

# **PERCEPTIONS AND EXPERIENCES REGARDING SERVICE QUALITY IN INDONESIAN PUBLIC TRANSPORT BASED ON GENDER**

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## **ABSTRACT**

Many studies show the importance of the explorations of passenger's characteristics as a basis to develop urban transport policy. This study has an aim to elaborate the difference regarding perception and experience of female and male as a user of public transport in Indonesian cities. The perceptions and experiences are employed to evaluate the service quality index, where level of importance expresses the perception and level of satisfaction expresses the experience. The exploration used data from questionnaire survey, which was distributed in three cities in Indonesia, i.e. Bandung, Jakarta, and Yogyakarta, as a representative of other urban cities in Indonesia. The questionnaire was distributed only among public transport users in 2008. An analysis was conducted by calculating the heterogeneous customer satisfaction index (HCSI). The analysis shows that female tends to be more satisfied than male in experiencing the services, where the index is location specific as a representation of the uniqueness of each city. Analysis also found that each attributes of service quality gives different contribution to the overall satisfaction, for male and female as well as for each city. Female and male are found to rate differently the attributes of service quality.

*Keywords: Perceptions, Experiences, Service Quality, Gender, Public Transport*

## **INTRODUCTION**

The influences of motorization and urbanization, later followed by sub-urbanization in many metropolitan areas, have been of interest to transportation and urban researchers for the last few decades (Cervero, 1998; Kitamura et al, 2003; Susilo et al., 2007). The ownership and usage of private vehicles increases very rapidly in many big cities in Indonesia. Many negative effects in social, economic, and environment as the effect of rapid growth of motorization in Indonesian urban areas become a common phenomenon.

One approach that is believed can overcome the problems in urban areas is the implementation of strong public transport system, which is also recommended as a way to achieve a sustainable transportation (SUTP, 2009). In one side, public transportation service in Indonesia at present is measured mainly by referring to technical measurement, which shows a lack of attention to users' experiences, e.g. negative experience or satisfaction. On the other side, Vuchic (2005) stated that with respect to transit, three types of evaluation measures may be used, i.e. monetary units; other quantitative measures, such as the number of passenger, passenger hours, operational efficiency, or safety; and qualitative criteria, such as system image and positive impacts on urban design and livability, which are listed with the party each one affects. It is argued as more appropriate that it will result more knowledge regarding the service, as well as the market. Many experts have suggested that appropriate approaches in managing the demand of transport will lead to success (Hensher and Brewer, 2001; VTPI, 2009).

Furthermore, it is believed that transportation, as its nature, has a strong interaction with social trends. Geenhuizen et al. (2002) demonstrates the integrative view of transport and communication in the economic and social system and policy frameworks (Figure 1). Transport has also a clear social function and satisfies particular social-psychological desires (Geenhuizen et al., 2002). One important social aspect that differentiate user in transportation is gender. The links between transport and social exclusion are well recognised (Dobbs, 2005), where the exclusionary frameworks have significant impact on women. More detail discussion regarding social exclusion can be found in Hodgson and Turner (2003). Dobbs (2005) also states that there is an urgent need to develop a transport infrastructure which recognises and addresses these exclusionary frameworks, and provides women with a range of mobility.

There has been a marked shift in the way that transportation is perceived, where one element is the appreciation of the increased mobility of women (Root et al., 2002). The increasing importance of women as travelers has implications for the ways that transport policy must be reviewed in an era in which sustainability has become a key issue (Root et al., 2002). They also explained that there is the issue of gender equity with respect to how transportation strategies are devised, and, however, appreciation of the particular nature of women's travel behavior, and their designed behavior, may actually facilitate an easier path to sustainable development.

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Difference in gender puts female as a special user of transportation services, as an acceptance for their unique characteristics and ability. Research shows gender differences with respect to psychological attributes, with women tending to be more ambivalent and more risk-averse. There is some specific evidence that women are more risk-averse than men when it comes to making travel-related decisions (Root et al., 2002). It would appear that some groups of women are prone to ambivalent feelings, but that their analysis of these can prompt leaps in thought and creative solutions to problems (Parker, 1995). The uniqueness of the female differentiates their need from male, as well as requires special specification and arrangement in operation. Gender may also influence the perception concerning the service quality as well. More important, Root et al. (2002) states that there are causes for hope that women's influence will lead to moves toward more sustainable transport.

