

# **User Perceptions of Private Paratransit Operation in Indonesia**

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## **Abstract**

*In this article, public perception is expressed by user participation in rating the mode's condition and loyalty to it. The aim of this research is to explore user perceptions of paratransit (i.e., jitney) operation, a privately owned and operated mode of transport, regarding quality of service, frequency of negative experience, and loyalty. This article examines the condition of paratransit from the user's point of view to balance the judgment from other stakeholders. The findings from path analysis reveal the important determinants that influence overall satisfaction. Moreover, path analysis supports the hypothesis that this mode will still be relevant in the future, as there is a community base that uses this mode faithfully. Binomial regression analysis explores the characteristics of this loyal group of users. It can be concluded that the existence of paratransit in the future is still acceptable in developing countries such as Indonesia.*

## **Introduction**

In cities and megacities of developing countries, the need for mobility is increasing in sync with the growth of the cities themselves (Booth et al. 2000; Kaltheier 2002). On the other hand, mobility and accessibility are declining rapidly in most of the developing world, and even more so for public transport users (Gakenheimer 1999). Currently in developing countries, the real problem is not the high use of

automobiles, but the poor service quality of public transit (Senbil et al. 2005). The Transport Research Laboratory has shown that public transport vehicles in African and Asian countries are frequently poorly maintained and often overloaded (Jacobs and Aeron-Thomas 2000). In the case of developing countries, the requirement first to fulfill the need for mobility with sufficient capacity and quality is constrained by the government's limitation to meet it. Then the real contribution of paratransit becomes significant. Paratransit is used extensively in almost all cities in Indonesia. The authors use the term paratransit in this article to refer to transport service that is owned and operated by private companies and individuals. In many Indonesian cities, paratransit uses its local name and employ various types of cars, vans, and minibuses. Cervero (1998) calls this mode jitney. Jitney service is available to everyone, which is different from the U.S. context that associates it with government subsidized elderly or handicapped transport.

Studies regarding paratransit in developing countries are mainly concerned with topics such as management of the mode; benefit of minibuses (e.g., Walters 1979); position of paratransit in the transport hierarchy (Cervero 1998); relationship with poverty in terms of supply, demand, cost, and consequences (e.g. Kaltheier 2002); relation with informality (World Bank 2002); and unregulated transit services (Vuchic 2005). To our knowledge, this study is the first attempt to use public perception to evaluate and explore paratransit operation. The authors' motive is to empower the citizen more, reveal their true expectations, and update the mode's suitability with the market, which used to be uncommon practice in developing countries. This motive bears similarity to the concept of mobility management (see e.g., Litman 2003), which emphasized a constant exchange between stakeholders (Desmedt 2000).

Moreover, traditionally, the exploration of transit is viewed from the perspective of technical performance (e.g., World Bank 1987, among others). The examination should also measure the dimensions of service quality perceived by passengers, current and potential, as stated by Hensher et al. (2003) to consider the heterogeneity of the users. Unfortunately, most studies about transit's performance measurement were conducted using data from developed countries (see, as an example, Transportation Research Board 1999, 2003; Friman and Gärling 2001; Winder 2005, among others). The literature traced in researching the service quality of public transit using public perceptions in developing cities is very limited (e.g., Jen and Hu 2003; Koushki et al. 2003; Kim et al. 2005; Zhang et al. 2005; Mori-

yama 2005). The authors are not aware of any research studying the service quality of paratransit in developing cities.

This research explores user perceptions of paratransit operation, regarding quality of service, frequency of negative experience, and loyalty to balance the judgment from other stakeholders. The article corroborates the authors' hypothesis regarding the existence of user loyalty to paratransit as a mode of transport in the cities of developing countries, such as Indonesia.

This article begins by providing some brief information about private paratransit in Indonesia, followed by a concise explanation of the data collection and data description. Estimation results of the models, accompanied by the significance tests, are also presented. The article concludes with a discussion and findings of the study.

