

## **App-based Motorcycle Ridesharing Services in Dhaka City: Female Users' Opinions and Perception**

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**Abstract:** App-based ridesharing service is a very recent development in Bangladesh. Due to very poor public transport services in Dhaka city, women often face multi-faced problems and difficulties whilst using public transport, young women are now shifting towards using ridesharing services instead of public transport. This paper provides existing situation of app-based motorcycle ridesharing services in Dhaka city and the female users' opinions and perceptions about the service. A total 100 female users were identified by convenience sampling method and an online questionnaire survey was conducted. It was found that after introducing the app-based ridesharing services in Dhaka, mostly the young women find it very useful for travel and they usually prefer this ridesharing service rather than the conventional public transport. Motorcycle ridesharing is preferable choice among the users' mainly for its easy accessibility in congested roads as well as low fare rate compared to car ridesharing or car pooling services.

*Keywords:* App-based, Experience, Motorcycle, Perception, Ridesharing

### **1. BACKGROUND**

Dhaka, the capital city of Bangladesh, is one of the most densely populated megacities where more than 105 million people live within an area of 1463.60 sq. km (Bangladesh National Portal, 2016). Statistics show that Dhaka is one of the least motorized cities in the region with approximately 30 motorized vehicles per 1,000 residents (The Louis Berger Group Inc. & Bangladesh Consultants Ltd., 2005). Traffic and transportation of the city is characterized by heavy congestion and delay, wide gap between transport demand and supply, poor traffic management, and poor public transport services. Inadequate transport system is one of the important causes for lack of suitable transport environment, particularly for women. Often women are harassed physically and mentally whilst traveling on bus or other public transport mode. This incident happens either inside the bus or while boarding/alighting. Therefore, Shefali (2000) claimed that the transport services currently provided in Dhaka city are unreliable, congested, insecure and unsafe for women. This claim is justified as the studies reveal that 84 percent of all female commuters are subject to verbal and physical harassment (Action Aid Bangladesh, 2016), 94 percent of female commuting in public transport in Bangladesh had experienced sexual harassment in verbal, physical and other forms (BRAC, 2018). Action Aid Bangladesh (2016) further stated that 62 percent of the women have limited their mobility and they have strict timing when travel alone. Therefore, to avoid the harassments, women are now switching to alternatives of public transport such as app-based ridesharing services.

The women in Bangladesh have notable contribution in the social, educational, economic, political and cultural sectors (BRAC, 2018). For example, total number of students enrolled in professional education is 70,998 where 36.5 percent (25,856) are women (Bangladesh National Portal, 2016); the readymade garment sector employed 2.4 million where almost 2.04 million are women (Ali et. al, 2008). Women's activities outside the residence are significant from the cultural, economic and social perspectives. Therefore, they need to travel and commute for socio-economic reasons. However, public transport of the city (mainly served by bus services) often remain grossly overcrowded, particularly in morning and evening peak hours, that women hardly have any access to buses. Long waiting time and very long queue to board in a bus and no empty seat is available on bus due to overcrowding are common in Dhaka. This situation is very tough and uncomfortable for women to compete with men for boarding into a bus and then manage a seat. While travelling in a gross overcrowded bus, women passengers are often sexually harassed by male passengers (touching sensitive parts of body and unpleasant situation) that generates mental anxiety and directs them to avoid public transport. They may experience intense fear, disturbed sleep, and nightmares (Battered Women's Support Services, 2014). Considering public transport, Horii & Burgess (2012) highlighted increased mental health problems such as post-traumatic stress disorder (PTSD); changes in self-esteem; heightened perceptions of vulnerability and the feeling of living in a dangerous world.

On the other hand, app-based rideshare services, such as Uber and Pathao are very pleasant for women passengers. Rideshare operations have emerged and operated mostly in Dhaka city, the capital of Bangladesh, although they are expanding (Financial Express, 2018). Among the wide range of products in sharing-economy, rideshare services have taken off in the past two years and it is transforming Dhaka's transport sector. Now-a-days, women also prefer using app-based ridesharing services. Among a variety of modes (e.g. motorcycle, car and CNG) available for app-based ridesharing service, motorcycle is mostly preferred mainly because of easy moving in congested roads, time-saving and less travel cost (Financial Express, 2018).

### **1.1 Number of Registered Motorcycles in Bangladesh**

Motor vehicle registration data of Bangladesh Road Transport Authority (BRTA) up to April 2019 reveal that there are 25,87,651 motorcycles in Bangladesh of which around 20% (6,49,003) are in Dhaka city (as seen in Figure 1). Compared with other modes, the number of motorcycles in Bangladesh is very high; for instance, 8-fold of the number of cars, 13-fold of the number of buses, and 8-fold of the number of autorickshaws and human haulers.

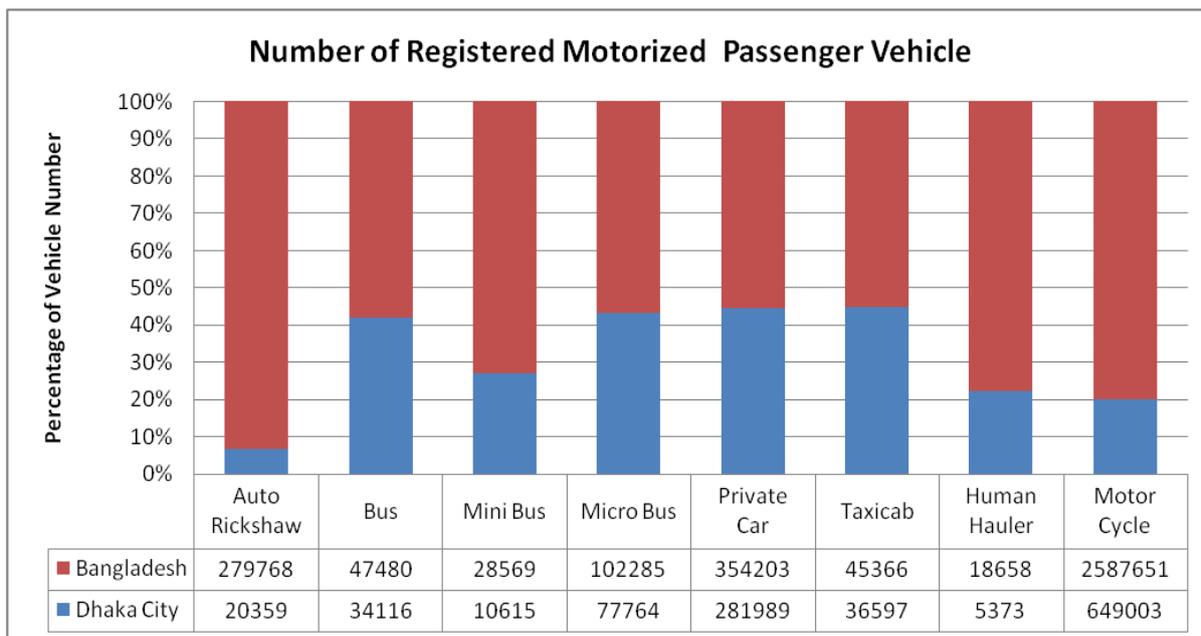


Figure 1: Number of Registered Motorized Passenger Vehicle

Source: [www.brta.gov.bd](http://www.brta.gov.bd) (May, 2019)