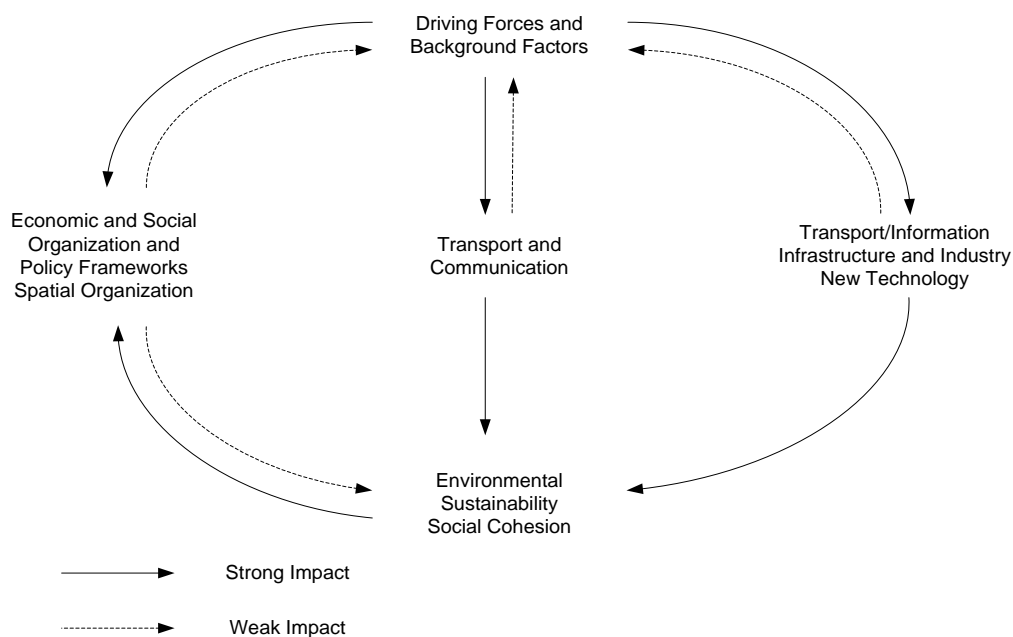


Figure 1 - An Integrative View of Transport (Geenhuizen et al., 2002)

A deep knowledge regarding many aspects of the community is beneficial to provide a more adaptive public transport services. Many studies show the importance of the explorations of passenger's characteristics, behaviours, expectations, needs, or perceptions, as a basic of transportations policy development. It is also the case that a good understanding of the need and perception of female in making use of public transport is crucial in Indonesian cities. It is a fact that Indonesia is a paternalistic country in general, which puts the female in unique situations.

As a matter of fact, most of studies employed data from developed countries. Thus, this study has an aim to explore the difference of perception and experience regarding service quality between female and male. The exploration used data from questionnaire survey, which was distributed in three cities in Indonesia, i.e. Bandung, Jakarta, and Yogyakarta.

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These three cities were selected as a representative of other urban cities in Indonesia. The questionnaire was distributed among public transport users only in 2008.

After this introduction, a concise discussion regarding the service quality of public transport is provided. Discussion will focus on different ways of evaluating service quality. Part three provides an explanation regarding data collection, i.e. method and characteristics of the respondent. Data analyses are reported in part four, which includes discussion. Last part concludes the study and states further study.

## **THE SERVICE QUALITY OF PUBLIC TRANSPORT**

### **Service Quality Measures**

Increasing attention has been paid in recent years to aspects of service quality that also affect passenger perceptions and hence behaviour (White, 2009). Joewono and Kubota (2007) stated that the evolution of thinking about issues related to transit service performance began with technical characteristics (see World Bank, 1987 as an example). It refers to 'hard' factors, which typically includes those such as real fare levels or bus kilometres run (as a proxy for frequency) (White, 2009). Hensher et al. (2003) asserted that these measures implicitly assume the homogeneity of service quality. White (2009) also states that it cannot be denied the value of elasticities at the aggregate level, but to remind that the aggregate behaviour comprises a large number of individual decisions.

Beside the readily quantified factors (such as real fares), other factors that may also be quantified but for which demand relationships are not yet robustly applied (e.g. effects of seat pitch) and image effects such as the overall perception of bus service quality and its social status (White, 2009). These describe transit services with less easily measurable characteristics that depend on customer tastes (e.g. comfort) (Eboli and Mazzulla, 2009). Thus, Prousaloglou and Koppelman (1989) brought up issues concerning the link between transit service performance and customer satisfaction, looking at individual travelers and relating operating measures with customer satisfaction. Several studies employed individual ratings on a satisfaction scale (Hensher 2003; Knutsson 2003; TRB 1999, 2003; European Commission 1998). It refers to 'soft' factors, which is more subjective nature such as vehicle comfort, quality of information, and staff attitudes toward passengers (White, 2009). Friman and Fellesson (2009) reported a study that examined the link between traveller satisfaction measures and objective performance measures in public transport.

### **Customer Satisfaction**

Customer satisfaction represents a measure of company performance according to customer needs (Hill et al., 2003); therefore, the measure of customer satisfaction provides a service quality measures (Eboli and Mazzulla, 2009). Customers express their points of view about the services by providing judgments on some service aspects by means of ad hoc

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experimental sample surveys, known in the literature as customer satisfaction survey (Eboli and Mazzulla, 2009).

The concept of customer satisfaction as a measure of perceived service quality was introduced in market research (Eboli and Mazzulla, 2009), where the best known and most widely applied technique is ServQual method, proposed by Parasuraman et al. (1985). ServQual provides an index calculated through the difference between perception and expectation rates expressed for the items, weighted as a function of the five service quality embedding the items (Eboli and Mazzulla, 2009). Some variations of this method were introduced in subsequent years, i.e. ServPerf method, Normed Quality (NQ), reliable satisfaction index, Swedish Customer Satisfaction Barometer (SCSB), American Customer Satisfaction Index (ACSI), Norwegian Customer Satisfaction Barometer (NCSB), or European Customer Satisfaction Index (ECSI). Discussion regarding these methods can be traced in Eboli and Mazzulla (2009).

