

Competition fails mass transit: The Case of a Megacity in the Developing world

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Abstract

This article will analyze the dynamics and structure of mass transportation in a South Asian mega city. It is usually expected that competition will bring about better service and quality in a market. In transportation sector in Bangladesh it seemed that competition brought about the worst possible outcome for transportation. This paper investigates the reasons behind this phenomenon. We found that this is actually a classic case of market failure since mass transportation is essentially a public good with externality effect. Therefore, market equilibrium resulted into socially inefficient outcome.

Introduction

It was a sultry summer afternoon on 29th July of 2018. Two students of capital city of Bangladesh, Dhaka were waiting on the roadside of a busy major road. Then according to eye witness, a speeding car lost control and ran over those two hapless students. They were dead on the spot.

This tragic event instigated a unique movement in the streets of Dhaka, Bangladesh. It brought about protests throughout the country and particularly in Dhaka, the school students took over the control of the streets replacing the traffic police. It created a great political upheaval in Bangladesh. High school kids, secondary school kids came to streets protesting death of two of their friends. These kids actually ruled the city for a few days, controlling traffics. These protests finally ended after a week or so amidst government crackdown which allegedly through human rights abuse. But it captured a big part of public imagination and is believed to remain in public memory for a long time.

It was a common incident that Bus drivers are quite reckless. That was not the first time it happened. Frequently these city buses were involved in several accidents. People were already pissed off. Therefore, when kids got involved it became very sensitive.

With this background, we would like to investigate whether mass transportation, particularly Bus service is problematic or not. It is apparent this sector is quite competitive. There are quite a few actors in the market. Bus drivers compete with each other to pick up passengers and finish the trip earlier.

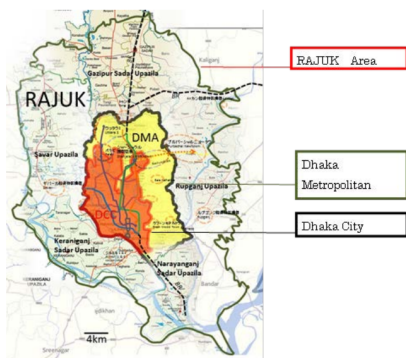
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public good with externality effect. Therefore, market equilibrium resulted into socially inefficient outcome. A related objective of this paper is to look into the economic incentive of Bus operators that lead to this stiff aggressively competitive behaviors which led to the tragic incident. We will look into the current employment structure which is actually determined by the whole mass transportation industry.

Transporation infrastructre

First start with an small intro of dhaka. then talk about the population size, how fast it is growing. then talk about modal share and show the importance of bus.

Dhaka is one of the megacities in the world. Currently its rank is this. It has population of 14.8 million. The area of Dhaka can be defined in various ways.



Dhaka metropolitan area

The population in the above area growing very fast. To meet the daily needs of this high population, at present, there are about 30 million trips produced per day in Dhaka. The transportation of this huge population is dependent on bus. Let's have a look at the following figures.

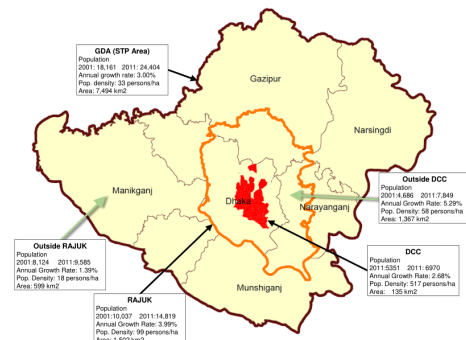
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Mini-bus is a shorter version bus which can not carry more than 30 passengers. If it can carry more than 30 passengers then it is a bus.

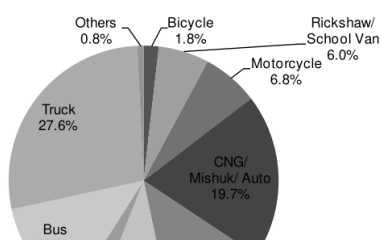
there are 3.30 million vehicles in the country. There are total 35,000 buses and mini buses and half of these vehicles are concentrated in Dhaka. In Dhaka there are around 9000 bus and mini buses operate.

The above figures shows that bus is the dominant form of transportation in Dhaka city (**Describe more on modal share**). According to BRTA **fix the reference** there are 3.30 million vehicles in the country. There are total 35,000 buses and mini buses and half of these vehicles are concentrated in Dhaka. In Dhaka there are around 9000 bus and mini buses operate.

These buses operate very strangely in Dhaka. The determination of bus routes is very haphazard. In owes back to the way the routes has been evoloved in Dhaka. For example, in 1992, in Dhaka city there were only 27 bus routes. During that period, there were 304 buses were in operation (DITS, 1994).



Greater Dhaka area



These buses has to take permission from Dhaka Metropolitan Regional transport committee for designated routes.

Motor vehicle act play a key role in the application for route process. But unfortunately the other key factors such as passenger demand, the density of route with other buses are not considered. It is also learnt that political and clouts of the applicant also pay a great role here.

The consequence is not very palatable here. As a result, many buses enter into the same route, more popular routes, where many passengers are available. There they heavily compete for passengers and results in accidents and total chaos on the roads.

