figure 1)

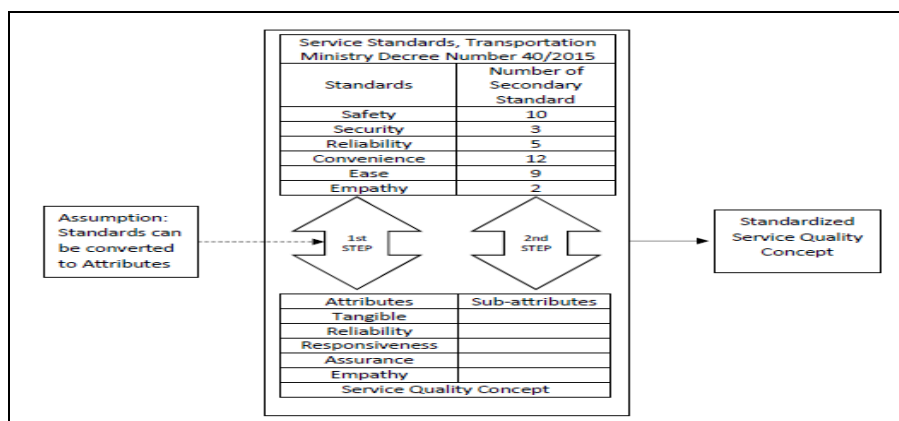


Fig.1. Conversion of Service Standards with the Concept of Service Quality

Quantitative research methods were utilized to measure user perceptions and terminal performance. The measurements are in the form of the level of importance and user satisfaction with the terminal attributes derived from the concept of Standardized Service Quality. The importance perception of the Standardized Service Quality is divided into five levels from very unimportant to very important, while satisfaction is divided into five levels from very dissatisfied to very satisfied. Each perception of attribute is expressed in the form of one to five numbers, where one is the worst grade and five is the best grade level.

Data processing of user interest on a terminal attribute is performed by averaging all values given by the user to that attribute. For example if for attribute a, there are 10 bus crews who rate 5, 10 bus crews rate 4, and none rate 3, 2, or 1 then the level of importance of a bus crew to attribute a is 4.5. The level of satisfaction data processing is carried out in the same way as the level of importance data processing. Thus, the formula for the importance and satisfaction level of an attribute according to a group of terminal users is:

$$I_{a_i} = \frac{(n_1 \cdot I1) + (n_2 \cdot I2) + (n_3 \cdot I3) + (n_4 \cdot I4) + (n_5 \cdot I5)}{(n_1 + n_2 + n_3 + n_4 + n_5)} \quad (1)$$

$$S_{a_i} = \frac{(n_1 \cdot S1) + (n_2 \cdot S2) + (n_3 \cdot S3) + (n_4 \cdot S4) + (n_5 \cdot S5)}{(n_1 + n_2 + n_3 + n_4 + n_5)} \quad (2)$$

I is the Value of Importance, S is the Value of Satisfaction Level, a is the user group, i is the attribute that is valued, n is the number of users of group a, 1-5 is the value assigned to an attribute where 1 is the lowest value and 5 is the highest value.

Furthermore, all user evaluations of the terminal attributes derived from the concept of Standardized Service Quality are manifested in the form of radar and Cartesian diagrams. Radar diagrams are drawn for each group of terminal users on all attributes. There is a radar diagram for bus crews, business operators, and bus passengers. Radar diagrams are useful for knowing the level of importance and satisfaction of users towards the implementation of the concept of Standardized Service Quality in the terminal. In addition, a radar diagram is useful for comparing the level of importance and level of satisfaction perceived by terminal users.