## **Paratransit in Indonesia**

Paratransit represents the spectrum of vans, jitneys, shuttles, minibuses, and minibuses (Cervero 1998). Jitneys, privately operated minibuses under various degrees of coordination by a dispatcher, are used extensively in developing countries where labor costs are low and transit services do not offer adequate service (Vuchic 1999). Paratransit has become a vital mobility option in many developing countries, filling in gaps left unserved by public transit systems and providing efficient feeder connections (Cervero 1998). Paratransit in Indonesia is known as "Angkutan Kota," "jeepney" in the Philippines, "tuk-tuk" and "songtaew" in Thailand, and "mammy wagons" (converted trucks) and "matatu" (converted vans) in African cities.

Paratransit offers several advantages compared to other public transport modes, such as high accessibility and mobility, an operating cost that is more beneficial for short trips, easy and unimpeded lane movement, and relatively low maintenance costs (DLLAJ 2001). Paratransit supply is best in meeting the transport requirements of the poor in terms of fares and flexibility, and in some cases, a symbiosis of paratransit and the poor is assumed (Kaltheier 2002). This mode is an efficient road user, contributing only 18 percent of traffic flow while being able to transport more than 50 percent of passenger trips (DepKimPrasWil 2002). Beside its benefits, the price to be paid for the dominance of paratransit is obvious; there are high emission levels of pollutants, overcrowded innercity roads, revenue shortfalls, inhumane working conditions, and criminal-style structures (Kaltheier 2002).

Paratransit is a public mode for passengers with a fixed route, but without a fixed schedule, and follows one route within the city's network. The paratransit crew (sometimes consisting of only the driver, but at other times the driver accompanied by a conductor) generally does not have a high level of education or even related training. Since there is no minimum requirement to enter this service, the driver and crew usually come from families with low economic ability. Although a license is required to drive, in practice, some of the drivers have no driving license or an unsuitable one. As for conductors, almost any person can get this job.

There are two types of crew, formal and informal. In the case of the former, the driver and/or conductor draws up an informal agreement with the car owner, and is obliged to pay a rental fee to the owner. The driver and conductor earn a salary as the surplus from the rental fee. Usually, the driver receives a larger share than the conductor. In the latter case, the informal crew takes the job as a substitute for the formal crew, which means the informal crew operates during the off-hours of the formal crew. The informal crew also pays a rental fee to the formal crew, where the salary comprises the surplus from the rental fee. In general, the driver pays the fuel cost, but the maintenance cost is borne by the car owner. Thus, the crew's only focus is to compete for collecting money, which makes them ignore both the traffic rules and other road users.

In paratransit operation, the role of government (performed by the related bureau at the city or municipal level with some coordination with the city or municipal authorities in charge) is to issue permission to operate on the selected designated route, and to decide the number of cars on each designated route. Although the related bureau issues the permission, in practice the owner should be a member of one of several available cooperations in the city/municipality to be appointed to a designated route. Each cooperation maintains an effective monopoly for its designated routes (DepKimPrasWil 2002).

Paratransit operates in mixed traffic without a fixed schedule (no particular time frame). Moreover, the infrastructure is insufficient to support paratransit operation. The impact of this includes waiting for passengers anywhere on the road, passengers having to wait for service in inconvenient places, or passengers getting on and off the vehicle in the middle of an intersection. The lack of widely available and accurate information regarding the paratransit service results in difficulties for new users to reach and use the service.

Paratransit uses various types of cars and vans with a capacity of 12-16 seats, but in fact, during rush hour, many passengers are crammed into the vehicle, even when

seats are not available. Riders are forced to use vehicles that are in bad condition because of the operators' limited capability to maintain them. The operators' poor financial status results in reducing the priority of car maintenance, engine performance, and emissions. Although, there is a regulation calling for periodical checks of the vehicles' conditions, the law is not strictly enforced. Recently, many cities seem frustrated with the negative consequences of the paratransit sector. Thus, they are replacing this mode with bigger capacity, and more advanced technology, expressed as a symbol of modernization.

