

AN EMPIRICAL STUDY: BIKE TAXIS UTILITY, OPERATIONS AND CHALLENGES IN SOUTH BANGALORE

Dr. G SHIVARANJANI, Assistant Professor, Kristu Jayanti College, Bangalore.

Mr. LEELESH RAMAKRISHNA, Associate Team Leader, Thomson Reuters, Bangalore.

ABSTRACT

Motorcycle taxis operate in a delimited, unrestrained situation, hovering public health, ecological and pecuniary matters. This research presents a novel approach in analyzing various service providers of bike taxis in Bangalore using qualitative data from observations through structured questionnaire on various attributes associated with motorcycle taxi and other modes of commute preferred by the respondents. The RTO officials in the city first impounded bike taxis operated by few popular service providers saying their operations are illegal. The maximum numbers of bikes are impounded from Jayanagar, Bangalore. Astonishingly with increasing pressure from the public demanding such services, the Transport Department said it would issue guidelines on the operation of bike taxis along the lines of those for mobile app-based taxis. The poor distribution of stands across the territory and large number of drivers, control mechanisms, bike maintenance issues, hygiene and safety aspect results in the overall inefficiency of this concept from becoming widely popular. The researcher dwells to understand the impact in operations, functioning and efficiency of bike taxi service providers in successfully establishing themselves in the market despite of all odds faced by the players.

Key Words: Bike Taxi, Transport, Service providers, Commute, Youth, Mobile Applications.

1. INTRODUCTION

1.1 Meaning and history of bike taxi

A motor cycle taxi is a licensed form of transport. The taxi normally carries one passenger, who rides as the passenger seating behind the motorcycle operator. In some countries there's a fixed meter by which you have to pay according to the distance you've travelled and time you've taken. In some countries the rider

decides the amount you have to pay. Bike taxis are generally used because it's relatively quicker and cheaper compared to other forms of transport. The biggest concern is the safety of the passengers. One of the earlier countries to start bike taxi was China. It started the service in the late 1980's.

1.2 Bike taxis around the world

- **Brazil:** According to some sources, motorcycle taxi service in Brazil began in 1994, in Crateus, in the state of Ceara, when an employee of the Bank bought 10 bikes for rent, for the transport of persons. It is witnessed that most Brazilian cities have bike taxi service providers also they have appeared in inferior and remote areas, where young people increasingly support themselves by driving them. Typically, the fare is a flat fee, regardless of the distance travelled. However, the fare may differ according to the time of day, day of the week or increase for distances that are greater than usual. Licensing requirements for motorcycle taxis vary by municipality. Small townships tend not to regulate them at all while in larger cities they are regulated in much the same way as taxicabs. The riders must be at least 21 years old to have held a Category "A" driver's license for at least two years and should have attended a training course.
- **Cambodia:** In Phnom Penh and other cities in Cambodia, motorcycle taxis are widely available as a form of low-cost public transport. Bike taxi drivers who are almost exclusively male representative are so-called motodops. They usually provide service to tourists, administrative centres, markets and around residential streets. There is no regulated system of training or bike maintenance and no common uniform, so anyone on his way home from the market can offer you a ride. The fares varies depending on distance, weather and are mostly economical than a tuk-tuk. The fares are pretty higher during night especially when boarding from tourist places.
- **Cameroon:** Bike taxis are the most shared form of transportation in Maroua, Cameroon. The teen passengers enjoy their ride as they carry as many as four children on a single motorcycle. Helmets are hardly used as the traffic and speed are restrained in the city. The price for short distances cost about 200 francs which is say less than US \$1.
- **China:** The bike taxi service can be traced back to the late 1980s and early 1990s in China. As the bike taxis run throughout China including in Beijing, Shanghai & Guangzhou and other parts. They are

popular mostly due to their low cost for instance the fare for a short trip is 5 Yuan which is less than US \$1 per person.