A Cartesian diagram is also drawn for each terminal user. There are Cartesian diagrams for bus crews, business operators, and passengers. The Cartesian diagram is drawn by placing the level of importance of the attributes on the vertical axis and the level of satisfaction on the horizontal axis. Quadrants I, II, III and IV are obtained by dividing the level of importance and level of satisfaction based on the average count. The formula for calculating the average level of importance and level of satisfaction with the attributes for each user group is:

$$\bar{I}_a = \frac{I_{a_1} + \dots + I_{a_{41}}}{41} \quad (3)$$

$$\bar{I}_b = \frac{I_{b_1} + \dots + I_{b_{41}}}{41} \quad (4)$$

$$\bar{I}_c = \frac{I_{c_1} + \dots + I_{c_{41}}}{41} \quad (5)$$

$$\bar{S}_a = \frac{S_{a_1} + \dots + S_{a_{41}}}{41} \quad (6)$$

$$\bar{S}_b = \frac{S_{b_1} + \dots + S_{b_{41}}}{41} \quad (7)$$

$$\bar{S}_c = \frac{S_{c1} + \dots + S_{c41}}{41} \quad (8)$$

I is the average level of importance, S is the average level of satisfaction, a is Bus Crew, b is Business Actor/Operator, c is Passenger, 1 to 41 is the terminal attribute code based on the concept of Standard Service Quality.

Cartesian chart is useful for assessing terminal performance. Various attributes that are rated by users in II quadrant indicate terminal good performance, while various attributes rated by users are in I, III and IV quadrants, especially quadrant III--which means users value them as less important and not satisfied with the attribute--indicate terminal deficiencies that must be improved.

User willingness to pay and demand grouping is conducted by four ordered level. The first is the lowest level, while the fourth is the highest level. Labels for every ordered willingness to pay consecutively is Very Low, Low, Middle and High Willingness to Pay, while the label for demand is First Time, Not Often, Often and Very Often Demand. Three variables are employed to group willingness to pay. They are user spending during in terminal, monthly income and ratio between spending and income. (See Table 1)

Table 1. Method to Group Willingness to Pay and Demand

Willingness To Pay				Demand	
Level	Spending (Rp)	Monthly Income (Rp)	Spending/Income	Level	Terminal Using
1/Very Low	0-10000	0-1000000	0-0,01	1/First Time	First Time
2/Low	10000-100000	1000000-2500000	0,01-0,05	2/Not Often	Less than 12 times a year
3/Middle	100000-200000	2000000-4500000	0,05-0,1	3/Often	More than 12 times to 48 times a year
4/High	200000-505000	4500000-6000000	0,1-0,3	4/Very Often	More than 48 times a year

3. Result And Discussion

A concept of Standardized Service Quality is found at the terminal. The concept originated from the conversion of Service Standards derived from the Minister of Transportation Decree 40/2015 with the concept of Service Quality. The basis of conversion is the degree of similarities.

Reliability Standards are the same as Reliability attributes so the Reliability Standards are converted to Reliability attributes. Equality Standards are similar to Empathy attributes so that Equality Standards are converted to Empathy attributes.

Safety and Security Standards are not the same and are not similar to the attributes in the concept of Service Quality. However, safety and security take precedence at the terminal so that Safety and Security Standards are converted to the Assurance attribute. Standards of Convenience and Ease are also not the same and are not similar to the attributes in the concept of Service Quality. However, convenience and ease at the terminal are intended to serve the

wishes of the user, so that the Convenience and Ease Standards are converted to Responsiveness attributes.

There are no Service Standards that can be converted into Tangible attribute. However, based on the Minister of Transportation Decree 132/2014 the terminal must have four areas consisting of passenger arrival area, passenger waiting area, passenger boarding buses area and passengers off the bus area so that the Tangible attribute can be realized by moving several sub-attributes in the Responsiveness attribute which represents the four mandatory areas. The sub-attributes chosen are the Waiting area representing the necessity of waiting area in the terminal, the Service information representing the passenger arrival area, and Platform for passenger getting in and out from the bus sub-attributes representing the passenger boarding and leaving buses. In addition, the sub-attribute of Lighting was added. As such, the terminal has Tangible attribute taken from the Convenience Standards in the form of Waiting Rooms and Lighting secondary standards; and Ease Standard in the form of Service information and Platform for passenger getting in and out from bus secondary standards.

