SERVICE QUALITY OF PRIVATE PASSENGER VEHICLES AND SATISFACTION OF THE PASSENGERS: A CASE STUDY OF DHAKA CITY

Mahmudul Haq
School of Business, BRAC University, Bangladesh.
Nazrul Islam
School of Business, North South University, Bangladesh.

The use of different modes of private passenger vehicles (PPVs) such as, yellow cab, black cab, CNG auto rickshaw etc. are very essential for the dwellers of Dhaka city. These private vehicles are running at the streets of the City for over last five years. City dwellers have no other way out, as the vehicles in government sector are extremely inadequate. Thus, the question of passengers' satisfaction often receives least attention to the concerned persons. However, if the situations are improved, these vehicles will make important contribution to the economy and will reduce time of the passengers wasted by the commuters in traffic congestion. The deteriorated situation can be improved by addressing the quality attributes of the vehicles, drivers and monitoring systems as well. Hence, this study attempts to identify the quality attributes of PPVs, which are very much concerned with the satisfaction of the passengers. Sophisticated statistical techniques like factor analysis and multiple regressions were used to identify the key quality attributes. Results show that there are six quality factors such as vehicle quality, driving quality, comfort, friendliness, complain-handling, and monitoring concerned with the satisfaction level. It also shows that the passengers' satisfactions are significantly related to the quality of the vehicles and the drivers, friendliness of the driver, complain-handling, and monitoring of the vehicles. The positive change of these factors can increase the level of satisfaction of the passengers commuting in Dhaka City.

BACKGROUND

The challenges of the transportation system in Dhaka city are multifaceted. It was attributed by the condition of the city's transportation system as a complex and heterogeneous one (Andaleeb, Haq and Ahmed (2005) portray). Abundance of non-motorised vehicles like rickshaws, together with substandard bus in transportation system is creating unbearable traffic congestion in the city. A predominant proportion of the motorised vehicles do not adhere to any safety and pollution standard which is causing serious threat to public health and safety as well. The condition is further aggravated by insufficient and poorly maintained road network, mismanagement in traffic, and lack of discipline and knowledge of traffic regulations. Study shows (Andaleeb, 2005) that slow moving vehicle like rickshaw is among the principal causes of severe traffic congestion in the city. Therefore, gradual replacement of these slow moving vehicles by faster, motorised public and private transports can bring improvements in the congestion problems considering the fact that improving the city's road network is a daunting task involving huge investments and long time period for implementation. The improvement of the bus transportation system appears to be the most feasible step in this endeavour because of its affordability and passenger carrying capacity. Other forms of for-hire vehicles, though more expensive and unaffordable to many, can however make some significant impact in improving the city's transportation system by providing taxi service for commuters in the moderate to high-income group. A rapid improvement in the system must be viewed imperative in the context of socio-economic development of Bangladesh. Button (1993) suggests that the improvement in city transport can make such economic growth more efficient and productive. Dhaka City has a major role to play in regional in regional and sub-regional coordination (Karim 1998), which can be facilitated by an effective and efficient transportation system. According to Mannan and Karim (2001), the poor transportation conditions and networks in Dhaka City impose substantial constraints that indirectly hinder international trade and economic development. For example, the links between the production centres and export shipment points are often decoupled by horrible tangle of traffic, which reduces turnaround time, delays schedules, introduces related inefficiencies, dissatisfies overseas customers, and reduces competitiveness (Andaleeb, Haq, and Ahmed, 2005). Accepting the fact that the need for speedy, well organised road transport system is essential for fostering the economic growth of Bangladesh and freeing Dhaka city dwellers from the miseries of wasting long hours amidst intolerable traffic congestion, the development of the quality of services provided by the city's taxi cabs, and CNG auto rickshaws can be viewed as a feasible alternative next the improvement of the city's bus service.