- **Mexico:** There are say about thousands of motorcycle taxis operating and their arrangements are informal. They have perilous working conditions like long hours 11.3 hours a day, low wages as much as US \$59.18 per week and no social protections or benefits are offered to their employees.
- **Nigeria:** It has about three million bike taxis which are locally called Okadas with over one million in Lagos alone. In Lagos, new rules prohibit Okadas from carrying pregnant women or children. The authorities say Okadas will be stopped from driving up the wrong way and the number of roads on which they are authorized to travel will be sharply reduced.
- **Indonesia:** Bike taxis form a unlicensed transport in Indonesia where they are branded as Ojek. It is functioning in most areas of the country from towns where traffic jams commonly hinder other forms of transport, to rural areas inaccessible by four-wheeled vehicles. Ojek is the most preferred form of transport especially in Jakarta due to heavy traffic as many people opt them over taxicabs, which are safer, but slower and more expensive. Before the trip begins, the passenger usually haggles with the driver over the fare, which generally ranges from 5,000 to 10,000 rupiah which is about US \$0.50 to US \$1.00 for short trips. The Indonesian law requires motorcycle riders and passengers to wear helmets mandatorily. Although the driver will sometimes provide a helmet for the co passenger yet the drivers simply avoid main streets and the attention of police.
- **Sweden:** There were several motorcycle taxis in Stockholm during 1994 and 1995 but due to the city's northern latitude bike taxi service was only feasible during the warmer months so it remained a niche industry having limited number as of 2011, there is only one company offering tours using two Chang Jiang sidecar motorcycles for its endusers.
- **Thailand:** Motorcycle taxis are collective form of public transport in Bangkok and various parts of Thailand. The motor bike taxi driver is addressed as Pwin who are booked for commuting short distances. In Bangkok we can see motorcycle taxi queues on streets which are regulated by land transport authority. The licensed motorcycle taxi operators wear a uniform which includes vests and has a yellow number plate and a certificate in the form of yellow card having details of the Pwin. In compliance with Thailand's helmet law many drivers carry a spare helmet to offer to their passengers, Bangkok locals usually prefer to use motorcycle taxis when they need to get somewhere as they are

relatively cheaper and fast when compared with metered taxi-cabs for short trips. So, bike taxi drivers in Bangkok have established their reputation on delivering quick service as they tend to zoom fast and weave through traffic with less commute time.

- **Vietnam:** Nimble bike taxis which surpass buses in speed and mobility include one of the most preferred modes of transportation in Vietnam where they are called as Xeom. The passengers can get a ride simply by hailing passing operators or by finding drivers who gather at public places such as schools, markets, hospitals, and bus as well as train stations.

1.3 Bike taxis in India

Bike taxis have always been popular in tourist hotspots like Goa, where you can rent bikes effortlessly. Due to infrequent availability of public transport and very expensive cab services, the Indian crowd prefers bike taxis when on vacation. It's increasingly getting popular in metropolitan cities like Bangalore, Hyderabad, Mumbai and Kolkata. High population and high number of vehicles on the road are increasing the traffic in the cities. Frequent road blocks and traffic jams are a common sight. To get to destinations quicker, Bike Taxis are being preferred of late. There are many bike taxi startups that are coming up, attracting huge investments and capital. Bike taxis are becoming a common sight in our neighbourhood.

1.4 Bike taxis in Bangalore

Bike taxis in Bangalore are facing a lot of legal issues and were in limelight as the Bangalore Transport Department has asked Ola to stop offering its bike taxi services in Bangalore. Mr. Narendra Holkar, the Additional Commissioner of Transport and Secretary of the State Transport Authority has directed the department's officials to seize taxis if found operating and penalize them. He had cited that he took such measure due to lack of policy as the rationale for the seizures and penalties. The department has already seized around 200 Ola and Rapido bikes after officers had witnessed customers apparently booking cases against these operators and fining them Rs. 2,000. During the month of August, the transport department said that it was looking into the concept of bike taxis and whether they could be feasible in the city. The officials cited women's safety and the safety of passengers as its concerns. Ola and Uber had to get permission from the state Road Transport Authority (RTA) in order to operate in the city and operating them was a violation of the