An index based on discrete choice models and random utility theory has also been introduced, which is known as Service Quality Index (SCI). This method employed stated preferences (SP) technique. Further improvement was by introducing hierarchical logit models and mixed logit models. Discussion regarding these methods can also be traced in Eboli and Mazzulla (2009). A more direct measure for service quality evaluation is developed by Hill et al. (2003), by introducing Customer Satisfaction Index (CSI). Eboli and Mazzulla (2009) improved the CSI by taking into account the heterogeneities among user judgments.

## **Gender in Public Transport**

Understanding experiences and behaviours perceived among different gender when using public transport is important because previous studies have indicated women's travel patterns are different from men's, particularly related to travel distance, travel mode, and travel purpose (Tarigan et al., 2010). Root et al. (2002) explained that women use transportation differently than men do. For instance, women tend to make more non-work trips with a shorter travel distance than men's (Beirão and Cabral, 2007). In the case of work trips, women are likely to have shorter travel to work than men (Hjorthol, 2000). They also seem to have different attitudes on auto use than men counterpart. Women tend to have less car trips than men (Polk, 2004). An empirical study has shown further that they were anxious to get out of their cars because driving was very stressful (Beirão and Cabral, 2007). It is interesting also to note that women are usually more concerned about the environment than men (Polk, 2003; Matthies, et al. 2002).

Study about transport and gender is quite new. During the 1970s, 1980s, and early 1990s analysis centred on exploring women's access to transport and the impact of their gender role on their travel circumstances (Dobbs, 2005). The work of Pickup (1984) and the findings of the GLC Women's Committee (GLC, 1986) which explored the links between transport and women's socially defined, multiple roles were particularly influential. Other analysis also explored gender differences in travel patterns, the position of women in social structures and their subsequent travel needs (Focas, 1989; Grieco et al., 1989; Hamilton and Jenkins, 1989).

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A particular focus on the way in which the transport system, particularly the dominance of the car is organized around men's interests, activities and desires ultimately restricting women's confinement to the home and immediate locality (Wajcman, 1991). The underlying assumption of many studies was that women's travel circumstances and their social role are inseparably interlinked reflecting wider gender inequalities in society.

Contemporary analysis has also addressed the issue of women and transport. For example, a number of studies looking at transport and social inclusion have made reference to important gender differences in the way in which men and women travel (Dobbs, 2005). Other analysis has been more gender focused and has looked specifically at women's travel and their transport needs while also exploring a range of socio-economic and organisational issues that are likely to affect women's travel patterns and their subsequent social inclusion (Dobbs, 2005). A number of studies have sought to collect new data to identify and explore the factors which affect women's experience of public transport, and the work undertaken has tended to focus on women's family responsibilities, on their traditional caring role, and on their subsequent need to assess shops and services (Blumen, 1994).

Unfortunately, most study employed data from developed countries. Very limited studies are completed in developed countries, like Indonesia. The number becomes smaller when the study focuses on gender in public transportation.

## **DATA COLLECTION**

This article employs data from a study regarding public transportation in three urban areas in Indonesia, namely Jakarta, Bandung, and Yogyakarta. Questionnaires were distributed off-board between 1<sup>st</sup> up to 16<sup>th</sup> of August 2008. More detail information regarding this data collection can be found in Santosa et al. (2008), while Susilo et al. (2009) reported an initial result of this study.

There are 50 questions in this type of questionnaire which contains five parts, i.e. respondent characteristics, usage of public transport, negative experiences while using public transport, evaluation of service quality, and loyalty. In the negative experience section, respondents were asked to express the frequency of their experience in deal with negative incidents. Seven types of incident were provided. A number of 1, 2, 3, and 4 were assigned to each frequency, from never at all, rare, sometime, up to very often, respectively. In the service quality evaluation section, respondents were asked to rate variables or attributes related to service quality based on level of importance and level of satisfaction. For the level of importance, respondents could choose highly important, important, not important, and absolutely not important. Weights of 1, 2, 3 and 4 were assigned respectively to those choices. The same weights of 1, 2, 3 and 4 were also assigned to satisfaction levels of very satisfied, satisfied, not satisfied, and totally not satisfied, respectively.

The questionnaires were distributed to the public transport users only by simple random sampling method at various major public transport interchanges and major activity locations, such as shopping centres, traditional markets, or schools. Public transport in this research

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refers to land based public transport mode. 1,491 respondents were gathered in this survey (499 respondents from Jakarta, 494 respondents from Bandung, and 498 respondents from Yogyakarta). The questionnaire form and detailed questions can be found at Santosa et al. (2008). The profile of the respondents can be seen at Table 1.

By referring to the comparison of the respondents' profiles from these three observed cities, it can be noticed that there is similar distribution of gender among cities as well as marriage status. Respondent with an age older than thirties is almost similar among cities. Different percentage happens in respondent with an age 17 years old or younger and between 18 up to 29.