The improvement of the quality of services offered by these private passenger vehicles essentially calls for identifying the avenues of service areas where improvements need to be brought about, and the quality dimensions that the users of these vehicles perceive most significantly need to be addressed first. Against this backdrop, this

survey of eliciting passengers' perception of the different dimensions of service quality seemed to be timely and important. This study pursues two major research objectives:
Identification of the key factors in the context of the private passenger vehicles in Dhaka city that is concerned with passenger satisfaction.
Assessing the relationship between the factures and the satisfaction of the passengers.

LITERATURE REVIEW

Any inquiry into finding out the quality of a service requires precise articulation of the terms service and quality. Quality basically refers to the efficiency of a good or service in performing its desired function. Crosby (1979) defines quality as "conformance to requirements." The greater the conformity to the requirements as desired by the customer the higher the perceived quality and hence the greater the quality. Examination of literature (Gronroos 1982; Lehtinen and Lethinen 1982; Lewis and Booms 1983; Sasser, Olsen and Wyckoff 1978) on service quality reveals three underlying themes of service quality:

1. Service quality is more difficult for consumers to evaluate than goods quality as there are fewer tangible attributes attached to services.
2. Service quality perceptions result from a comparison of consumer expectations with the actual service performance.
3. Quality evaluations are not made solely on the outcome of a service; they also involve evaluation of the process of service delivery.

Gronroos (1982) postulated that two types of service quality exist: (1) Technical quality, referring to what the customer is actually receiving to from the service; and (2) Functional quality, involving the manner in which the service is delivered. The evaluation of the quality of service in the transportation sector therefore requires an extensive extraction of customer perception of both technical and functional aspects of the service. The basic framework for measuring service quality was given by the SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1988, 1991). The model set forth a number of dimensions of measuring service quality. Despite the popularity of the SERVQUAL model, several analysts have suggested that the model has serious shortcomings that limit usefulness. Carman (1990) argues that SERVQUAL needs to be customised to the service in question in spite of the fact that it was originally designed to provide a generic measure that could be applied to any service. This may mean adding items or changing the wording of items. He also suggests that more dimensions than the five currently found in SERVQUAL are needed, that the item factor relationships are unstable, and that the measurement of expectations is a problem. These views are supported by Babakus and Boller (1992), Cronin and Taylor (1992) and others. Carman's observation is particularly relevant in the context of measuring service quality where attributes different from those proposed by SERVQUAL need to be contemplated. Despite these concerns, the SERVQUAL framework continues to play an important structural role in designing service systems while extensions and modifications are made to it constantly (Andaleeb 2001; Koerner 2000).

For any urban mobility system for achieving the quality level that provides an appropriate and effective answer to the needs of its clients, it must focus on the interaction between different system acting within and across different levels of planning and control that include authorities, operators, suppliers of equipments, citizens and so forth (Macario, 2001). Macario cites Ciuffini (1995) to emphasise the need for an adequate balance between such dimensions as transport, environment, economic, and social dimensions. Macario also suggests that there is no perfect transportation system, and hence the second best solution lies in the establishment of trade-offs between various dimensions according to the socio-economic and cultural reality specific environment. These trade-offs are conditioned by practical options that result from the interaction between the local, regional, and national levels of interventions. An evolving system is thus a function of the strategic objectives that provide adequate solutions to stakeholders' interests.

There is a considerable lack of prior research work in the transportation sector of Bangladesh particularly when it comes to exploring service quality and hence satisfaction of passengers using the country's different modes of road transportation. Perhaps the first survey of this kind was conducted by Andaleeb, Haq, and Ahmed (2005) where efforts were made to identify the quality dimensions with respect to the bus service in Dhaka city. Andaleeb (2001, 2005) examined with several quality attributes to elicit passenger perception that use the city's bus transportation on a regular basis. These attributes were adequacy, passenger loading/unloading practice, interiors, co-passenger behaviour, driving quality, security, bus-stand facilities, price/fare, government supervision, reliability, and societal attitude. The study conducted by Andaleeb (2005) served as the basis for contemplating the quality attributes in reference the quality of services provided by the private passenger vehicles in the city. Several similar surveys