Based on the conversion, each attribute has a sub-attribute obtained from the secondary standard. The Tangible attribute has 4 sub-attributes, the Reliability attribute has 5 sub-attributes, the Responsiveness attribute has 17 sub-attributes, the Assurance attribute has 13 sub-attributes and the Empathy attribute has 2 sub-attributes. Thus, the concept of Standardized Service Quality is established (See Table 2).

The concept of Standardized Service exists because of certainty in Service Standards and Service Quality. Minister of Transportation Decree 40/2015 as stated by Angestiwi [5] and Riyardi, Fahmy-Abdullah, Sujadi, Kusdiyanto, & Triyono [6] provides certainty for terminal service standards. Five attributes as stated by Maskan, Utaminingsih, & Soepeno [7], Handriyati, Sunaryo, & Helia [8], Dana, Nane, Belete, Ergado, & Labiso [9] and Witjaksono, Suyatno, & Soeparno [10] provide a clear concept of Service Quality. Thus, there is the concept of Standardized Service Quality.

The concept of Standardized Service Quality has been enjoyed by terminal users. They consider that the concept of Standardized Service Quality is important. They are also satisfied with the implementation of the concept. The radar diagram in Figure 2 shows the level of importance and satisfaction of terminal users. Both the bus crew, business operators and passengers consider the concept as important. Likewise they are satisfied with the implementation.

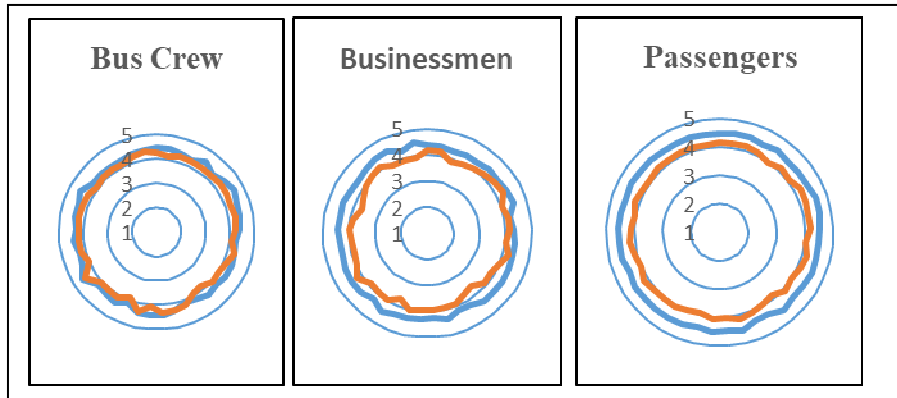
Each user has made an evaluation of the implementation of the concept of Standardized Service Quality. There are two important things. First, all users give high ratings for the importance and satisfaction of the concept of Quality of Service Standards. They give a value of the level of importance and satisfaction above 4. Only Businessmen whose level of satisfaction of attributes is slightly below 4. Thus, based on the concept of Standardized Service Quality, they express a positive appreciation of the terminal attributes. Second, all users have a lower level of satisfaction than the level of importance. Bus Crew and Businessmen feel the level of satisfaction being slightly below the level of importance, while Passengers feel the level of satisfaction is quite low compared to the level of importance.

The results of the study portray a higher level of importance than the level of satisfaction. It is in accordance with the study of Iseki & Taylor [16], Handriyati, Sunaryo, & Helia [8] and Witjaksono, Suyatno, & Soeparno [10]. It shows the general phenomenon of the terminal as a non excludable public goods. The terminal is developed for public. It cannot meet every user expectation.

Table 2. Concept of Standardized Service Quality

	Service Attributes				
	Tangible	Responsiveness	Reliability	Assurance	Empathy
Service Standard	Standard 4/ Convenience: Waiting area and Lighting	Standard 4/ Convenience: Toilets, Cleaning facilities and officers, Place of worship, Green open spaces, Drainage, Restaurants, Smoking areas, Hot spots, Reading Rooms and Rest areas of vehicle Crews	Standard 3/ Reliability: Bus arrival and departure schedule, Connecting transportation arrival and departure schedule, Ticket sales counters, Terminal offices and operational officers	Standard 1/Safety: Pedestrian lane, Road safety facilities, Evacuation paths, Fire extinguishers, Health station, facilities and officers, Vehicle checking station, facilities and officers, Information of Safety, information of health facilities and information of vehicle checking Standard 2/Security: Security facilities, Media to report security disturbance, and Security officers	Standard 6/ Equality: Facilities for the disabled and nursing mothers
	Standard 5/ Ease: Service information and Platform for passenger getting in and out from bus	Standard 5/ Ease: Arrival lane area, Departure lane area, Battery charging site, Connecting transportation information, Travel cancellation information, Depository counter and Vehicle parking			