## **Data Collection**

In this research, the sample size calculation was referred to the formula suggested by Israel (1992) and previous research by Joewono and Kubota (2005). With the population of passengers per day amounting to 174,907, the sample size is 400. Since this sample size reflects obtained responses, this number was increased to 1000 to compensate for nonresponses (Israel 1992).

## **Questionnaire**

An 11-page questionnaire, divided into 4 main parts, was designed for this study. The first page of the questionnaire is an introduction that explains the purpose, the person in charge, and the contact address. The first part consists of 15 general questions. The second part addresses questions about service quality. Based on a long literature review regarding measurement in public transportation, the authors collected and selected attributes most applicable and useful in measuring and exploring the paratransit service. These selected attributes can be grouped into 9 important determinants with 54 attributes, in which each determinant factor has multiattributes in a range from 3-9. In all questions, respondents are asked to rate the aspects on a 5-point scale of satisfaction, ranging from very dissatisfied to very satisfied. Research indicates that a 5-point scale is just as good as any (Elmore and Beggs 1975; Sekaran 1992) and sufficient to stimulate a reasonably reliable indication of response direction (Frary 1996). The third part is a set of questions that asks the respondent to rate the frequency of negative experience while making use of paratransit. The rating is on a 5-point scale, ranging from very often to never. There are seven aspects: accessibility, reliability, crew treatment, information, design, customer service, and safety and security. Each aspect consists of one to two questions. The last part is a question regarding the respondent's

loyalty. The respondent was asked whether he or she will make use of paratransit in the future and whether the respondent will recommend paratransit to others. For each question, the respondent was shown several conditions, such as when business is running as usual, when there is an improvement, and when a new kind of transportation mode will be operated with a higher standard of service quality and higher fares. The three conditions aim to capture requirements asked by the users when they become loyal.

## **Method of Survey**

Data collection was conducted from December 15–22, 2005. Ten surveyors distributed the questionnaire on-board. Surveyors approached passengers personally to ask them to fill in the questionnaire. In most cases, surveys that were personally and courteously handed to customers during the service-delivery process yield higher response rates (Zimmerman et al. 1996). The personal approaches in the survey process could be shown by the willingness of surveyors to guide respondents when completing the questionnaires, reading questions to them in cases where respondents could not read, up to translating the questionnaire into a local language if respondents did not speak or read the national language (*Bahasa Indonesia*), since the questionnaire was written in Indonesian. After completing the questionnaire, respondents were rewarded with “thank you money.” Some passengers were most willing to fill out the questionnaire, but others required more detailed explanation. Not all respondents accepted the “thank you money” for various reasons, including those who just wanted to help. Since it took approximately 20 minutes to fill out the form, this survey did not collect perceptions from short-trip users. In fact, users who spent more than 15 minutes in the car were supposed to have gained more experience and to have more reliable perceptions concerning all aspects of paratransit. On average, the success rate of gathering respondents willing to complete the questionnaire was 71.7 percent. This percentage was based on the number of efforts that surveyors made to ask passengers and the number of passengers who filled in the questionnaire. The percentage of success was quite high, and is evidenced by the large number of respondents who asked the surveyors about the follow-up to this questionnaire. They made a statement about their hope for better service in public transportation.

## **Descriptive Statistics**

Of the 1000 questionnaires returned, only 980 questionnaires could be used for further analysis. The descriptive statistics of the respondents are provided in Table 1. Note the high percentage of students as users of paratransit. Students and young users (younger than 20 years old) seem to dominate the users of paratransit, which is in line with previous and current research by the authors. The possible impact of this high percentage of the subsample is that the perception of young users and students possibly dominates the perception of the users as a whole. The authors believe that the possibility of bias is not the case, although further exploration for each subsample will be beneficial. The covariance, variance, and the mean of the significance aspects or determinants in the model are provided in Table 2.