conducted in other countries by Disney (1998, 1999), Edverdsson (1998), Sanderlands (1994), were also consulted for the purpose keeping in mind the fact that quality dimensions in the transportation sector of these western countries could be significantly different than those in a developing country as Bangladesh. In these research works quality attributes in the transportation service pertained to such technical aspects as vehicle interiors/exteriors, riding comforts, reliability/frequency, reasonable fares, etc. and such functional aspects as friendliness, easy-to-understand and remember timetables. Eight hypotheses were initially developed and a questionnaire was prepared to measure the concepts identified in the concepts.

RESEARCH METHODS

Secondary research was first conducted to explore past research works on service quality and customer satisfaction that focusing on urban transportation sector. Of the published studies that were found, most of them pertained to the developed countries. We felt these findings would be different from the context of developing countries like Bangladesh. However, the lack of indigenous literature led to our derivation of preliminary insights from models developed in other countries.

Questionnaire Design and Pre-testing

A preliminary version of the questionnaire was based on secondary research, in-depth interviews, and extensive brainstorming. The quality attributes that are most suitable to explain passenger satisfaction are reflected in the hypotheses. Close-ended questions were used to collect data from the respondents. The survey questions measured each attribute on a five-point Likert scale with "strongly agree" reflecting the highest favourable response and "strongly disagree" indicating the least favourable response to each statement. Demographic questions were also included in the questionnaire and were mostly dichotomous and multichotomous in nature. The questionnaire was originally developed in English and translated and retranslated several times to obtain an appropriate local language (Bangla) version. The questionnaire was pre-tested on a small sample of 30 randomly selected respondents. Minor adjustments were made to ensure conciseness, objectivity and clarity. A panel of experts concurred on the content validity of the two versions, confirming they were comparable.

Sampling and Data Collection

People regularly commuting by the city's taxi cabs and CNG auto rickshaws constitute the population for the study. The population is homogeneous in their use of these transports but heterogeneous in their profession, income, gender, purpose and so forth. Probability sampling using a multi-stage cluster-sampling method was used to select a representative sample of commuters. The City was divided into several areas based on the major thanas (location of police stations) such as Kotwali, Motijheel, Tejgaon, Ramna, Gulshan, Uttara and so on. The entire area covered by each of the thanas was considered a cluster. Systematic sampling was then used to select households. Respondents from each household were selected based on their usage of these private passenger vehicles. According to research protocol, respondents were asked not to identify themselves anywhere so that they could freely respond to the questions. They were also given the option to withdraw from the study or skip questions they did not wish to answer. Altogether 309 questionnaires were collected from respondents via face-to-face interviews. In the event the respondents were educated, they were asked to self-administer the questionnaire; otherwise the interviewer filled the questionnaire based on the respondent's verbal responses.

Data Analysis

The collected data were tabulated on the computer and the final analysis was performed on statistical software. The data for the study were analysed using several statistical techniques. Frequency distributions were obtained first to check for data entry errors such as unrecognised or missing code and to obtain descriptive statistics. Two types of analyses were primarily carried out:

1. *Factor analysis* to check the grouping of the responses into the hypothesised quality attributes.
2. *Regression analysis* and *Correlations* to find out if and to what extent the quality attributes explained the passenger perception of service quality of the private passenger vehicles.

HYPOTHESES OF THE STUDY

Determination of the constructs constituting service quality of the for-hire private vehicles in Dhaka city posed biggest challenge in the undertaking of this research work considering the dearth of indigenous research in this area. Nevertheless conscious attempts were made to hypothesise eight quality attributes based on preliminary investigation, limited research work undertaken in Bangladesh and overseas.