central Motor Vehicles Act. The Bike taxis are illegal in the state as there are no regulations looking at their legality and apparently the Transport Department is working on a policy with stakeholders to decide whether bike taxis can be allowed in the city if not in the entire state. Bike taxis would need to be commercially insured and pliable vehicles with yellow number plates, regulations for safety. Rapido, Ola Bikes and Vogo are the popular bike taxi services available in Bangalore. Bounce is a bike rental service where you can pick up bikes in your desired location and drop it anywhere your ride ends. This has become more popular after the introduction of the Metro services in Bangalore.

2. STATEMENT OF PROBLEM

Bike Taxis are increasingly getting popular in today's era and we need to understand the perception of the people as what they feel about it. Bike Taxis are replacing traditional modes of transport. People want to try something that's on the lower scale of safety, to understand how important time and convenience is for the new age office or college goer. Do people think they are spending more on transport and are they are open to switch over to cheaper alternatives, to understand the legal framework of Bike Taxis, to understand why Bike Taxis were not popular previously and interpret what makes people opt for Bike Taxis. The researcher intends to understand how people accept this service, hence the study is titled "Bike Taxi Utility, Operations & Challenges in South Bangalore" is carried out using relevant framework and statistical analysis.



3. REVIEW OF LITERATURE

Express News Service (2019) talk about how Rapido bike taxis save Rajamahendravaram commuters from perennial traffic woes. People in this town believe it is easier and saves time because of the heavy traffic which is in the city. They believe during emergency situations, it is much more convenient and saves much more time which could make the difference in someone's life.

Sneha Johari (2019) says in her article that The Bangalore Transport Department has asked Ola to stop offering its bike taxi services in Bangalore. The authorities have been directed to seize bike taxis if found operating and penalize them. According to a report around 200 Ola and Rapido bikes were seized. They were fined Rs. 2000. Motor Vehicles Act regulates the private sector, and it has not caught up with bike taxis.

Sutrishna Ghosh (2019) says in her article that Bangalore based dockless bike sharing startup Bounce Sequoia India. They are looking at a market opportunity of 4.5 billion, with that investment they can bring new innovations and solutions to people on a much larger scale. Even though they have been successful in raising capital, losses for the financial year ending March 31st 2018 has almost doubled.

Durba Ghosh (2019) wrote in her article that even though there are more than 75 percent two-wheelers than cars in India, not one single bike taxi startup has become a real success. She mentions that most of the bike taxi firms like Dot, Heybob, and Zingo have shut down before completing 2 years in the market. The biggest challenge in the Indian market is handling regulation. The authorities recognize the service as illegal.

Binu Paul (2018) says in her article that Gurugram based bike Taxi Company Baxi raised fresh funding. The bike taxi service has tied up with Mother Dairy for milk delivery and Patanjali Ayurved for other fast-moving consumer goods. Bike aggregators are increasingly switching their business to a hybrid model, one that thrives on hyperlocal delivery as well as bike sharing.

Sindhu Kashyaap (2018) mentions the top bike taxi startups in India. A study by AlphaBeta Analytics suggests that globally, Uber users save 28 percent time with UberMOTO compared to modes of travel they used before. The article mentions the top bike taxi startups which are Baxi, Bikxie, Vogo, Rapido and Bounce.

Shivam Srivastav (2018) says in his article that Ola wants to become a one-stop platform for urban transportation, and strengthen its turf against rival Uber by investing \$100 million in scooter sharing startup Vogo. All two wheelers come with an IOT based device which allows customers to access the key via OTP and the users can locate the bikes via the mobile application.

LN Revathy (2018) says in her article that Bengaluru Based startup Rapido has expanded operations to 12 cities. The company is eyeing smaller cities and towns to introduce its services, where last-mile connectivity is

an issue. Over 2 lakh aspirants sought to enroll as captains. Coimbatore is among the 1st cities to have women captains. Out of the 80-odd bike taxis that are operational in the city, 3 are run by women.