**Table 1. General Characteristics of Respondents (n = 980)**

Characteristics	Statistics
1. Sex	Male (58.3%), Female (41.7%)
2. Marital status	Married (29.3), Single (70.7%)
3. Age	< = 20-year-olds (44.8%), 21–30-year-olds (32.4%), 31–40-year-olds (15.2%)
4. Place of living	City area (80%), municipality area (20%)
5. Family members	1 (9.8%), 2 (11.9%), 3 or more members (78.3%)
6. Education	Junior high school or less (19.9%), senior high school (52.3%), and diploma or higher (27.8%)
7. Job	Student (53.3%), civil servant (2.7%), entrepreneur (17.7%), employed in the private sector (9.6%), labor (6.2%), housewife (4%), other (6.6%)
8. Travel cost per trip (Indonesian Rupiah, IDR)	< 2,500 (25.3%), 2,500–5,000 (50.1%), 7,500–10,000 (18.4%), > 10,000 (6.2%)
9. Income (IDR)	< 1 million (39.4%), 1–2.5 million (36.5%), 2.5–5 million (14.7%), more than 5 million (9.4%)
10. Car ownership	Did not own any car (50%), motorbike (32.9%), automobile (14.2%), other (3%)
11. Reason for making use of paratransit	Did not own any car in their family (47.8%), prefer to make use of paratransit (34.7%), unable to drive (17.6%)
12. Trip purpose	Study (46.9%), work (23.7%), shopping (11.7%), social activities (7.7%), and other (10%)
13. Number of trips using paratransit per day	Once (34.0%), twice (43.3%), and three times or more per day (22.8%)
14. The way to reach stop	Walking (81%), others (19%)
15. Overall satisfaction	Very dissatisfied (7.2%), dissatisfied (26.6%), neutral (50.7%), satisfied (13.5%), very satisfied (1.9%)

**Table 2. Covariance, Variance, and Means of the Significance Aspects in the Model**

Variable Names	1	2	3	4	5	6
1 Availability	0.42					
2 Accessibility	0.16	0.62				
3 Information	0.12	0.31	0.83			
4 Customer service	0.11	0.28	0.48	0.66		
5 Fare	0.13	0.10	0.23	0.28	0.57	
6 Negative experience with crew attitude	0.12	0.18	0.21	0.27	0.21	0.97
Mean	3.07	2.70	2.42	2.46	2.68	2.68

### Analysis

In this article, path analysis was employed to reveal the relationship among variables, including testing the hypothesis concerning the existence of user loyalty. If the hypothesis was supported, then it is important to maintain this mode of transport in the future. The path analysis also examines the predictive power of several variables on overall satisfaction with paratransit. These statements are in line with Klem’s findings (1995) regarding the major kinds of results from path analysis. Path analysis in this article refers to an explanation provided by Klem (1995, 2000), Arbuckle and Wothke (1999), Thompson (2000), Raykov and Marcoulides (2000), and Kline (2005). The model concerning the relationship between aspects of quality of service with loyalty is presented in Figure 1.

The  $\chi^2$  of this model is 81.9729 with 13 degrees of freedom, resulting in the model being rejected at .05. Since the sample size is big, this result is not surprising, as has been discussed by Kline (2005). This model has NC (normed chi-square) as much as 6.3056, which is slightly bigger than 5 for a reasonable fit. The RMR is .0208, which is near to 0 as a perfect fit. The GFI is .9820, which is a value near 1, meaning the model is a perfect fit. The values of the Bentler-Bonnet normed fit index (NFI), RFI, IFI, TLI, and CFI are .9510, .8643, .9585, .8833, and .9579, respectively, which means a reasonably good fit. The RMSEA is .0736, where the value is in a range of .05 to .08, meaning that the model shows a reasonable error of approximation.