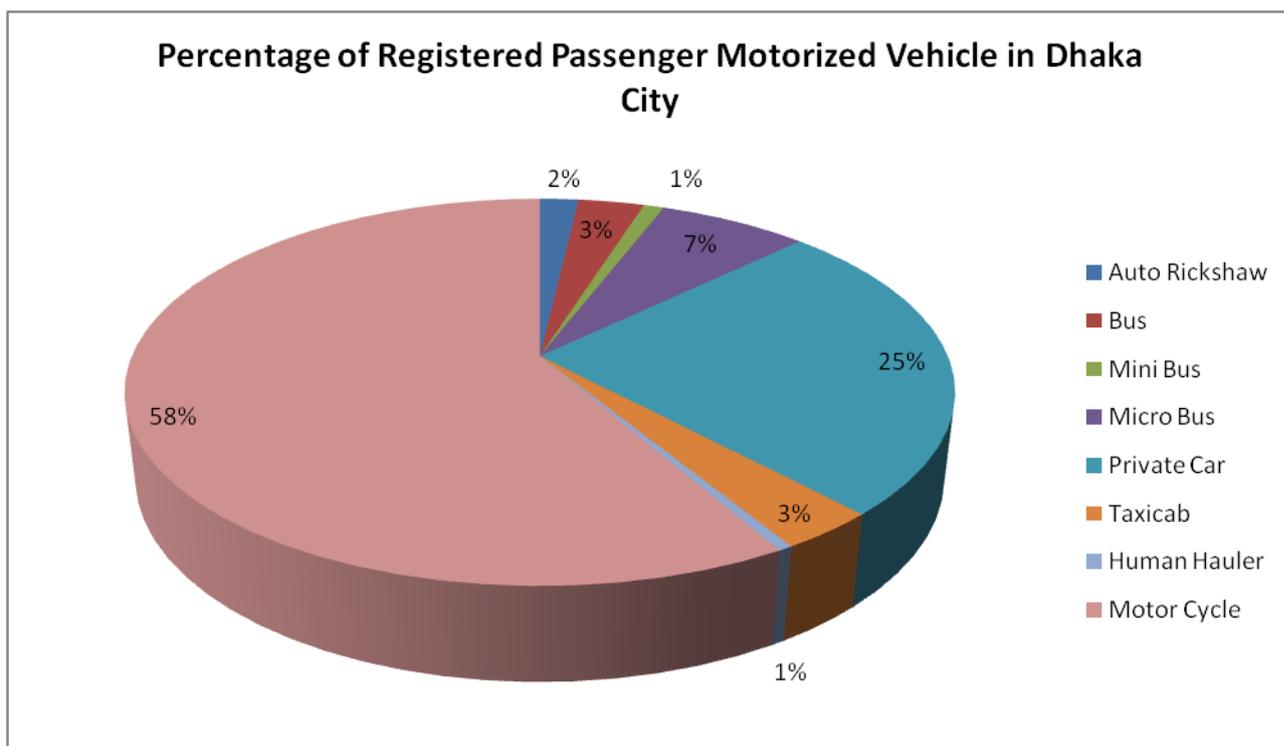


Figure 2: Percentage of Registered Passenger Motorized Vehicle in Dhaka City

Source: [www.brta.gov.bd](http://www.brta.gov.bd) (May, 2019).

Even though only 20% of the total registered motorcycles are in Dhaka city, the composition of motorized vehicle fleet in Dhaka show that 58% are motorcycles and 25% are

private cars. Several newspaper reports mentioned that after introducing the app-based ride sharing services, the number of motorcycles and cars in Dhaka have increased. This is probably because, the app-based ride sharing company has no restriction about operating with registration in outside of the Dhaka. Furthermore, the sale of motorcycle has increased; as IDLC Monthly Business Review (2019) mentioned, 0.14 million motorcycles were sold in 2015 but after introducing app-based ride sharing service 0.36 million motorcycles were sold.

## 1.2 Motorcycle Ridesharing Services in Bangladesh

App-based ridesharing in Bangladesh is available in Bangladesh from 2014. There are eight different ridesharing services now operating in country's market, mainly in metropolitan cities (Financial Express, 2018). One of the most successful app-based ridesharing services in Bangladesh is Patho whilst UBER has the most rapid growth in Dhaka. UBER is one of the fastest-growing companies in the world, based in San Francisco and functioning in over 600 cities (UBER, 2019). Pathao, carved out its niche by focusing on motorcycle services, launching itself with a catchy musical tag line to Dhaka commuters 'Beat the traffic', has been instrumental in spearheading the market along with Uber (The Financial Express, 2018). Table 1 shows the summary of key features of the different app-based motorcycle ridesharing service providers in Dhaka city.

Table 1. Prominent app-based motorcycle ridesharing service providers in Dhaka city

Indicators	UBER	Pathao	Shohoz
Year started	22 November 2016	2015	Mid of 2014
Service area	Dhaka and Chittagong	Dhaka, Chittagong, and Sylhet	Dhaka
Partner drivers	100,000	50,000+	1,000+
Types of service	Uber X, Uber Moto, Uber Premium, Uber Hire	Ridesharing, Parcel, Food delivery, Merchant delivery	Bike Ride Only
Pricing for motorcycle service	Base fare Tk 30, Per km. fare Tk 12, Waiting charge Tk1/minute	Base fare Tk 25, Per km. fare Tk 12, Waiting charge Tk0.5/minute	Base fare Tk 25, Per km. fare Tk 12, Waiting charge Tk0.5/minute
Rider recruitment process	<ul style="list-style-type: none"> <li>• Driving license</li> <li>• National identity card</li> <li>• Vehicle registration</li> <li>• Vehicle tax token</li> <li>• Vehicle insurance</li> <li>• Vehicle certificate of fitness</li> </ul>	<ul style="list-style-type: none"> <li>• Driving license</li> <li>• National identity card</li> <li>• Vehicle registration</li> </ul>	<ul style="list-style-type: none"> <li>• Driving license</li> <li>• National identity card</li> <li>• Vehicle registration</li> </ul>

Source: Uber Technologies Inc., 2019; Pathao, 2019; Shohoz, 2019.