Overlapping bus routes from page 150 of DTCA and JICA

(2015)

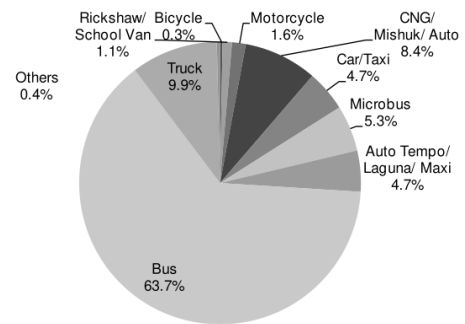
Consequence of competition

The competitive nature of the mass transportation in Metropolitan Dhaka lowered the standard compared to other cities in the world . Following is the direct quote from DTCA (2015):

“The transport systems in Metropolitan Dhaka are not only below standard compared to many other capital cities, but they have reached the crisis point that requires an immediate attention. A joint effort is needed from all concerned to resolve the transport problem of the city.” This report identifies several consequences related to this poor state of mass transportation.

This competition among bus companies results in aggressive driving among the drivers. They compete with each other to collect passengers to increase revenue. This results in increased number of accidents on the streets. The incident mentioned above is exactly the consequence of this sort of situation.

Not only that, this high level competition is not auguring well for the whole of the bus industries. Bus business is not very profitable at all. As found in Rahman (2017), the current bus business model, the bus owners are operating at 30% loss against benchmark costs. The interesting fact here is that the competition does not result in improvement in the quality of buses. Rather it results in lower quality. This because due to current bottlenecks, mainly traffic congestion, the buses can not make enough trips to render it as profitable venture. Therefore, they cut costs by reducing quality of service, paying lower wages to driver, reducing maintenance cost. It becomes a race to the bottom.

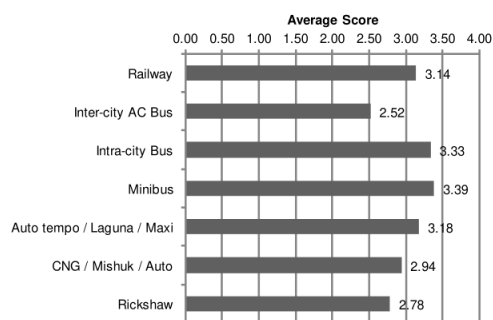


Modal share of passenger

Firstly, there is high frequency of deaths, injury and property damages. It results into serious loss of productivity and imparts a great burden on the economy and social cost in terms of family trauma and in social relationship. Due to these damages, it has been estimated that each year US\$700 is lost which is 3% of the GDP. There are many reasons for this loss but directly results from competition is poor driving capabilities, defective vehicles. As argued above, competition resulted in lower price which was achieved by lower quality. These road accident, casualties and collisions are direct result of number and quality of vehicles on the road.

Number of accidents 2000 2001 2002 2003 2004 2005
2006 2007 2008 2009 2010 2011 2012 2013 852 519 876 828
668 496 603 565 642 525 458 400 372 341 Source: Accident

There is many evidences of such poor quality of service:



Passenger evaluation

Then the pertinent questions that might arise in this case is that how Buses attract passengers still with such low quality of service. This is because mass transportationn is such service that the nature of demand changes within hours. For example, during the peak demand or rush hour, passengers will not mind quality that much, as long as quality is lower, they will jump over and try to go to any place. Therefore, bus drivers can get away with very low quality mass transit service. This is also intrisically related to average income level of Bangladesh in general. In this bus services, mainly low income people rides. The wealthy people actually resort to Uber, Pathao or just their own car.

Talking about personal car, this mode of vehicle has risen astronomically due to reliable mass transport and unregulated supervision of authority. **Provide some evidence here.** This is also a severe consequence of lack of quality mass transit which was caused by competitive nature of the bus service.

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Bus condition

Why competition does not work

Ezrachi and Stucke (2015), explains that competition and quality are not positively correlated. Sometimes increase in competition can actually reduce consumer welfare. They have identified two necessary but not sufficient conditions for competition to work. Having these conditions at their disposal, they described situations when an increase in competition can actually may lead to quality degradation.

They identify two conditions: first it is prohibitively expensive or difficult to convey consumers the inherent quality differences in the product offering, and secondly, consumers' ability to accurately

assess quality differences is limited. In this regard, they mention that this problem does not arise in the case of 'search goods'. For these type of goods, the consumers can check and evaluate the quality of the product. But consumers does not have this advantage in the case of "experience goods" for which the consumers have to learn the quality by experiencing the use of that particular product. There is another type of good is also mentioned which is called "credence good", I am not sure what does that mean actually.

The problem is that the above two conditions may not be applicable in the particular case of buses in Dhaka city. This is because buses are 'experience goods' and passengers experience that every day. But as mentioned above, even though the passengers experience low quality products, they just can not afford to lose the transportation during the peak hour due to huge demand.

Therefore, there are certain goods and services which create highly disparate demand in daily different time intervals. Bus companies does not invest highly in those buses because they know that they can away with low quality products. They make their major businesses during this peak hour. The thing is there due to traffic congestion they cannot make enough profit. One the other hand, they can not charge high due to competition. Only way they can survive is that by cutting costs which results in lower quality.

Concluding remarks

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