

Two-Wheeler Taxi Service: An Experimental Study on Finding Solution to Traffic Problem of Dhaka.

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ABSTRACT: Roads of Dhaka city are too much narrow having millions of vehicles like buses, cars, rickshaws, CNG's. And the main victims of this circumstances are common people specially students and service holders. So, motorcycle transportation service is very helpful to them. It is not too much costly like CNG and Taxi cab. So, this transportation service is particularly for common people. In Dhaka, this kind of alternative transportation service has a lot of opportunity to do a good job. Two-Wheeler Taxi service is becoming popular nowadays. In Bangladesh, it is a brand-new idea. But when it is about Dhaka city this is very important for social correspondence. Traffic jam is a top priority problem to be solved. Motorcycle transportation is one kind of solution. It doesn't take wide space. A motorcycle can go through the buses. The most important thing is mentally and physically this is a pressure free journey. Young generation will be influenced to do something new by it. Because this can be a great earning sector for the 3rd generation. And surely Dhaka city is profitable for this business. It will also decrease the dependency on buses and private cars. The research study is based on Motorbike Taxi Service but specifically on passengers' attitudes and perception of taxi service.

Keywords: Narrow Roads, Transportation, Two-Wheeler Taxi, Profitable business.

1. INTRODUCTION

Ride-sharing service is an emerging mode of transport that positively contributes to economic, environmental and social sustainability (Geisberger et al., 2009; Hansen et al., 2010) (1). This service provides an efficient and user friendly means of transportation through the use of

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technology which creates a platform for both the rider and the user of the service to find each other through the app module very easily. Moreover, in the advent of telecommunication, consumers can easily track driver's location to pick them up, provide fares and positive feedback on their consumption through this mobile app used in ride-sharing services (Posen, 2015) (2). Therefore, this ride-sharing service is getting more attention and customer acceptance day by day; more people are taking this service as a better alternative of mass transportation to reach their desired destinations by saving more of their valued time of everyday life. Presently, the ride-sharing service is getting much popularity in both the developed and the developing countries because of its tech base module and proven user-friendliness.

Therefore, the academic researchers, entrepreneurs, business community, innovators, and policy-makers are showing greater interest in the nature and impacts of this ride-sharing service on the overall economy of a particular country. From a business point of view, this two-wheeler taxi service may consider to have the potential to create more financial opportunities in terms of market share and social benefits. Moreover, ride-sharing companies are also benefited by new dimensions of service use and a new area of earning a profit (Belk, 2014). In addition to these, users also get benefits from ride-sharing service as a potential solution to the different problems of traditional transportation sectors like congestion relief, improved travel options (DeMaio,2009). Thus, considering the potential market opportunities the ride sharing companies have already started working in Bangladesh; especially in Dhaka city.

The companies include both the local and also global ventures that are working in this ride sharing two-wheeler taxi service to provide an easier solution to everyday traffic problem to the city dwellers. The major providers are named as Uber, Pathao, Shohoz, OBHAI, Amarbike and others. There is also a newly launched ride-sharing platform; named OBon which is solely focused on the females to take this ride-sharing service and the rider is also a female who shares the ride. Bangladesh being a developing country is trying to shape its total inland communication by constructing new roads, bridges, flyovers & many more to make the communication more flexible and freer from traffic logjam. But the reality is not that satisfactory. A well-structured transportation system is highly important for a developing country. Dhaka, the capital city of Bangladesh, is considered as a mega city but the infrastructure of the city isn't worthy to serve this large community with ease of moving from one place to another in a convenient manner. Every developed and gorgeous city needs

to maintain some particular rules but Dhaka doesn't. Over 19million of people live here. But the transportation System is very poor here. Without a good transportation system, it is quite difficult for the government to conduct the nation properly as the traffic jam is a common phenomenon in Dhaka city. Quick solution is not that easy to implement here. So, people now a days are relying on something else like Two-wheeler taxi service which can be considered as a better alternative to mitigate this traffic jam problem that people are facing in their everyday life in this mega city. Because a Two-wheeler doesn't take so much space. And of course, it can go through buses and cars when you need to go early. Therefore, the Two-wheeler taxi service in Dhaka city is becoming popular gradually & people now a days are considering this mode of transportation as more reliable, safe & speedy solution to reach their destinations.