The research results of positive appreciation from users is in accordance with the results from Iseki & Taylor [16], Handriyati, Sunaryo, & Helia [8], Sedayu [18] and Witjaksono, Suyatno, & Soeparno [10]., but is different to Maskan, Utaminingsih, & Soepeno [7] and Dana, Nane, Belete, Ergado, & Labiso [9] which analyzed negative appreciation. The conformity of the research results is due to this research and other previous studies having implemented Service Standards and Quality. This conformity found in the results of this study which analyzes the users positive appreciation of the terminal that applies the concept of standardized service quality is similar to the results of the study of Iseki & Taylor [16] which analyzed metropolitan city terminals in the United States that have implemented terminal service quality and standards since a decade ago. Conformity of the research results also occurs in studies that analyze the appreciation of terminal users who prioritize service quality but have not fully applied service standards. It can be known from the suitability of the results of this study to the results of Handriyati, Sunaryo, & Helia [8], Sedayu [18] and Witjaksono, Suyatno, & Soeparno [10].



Note: Blue Line: Importance of 41 sub-attributes in the concept of Standardized Service Quality, Red Line: Satisfaction of 41 sub-attributes in the concept of Standardized Service Quality. Value 1: Very Not Important / Very Dissatisfied, 2: Not Important / Unsatisfied, 3: Neutral, 4: Important / Satisfied, and 5: Very Important / Very Satisfied.

Fig.2. Radar Diagram of Terminal Users Perception toward Standardized Service Quality Concept

The results of this study are different from other studies showing terminal differences in applying Service Standards and Quality. Research that analyzes the negative appreciation of terminal users are Maskan, Utaminingsih, & Soepeno [7] and Dana, Nane, Belete, Ergado, & Labiso [9] that show the general phenomenon of terminals in developing countries that have not yet implemented Service Standards and Quality.

User positive appreciation can be grouped using Cartesian diagrams. Some attributes are very special in the view of terminal users because they are in quadrant II. Some of these attributes even received appreciation from more than one group of terminal users. However, several other attributes are in quadrants I, III and IV which means that they should be improved to meet users' interest and satisfaction. Table 2 shows some attributes that get more appreciation than others in each quadrant.

Standardized quality causes users to give a high positive appreciation. The attributes that get the highest positive appreciation are the Tangible attribute that is standardized by Convenience Standard and Reliability attribute. These attributes received high positive appreciation because it was supported by Passenger waiting area, Terminal office, Operational officers, Bus arrival and departure schedules. (See Table 3 Column 2)

Responsiveness attribute that is standardized by Convenience Standard and Assurance attribute that is standardized by Safety Standard are also received the high appreciation due to the sub-attributes of Places of prayers and Road safety facilities. However, they are challenged by Hot spot, Drainage, Restaurant, Smoking area, Depository counter, Reading room, Security facilities and Information of security facilities sub-attributes. (See Table 2, all Columns). If there is more attention to these sub-attributes, then they will get highest positive appreciation.