Table 1 – Respondent Characteristics

Respondent Characteristics		Percentage		
		Jakarta	Bandung	Yogyakarta
Gender	Female	55.50	53.60	61.60
	Male	44.50	46.50	38.40
Age	17 years old or younger	9.20	20.20	30.50
	18 – 29 years old	70.10	59.50	48.80
	30 – 39 years old	10.60	8.70	9.00
	40 – 49 years old	8.20	5.50	6.00
	50 – 65 years old	1.80	5.50	4.80
	65 years old or older	0.00	0.60	0.80
Marital status	Single/Divorce	76.90	78.70	78.10
	Married	23.10	20.90	21.90
Education level	Elementary school or below	3.00	3.00	7.00
	Junior High School	8.20	15.40	25.70
	Senior High School	52.70	58.50	47.00
	Diploma	8.60	9.30	5.20
	Undergraduate	25.70	13.60	13.70
	Post-graduate	1.80	0.20	1.40
Employment status	Pupil/Student	49.5	66.6	68.5
	Civil servant / military person	2.2	3.2	6.4
	Full-time worker	35.9	16.6	12.7
	Self employed	9.2	5.7	9.0
	Housewife	2.6	6.9	2.6
	Retirement/non-worker	0.6	1.0	0.8
N		499	494	498

It is clear that different characteristics exist between Jakarta and two other cities. Jakarta has a higher representation, around two times, of full-time workers and higher educated people. On the other side, Bandung and Yogyakarta has larger number of students. These students over-representation in this research is because Yogyakarta and Bandung are well-known for

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their universities' quality and, compared with the size of the city, these two cities have more universities, colleges, and other education institutions than most cities in Indonesia.

Furthermore, Figure 2 shows that most users in Jakarta and Yogyakarta use bus, while users in Bandung mostly use paratransit (*angkot*). As a matter of fact, Bandung has more number of paratransit rather than bus or train (more discussion regarding paratransit in Bandung can be found in Joewono, 2007). Other modes have smaller portion in these three cities. On the contrary, there are similarity of mode usage pattern between Jakarta and Yogyakarta, where bus has the highest portion among other modes.

It is interesting to also note the usage of public motor-cycle, where higher portion can be found in Jakarta and Bandung. Non-motorised public transport has higher portion in Yogyakarta than in the other two cities.

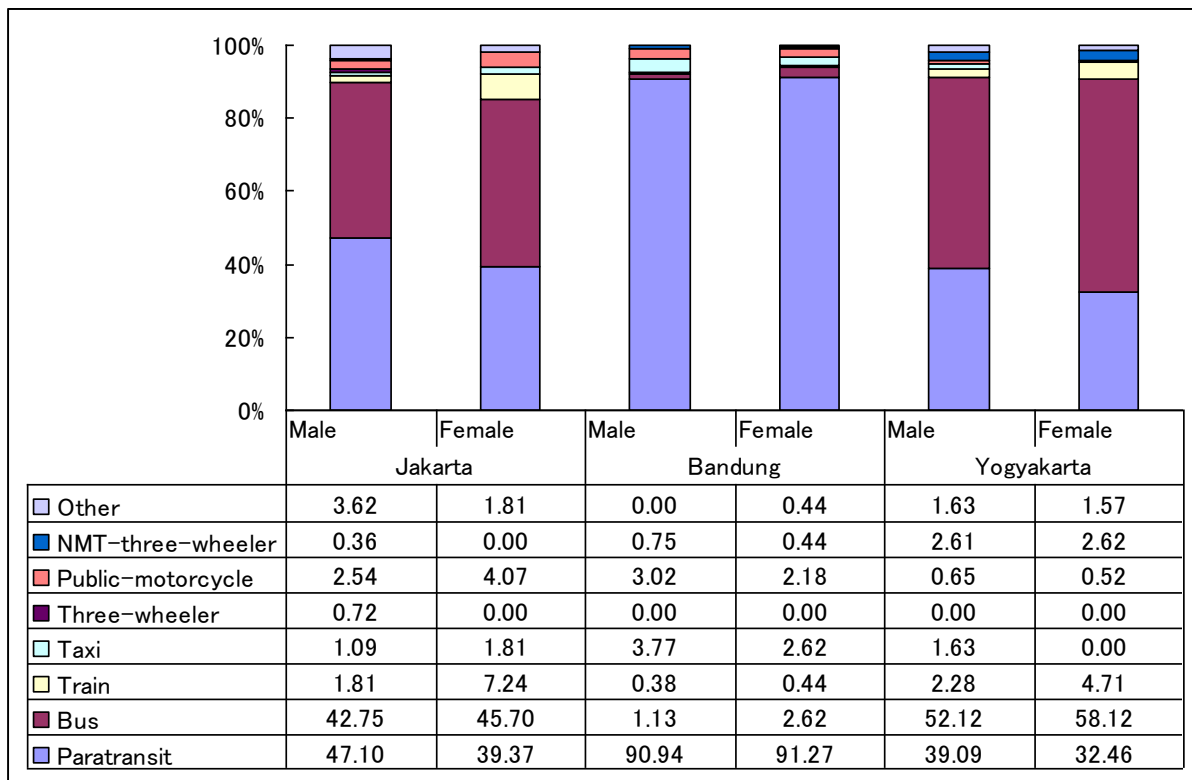


Figure 2 – Type of mode used in three cities

### Attributes of Service Quality

In this study, users were asked to express their perceptions regarding level of importance and level of satisfaction of service quality's attribute. Fifteen attributes were provided. Users were asked to rate level of importance using a value of 1 up to 4, to represents highly important up to absolutely not important. Values of 1 up to 4 are assigned to represent very satisfied up to totally not satisfied.



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Its descriptive statistics based on male and female's perceptions are presented in Table 2 and Table 3, respectively. By observing its mean and standard deviation, one will find out the differences between rating of level of importance and level of satisfaction. The difference can also be traced by comparing male and female perceptions.