Thus, the economic transaction in this market is growing continually and expected to capture a significant place in the overall economy of our country in the coming days. But this Two-Wheeler Taxi service has some drawbacks in its way of ensuring proper and safe service to the people while making it a speedy mode of transportation. So, here comes the safety and security concern issue towards the passengers of this Two-Wheeler Taxi service in Dhaka city. However, it is expected that this Two-Wheeler Taxi service has its potential to become an easy solution for the people of Dhaka city by making it a reliable & flexible mode of transportation. But it is still a concerning issue that the road structure and traffic control system of the city is adequate enough to make this two wheeler taxi service as a solution to the traffic jam problem of Dhaka city.

2. LITERATURE REVIEW

Over the past few years, the Two-Wheeler Taxi service industry has taken the global road transportation market to the next level & has achieved immense popularity gradually. Most of the people are considering this mode of transportation more reliable, safe and enjoyable. Two-Wheeler Taxi service, till this date, contributes to the largest share of sharing economy valuation globally. Thus, this Two-Wheeler Taxi service market is expected to be reaching USD 148.7 billion by 2024 according to a recent survey. In Asian cities (such as Hochiminh City, Hanoi, Jakarta, Bandung, Bangkok and Davao), Two-Wheeler Taxis are found everywhere, including bus stops, train stations, shopping plazas, and main entrances to residential neighborhoods (Cervero, 2000). This mode is called "xeom" in Vietnamese, "ojek" in Indonesian or "habal-habal" in Filipino. The Two-Wheeler Taxi usually carries one passenger, but sometimes two or more who ride as the pillion behind the motorcycle

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driver. In the case of the Philippines, a hybrid of the Two-Wheeler Taxi, the “Skylab”, carries up to 6 passengers. A World Bank report said last year that traffic congestion wastes around 3.2 million working hours daily for the 15 million inhabitants of Dhaka, which rolls over an area of 304 square kilometers (117 square miles). Average traffic speeds have dropped to 7km per hour from 21km/h over the last decade, only slightly faster than the average walking speed. For the past decades, these cities have seen the rapid growth of motorcycle ownership and use, thus it has made these cities natural breeding grounds for motorcycle taxi services. The Bangladesh Road Transport Authority's latest data show around 286,000 private passenger cars, 36,600 taxis and 677,700 motorbikes were registered in the city by July 2018.

However, the official data did not clarify how many motor vehicles were registered for ride-sharing services. Experts estimate that on a given day there are only 5,000 buses, 40,000 CNG auto-rickshaws and 400,000 rickshaws (Although rickshaws provide only trans-nodal services). But there are not enough seats for the city dwellers to move them around. Thus, it creates a big gap within the transport market for new competitors to take this place to serve. A recent World Bank report reveals that the average speed of transport in Dhaka is somewhere between 7.00-8.00 km/ hour. An average car moves at some 12/ hour; where a two wheeler taxi service can run at some 16 km/ hour. This clearly indicates that a two-wheeler taxi service is significantly faster than the commonly used modes of transportations. The failure to provide adequate public transport services in these cities is believed to be one of the main causes for such phenomenon.