Table 3. Grouping of Positive Appreciation of Terminal Attributes

Positive Appreciation			
Quadrant I (Satisfaction can be improved)	Quadrant II (Important attributes and satisfy users)	Quadrant III (Importance and Satisfaction can be improved)	Quadrant IV (Importance can be improved)

4i (Convenience Standard, Responsiveness Quality, Smoking Area)	3d (Reliability Standard and Quality, Terminal office)	4j (Convenience Standard, Responsiveness Quality, Hot spot area)	5h (Ease Standard, Responsiveness Quality, Depository)
5d (Ease Standard, Responsiveness Quality, Platform for passenger getting in and out from bus	1b (Safety Standard, Guarantee Quality, Road Safety Facility)	4g (Convenience Standard, Responsiveness Quality, Drainage)	4h (Convenience Standard, Responsiveness Quality, Reading Room)
1h (Safety Standard, Guarantee Quality, Safety Facility Information)	3e (Reliability Standard and Quality, Operational Officer)	4k (Convenience Standard, Responsiveness Quality, Restaurant)	-
5f (Ease Standard, Responsiveness Quality, Information of Relevant Transportation)	3a (Reliability Standard and Quality, Schedule of Arrival and Departure)	5b (Ease Standard, Responsiveness Quality, Arrival Lane Location)	-
6b (Equality Standard, Empathy Quality, Nursing Mother Facility)	4e (Convenience Standard, Responsiveness Quality, Place of Prayer)	5c (Ease Standard, Responsiveness Quality, Departure Lane Location)	-
2c (Security Standard, Guarantee Quality, Security Staff)	4b (Convenience Standard, Real Form Quality, Waiting Room)	-	-
5i (Ease Standard, Responsiveness Quality, Parking Area)	-	-	-

Responsiveness attribute that is standardized by Ease Standard and Equality attribute get a positive appreciation lower than Responsiveness attribute that is standardized by Convenience Standard and Assurance attribute that is standardized by Safety Standard. The problem is laid on the sub-attribute of Arrival lane area, Departure lane area, Platform for passenger getting in and out from bus, Connecting transportation information, Vehicle parking area, Nursing mother facility, and Depository facility. (See Table 3 Column 1 and 3).

Various terminal attributes built from the concept of Standardized Service Quality getting positive appreciation from users shows that there is an effort to develop the terminal. Initially, development headed to terminal services in the basic style of terminal as analyzed by Iseki & Taylor [16]. Next, the development of terminals became oriented towards Service Standards as analyzed by Ikhlaiq, Javid, & Qayyum [3] and Riyardi, Fahmy-Abdullah, Sujadi, Kusdiyanto, & Triyono [6] and Service Quality as analyzed by Handriyati, Sunaryo, & Helia [8]. This research has analyzed the existence of a terminal development orientation toward Standardized Service Quality in form of standardized attributes of Tangible, Reliability, and Assurance.

Tirtonadi terminal user number can be grouped based on their willingness to pay and demand levels. There are two interesting facts. The first, they are grouped into all levels. For example, some of them are grouped into the first spending level which their spending are very

low or other are grouped into the first demand level. It is their first time using terminal. The second, there is similar pattern of willingness to pay and demand. Even, similar pattern happens among different variables of willingness to pay. The first order is Level 2 group, whilst the last order is Level 4 group.

The dominant Terminal users is users in the Level 2 group. Their percentage is more than 50% of all users. Even, based on their spending, they are above 60% of total users. Their percentage is higher than accumulative percentage of other groups. Most of Tirtanadi terminal users have low willingness to pay and not often demand. (See Table 4)

Table 4. Group of Terminal User Based on Their Willingness to Pay and Demand Level

WILLINGNESS TO PAY (%)				DEMAND (%)	
LEVEL	SPENDING (RP)	MONTHLY INCOME (RP)	SPENDING/ INCOME	LEVEL	TERMINAL USING FREQUENCY
1	18	29	29	1	10
2	67	58	58	2	59
3	9	6	8	3	25
4	6	6	5	4	6

4. Conclusion

The research objectives were achieved. Standardized Service Quality matters in bus terminal. The conclusion is achieved by successful converting Service Standards to Service Quality, measuring positive appreciation from user side of terminal performance and measuring completely willingness to pay and demand of terminal users. Bus terminal concerns to service its users.

In addition, two things are revealed. Firstly, terminal users feel that some terminal attributes should be improved. Second, terminal user is dominated by low willingness to pay and not often demand users. Bus terminal should take care of these two things.