The 'Ridesharing Service Guideline 2017' in Bangladesh allowing commercial use of privately used vehicles via app-based services. The ridesharing services using motorcycle are becoming popular among the app-based transport users as they can save time by reducing travel time in cities in the grip of traffic snarls (New Age, 2018). This indicates that in near future there might be more motorcycles in use at a higher frequency on the roads of Dhaka.

Despite having the popularity, users of the motorcycle ridesharing have concerned several issues and complaints are: unprofessional attitude of drivers, poor safety gears, lack of training for the drivers and untrained bikers are employed by the service providers which often cause accidents, and excessive fare rate (New Age, 2018). These bikers usually do not have any professional driving license and their driving skills are not tested by the seminar providing authority or any other authority. Almost none of the bikers have received any training from ridesharing company or any other agency for carrying passengers. As a result, the number of motorcycle accidents has increased significantly, causing death and injuries.

Nevertheless, experience from South-East Asian countries where many cities had rapid growth of motorcycles suggest that two-wheelers may cause chaos for other modes/commuters and pedestrians, and could be unruly. Moreover, the rising fleet of two-wheelers is a cause for safety concern, with an alarming number of young people (and co-riders) vulnerable to road accidents. Therefore, many transport professionals argue that motorcycle ridesharing services in Bangladesh might be welcomed but with caution (Financial Express, 2018). Moreover, the concerned authorities need to expeditiously intensify monitoring and surveillance to ensure that the Ridesharing Service Guideline 2017 is abided by all concern (The New Age, 2018).

## 2. OBJECTIVES

The main purpose of this paper is to explore the existing service pattern of app-based motorcycle ridesharing scheme in Dhaka city, derive the female users' perceptions about the service and based on this information providing some suggestions to improve the services.

The findings of this research may help to provide comparative advantages and disadvantages of app-based motorcycle ridesharing service scheme as well as the relevant issues that need to be addressed for better service delivery of app-based motorcycle ridesharing.

## 3. METHODOLOGY

Quantitative research approach was followed to fulfill the objectives of this research. Considering different variables for each of the objective, required data and their sources were identified, as shown in Table 2.

Table 2. Required data and sources

Objectives	Variables (Required Data)	Source
Existing Service Pattern	<ul style="list-style-type: none"> <li>• Service area</li> <li>• Type of vehicles</li> <li>• Fare system</li> <li>• Rider recruitment process</li> <li>• Company policies</li> </ul>	Secondary
User Perceptions Analysis	<ul style="list-style-type: none"> <li>• Preference of app-based motorcycle ridesharing service</li> <li>• Frequency of ride</li> <li>• Reason for choosing app-based ridesharing</li> <li>• Reason for choosing motorcycle instead of other vehicles</li> </ul>	Primary (Questionnaire Survey)

	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Problems in ridesharing service</li> <li>• Respondents' expectations and necessity</li> </ul>	
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Relevant secondary data were collected from the newspapers, websites, as well as published and unpublished reports. For secondary data, this study mainly focused on the major app-based motorcycle ridesharing services in Dhaka. Based on the user's response, the major three ridesharing services in Dhaka are: UBER, Pathao, and Shohoz; a summary profile shown in Table 1.

Primary data were collected from a particular group of women users' aged over 18 years. A pre-determined structured questionnaire (with some close-ended and some open-ended questions) was prepared and used to collect data. The major sections of the questionnaire covered are: demographic information, frequency of taking app-based motorcycle ridesharing services, preferable ridesharing service, reasons behind not using public transport, problems of motorcycle ridesharing services particularly the safety issues of female users, and suggestions for improving service quality. An online questionnaire was prepared using Google Forms application and it was sent to the female users of ridesharing scheme. The data were collected during February and March 2019.

The survey considered a sample size of 100 individual women who have recently used an app-based motorcycle ridesharing service. Only about 1% of the motorcycles registered in Dhaka city are owned by women (BRTA, 2019). Most of the female owners of motorcycle in Dhaka are using it for their own travel and not willing to register as a driver in app-based ride sharing service. App-based ride sharing companies claimed that only a very few of their drivers are female and yet app-based ride sharing service is not much popular to female customers, therefore, the proportion of female users in Dhaka is still very low. For instance, in average only 9 in 100 customers of UBER in daily basis are women (UBER, 2019), in every second Pathao receives 15000 customer requests of which about 82% are for bike service and only 7% to 8% of the requests for Pathao bike are from women users (Pathao, 2019). In app-based ride sharing service in Dhaka, only about 1% drivers are female. Moreover, the social structure of the country often donot provide positivism if women is seating behind of unknown male (driver) in motorcycle. Therefore, the number of female users of app-based motorcycle users is yet very low compare to the male passengers. Moreover, UBER and Pathao both mentioned that they receive most of the requests from female users for a motorcycle ride during day time only and most of them are young students or working women (UBER, 2019 and Pathao, 2019). Therefore, having 100 samples are enough to show the results of the population, female users of app-based motorcycle.

## 4. FINDINGS

This section reports the major findings and results derived from the case study conducted in Dhaka city.

### 4.1 Profile of the Respondents

It was already mentioned earlier that the respondents for this study were considered only the female users of aged above 18 years. Nevertheless, the most of the respondents (69%) are between 23 years and 27 years whilst 25% are from age group 18-22 years and only 6% are between 28 years and 37 years (see Figure 3). These data indicate that among the female users

of app-based motorcycle ridesharing service, the majority are youth whilst the older women do not use ridesharing motorcycle. This might be attributed due to the safety concerns of motorcycle users.