## DATA ANALYSIS

### Method

The method adopted in this study aims to obtain a concise indicator that provides an overall measure of service quality. The indicator will be calculated based on male and female's rating. Thus, these two indicators which will be compared to find out whether there is difference index produced by male and female or not.

The method to calculate Heterogeneous Customer Satisfaction Index (HCSI), which incorporates users' heterogeneities, follows a method proposed by Eboli and Mazzulla (2009). HCSI is calculated mathematically using a formula as appears in equation 1.  $S_k^c$  is the mean of the satisfaction rates expressed by users on the  $k$  attribute corrected according to the deviation of the rates from the average value.  $W_k^c$  is the weight of the  $k$  attribute, calculated on the basis of the importance rates expressed by users, corrected according to the dispersion of the rates from the average value.

$$HCSI = \sum_{k=1}^N [S_k^c \cdot W_k^c] \quad (1)$$

$S_k^c$  is calculated using formula 2, while  $W_k^c$  uses formula 3. The adjustment factor is calculated as the mean of the satisfaction rates expressed by users on the  $k$  attribute divided by the mean of the average satisfaction rates of all the service quality attributes, weighted on the variance of the satisfaction rates.  $W_k^c$  is calculated as the mean of the importance rates expressed by users on the  $k$  attribute divided by the sum of the average importance rates off all the service quality attributes, weighted on the variance of the importance rates (Eboli and Mazzulla, 2009).

$$S_k^c = \bar{S}_k \cdot \frac{\frac{\bar{S}_k}{\text{var}(S_k)}}{\sum_{k=1}^N \frac{\bar{S}_k}{\text{var}(S_k)}} \cdot N \quad (2)$$

$$W_k^c = \frac{\frac{\bar{I}_k}{\text{var}(I_k)}}{\sum_{k=1}^N \frac{\bar{I}_k}{\text{var}(I_k)}} \quad (3)$$

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Table 2 - Descriptive Statistics of the Attributes of Service Quality based on Male's Perception

Attributes	Level of Importance						Level of Satisfaction					
	Bandung		Jakarta		Yogyakarta		Bandung		Jakarta		Yogyakarta	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Cleanliness in the car	2.830	0.579	1.486	0.569	1.424	0.506	1.179	0.406	2.401	0.664	2.340	0.668
Cleanliness in the stop	1.555	0.524	2.676	0.751	2.581	0.763	2.633	0.741	1.240	0.488	1.183	0.388
Condition of the car	2.996	0.679	1.599	0.614	1.597	0.607	1.314	0.502	2.667	0.860	2.450	0.765
Condition of the stop	1.507	0.582	2.779	0.779	2.613	0.765	2.812	0.704	1.329	0.551	1.419	0.564
Comfort in the car	2.681	0.675	1.523	0.599	1.482	0.679	1.555	0.572	2.716	0.799	2.455	0.716
Comfort in the stop	1.686	0.583	2.640	0.810	2.696	0.828	2.393	0.609	1.658	0.563	1.634	0.545
Route access	2.952	0.616	1.689	0.607	1.670	0.617	1.314	0.535	2.398	0.671	2.351	0.655
Ticket price	1.349	0.513	2.658	0.693	2.602	0.732	2.738	0.744	1.464	0.599	1.361	0.543
Security in the car	2.847	0.693	1.383	0.573	1.419	0.526	1.345	0.512	2.320	0.744	2.319	0.745
Security in the stop	1.581	0.599	2.685	0.801	2.576	0.810	2.921	0.796	1.414	0.546	1.403	0.523
Accessibility	2.900	0.609	1.545	0.606	1.581	0.600	1.638	0.665	2.685	0.755	2.702	0.788
Driver's ability	1.624	0.576	2.706	0.726	2.524	0.760	2.799	0.709	1.667	0.621	1.639	0.624
Time punctuality	2.629	2.006	1.626	0.571	1.597	0.571	1.616	0.563	2.559	0.751	2.414	0.748
Staff politeness and helpfulness	1.672	0.609	2.419	0.693	2.283	0.714	2.380	0.600	1.653	0.588	1.686	0.558
Easiness to get the mode	2.686	0.711	1.712	0.615	1.675	0.561	3.183	1.678	2.439	0.721	2.387	0.654

Note: M = mean; SD = standard deviation

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Table 3 - Descriptive Statistics of the Attributes of Service Quality based on Female's Perception