Based on these conclusions, bus terminal is advised to implement maximally the concept of Standardized Service Quality. The maximum implementation means all terminal attributed are best enjoyed by users. In addition, it should attract higher willingness to pay and demand users. Academics are advised to support bus terminal. They can conduct research analyzing and evaluating the implementation of Standardized Service Quality, terminal performance and user perception, and high willingness to pay and demand users. Conducting of all advises causes bus terminal has a significant impact to road transportation system and economy.

References

- [1] S. S. Lushakuzi and D. Daudi, "An analysis of user satisfaction on transit stop and station services on the Dar es Salaam–Arusha National Highway Road, Tanzania," *Urban Transport*, vol. XX, pp. 569-580, 2014.
- [2] M. S. Ishak and N. MadSah, "The Building Suitability and an Existing Facility on Bus Station in Northern Malaysia," *Modern Management Science & Engineering*, vol. 4, no. 2, pp. 111-118, 2016.

- [3] S. IKHLAQ, M. A. JAVID and T. I. QAYYUM, "Evaluation of User's Perceptions Regarding Performance Indicator of Intercity Bus Terminals in Lahore, Pakistan," *Transport Problems*, vol. 12, no. 2, pp. 124-136, 2017.
- [4] A. Ngoc, K. Hung and V. Tuan, "Towards the Development of Quality Standards for Public Transport Service in Developing Countries: Analysis of Public Transport Users' Behavior," *Transportation Research Procedia*, vol. 25, pp. 4560-4579, 2017.
- [5] T. Angestiwi, "Kajian Kondisi Fisik Terminal Leuwipanjang Berdasarkan Persepsi Penumpang," *Jurnal Planologi*, vol. 15, no. 1, pp. 49-65, 2018.
- [6] A. Riyardi, M. Fahmy-Abdullah, S. Sujadi, K. Kusdiyanto and T. Triyono, "A Literature Review: Which Regulation is Feasible for Assessing User Satisfaction with Terminal Service?," *Budapest International Research and Critics Institute-Journal: Humanities and Social Sciences*, vol. 2, no. 4, pp. 624-637, 2019.
- [7] M. Maskan, A. Utaminingsih and B. Soepeno, "PERSEPSI MASYARAKAT TERHADAP KUALITAS PELAYANAN DI TERMINAL ARJOSARI KOTA MALANG," *Jurnal Bisnis, Manajemen & Perbankan*, vol. 1, no. 1, pp. 23-42, 2014.
- [8] A. A. Handriati, Sunaryo and V. N. Helia, "Analisis Kualitas Pelayanan Publik Terhadap Kepuasan Konsumen dengan Menggunakan Metode SERVPERF-IPA-CSI," *Teknoin*, vol. 21, no. 4, pp. 178-190, 2015.
- [9] D. Dana, M. Nane, M. Belete, T. Ergado and T. Labiso, "A Survey of Passengers Satisfaction on Service Quality of Public Transportation Sector: The Case of SNNPR, Ethiopia," *International Journal of Multidisciplinary Academic Research*, vol. 4, no. 5, pp. 15-26, 2016.
- [10] A. Witjaksono, Suyatno and Soeparno, "Analysis of Bus Station Services with Importance-Performance Analysis: Empirical Results of Gerbangkertosusila Region," in *IOP Conf. Series: Materials Science and Engineering*, 2018.
- [11] I. Yatskiv (Jackiva) and N. Spiridovska, "APPLICATION OF ORDINAL REGRESSION MODEL TO ANALYZE SERVICE QUALITY OF RIGA COACH TERMINAL," *Transport*, vol. 28, no. 1, pp. 25-30, 2013.
- [12] B. Barabino and M. Di Francesco, "Characterizing, measuring, and managing transit service quality," *JOURNAL OF ADVANCED TRANSPORTATION*, vol. 50, no. 5, p. 818-840, 2016.
- [13] X. Cheng, Y. Cao, K. Huang and Y. Wang, "Modeling the Satisfaction of Bus Traffic Transfer Service Quality at a High-Speed Railway Station," *Hindawi Journal of Advanced Transportation*, pp. 1-12, 2018.
- [14] E. I. Diab, M. G. Badami and M. A. El-Geneidy, "Bus Transit Service Reliability and Improvement Strategies: Integrating the Perspectives of Passengers and Transit Agencies In North America," *Transport Reviews*, vol. 23, no. 3, pp. 292-328, 2015.
- [15] J. de Oña and R. de Oña, "Quality of Service in the public Transport based on Customer Satisfaction Surveys: A review and Assessment of methodological approach," *Transport Science*, vol. 49, no. 3, pp. 605-622, 2014..
- [16] H. Iseki and B. D. Taylor, "Style Versus Service? An Analysis of User Perceptions of Transit Stops and Stations," *Journal of Public Transportation*, vol. 13, no. 3, pp. 39-63, 2010.
- [17] I. Olivková, "Model for Measuring Passenger Satisfaction and Assessing Mass Transit Quality," *Journal of Public Transportation*, vol. 18, no. 3, pp. 52-70, 2015.
- [18] A. Sedayu, "Prioritas Peningkatan Pelayanan Terminal Tlogomas Kota Malang," *Warta Penelitian Perhubungan*, vol. 29, no. 2, pp. 191-200, 2017.
- [19] J. Cao and X. Cao, "Comparing importance-performance analysis and three-factor theory in assessing rider satisfaction with transit," *The Journal of Transport and Land Use*, vol. 10, no. 1, pp. 837-854, 2017.
- [20] S. A. A. Syed Adnan and A. A. Kadar Hamsa, "Factor Influencing the Parking Demand of the Park