Supraja Srinivasan (2018) says in her article that Metro Bikes has raised Rs. 84 crores in its latest investment round, which will also see the company changing its name to Bounce. It was founded as Wicked Bikes on 2014, by Vivekananda HR, Varun Agni and Anil G. The service allows users to pick up bikes from places which are close to them and drop them off anywhere, priced by the hour and distance.

Mihir Dalal & Anirban Sen (2018) say in their article that at least half a dozen new mobility startups in India are raising large amounts of capital. Modern investors are pooling funds into the next wave of mobility startups in India as urban transportation bookings are getting digitalized.

Ronak Shah (2018) describes that scooter sharing services start at Rs. 3/Km. Bounce has also gone beyond scooters and have included bicycles, electric pedelecs and kick scooters in Bangalore. The company offers both one way and two-way rides to customers. The service will boost first mile and last mile connectivity issues.

Polina Marinova (2018) says in her article that bike sharing war is roaring in the United States following its explosive popularity in China and Europe. Uber service providers acquired e-bike service Jump Bikes for a reported amount of USD 200 million. The Jump bikes transformed the first station less bicycle service to receive a permit to unveil in San Francisco. The Jump acquisition allows Uber Services to prove its assurance towards founding as an urban mobility company rather than just a taxi alternative.

Bhumika Khatri (2018) wrote in her article that bike taxis would be able to reduce the congestion in Bangalore, caused by high number of vehicles in the city. B. Dayananda who is the commissioner for transport in Bangalore said that he is considering the idea of legalizing bike taxis in Bangalore. He explained that they would examine the licensing procedure and making it mandatory to have yellow number plate for bike taxis.

Anu Raghunathan (2018) says in her article that Rapido wants to reach 1 million rides each day in 2019. Rapido was one of the early movers in the bike taxi sector, started by 3 engineering graduates, it has also managed to secure the backing of Hero Motorcorp's Pawan Munjal. Rapido has raised 6 million USD and their revenue per month is 1.5 million USD. Rapido has 15000 bike riders and does 30000 rides daily. The app has nearly 2 million downloads.

Vijayakumar Pitchiah (2017) says in his article that Rapido elevates fresh funding from Battery Road Digital Holding. The company allocated preferential shares at a subscription price of Rs. 12,858. This is higher than the subscription prices at which it raised its pre-Series A round in April last year.

Dearton Thomas Hector (2017) says in his article that Ola is eyeing the bike taxi market in Kolkata as it had already initiated talks with local bike taxi players such as One Man Taxi and K Bike for strategic partnerships or buyouts for their new diversification plan. Ola had also approached Noida based bike taxi service NOW and Bangalore headquartered Rapido for signing MOU but the discussions haven't yielded any progressive results yet as it has not been a stable business for bike taxi firms in India so far due to its local governmental regulations.

Sukanya Mukherjee (2017) says in her article that Bangalore based rental startup Vogo raises seed funding from Murugappa group and others. The newly raised funding will be spent on building an automated technology platform and will also enable Vogo to expand its tech team and reinforce its marketing exertions. Current options are cars and autos which are expensive and buses are inconvenient. Vogo is disorderly this segment by offering a more competent, computerized and cost-effective option.

Saritha Rai (2016) has said in her article that bike taxis in Bangalore has been halted and bikes were confiscated. Rame Gowda, the commissioner has said that 62 Uber motorcycle taxis and 24 vehicles from other operators have been confiscated. He added that none of the bike taxi services have obtained permits from the Road Transport Authority to offer bike taxi services.

Sindhu Kashyaap (2016) admits in her article that Ola and Uber are going head to head to take the lead in bike taxi services. UberMOTO rates start at Rs. 15 with Rs. 3 per kilometer and Re. 1 per minute. Ola on the other hand is offering their introductory fare of Rs. 2 per kilometer and Re. 1 per minute with a minimum fare of Rs. 30. Amit Jain president of Uber India says that it will help people save time and money and also cut down traffic congestion. His Ola counterpart Pranay Jivrajka says that they are expecting higher demand and are working towards covering more areas in the city.