Attributes	Level of Importance						Level of Satisfaction					
	Bandung		Jakarta		Yogyakarta		Bandung		Jakarta		Yogyakarta	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Cleanliness in the car	2.740	0.540	1.473	0.507	1.319	0.481	1.121	0.326	2.368	0.644	2.274	0.608
Cleanliness in the stop	1.479	0.530	2.718	0.747	2.648	0.763	2.668	0.693	1.177	0.382	1.117	0.332
Condition of the car	2.947	0.581	1.527	0.555	1.459	0.518	1.234	0.433	2.668	0.863	2.505	0.743
Condition of the stop	1.517	0.571	2.856	0.743	2.661	0.697	2.755	0.660	1.321	0.512	1.332	0.499
Comfort in the car	2.630	0.583	1.462	0.561	1.397	0.559	1.543	0.521	2.787	0.738	2.489	0.688
Comfort in the stop	1.634	0.562	2.708	0.740	2.642	0.755	2.283	0.577	1.562	0.566	1.544	0.524
Route access	2.845	0.605	1.603	0.591	1.590	0.595	1.306	0.501	2.341	0.615	2.404	0.681
Ticket price	1.253	0.435	2.798	0.656	2.541	0.677	2.611	0.660	1.390	0.545	1.254	0.479
Security in the car	2.713	0.640	1.318	0.474	1.280	0.457	1.408	0.550	2.585	0.769	2.436	0.713
Security in the stop	1.419	0.517	2.736	0.789	2.550	0.745	2.830	0.695	1.419	0.530	1.316	0.512
Accessibility	2.849	0.639	1.487	0.569	1.463	0.537	1.581	0.579	2.747	0.738	2.733	0.784
Driver's ability	1.581	0.545	2.775	0.693	2.580	0.688	2.675	0.646	1.646	0.618	1.485	0.574
Time punctuality	2.426	0.587	1.610	0.558	1.505	0.585	1.619	0.517	2.617	0.711	2.482	0.738
Staff politeness and helpfulness	1.626	0.564	2.375	0.662	2.349	0.636	2.332	0.560	1.657	0.540	1.560	0.517
Easiness to get the mode	2.513	0.634	1.744	0.554	1.609	0.563	1.743	1.274	2.415	0.646	2.397	0.640

Note: M = mean; SD = standard deviation

## **Results and Discussion**

Table 4 and Table 5 present the result of calculation of HCSI based on males and females perception, respectively. HCSI's values based on male perception have a range between 1.96 up to 2.01, while values of female perception have a range between 1.88 up to 2.00. Its range covers the values of three cities. Lower index reflects higher satisfaction to the service.

In general, female produces lower index in all cities. It means that females tend to satisfy in easier way than their counterpart, as a value of 1 represents satisfaction and 4 represents dissatisfaction. In developing countries like Indonesia, female tends to show a higher acceptance to the situation comes to her, which is also the case in experiencing public transport services. In comparing the service quality among cities, Jakarta has the highest index than the other two cities. It also happens when female and male's indexes are compared. It means that the users in Jakarta have lower satisfaction regarding the service of public transport.

The weighted scores of HCSI of female have a range between 0.02 up to 0.19 in the city of Bandung, while the range for Jakarta and Yogyakarta are between 0.08 up to 0.19 and between 0.07 up to 0.19. On the other side, the weighted scores based on males' perception in Bandung, Jakarta, and Yogyakarta are 0.01-0.19, 0.08-0.19, and 0.08-0.21, respectively.

By analyzing the weighted scores of HCSI based on male's perception (see Figure 3), it emerges that the attribute giving the highest contribution to overall satisfaction is time punctuality and condition of the stop for the city of Bandung and Jakarta, respectively. The attributes of security in the stop and condition of the stop provide the highest contribution in the city of Yogyakarta. Based on female's perception, the attribute giving the highest contribution to overall satisfaction is easiness to get the mode in the city of Bandung. Attributes with the highest contribution in the city of Jakarta are condition of the stop and security in the stop. Attribute that contributes the most in the city of Yogyakarta based on female perception is security in the stop.

In the other side, the attribute giving the lowest contribution to overall satisfaction based on male's perception is comfort in the stop, cleanliness in the car, and easiness to get the mode in the city of Bandung, Jakarta, and Yogyakarta, respectively. Based on female's perception, the attribute is cleanliness in the car for Bandung. There are two attributes with the lowest contribution, i.e. cleanliness in the car and easiness to get the mode for Jakarta. Attribute of cleanliness in the car has the lowest contribution for index in the city of Yogyakarta.

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Table 4 – HCSI based on Male’s Perception

#	Service Attributes	Bandung			Jakarta			Yogyakarta		
		$S_k^c$	$W_k^c$	Weighted Score	$S_k^c$	$W_k^c$	Weighted Score	$S_k^c$	$W_k^c$	Weighted Score
1	Cleanliness in the car	1.677	0.103	0.17	2.822	0.067	0.19	2.444	0.082	0.20
2	Cleanliness in the stop	2.511	0.069	0.17	1.393	0.069	0.10	1.851	0.065	0.12
3	Condition of the car	1.362	0.079	0.11	2.076	0.062	0.13	2.043	0.064	0.13
4	Condition of the stop	3.173	0.054	0.17	1.256	0.067	0.08	1.261	0.066	0.08
5	Comfort in the car	1.470	0.071	0.11	2.494	0.062	0.15	2.341	0.047	0.11
6	Comfort in the stop	3.070	0.060	0.19	1.872	0.058	0.11	1.790	0.058	0.10
7	Route access	1.200	0.094	0.11	2.756	0.067	0.18	2.566	0.065	0.17
8	Ticket price	2.693	0.062	0.17	1.289	0.080	0.10	1.251	0.072	0.09
9	Security in the car	1.372	0.072	0.10	2.098	0.061	0.13	1.930	0.076	0.15
10	Security in the stop	2.678	0.054	0.14	1.447	0.061	0.09	1.433	0.058	0.08
11	Accessibility	1.207	0.095	0.11	2.729	0.061	0.17	2.342	0.065	0.15
12	Driver’s ability	3.099	0.059	0.18	1.555	0.075	0.12	1.374	0.065	0.09
13	Time punctuality	1.638	0.008	0.01	2.506	0.072	0.18	2.074	0.072	0.15
14	Staff politeness and helpfulness	3.129	0.055	0.17	1.706	0.073	0.12	1.818	0.066	0.12
15	Easiness to get the mode	0.716	0.065	0.05	2.470	0.066	0.16	2.653	0.079	0.21
HCSI		1.97			2.01			1.96		