Our preliminary investigations revealed that many passengers were dissatisfied with the way most of the private passenger vehicles were maintained, particularly in regards to the black taxis. Black taxis along with other for-hire vehicles lack the minimum quality standards. Their bodies are found to have serious dents and bruises; bumpers are seen detached from the body and tied to the cars with ropes; interiors and exteriors of the vehicles are often unclean; headlights, wipers, indicator lights, and handbrakes are found to be non-operating on many occasions. Furthermore, the seats in these vehicles are found to be torn and hard affecting the passengers' riding comfort. Hence we propose the first hypothesis:

H_1: the better the quality and maintenance of the vehicles the higher the satisfaction of the passengers.

Drivers of the private passenger vehicles are often reported to be reckless and inconsiderate to passengers' safety and comfort while on the road. They drive at high speed, pay very little heed to traffic lights and signals, and overtake other vehicles dangerously and sometimes unlawfully. Braking hard and blowing the horn unnecessarily were reported to be a habit of the taxi drivers by many respondents in our preliminary investigation. Hence

H_2: the better the quality of driving the higher the passenger satisfaction.

Compassionate behaviour on the part of the drivers is a crucial behaviour crucial ingredient of customer satisfaction as indicated by the dimension of *"Responsiveness"* of the SERVQUAL model. In the context of passenger satisfaction this would entail behaving with the passenger with respect, locating the passenger's destination in case the passenger is not fully aware of the exact location, and giving adequate attention to passenger's comfort while driving. Our third hypothesis is therefore:

H_3: The friendlier the driver while attending the passenger the more satisfied the passenger.

Passengers of taxis and CNG auto rickshaws have often reported by the media to have been either subjects or victims of criminal activities. Many passengers have been reported to have been mugged on the road while travelling by these vehicles. A few cases of murders in these vehicles are also on records. The Drivers of many taxis and CNG auto rickshaws are said to be involved with the organised criminal network of the city and engaged these heinous activities. These acts often instill a sense of insecurity among the passengers that can attenuate their satisfaction to use these for-hire vehicles. We posit that:

H_4: The greater the feelings of security associated with the use of bus services, the more will be the level of customer satisfaction with these services.

The quality, fitness of vehicles and fares charged by drivers need to be under regular surveillance of the concerned law enforcing agencies like the Bangladesh Road Transport Authority and the Dhaka City traffic police. Effective supervision would mean higher quality vehicle quality and hence higher passenger satisfaction. Therefore:

H_5: The greater the perceived government supervision (monitoring) of vehicles for mechanical fitness and fares, the higher the level of passenger satisfaction.

Proper, timely, and adequate response from the owners of the service providers in the for-hire transportation business in dealing with complaints received from the passengers can very easily minimise many of the problems that may exist in this business. So we propose:

H_6: The better the response of vehicle owners in handling passenger complaints the higher the passenger satisfaction.

An exceedingly important consideration for effective service in the road transportation sector is that the for-hire vehicles have to be available in the important locations of the city and be available up to certain time every day (reasonably from 6:00am to 11:00pm). If vehicles are not available in the location where needed and at times when most commonly needed, passenger dissatisfaction is bound to happen. Hence:

H_7: The greater the perceived availability of vehicles to serve passenger needs, the more satisfied will be the passengers.

Fares fixed and charged by the drivers of private passenger vehicles are likely to have some effect on customer satisfaction since nobody likes or wants to pay more than what they can afford. The price/cost of traveling by these private passenger vehicles can be approached from two fronts; first, the ceiling for fares for the different categories of private passenger vehicles set by the government, and second, extra amount charged by the drivers of the vehicles either in the form of a tip or by not wanting to take the passenger without additional fare. Clearly, if the fare charged for riding in the private passenger vehicles goes beyond passengers' affordability, they will be dissatisfied. Hence we propose our last hypothesis.

H_8: The greater the perception that the fare is unreasonable, the less satisfied will be the customer.