Maya Bansal (2016) says in her article how she tried a bike taxi in Bangalore years after she had experienced as a tourist in Bangkok. She was the first lady who had ridden in his bike that day. He was zipping through the road but got a flat tire and offered to end the ride for her, but she wanted to experience this and waited for him

to fix it. He fixed it soon and they were on their way. She was quite chatty throughout the ride. She paid him and they went their separate ways.

Shrutika Nagpal (2016) says the advantages of bike taxis are fulfilling last mile connectivity, stubborn and exorbitant prices of auto drivers, congested roads and cheaper prices of bike taxis. She also talks about the disadvantages being safety of the people, especially women, comfort for the pillion when they are carrying something. The biggest hurdle they are facing is regulatory and legal frameworks. She concludes by saying that motor bike taxis are a good idea in theory its implementation in a country like India is fashioned with complications.

Ankur Chandra (2016) mentions the 11 Indian bike rental startups for daily commute, long drives and road trips. He talks about bike taxi rentals which provide premium bikes for rent such as Harley Davidson as well as sports bikes such as RC, Duke and Cbr. Owning a fancy motorbike was a dream a few years back for the common Indian. Now he/she can effortlessly rent a bike for a short period of time for an affordable price.

Micheal, Washika. Okonda etal. (2015) intended to identify new businesses which have emerged as a result of bike taxi. They found a strong relationship between bike taxi and emergence of sale of spare parts, motorcycle mechanics and filling stations activities complimenting each other. They interpreted that there are many businesses that are booming because of the bike taxi business. So, the government can pave way in formulating and implementing policies on issues concerning bike taxi and other related business.

Vu Anh Tuan & Iderlina B. Mateo-Babiano (2013) studied about how motorcycle taxis had a socioeconomic impact in Vietnam. The bike taxis have been emerging in developing countries like Asian countries, as an informal public transport service. As it provides a fast, flexible and cheap transport service to the general public. At the same time, it may also be a main source of income for the urban poor. Based on the survey research they suggest that necessary changes in the service business model and regulatory measures to improve the image and quality of service to common public at large.

W, Mutiso & R R, Behrens (2011) in their research paper examines upon an investigation into the role played by Boda Boda which means Bicycle Taxi in urban transport systems in Kisumu and Nakuru -Kenya. The research examined the challenges, operating characteristics of bicycle taxi and explored measures the concerned department should take to make it more convenient and support them. The study found that bicycle taxis cater to the people who use it for short service trips largely for the purposes of accessing work activities and off-road trips in highly populated unplanned settlements where higher capacity vehicles cannot pass. The suggested measures the research paper advises to take is bicycle lane construction, the promulgation of enforcement by-laws, third party insurance cover, operator association membership.

3.1 Research Gap

It is evident from the extent and the depth of the studies conducted on Bike Taxi Services on Indian perspectives that there is no research done on Bike Taxi services in India. The title of the research “Bike Taxis Utility, Operations and Challenges in South Bangalore” is an exclusive study being carried out on Bike Taxis.

4. OBJECTIVES

1. To study the awareness of Bike Taxis.
2. To understand the various players of Bike Taxis.
3. To find out the legal regulations of Bike Taxis.
4. To analyse the various factors of commute by respondents.
5. To evaluate the parameters of Bike Taxi service providers.

4.1 Hypothesis

The prime function of hypothesis is to suggest new experiments and observations. Many experiments are carried out with the objective of testing the hypothesis. Decision makers often make choices based on the results of hypothesis testing.

In this study the hypothesis are as follows:

- 1) There is no significant difference between gender of the respondents and awareness of bike taxi service.

2) There is no significant difference between age of the respondents and preferable mode of transport during contingent situation.

3) There is no significant difference between occupation of the respondents and the time spent on daily travel.