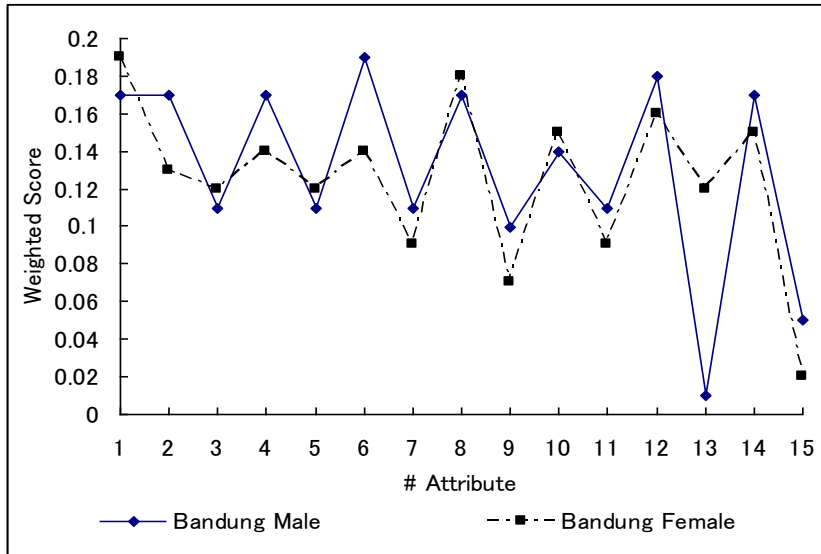
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Table 5 – HCSI based on Female’s Perception

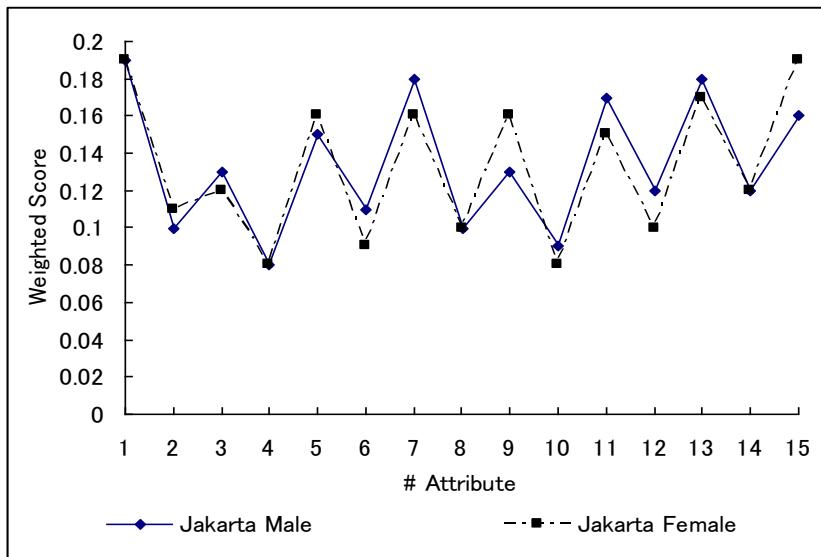
#	Service Attributes	Bandung			Jakarta			Yogyakarta		
		$S_k^c$	$W_k^c$	Weighted Score	$S_k^c$	$W_k^c$	Weighted Score	$S_k^c$	$W_k^c$	Weighted Score
1	Cleanliness in the car	1.994	0.096	0.19	2.578	0.073	0.19	2.537	0.074	0.19
2	Cleanliness in the stop	2.499	0.054	0.13	1.810	0.062	0.11	2.053	0.059	0.12
3	Condition of the car	1.370	0.089	0.12	1.822	0.063	0.12	2.061	0.071	0.15
4	Condition of the stop	2.938	0.047	0.14	1.269	0.066	0.08	1.292	0.071	0.09
5	Comfort in the car	1.479	0.079	0.12	2.719	0.059	0.16	2.373	0.058	0.14
6	Comfort in the stop	2.640	0.053	0.14	1.452	0.063	0.09	1.575	0.060	0.09
7	Route access	1.146	0.079	0.09	2.762	0.059	0.16	2.260	0.058	0.13
8	Ticket price	2.639	0.068	0.18	1.240	0.083	0.10	1.243	0.072	0.09
9	Security in the car	1.105	0.068	0.07	2.154	0.075	0.16	2.117	0.080	0.17
10	Security in the stop	2.796	0.054	0.15	1.367	0.056	0.08	1.198	0.060	0.07
11	Accessibility	1.257	0.071	0.09	2.641	0.059	0.15	2.204	0.066	0.15
12	Driver’s ability	2.891	0.054	0.16	1.352	0.074	0.10	1.214	0.071	0.09
13	Time punctuality	1.654	0.072	0.12	2.583	0.066	0.17	2.051	0.057	0.12
14	Staff politeness and helpfulness	2.924	0.052	0.15	1.795	0.069	0.12	1.651	0.076	0.12
15	Easiness to get the mode	0.316	0.064	0.02	2.664	0.073	0.19	2.544	0.066	0.17
HCSI		1.88			2.00			1.88		