RESULTS OF FACTOR ANALYSIS

Table 1 Factor analysis (Independent variables)

	Factor 1 Vehicle quality	Factor 2 Driving quality	Factor 3 Friendl-iness	Factor 4 Security	Factor 5 Monitor-ing	Factor 6 Complain handling	Factor 7 Availabi-lity
PPVs look clean from outside	0.771	0.031	0.146	-0.025	0.085	0.199	-0.009
Seats in the PPVs are comfortable	0.701	0.215	0.209	-0.081	0.017	-0.005	0.046
PPVs are clean inside	0.691	0.263	0.230	0.060	0.076	0.164	-0.076
PPVs have dents and bruises in the body	0.589	0.299	-0.011	0.107	-0.015	-0.103	0.058
Lights, wipers, meters and other fittings in the PPVs are found to be working.	0.564	0.243	0.130	0.091	0.140	-0.210	0.085
Drivers overtake other vehicles dangerously	0.196	0.752	0.085	0.198	-0.124	0.116	0.121
Drivers drive too fast	0.126	0.737	0.168	0.105	0.039	0.013	0.020
Drivers frequently brake hard	0.293	0.720	-0.038	-0.012	0.105	0.065	0.025
Drivers blow the horn too much	0.207	0.690	0.169	-0.068	0.071	-0.022	0.013
Drivers help you locate your destination	0.082	0.107	0.795	0.032	0.104	-0.077	0.065
Drivers behave well with you	0.334	0.071	0.716	-0.051	-0.016	0.179	0.100
Drivers give attention to your comfort while on the road	0.189	0.178	0.715	-0.006	0.132	0.188	-0.070
You are afraid of being mugged while travelling by PPVs.	-0.029	0.076	-0.031	0.901	0.105	0.059	0.064
You are afraid of being victim to terrorist activities while travelling by PPVs.	0.098	0.078	0.015	0.891	0.025	0.126	0.054
PPV are randomly checked by concerned authority for mechanical fitness	0.084	0.057	0.100	0.059	0.914	0.078	-0.030
Govt. control in checking the fare charged by PPVs is good	0.101	0.023	0.096	0.071	0.904	0.081	0.025
Complains made to the traffic police on vehicle services are effectively responded.	-0.010	0.078	0.102	-0.017	0.109	0.844	0.068
Owners of PPVs are responsive to taking care of passenger complaints.	0.063	0.029	0.085	0.227	0.048	0.807	0.011
PPVs can be found in the city all the time	0.073	0.008	-0.003	-0.033	0.019	-0.057	0.886
PPVs can be found anywhere in the city	-0.011	0.123	0.082	0.162	-0.026	0.144	0.819

Factor	Eigenvalues	% of Variance	Cumulative %
1	4.820	13.016	13.016
2	2.058	12.270	25.285
3	1.853	9.507	34.792
4	1.474	8.913	43.705
5	1.344	8.870	52.575
6	1.108	8.163	60.738
7	1.013	7.614	68.353

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation.
A Rotation converged in 6 iterations.

The measures of service quality were factor analysed. While no solid initial structure was assumed, the data reduction technique was expected to identify eight factors --- vehicle quality, driving quality, friendliness, security, monitoring of vehicles, handling of passenger complaint by concerned authorities, availability of vehicles, and transport fare --- that was suggested by preliminary investigations. The initial factor structure derived from varimax rotation extracted nine factors. Close scrutiny revealed that some of the factors were not clean, particularly when several items loaded simultaneously on more than one factor. These items along with those not appearing to be belonging to a meaningful group of items were systematically removed until the final rotated solution with 22 items was retained (Table 1) for further analysis. The final rotated solution resulted in seven factors, which were easy to interpret (see Appendix A) and explained 68.35% of the cumulative variation.