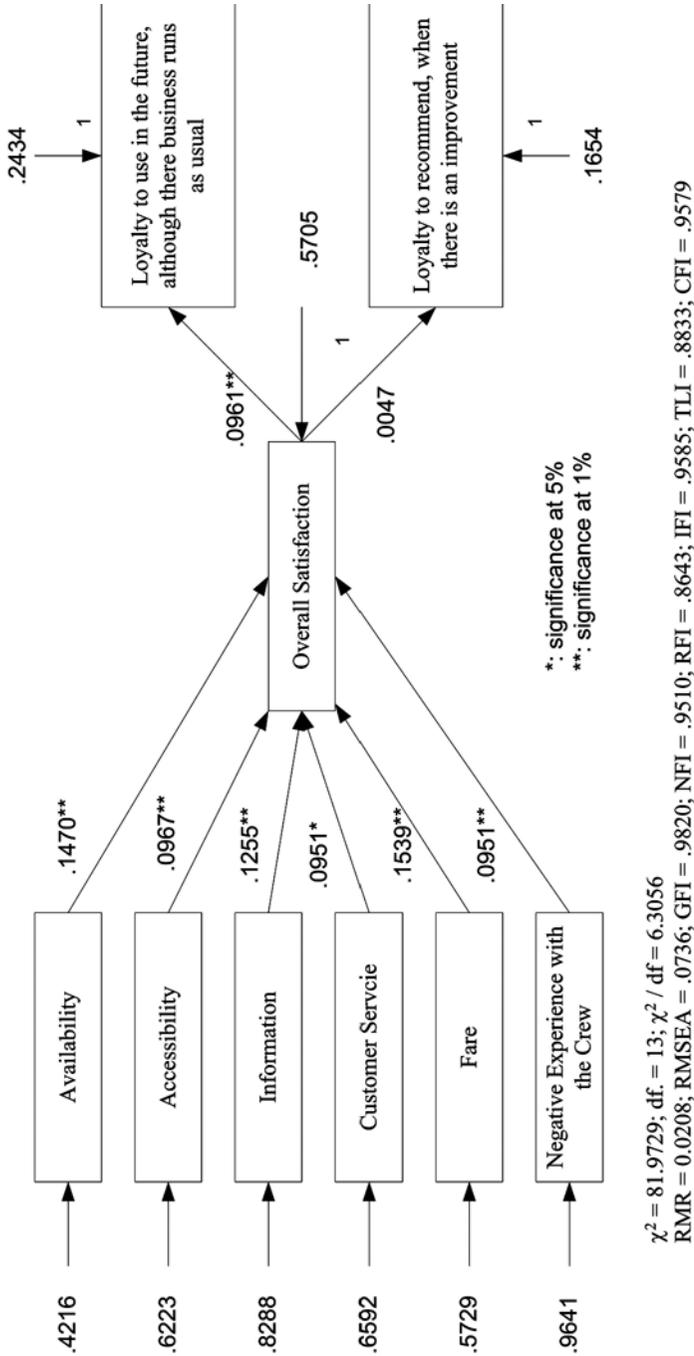


Figure 1. Relationship between Aspects of Quality of Service with Loyalty

The values of NCP, AIC, CAIC, and ECVI were smaller compared to other models. According to these measures of fit, the model is a reasonably good approximation of the data.