Moreover, Five to eight percent of people drive private vehicles which occupy a significant portion of city roads in the Bangladeshi capital, while about 80% use public transport. Despite the limited road network, demand in the metropolis worked along with the inadequacy of public transport to nurture the local ride-sharing service. City commuters, especially women and private jobholders, face the utmost distress in transport to and from their work. This has also opened up market space for ride-sharing on Dhaka roads. According to a study of Policy Research Institute (PRI) in 2018, the market size of the ride-sharing industry in Bangladesh is worth an estimated 22 billion Bangladeshi taka (\$262 million). And, it covered about 23% of the transport sector in the country. The PRI report noted that ride-sharing companies paid their riders well, with a ride-share car owner expected to earn over \$700 per month, double that of the city's average resident. Again, according a data from January 2019, commuters

took 6 million rides each month on average via ride-sharing apps. The current figures, however, have exceeded the 6 million mark and reached 7.5 million rides per month, report industry experts. Again, Dhaka is one of the world's most jammed cities sometimes taking one hour to move 6 kilometers (3.7 miles); near walking speed. Experts blame faulty urban planning for the problem. Bangkok, for instance, since bus and train lines are only available along the main streets or highways, many high-density communities that are located far away from the main street and along local streets have poor accessibility to these systems. Fortunately, the current operation of Two-Wheeler Taxis along the narrow dead-end side-streets branching off the major streets assist to connect the passengers from these local communities to the buses and railway stations, thereby improving the accessibility of the community.

The Two-Wheeler Taxi has some advantages over other modes. These include its higher speed and ability to beat the perpetual traffic jams in many Asian cities. Particularly, it provides fast, flexible and cheap mobility service as compared to public bus and car taxi. Furthermore, the operation of Two-Wheeler Taxis creates jobs and generates incomes for a portion of the urban population. Every year, thousands of immigrants are moving to urban centers. Many of them are uneducated and unskilled, and cannot get a job in a highly competitive formal labor market. To get a job and earn an income, many of them turn to the informal job markets, including working as a Two-Wheeler Taxi driver. However, there is a lack of understanding on the broader socioeconomic and environmental impacts of the Two-Wheeler Taxi service in developing Asian cities.

Despite its increased popularity, Two-Wheeler Taxis have still been operating without any regulation in many cities and countries. As a result, serious problems are arising. These include poor safety conditions for passengers, variable fares and cheating, as well as low security for the driver. Of which, the poor safety condition is the most serious. It is hardly surprising that Two-Wheeler Taxis have a notoriously dangerous reputation and accidents occur frequently particularly in wet and slippery road conditions. Since drivers usually try to run at high speed to save time, any kind accident could easily be very serious. The fare is usually set through an open negotiation between the driver and the passenger, and it is therefore highly dependent on the driver's attitude, time and place. In other words, fare is not negotiated based on distance, and the complicated negotiation process may actually prevent people, especially foreign visitors, from using the service. In 2005, Thailand became the first country in the world that regulated Two-Wheeler Taxi services. The Thai regulations covered the requirements for operational safety (such as, installing a handle and providing helmet for the passenger), annual

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registration tax, driving license, and penalty for traffic law violation. Till now, most Asian countries have not regulated the service yet. Several countries, including Vietnam and Indonesia, have already discussed the issues and the need for regulating the service since years ago as the service become increasingly important. In Vietnam, starting 2010 the discussion became serious among the authorities, the drivers or operators and civil society representatives. Again, a question that remains unanswered is what are the impacts of the service, what are the problems or issues facing it, and whether and how to regulate the service. This study aims to create an in-depth understanding on the characteristics of Two-Wheeler Taxi service, its wider socioeconomic impacts, and identify its possible roles in the future urban transport system in developing cities.

3. OBJECTIVE OF THE STUDY

- Finding the pattern of usage of transportation of the dwellers of Dhaka city.
- Examining ridesharing motorbike services as a solution of traffic problem of Dhaka.
- Pointing out challenges and opportunities for ride sharing motorbikes services here.

4. METHODOLOGY OF THE STUDY

To pursue the research objectives, this research followed a framework as shown in Figure 1.