When compared with quality attributes in the transportation sector gathered from literature review, the seven factors of this study demonstrated both similarities and dissimilarities. Vehicle interiors and exteriors along with comfort and reliability related to vehicle fitness combined into one factor namely vehicle quality. Friendliness of the drivers came out as an independent factor. Another part of reliability/frequency was found to have resulted in a single factor (availability). Poor quality of driving and passenger security, which are almost of rare occurrences in the western countries showed up as separate factors, which is, perhaps unique to developing countries like Bangladesh. Complain handling and monitoring, two components of supervision of the service provided by the for-hire vehicles emerged as separate factors. Price/fare, which was originally hypothesised to be an important determinant of passenger satisfaction, did not group into an independent factor at all. Scale items for the dependent variable were factor analysed next. The two scale items grouped into a single factor representing passenger satisfaction and explained 84% of the cumulative variation.

Table 2 Factor analysis with varimax rotation, dependent variable

Factors	Satisfaction
You are satisfied with the overall service quality of the vehicles	0.917
Overall quality of service provided by PPVs in the city is good.	0.917

[a]Eigenvalue = 1.68, % of Variance = 84.015%, Cumulative % = 84.015

Each factor was assessed for reliability using coefficient (α). Except for the factors representing monitoring and availability, all the factors exceeded a coefficient value of 0.7 recommended by Nunnally (1978). The reliability coefficient for monitoring and availability were 0.684 and 0.664 respectively, very close to the cut-off point of 0.7. Table 3 contains the summary statistics as well as the matrix of zero-order correlation for the variables included in the study. The multiple-items measuring each construct were further factor analysed to measure their validity. In each case, the items always loaded on one factor only, which provided support to their validity. The correlation between one scale and another is not as high as each scale's coefficient (α), which provided support for discriminant validity (Gaski and Nevin, 1985). The direction and strength of the correlations in Table 3 prided support for nomological validity signs are in the right direction and the significant relationships are theoretically justifiable.

Table 3 Correlation matrix[a]

	1	2	3	4	5	6	7	8	$\bar{x}$	s
Satisfaction (2)	0.810								2.945	0.952
Vehicle quality (5)	0.522	0.767							2.998	0.816
Driving quality (4)	0.411	0.521	0.776						2.449	0.902
Friendliness (3)	0.441	0.466	0.297	0.707					2.991	0.919
Security (2)	0.165	0.102	0.187	0.020	0.819				1.974	0.912
Monitoring (2)	0.304	0.209	0.116	0.233	0.145	0.848			2.076	1.156
Complain handling (2)	0.357	0.108	0.137	0.236	0.218	0.195	0.685		2.164	0.902
Availability	0.067	0.097	0.153	0.101	0.146	0.016	0.092	0.664	2.136	0.834

[a](1) Correlations are significant at ($p < 0.05$), (2) Figures in parentheses represent number of items measuring each construct, (3) Figures in diagonal represent coefficient α values.

RELATIONSHIP BETWEEN FACTORS AND SATISFACTION OF THE PASSENGERS

Regression Model -One

Multiple regression was applied to test the hypotheses. The full model containing all seven factors of the independent variables (Table 4) was significant with an overall F value of 31.77 ($p < 0.000$) and explained 41.2% of variability in the dependent variable as represented by the adjusted R^2 value. Two factors for the explanatory variables namely security and availability did not emerge to significant in explaining passenger satisfaction and hence were dropped from the original regression model.

Table 4 Regression results (all seven factors), dependent variables passenger satisfaction

Variables	B	Std. Error	β	t	Significance $p <$
(Constant)	0.183	0.214		.857	0.392
Vehicle quality	0.363	0.065	0.312	5.578	0.000
Driving quality	0.156	0.055	0.148	2.823	0.005
Friendliness	0.178	0.054	0.170	3.321	0.001
Security	0.037	0.048	0.038	0.824	0.410
Monitoring	0.107	0.038	0.131	2.838	0.005
Complain handling	0.245	0.049	0.232	4.979	0.000
Availability	-0.034	0.051	-0.030	-0.672	0.502

[a] $R^2 = 0.425$ Adj $R^2 = 0.412$ $F_{(7, 302)} = 31.771$, $p < 0.000$

Regression Model – Two

The second regression model with the five significant factors for the independent variable (Table 5) had an overall F value of 44.42 ($p < 0.000$) and explained 41.3% variability in the dependent variable.