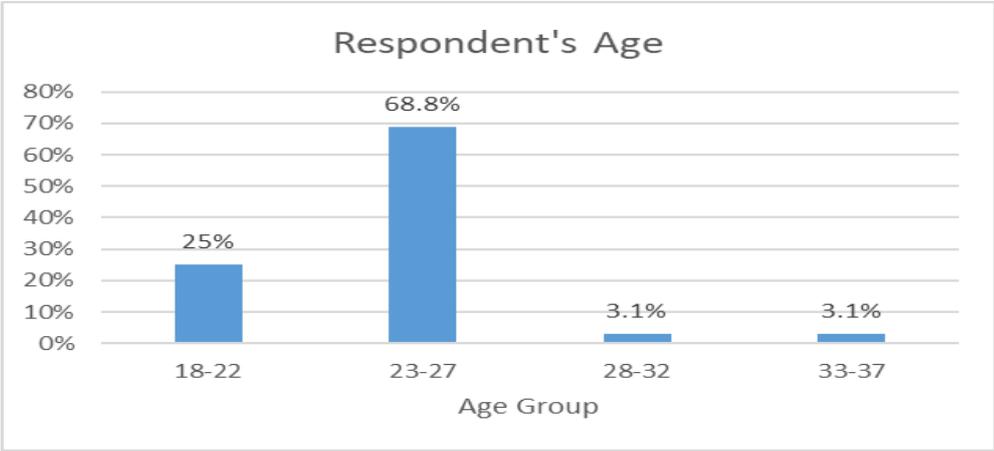


Figure 3. Age of the respondents  
Source: Questionnaire Survey, 2019

Occupation of the respondents reveal that almost 69% are students in different education institutions, 25% are employed and the rest 6% are engaged in business or other activities (see Figure 4). Not a single housewife was found who use motorcycle ridesharing service. This information reveals that women who need to travel on regular basis using motorcycle ridesharing but housewives or others who usually travel very rarely do not use app-based motorcycle ridesharing services.

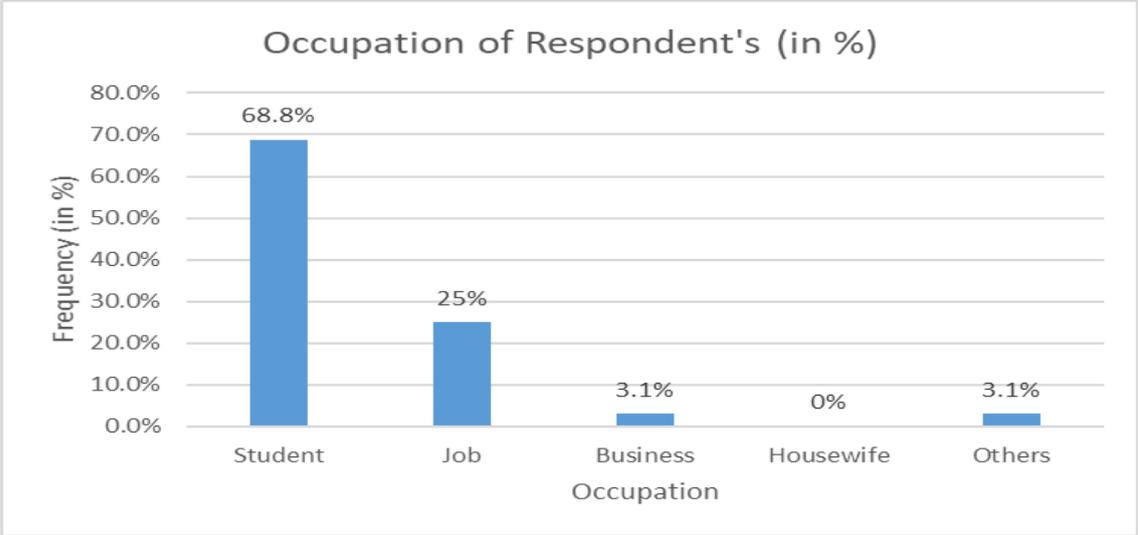


Figure 4. Occupations of Respondents  
Source: Questionnaire Survey, 2019

**4.2 Reason for Avoiding Public Transport Services**

The respondents were asked why they use app-based motorcycle ridesharing services instead of using the existing public transport of the city. The majority (about 36%) mentioned ‘to save travel time’ whilst 31% mentioned ‘feel insecure or unsafe’ in public transport, about 15% mentioned ‘poor quality of public transport vehicles’, 13% mentioned ‘to avoid traffic congestion’, and 5% mentioned ‘poor or no access to public transport’ (Figure 5). This information is somehow surprising because in terms of accident occurrence or safety concern people usually consider motorcycle as an unsafe mode and public transport such as buses are safer.

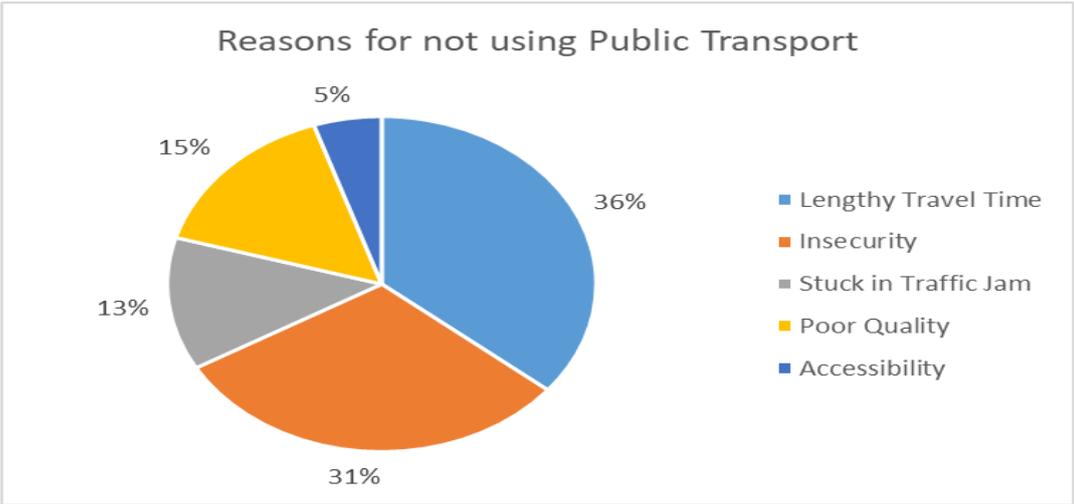


Figure 5. Reasons for avoiding public transport  
Source: Questionnaire Survey, 2019

**4.3 Preferable App-based Ridesharing Services**

Even though UBER is the pioneer for introducing the app based ridesharing service in Bangladesh, for the case of app-based motorcycle ridesharing service Pathao is the pioneer. Motorcycle ridesharing services in Bangladesh introduced by Pathao in 2015 and UBER introduced their ridesharing services in 2016 (Uber Technologies Inc., 2019 & Pathao, 2019).