As shown in Figure 1, only five from nine determinants of quality of service, and only one from seven determinants of negative experience, are significant in the model. Moreover, one from six determinants of loyalty is significant at .01 in the model as well. One determinant of loyalty, i.e. the loyalty to recommend to others when there is an improvement, is not significant at .05, but its existence creates the best fit of the model. Five determinants are significant at .01, except for the customer service's determinant being significant at .05. The model explains these determinants as important factors in influencing the overall satisfaction. All determinants have positive signs, which means that the satisfaction in each determinant has a positive effect on overall satisfaction. In addition, the model reveals just the basic need among this group of users for fulfilling their mobility needs, which is shown by the lack of extra determinants, such as environmental impact and the like. The model explains around 43 percent of the variance in satisfaction or, in other words, around 57 percent of the variance is left unexplained. Another important finding from this model is the relationship between overall satisfaction and loyalty to use this mode in the future. The relationship between overall satisfaction and loyalty to use paratransit in the future when business runs as usual has a positive value. The positive sign means that the more they are satisfied, the more loyal the users prove to be to this mode. This group of users still wants to use it in the future and accepts the existing condition as it is. The findings support the hypothesis that this mode of transport is still relevant to future operation as there is a community group reliant on it. Moreover, the relationship between overall satisfaction and loyalty to recommend the use of paratransit to others when there is an improvement has a positive value. This finding emphasizes the requirement of improvement when users promote the mode to others.

The six binomial logistic models concerning the loyalty of the users are provided in Table 3. The aim of these models is to explore the important characteristics that explain the loyalty of users. Wright (1995) stated that in the logistic regression analysis for a dichotomous dependent variable, one attempts to predict the probability that an observation belongs to each of two groups. It becomes clear that the method is considered useful for exploring the user's choice of loyalty. Models I to III explain whether the user will use this mode in the future when business runs

as usual, when there is an improvement, and when there is a new kind of public transport with a higher quality and fare. In addition, models IV and VI explain whether the user will recommend this mode to others in the future for the same three conditions. All six models have a significance value (model  $\chi^2$ ) far below .05, which means the rejection of the null hypothesis that the independents make no difference in predicting the loyalty. It shows that all models are well fitting; namely significantly different from the one with the constant only.

All six models have a Hosmer and Lemeshow goodness-of-fit value greater than .05, which means the failure to reject the null hypothesis that there is no difference between observed and model-predicted values. It implies that all of the six models' estimates fit the data at an acceptable level. Although all models have low Cox and Snell  $R^2$  and Nagelkerke  $R^2$ , the models can be accepted as well fitted as those  $R^2$  are not actual percentages of variances explained. Garson (2006) said that  $R^2$ -like measures are not goodness-of-fit tests but rather attempts to measure strength of association. The result was strengthened by the value of percentages of correctness, in which all models yield medium percentages ranging between 58 and 83. Finally, it can be concluded that all models are well fitting.

The models explain that the female users (including the married ones) seem to show more loyalty to paratransit. Users who reside in the city tend to be loyal ones. In addition, the models explain that young users are more loyal paratransit users in the future under all conditions. All these findings seem natural because that group of the community is more concerned with fulfilling the needs of mobility. That fact is supported by the variable of the number of family members, where it can be observed that the larger the family size, the more loyal they are. Large families seem to choose the mode of transport that may keep transport expenses as low as possible. The models reveal that users with an educational background of senior high school or higher seem more loyal to use paratransit in all situations. In these models, the job variables cannot clearly distinguish the loyal user since the values of the variables in the model spread to many jobs.