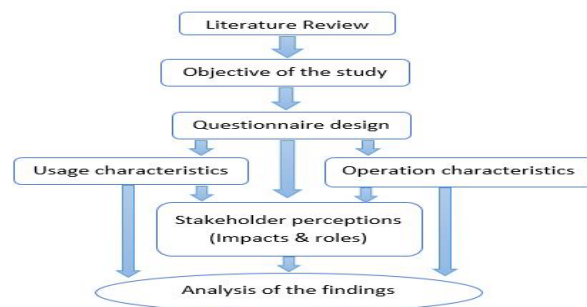
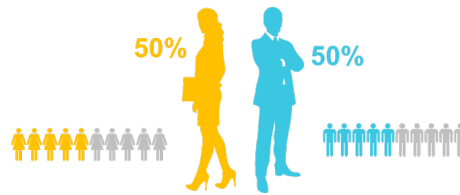


Figure 4.1: Study framework

Passengers were structurally interviewed to capture the main characteristics of the service usage and operation, and to understand people's perceptions and opinions on the impacts of the service. Based on these understanding, concrete policies were suggested to improve Two-

Wheeler Taxi service. This study attempts to realize people’s attitude towards Two-Wheeler Taxi in Bangladesh. To conduct the study, primary and secondary sources of information were used. Secondary data has been collected from journals, articles, books and web sites as well. Primary data was collected from the different types of people on different sector. However, this study interviewed 218 sample respondents with a structured questionnaire where 50% were male and 50% were female. Random sampling method is used to select the respondents and qualitative research method is being used.



5. ANALYSIS OF THE FINDINGS

Dhaka is a mega city. Most part of Dhaka is badly affected by the population growth. Thousands of transportations, but only hundreds of them are legal. This huge number of buses, CNGs, rickshaws and other transportation are creating traffic jam. From time to time attempts are made to reduce the traffic jam, but the initiative usually produces no results. Almost there are no roads or street or lane free from traffic jam. Traffic jam is obstructing trade and commerce. The idea has become clearer after the research. The respondents were asked the below questions during the survey to their insights regarding the research topic. It represents their opinion to the selected issue in this research work.

5.1. Distance that people travel every day to reach destination.

| 1 – 3 KM | 4 – 6 KM | 7 – 10 KM | 11 – 15 KM |
|----------|----------|-----------|------------|
| 10% | 50% | 30% | 10% |



Figure 5.1 shows that 50% of the respondents travel 4-6 km everyday on average to reach their destination. Moreover, it can be described as 80% of the respondents travel on an average 4-10 km every day to get to their

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respective places. This distance is quite flexible to cover through a ride-sharing service in a very easy & time saving manner. Again, this distance will not be a long-tiring journey for the people who might take this ride-sharing service.

5.2. How long people need to travel for reaching destination?

| Bellow 15 mins | 16 to 30 Mins | 30 Mins to 1 Hour | Above 1 hour |
|----------------|---------------|-------------------|--------------|
| 10% | 10% | 20% | 60% |

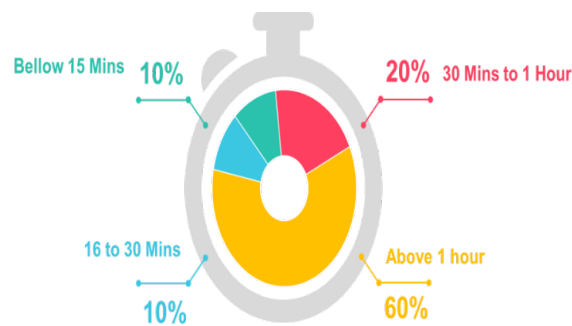
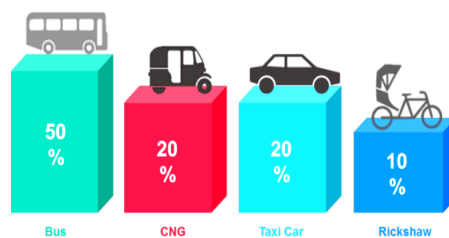


Figure 5.2 represents the harsh reality of the everyday road scenario of Dhaka city traffic problem in a very specific manner that the average time it takes to reach a destination is not less than one hour, it takes mostly one hour above to reach someone’s desired destination bearing the suffering of traffic jam by getting stuck in the roads with vehicles all around. Therefore, a suitable solution to such problem has become crying need to the city dwellers.