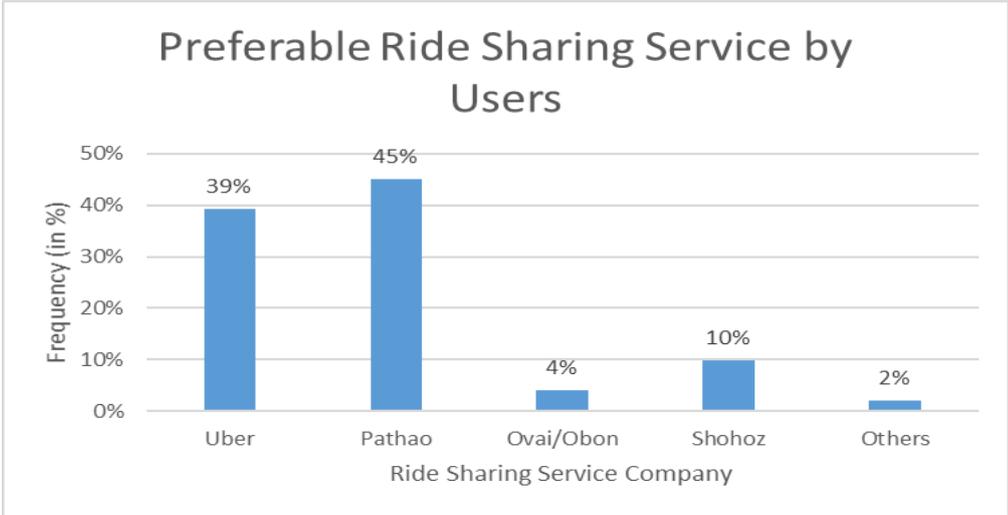


Figure 6. Preferable app-based ride sharing service by users?  
Source: Questionnaire Survey, 2019

The respondents were asked which services of motorcycle ridesharing they prefer most. Almost 45% of the respondents mentioned that they prefer Pathao as ridesharing service whilst 39% respondents prefer using UBER. Shohoz ride is preferred by 10% of the users whilst OBHAI/OBON is preferred by 4% of users and only 2% prefer other services. This information reveals that UBER and Pathao as the pioneer in the market is dominating the market share of motorcycle rideshare service than the other service providers. Moreover, Patho and Uber are able to attract the attention of the majority of the users.

**4.4 Frequency of Usage App-based Motorcycle Services**

Data reveal that only about 19.5% of the respondents use app-based motorcycle ridesharing services on regular basis or daily whilst the rest use very rarely (e.g. once in a month or only when emergency). As Figure 7 shows, 39% of the respondent’ use this service in every week and 6.5% use only once in a month.

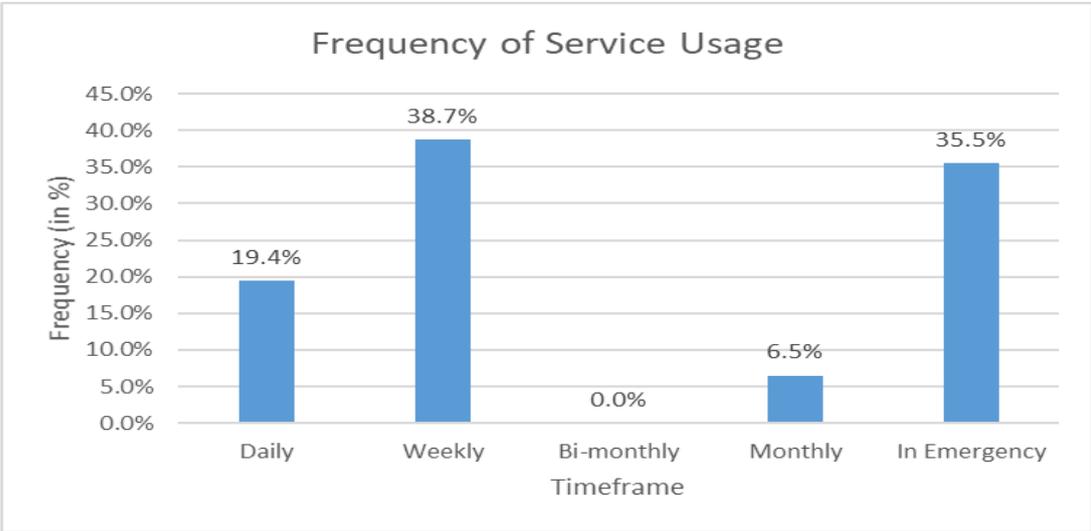


Figure 7. Frequency of usage  
Source: Questionnaire Survey, 2019

**4.5 Reasons for Using Motorcycle Ridesharing Services**

Figure 8 shows the reasons why the represents’ use motorcycle ridesharing services. Users prefer to use motorcycle ridesharing service because it ‘saves the time’ and to ‘avoid traffic jam’ was reported by 83% and 76% respondents respectively.

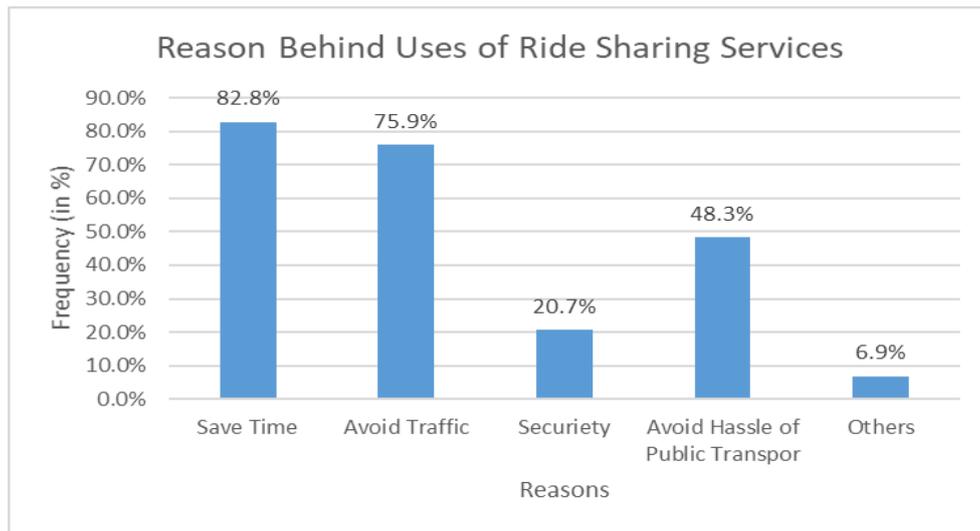


Figure 8. Reasons behind using motorcycle ride sharing service  
Source: Questionnaire Survey, 2019