- and Ride Facility at Putrajaya Public Transportation Terminal," *Journal of the Eastern Asia Society for Transportation Studies*, vol. 11, pp. 1291-1506, 2015.
- [21] P. Zito and G. Salvo, "Latent Class Approach to Estimate the Willingness to Pay for Transit User Information," *Journal of Transportation Technologies*, vol. 2, pp. 193-203, 2012.
- [22] I. Vanany, U. Ciptomulyono, M. Khoiri, D. Hartanto and N. P. Imanie, "Willingness to pay for Surabaya Mass Rapid Transit (SMART) options," *Procedia Manufacturing*, vol. 4, p. 373-382, 2015.
- [23] I. Nursita, B. Yulianto and S. J. Legowo, "Analisis Potensi Demand, Ability to Pay (ATP), dan Willingness to Pay (WTP) BST Koridor 1 dengan Adanya sistem Contraflow di Jalan Brigjen Slamet Riyadi Pada Sekolah," *e-Jurnal MATRIKS TEKNIK SIPIL*, pp. 75-82, 2017.
- [24] E. Jalil, R. Anggraini and S. Sugiarto, "Analisis Biaya Operasional Kendaraan, Ability to Pay, dan Willingness to Pay untuk Penentuan Tarif Trans Koetaradja Koridor III," *Jurnal Arsip Rekayasa Sipil dan Perencanaan (JARSP)*, vol. 1, no. 4, pp. 1-10, 2018.
- [25] R. Buehler and J. Pucher, "Demand for Public Transport in Germany and the USA: An Analysis of Rider Characteristics," *Transport Reviews*, vol. 32, no. 5, p. 541-567, 2012.
- [26] N. Z. Ubaidilla, "An Econometric Analysis of Road Transport Demand in Malaysia," *International Journal of Business Tourism and Applied Sciences*, vol. 1, no. 1, pp. 65-73, 2013.
- [27] M. Poku-Boansi and K. K. Adarkwa, "The Determinants of Demand for Public Transport Services in Kumasi, Ghana," *Journal of Science and Technology*, vol. 33, no. 3, pp. 60-72, 2013.
- [28] U. Jain, P. Sarkar, A. Vibhuti and D. Arora, "Demand estimation of Personal Rapid Transit (PRT) using stated preference technique and binary logit models," *Journal of Transport Literature*, vol. 10, no. 2, pp. 5-9, 2016.
- [29] Z. Pietro and G. Salvo, "Latent Class Approach to Estimate the Willingness to Pay for Transit User Information," *Journal of Transportation Technologies*, vol. 2, pp. 193-203, 2012.