Table 5 Regression results (significant factors), dependent variables passenger satisfaction

	B	Std. Error	β	t	Significance $p <$
(Constant)	0.176	0.191		0.922	0.357
Vehicle quality	0.364	0.065	0.312	5.601	0.000
Driving quality	0.159	0.054	0.150	2.920	0.004
Friendliness	0.172	0.053	0.164	3.233	0.001
Monitoring	0.111	0.038	0.136	2.968	0.003
Complain handling	0.251	0.048	0.238	5.212	0.000

[a] $R^2 = 0.423$ Adj $R^2 = 0.413$ $F_{(5, 304)} = 44.422$, $p < 0.000$

CONCLUSIONS AND RECOMMENDATIONS

The vehicles running in Dhaka City are extremely of poor conditions. Most of the vehicles have problems in the quality of seats, engine of the vehicle, denting and painting in the body of the vehicle, fans, glass etc. Therefore, the vehicle cannot run fast which creates traffic congestion and as a result passengers become dissatisfied with the quality of the services. The reasons can be attributed by the mismanagement in traffic systems, muscle power of the transport owners, and, above all, the financial ability of the transport company. Sometimes this is also attributed by the intentional suppression of the transport owners as the passengers are bound to commute because of shortage of vehicles. These all are the reasons for dissatisfaction of the passengers. To improve the quality of the vehicle, government concerned department should take proper action to inspect the vehicles on a regular basis and the authority will not allow problem-vehicles at the street. For giving license, strict policy is to be followed and if there is any exception it is to be handled strictly. The satisfaction of the passengers also depends on driving quality and the friendly behaviour of the drivers. Lack of driving skills, poverty of the drivers, lack of education, and above all a little remuneration given to the drivers by the transport company are responsible for this problem. In Dhaka city, bribe is often used to get a driving license and there is little application of the traffic rules on drivers. Therefore, drivers become rough in driving the vehicle and in their behaviour with passengers. A kind of monopoly situation also stimulates the drivers to misbehave and to wrong drive. A comprehensive policy can be adopted by the government to address the problems concerned with drivers. The whole transport system is supposed to manage by the department of transportation of the government. But there are management problems in monitoring the vehicles and applying the traffic rules. The complains are also not handled properly. Thus, the passengers have concern

regarding the way of managing the vehicles, which causes dissatisfaction among the passengers. Government must come forward to solve this problem with the help of parties involved with it. However, there is an ample scope to conduct further study on this topic and in that case more in-depth recommendations could be explored.

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APPENDIX

Appendix A Factor Details

Factor	Scale Items
Vehicle Quality	PPVs look clean from outside
	Seats in the PPVs are comfortable
	PPVs are clean inside
	PPVs have dents and bruises in the body
	Lights, wipers, meters and other fittings in the PPVs are found to be working.
Driving Quality	Drivers overtake other vehicles dangerously
	Drivers drive too fast
	Drivers frequently brake hard
	Drivers blow the horn too much
Friendliness	Drivers help you locate your destination
	Drivers behave well with you
	Drivers give attention to your comfort while on the road
Security	You are afraid of being mugged while travelling by PPVs.
	You are afraid of being victim to terrorist activities while travelling by PPVs.
Monitoring	PPV are randomly checked by concerned authority for mechanical fitness
	Govt. control in checking the fare charged by PPVs is good
Complain handling	Complains made to the traffic police on vehicle services are effectively responded.
	Owners of PPVs are responsive to taking care of passenger complaints.
Availability	PPVs can be found in the city all the time
	PPVs can be found anywhere in the city
Satisfaction	You are satisfied with the overall service quality of the vehicles
	Overall quality of service provided by PPVs in the city is good.