Even though widespread congestion and delay are common in the streets of Dhaka, data reveal that several respondents consider that using motorcycle ridesharing help them to reach in desired destinations easily without much delay and avoiding the traffic. It is also worth mentioning that 48% of the respondents use motorcycle ridesharing to avoid the hassle often need to face in public transport and 21% mentioned for security reasons.

#### 4.6 Characteristics of Commuting Distance and Time

Commuting distance for the majority of female users of app-based motorcycles are for short distance. For example, 63% of the respondents mentioned their trip was within 8 km (Figure 9). However, it is worth mentioning that a considerable portion of trips are for longer distance, 25% is 8-12 km and 12% is 12-16 km. Figure 10 shows the average required travel time of the respondents.

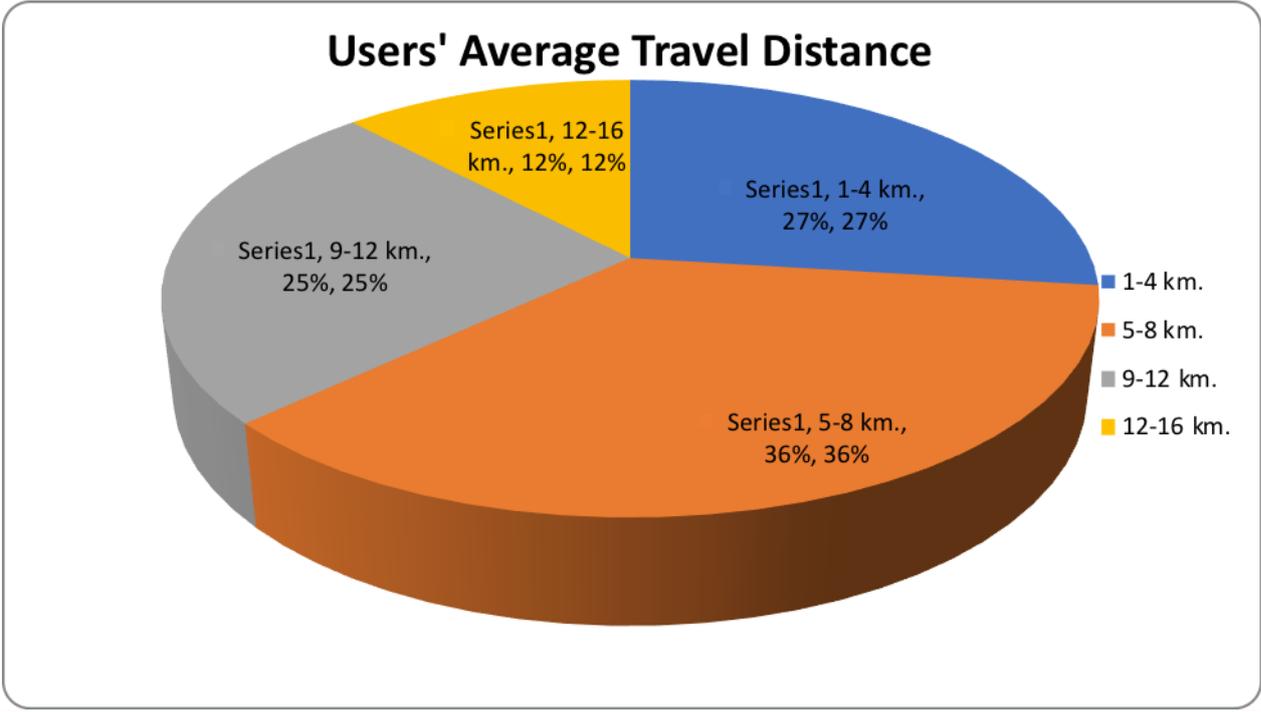


Figure 9. Average Travel Distance  
Source: Questionnaire Survey, 2019.