**Table 3. Binomial Logistic Regression Model for Loyalty**

<i>Variables</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
Constant	.391	.750*	-.338	1.231**	1.700**	.598*
Sex [1 if male, 0 otherwise]	-.295*	-.079	-.113	.123	-.078	-.081
Status [1 if married, 0 otherwise]	.264	-.215	.061	-.066	.296	.003
Place [1 if city, 0 otherwise]	-.104	.421	-.162	.079	.274	.240
Age1 [1 if less than 20 years old, 0 otherwise]			.123			
Age2 [1 if 21–30 years old, 0 otherwise]	-.258			-.312		-.163
Age3 [1 if 31–40 years old, 0 otherwise]		-.231				
Age4 [1 if 41–50 years old, 0 otherwise]					-.512	
Familynos1 [1 if 1 member, 0 otherwise]		.542	-.111			
Familynos2 [1 if 2 members, 0 otherwise]					-.530*	
Familynos3 [1 if 3 or more members, 0 otherwise]	.098			.205		-.253
Education1 [1 if junior high school or less, 0 otherwise]				.536*	.420*	
Education2 [1 if senior high school, 0 otherwise]		.216		.439*		
Education3 [1 if diploma or more, 0 otherwise]	-.374*		.072			.230
Job1 [1 if student, 0 otherwise]	-.518*			-.442	.690*	
Job2 [1 if civil servant, 0 otherwise]					1.352*	
Job3 [1 if private sector, 0 otherwise]		.668*			.947*	
Job4 [1 if labor, 0 otherwise]					.920*	
Job5 [1 if entrepreneur, 0 otherwise]			-.248		.995*	.547*
Car ownership1 [1 if car, 0 otherwise]				-.373		
Car ownership2 [1 if motorbike, 0 otherwise]	-.159	.385			.258	

**Table 3. Binomial Logistic Regression Model for Loyalty (cont'd.)**

<i>Variables</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
Car ownership3 [1 if NMT or others, 0 otherwise]						-.515
Car ownership4 [1 if not owned, 0 otherwise]			-.306*			
Reason1 [1 if not able to drive, 0 otherwise]	-.295	.092	.397*			
Reason2 [1 if not own a car, 0 otherwise]				.418*		-.376*
Reason3 [1 if more prefer to use it, 0 otherwise]					.110	
Trip purpose1 [1 if studying, 0 otherwise]				.331		
Trip purpose2 [1 if working, 0 otherwise]	-.632*	.623*				
Trip purpose3 [1 if shopping, 0 otherwise]	-.550*		.361			.208
Trip purpose4 [1 if social activity, 0 otherwise]					-.449	
Trip number1 [1 if once, 0 otherwise]			-.280*			
Trip number2 [1 if twice, 0 otherwise]		-.302		.036	.613*	
Trip number3 [1 if 3 times or more, 0 otherwise]	-.235					-.037
Way to reach stop1 [1 if on foot, 0 otherwise]	.223		.241			.185
Way to reach stop2 [1 if by NMT, 0 otherwise]		1.485**			1.423**	
Way to reach stop3 [1 if park and ride, 0 otherwise]				1.121**		
Expenses1 [1 if less than 2500IDR, 0 otherwise]	.075	1.122**			.811*	
Expenses2 [1 if 2500-5000IDR, 0 otherwise]		.906*			.808*	
Expenses3 [1 if 7500-10000IDR, 0 otherwise]		1.166**			.867*	
Expenses4 [1 if more than 10000IDR, 0 otherwise]			-.309	-.353		-.129
Satisfaction1 [1 if very dissatisfied, 0 otherwise]		.744*			-.540	

**Table 3. Binomial Logistic Regression Model for Loyalty (cont'd.)**

<i>Variables</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
Satisfaction2 [1 if dissatisfied, 0 otherwise]			.712* *	– .457* *		
Satisfaction3 [1 if neutral, 0 otherwise]	.380* *		.594* *			
Satisfaction4 [1 if satisfied, 0 otherwise]	1.078 **					– .471*
Income1 [1 if less than 1 million IDR, 0 otherwise]		– .387*		.380*		
Income2 [1 if 1–2.5 million IDR, 0 otherwise]	– .427*		–.246			–.244
Income3 [1 if 2.5-5 million IDR, 0 otherwise]					.524	
Omnibus Tests $\chi^2$ , df., sig.	77.43 6; 17; .000	68.81 3; 17; .000	46.16 1; 16; .000	85.67 0; 16; .000	69.92 5; 21; .000	38.15 7; 15; .001
-2LL	1281. 116	856.9 36	1310. 248	1197. 540	935.3 06	1312. 855
Cox & Snell R <sup>2</sup>	.076	.068	.046	.084	.069	.038
Nagelkerke R <sup>2</sup>	.101	.111	.061	.115	.107	.051
Hosmer & Lemeshow $\chi^2$ , df., sig.	7.841; 8; .449	3.521; 8; .898	13.86 0; 8; .086	6.168; 8; .628	10.25 8; 8; .247	7.447; 8; .489
Percentage Correct	60.6	82.6	58.1	65.4	79.3	59.2

Note: \* significant at 5%, \*\* significant at 1%.