5.3 Mode of Transport People use?

| Bus | CNG | Rickshaw | Taxi |
|-----|-----|----------|------|
| 50% | 20% | 20% | 10% |



According to the response from the respondents the majority (50%) of them use Bus as their everyday travel partner as buses are more available

and provides lower cost travel opportunity in comparison to other modes of transportation in the Dhaka city. Around 40% of the respondents prefer CNG & Rickshaw to get to their destinations but these are not much available and might cost higher in comparison to the Buses. Thus, majority of the city dwellers have to rely on Bus services to travel for their everyday socioeconomic needs.

5.4. Money Spent on each travel:

| 10 – 20 Taka | 21 – 40 Taka | 50 – 100 Taka | Above 100 Taka |
|--------------|--------------|---------------|----------------|
| 40% | 20% | 10% | 30% |

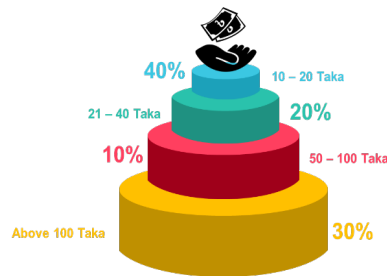


Figure 5.4 portrays that 40 % of the respondents have to spend 10-20 taka on average on their each travel while they are using different modes of transportation. Again, 30% of the respondents are spending above 100 taka in their each travel which is quite a good amount. Taking the other 10% into consideration it can be defined as the 40% of the respondents are paying or have to pay more than 50 taka in each travel they make to reach their desired destinations in Dhaka city. According to our analysis we found that people travel a plenty amount of distance every day. And they mostly prefer bus, as it's cheaper than other modes. As almost every vehicle stuck on the road at a time. So, it's a good idea to be stuck in a jam spending less. A recent news at Prothom-Alo stated that, for traffic jam country is facing Taka 30 Thousand Crore Taka loss every year.

This amount is similar to the budget of making a Padma Bridge. We need to calculate the opportunity cost of travelling bus in terms of Time & Productivity. The time we waste saving money impacts on our productivity and in business. If we could manage to reach our workplace within time then we will be able to avoid a massive loss of money. According to BRTA there are more than 5 lacs registered motorbike users in Bangladesh. If these bikers are enrolled in Two-Wheeler Taxi Service and offer service in minimal amount of money then it will be a revolution to the current transportation scenario of Dhaka city.

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6. RECOMMENDATION

- People should be more encouraged to save time by using motorbike taxi service.
- More riders' acquisition is needed to ensure riders availability around the city.
- Trained riders with safety precautions like helmet for passengers is essential.
- Extra benefits for regular passengers should be provided.

7. CONCLUSION

Two-Wheeler Taxis are seen in all regions of the world, and they are increasing rapidly in rural areas in many countries, including a large number of African countries. The main purpose of enforcement of use for Two-Wheeler Taxi service in Dhaka is to solve the traffic jam problem. The results of the analysis prove that there is a growing possibility of the service. Thus, the study emphasizes that the Two-Wheeler Taxi service in Dhaka city has the potential to create an ecosystem for both the passengers and the service provider by creating an economic cycle which will provide an easy solution to the traffic problem & also provide an earning opportunity to the people.

But there needs a proper modification in road structure and traffic policy to regulate the overall traffic control system in Dhaka city to make this two wheeler taxi service beneficial enough for the city dwellers; otherwise this service will not be able to serve its actual purpose and will become just another mode of transportation for the people the city. Thus, this service without proper logistics support from the government and other concerned authorities will become just one of the possible solutions of the biggest problem for this Dhaka city and for the people who are suffering from this massive issue from long years. Therefore, more structural and regulatory plans should be taken from the government and its concerned bodies to reshape the overall transportation system so that the roads can become more convenient & systematic which will be suitable for varied levels of transports and ensure the road safety for the passengers.

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