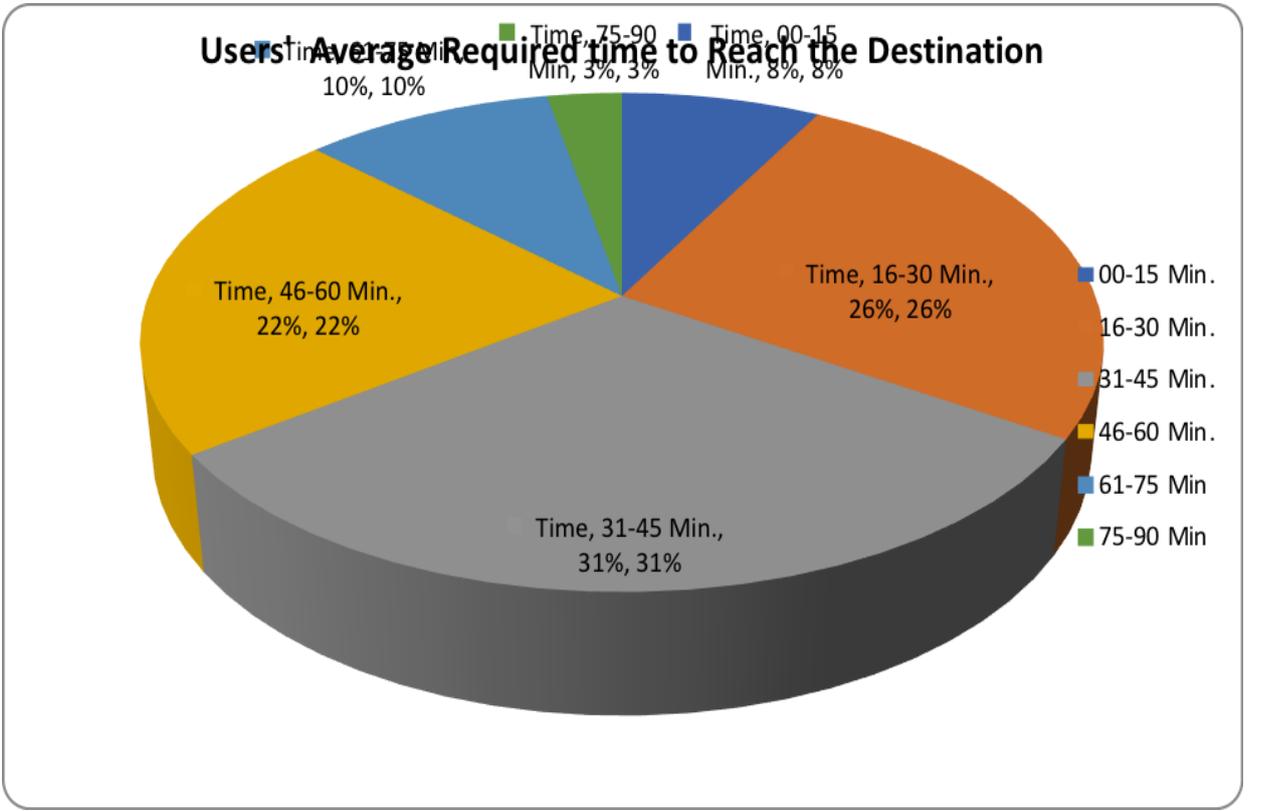


Figure 10. Average Time of Trip on app-based motorcycle to Reach Destinations  
Source: Questionnaire Survey, 2019.

In the Dhaka City, due to traffic congestions it is often very difficult to reach in the destinations on time. Traffic management and regulatory measures are very poor and weak, often absent. The average speed of traffic in Dhaka is now only 7 km per hour (Dhaka Tribune, 2017). About 31% of the respondents mentioned that they required 31 to 45 minutes to reach in destinations. However, a very few (only 3%) mentioned more than 1 hour. Probably because the motorcycle is not safe mode in Dhaka and cost is relatively higher for longer distance, the proportion of trips on app-based motorcycles is less for longer distance.

**4.7 Safety in Motorcycle Ridesharing Services**

About the perception of safety, 75% of the respondents (almost 75 respondents of the total 100) mentioned that they think the app-based motorcycle ridesharing services are safe for women whilst the remaining 25% of the respondents mentioned it ‘unsafe’ (not safe at all for women).

Figure 11 shows the main reasons for perception of users’ who think that app-based motorcycle ridesharing service is not safe. About 70.6% of the respondents feel insecure because of road accidents, almost 29.5% complained that they have faced problems of sexual harassments, 23.5% mentioned other reasons, and about 12% mentioned the problem of snatching they have faced while they were on ride.

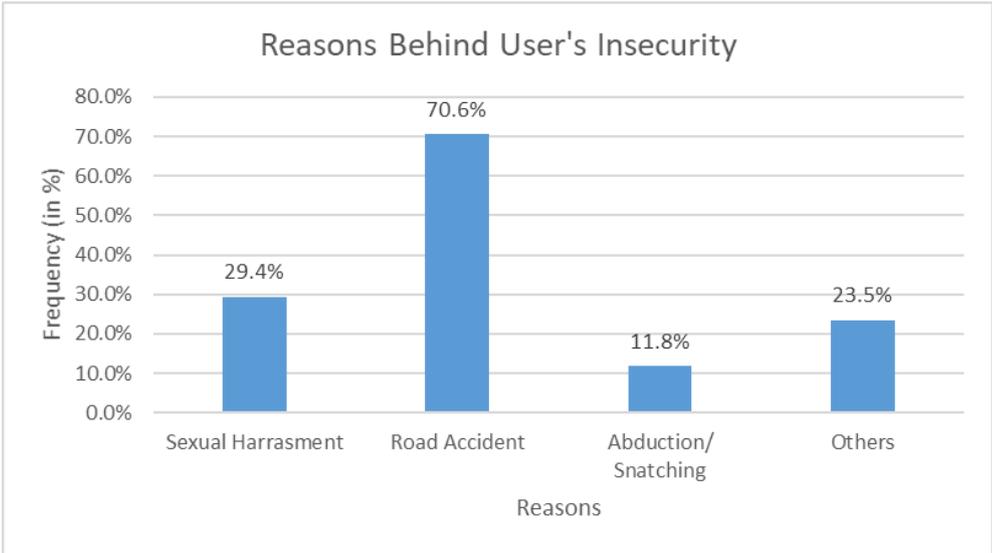


Figure 11. Reasons behind users’ insecurity  
Source: Questionnaire Survey, 2019

**4.8 Problems in Motorcycle Ridesharing Services**

The respondents were asked to report the major problems they usually face or faced while using motorcycle ridesharing service. Motorcycle ride sharing service companies ‘do not provide a good quality helmet for the users and the lack of experience for drivers or ‘inexperienced driver’ were both reported by the majority, 40.6% respectively. About 28% mentioned excessive fare rates and delay in locating clients’ location, 22% respondents mentioned the problem in application glitch to operate the service apps and 12.5% respondents complained about the bad manners of driver (Figure 12).

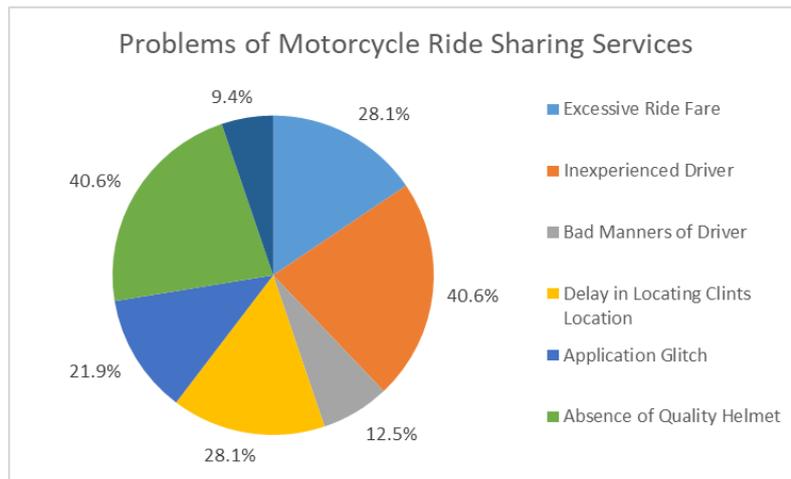


Figure 12. Problems in motorcycle ride sharing service faced by users’  
Source: Questionnaire Survey, 2019

#### 4.9 Users’ Suggestions

Respondents were asked to provide their suggestions to improve the quality of services of app-based motorcycle ridesharing services. Figure 13 shows that about 28% of the respondents think that ridesharing service need to look upon on the driver recruitment process and improve the drivers’ driving skill first and 18% respondents think that companies need to reduce their travel charge in case of affordability. They also recommend increase safety (14%), improve the quality of helmet (10%), improve drivers manner as well as app navigation skill (8%), improve customer service and quality of bike (4%), increase discount service, quality of bike and increase service in peak hour (2%).