Users whose families own a motorbike are loyal. This can be understood as the limitation of travel using a motorbike, since the number of motorbikes in a family is not sufficient for use by all family members. Usually the user of the motorbike is the father, or young family members, but not the mother or child. Loyal users are also characterized by the reason for choosing paratransit, such as not being able to drive and not owning a car. Trip purposes for loyal users are to study, to work, and to shop, while the number of trips per day is less than three. The typical way to reach the initial stop for this loyal user is by walking from the point of departure or residence. The group of users that spends less than 10,000 IDR per trip represents the loyal users of this mode. Loyal users are those who rate the existing service as somewhere in between dissatisfied and satisfied. In addition, the models explain that users with incomes of less than five million IDR per month are loyal ones. This finding is quite surprising because Indonesian families with incomes of

approximately five million IDR can be categorized as being sufficiently prosperous, but somehow they still show this preference for being loyal to this particular mode. This finding shows considerable potential for the future of paratransit. It can be concluded that the existence of paratransit in the future is still important, although the need for improvement is an obligation to retain the ridership and improve the service.

## **Discussion and Conclusion**

In this article, citizen perception was expressed by user participation in rating the mode's condition, including user expectations and loyalty. The distribution of the questionnaire to paratransit passengers took place in Bandung, Indonesia. Paratransit was chosen because of the dilemma in Indonesia and other developing cities regarding this privately operated and owned mode of public transport. On the one hand, some stakeholders (i.e., the government or transportation experts) want to replace this mode with a more advanced public transport mode. On the other hand, the real expectation from the community has never been considered thoroughly.

This research employs the path analysis and binomial regression method to reveal and explore the data. Five determinants of quality standards of service and one determinant of negative experience are significant in the model: availability, accessibility, information, customer service, fare, and negative experience with the crew's attitude. Two determinants of loyalty exist in the model: loyalty to use when the business is running as usual, and loyalty to recommend use to others when there is an improvement. All determinants of quality of service have positive signs, meaning that the satisfaction in each of them has a positive effect on overall satisfaction. Moreover, the findings from path analysis support the hypothesis that this mode is still relevant to operate in the future since a community group is relying on it. The analysis using the binomial logistic regression is able to distinguish the loyal users by exploring their characteristics. The analysis reveals that the number of students and young users is half of the overall users. This finding shows loyalty from a community group that clearly wants to keep using paratransit, which means that the future of paratransit shows considerable potential. It can be concluded that the existence of paratransit in the future is still important, although the need for improvement is an obligation to retain the ridership and attract new users.

This article reports on a practice to reveal public perception and expectation and the mode's characteristics—factors that never seem to have received enough attention from decision-makers. The study underlines the need to focus on the needs and characteristics of the community regarding the operation of paratransit. This research also shows updated notions regarding the paratransit market in developing cities. Winder (2005) claims that national authorities should focus on the way the urban population perceives the outcome of their policies and measures as well. In other words, transport policy should confirm whether the public perceives something the government believes to be beneficial in the same manner, which is in line with mobility management. This article shows that public perception is useful to bridge the different perceptions with other stakeholders. Further research to explore the expectations and perception of stakeholders in weak positions is bound to become interesting and useful, especially in the context of developing countries. The hypothesis to be tested in future research is whether there is a difference in characteristics, expectations, and standards of the actual users of public transport in developing countries and developed countries.

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