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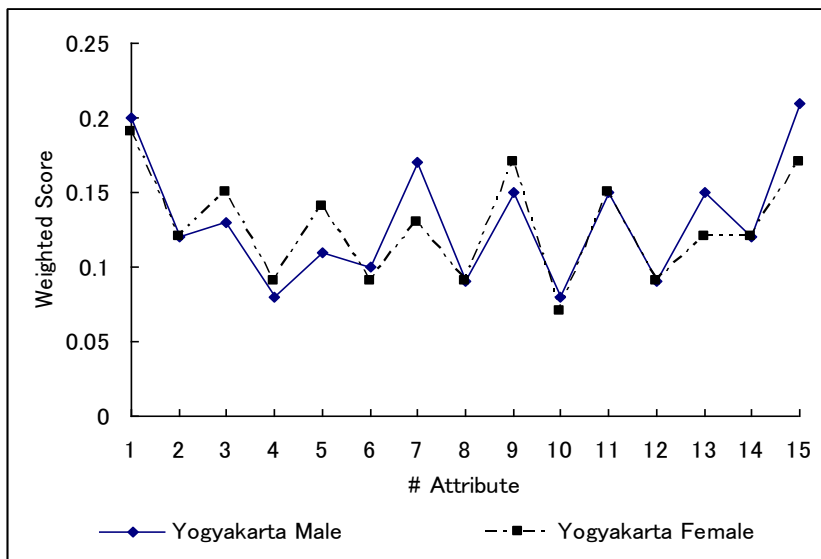
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(a) Bandung dataset



(b) Jakarta dataset



(c) Yogyakarta dataset

Figure 3 – Comparisons of Weighted Score between Gender

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From the empirical results in these three cities, female and male seem to have different perception as well as experience regarding the service of public transportation. Male tends to have more appreciation on the operational attributes, while female seems to give more attention to facility attributes. As the characteristic of trip purpose made by male and female shows similarity, thus the only possible reason for the difference is the personal characteristics of female and male. On the contrary, the attributes of cleanliness in the car and easiness to get the mode seem to have low contribution to overall satisfaction in these three cities, for both male and female.

Figure 3 provide more illustrative way regarding the weighted scores of the attributes of service quality in three cities for both male and female. Users in Jakarta show similar pattern between male and female in giving attribute ratings, as the weighted score seems as close each other. The closeness is followed by Yogyakarta, while Bandung show the most variety weighted score between male and female. A quite wide gap exists when exploring dataset from Bandung. Thus, it can be inferred that the differences between male and female perceptions is location specific. Experience regarding the service in each city produces the difference, as the specific characteristics of the public transport in each city seem as influence deeply.

## **CONCLUSIONS**

This study tries to elaborate the difference regarding perception and experience of female and male as a user of public transport in Indonesian cities, i.e. Bandung, Jakarta, and Yogyakarta in making use of public transport. A questionnaire survey was conducted to gather data from the users regarding the level of importance and level of satisfaction of the attributes of public transport service. This study covers all type of mode, which has a motivation to evaluate in aggregate level. Based on this aggregate analysis, further study in much more detail level was planned.

An analysis was conducted by calculating the heterogeneous customer satisfaction index (HCSI), which is proposed by Eboli and Mazzulla (2009). The index combines the rate of satisfaction with the rate of importance for each attributes of service quality. Furthermore, Eboli and Mazzulla (2009) stated that the index provides an overall service quality measure, which incorporates the dispersion of the importance and satisfaction rates among users. In other words, it takes into account the heterogeneities among user judgments.

The analysis shows that female tends to be more satisfied than male in experiencing the services. The index also shows that the index is location specific, which explains the uniqueness of each city. Analysis also found that each attribute has different contribution to the overall satisfaction in each city. The contribution of each attribute is also different when female and male was compared. It shows that female and male are found to be differently rate the attributes of service quality. Again, it expresses the influence of specific location.



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This result provides a better understanding regarding the user, especially female, in evaluating the service of public transport. It is interesting to notice that female seems to have similar perception regarding the attributes of service quality, while it is not found in male. Moreover, female seems to be easier to accept the service. It expresses the common attitude of female in developing countries like Indonesia, where females tend to have higher acceptance to the situation happened to them.

Friman and Felleson (2009) stated that satisfaction is pivotal for understanding public transport from customer's perspective. Thus, understanding – rather than taking for granted – the service is a key challenge for government and operator to improve public transport services in Indonesia. Based on this empirical result, from three urban areas in Indonesia, advantageous for the policy makers and operators in providing service can be provided, i.e. it is needed a specific approach for each city in Indonesia, as the existence of uniqueness requests unique approach as well. Furthermore, more information regarding special group of public transport users can be gathered. It implies a need to provide more attention to the specific group of user, i.e. female, in making use of public transport.

Further study which explores in more detail regarding the specific characteristic of the users, and in specific mode of transport, in making use of public transport in Indonesian cities is beneficial. As Indonesia has very wide variety of culture, thus the analysis will provides very rich knowledge. Studies which explore the service in individual level are also important in developing urban transport policies, which provides an acceptable equity to each group of community.

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