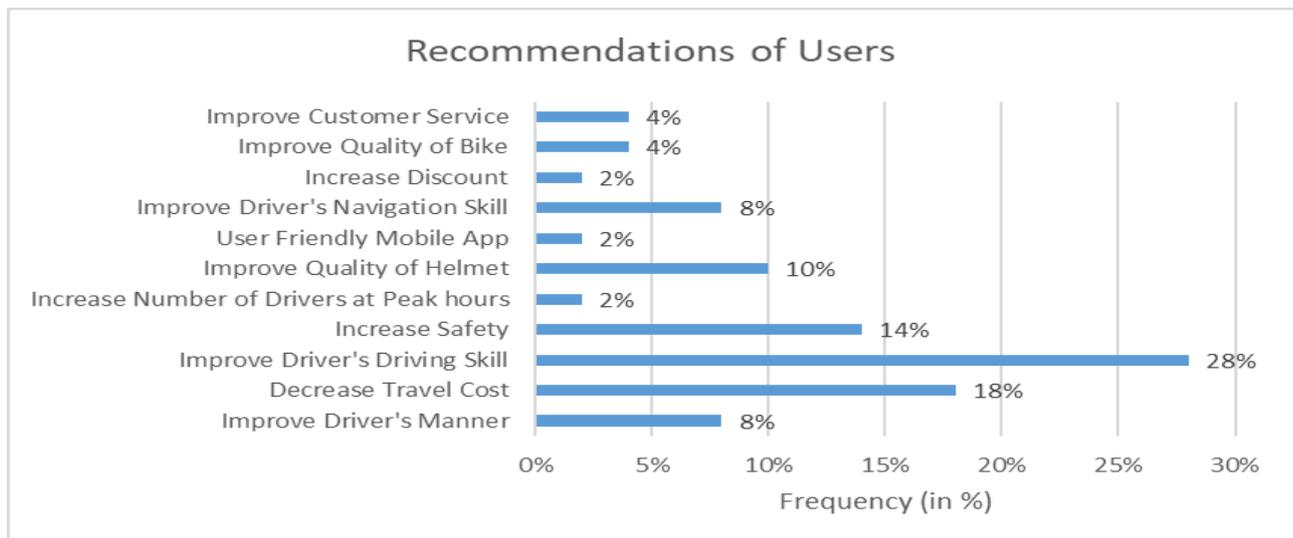


Figure 13. Recommendations provided by users’  
Source: Questionnaire Survey, 2019

## 5. DISCUSSIONS

Results discussed in previous section reveal that there are some issues and problems of the app-based motorcycle ridesharing service. The specific issues of existing app-based motorcycle ridesharing services are:

- Driving behavior and the experience of driver: The app-based ridesharing service provider companies just check the driving license and vehicle license registration but they do not evaluate or consider the experience of the driver. Due to lack of skilled driving, female passengers often feel insecure using motorcycle ridesharing service. Moreover, several accidents of the motorcycle ridesharing service happened recently made this situation more scary for female users. There is no provision to test the manner and behavior of the drivers before they are employed. Sometimes they do not know how to behave well towards female passengers of motorcycle ridesharing service.
- Helmet use: Wearing helmet during motorcycle ride is mandatory by law for both the drivers and the passengers. Not using a helmet during ride is also the contempt of the traffic rules. However, there was no provision of helmet use by the service provider companies until May 2018. After the students' movement in May 2018 demanding safer roads, ridesharing companies provided the helmet to their registered drivers. Nevertheless, the quality of the helmets are very poor and they are not suitable to protect the users from the accidents.
- Excessive fare rate: Users of the motorcycle ridesharing service are mostly students of university and young working women. Despite the occasional provision of promo code for the discount to avail by the users, for many people of the city the fare rate is not affordable.

There are also some other problems of motorcycle ridesharing service such as delay in locating client's location, application glitch, poor customer care service, poor GPS tracker, and poor route mapping, poor quality of motorcycle, etc.

Based on the findings, this study provides some suggestions for reducing the problems of women users' of app-based motorcycle ridesharing services. The specific suggestions are:

- Ridesharing Service Guideline 2017 need to be revised and enforced properly before providing approval of ridesharing service.
- In case of vehicle registration for ride sharing service, fitness of the vehicles needs to be checked and determine the expired year of the vehicle's fitness.
- Rider or driver registration system needs to be control more sincerely. Not only driving license is the only qualifications for acceptance but also experience and minimum educational qualifications and a short interview also need to consider as the qualifications.
- Ridesharing services ensure to provide good quality helmet for the riders.
- Motorcycle ride sharing services need to frame a new fare cost. So that, it could be affordable to all and provide a special discount for the students and frequent users'.
- Ride sharing service need to provide a good GPS tracking system to find out the route easily and can reach to the clients in time.
- Ridesharing Service Guideline 2017 need to be look upon on the newly introduced specialized apps for app-based motorcycle ride sharing service for women like Pink SAM, OBONE, Lily etc.
- There is also other area of improvement like- modernized the apps, preserve the confidential data of the users', betterment the customer services etc.

## 6. CONCLUSION

The women in Dhaka city usually need to travel regularly to perform their socio-economic activities. However, the existing public transport of the city is not safe or secure for women. Therefore, women who travel or commute regularly prefer ridesharing services. There are also some constraints to use those. Though app-based motorcycle ridesharing service is relatively new in Bangladesh, it gained huge popularity within a short time. There are also some limitations in maintenance of these services. It is expected that the Ridesharing Service Guideline 2017 powered by BRTA can be the hope of light in darkness for the improvement of the present situation of the app-based motorcycle ride sharing services. Still now, most of the services are run through without any proper guidelines, which create the inconvenient situation. It can also be the pathway for the study on the commuter women on Dhaka City.

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