5. RESEARCH METHODOLOGY

- **Research Design**

The research methodology adapted for the study is descriptive research which is a survey method including comparative and correlation methods. It is descriptive as the phenomenon study is not controlled or modified but is just measured and reported as there is no control over the variables. The pilot study was carried over for a sample of 30 respondents to check validity and reliability.

- **Sampling Method**

The samples were collected by simple random sampling method using a structured questionnaire.

- **Sampling Unit**

The data was collected from respondents belonging to Jayanagar 2nd phase ward.

- **Sampling Size**

The sample size of the study is 209.

- **Period of Study**

The period of study was 6 weeks.

- **Statistical tools used**

- ❖ Percentage Analysis
- ❖ Reliability Test
- ❖ Descriptive Statistics
- ❖ ANOVA Test

5.1 Data collection method

The data collection is nearly that of compilation of primary and secondary data. The primary data was obtained through a structured questionnaire using Google Forms, and analyzed for its reliability and validity and were tabulated using SPSS software.

5.2 Scope of the study

The key essence of the study is to create awareness know the implications regarding Bike Taxis services and its utility.

6. RESULTS AND DISCUSSIONS

The data was collected through a survey using structured questionnaire from the respondents of sample size 209, who belong to South Bangalore.

The data obtained from the respondents was analyzed to study and tabulate the following parameters:

1. Percentage Analysis
2. Descriptive Statistics
3. Reliability Test done for the Structured Questionnaire
4. Hypothesis Testing Using ANOVA

It measures the data with respect to the instruments used and the results obtained are present as given below.

Descriptive Statistics

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|-----------|-----------|-----------|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| What do you look for the most while travelling? 1 being not important 5 being very important [Safety] | 207 | 1 | 5 | 3.95 | 1.253 | -1.029 | .169 | .043 | .337 |
| What do you look for the most while travelling? 1 being not important 5 being very important [Time] | 207 | 1 | 5 | 3.94 | 1.152 | -.906 | .169 | .019 | .337 |
| What do you look for the most while travelling? 1 being not important 5 being very important [Accessibility] | 207 | 1 | 5 | 3.77 | 1.111 | -.698 | .169 | -.184 | .337 |
| What do you look for the most while travelling? 1 being not important 5 being very important [Cost] | 207 | 1 | 5 | 3.57 | 1.167 | -.531 | .169 | -.385 | .337 |
| What do you look for the most while travelling? 1 being not important 5 being very important [Comfort] | 207 | 1 | 5 | 3.61 | 1.205 | -.480 | .169 | -.662 | .337 |
| Bike rentals are easy to use, it can be booked and dropped off anywhere. how do you rate this service? | 209 | 1 | 5 | 3.95 | .870 | -.702 | .168 | .628 | .335 |
| How likely are you to recommend bike taxis to your peers? | 209 | 1 | 5 | 3.32 | .923 | -.114 | .168 | .102 | .335 |
| Valid N (listwise) | 207 | | | | | | | | |

Inference: Descriptive Statistics provides 2 types of general statistics, the mean and standard deviation, frequency distributions are used to organize and present frequency counts in a summary form whereby the characteristics of each sample is obtained by accessing against each variable.

Reliability Test

Reliability Statistics

| | |
|------------------|------------|
| Cronbach's Alpha | N of Items |
| .793 | 7 |

Inference:

It is observed that the 7 elements of the structured questionnaire assessed using Likert Scale when tested for its reliability and validity, the Cronbach's Alpha score is 0.793, which indicated that the elements are highly dependable and good factor loadings.

Testing of Hypothesis Using ANOVA

1) **H₀**: There is no significant difference between gender of the respondents and awareness of bike taxi service.

H₁: There is significant difference between gender of the respondents and awareness of bike taxi service.

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|-------|-----|------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| 1 | 171 | 1.29 | .453 | .035 | 1.22 | 1.36 | 1 | 2 |
| 2 | 38 | 1.37 | .489 | .079 | 1.21 | 1.53 | 1 | 2 |
| Total | 209 | 1.30 | .460 | .032 | 1.24 | 1.36 | 1 | 2 |

| | | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|------------------------|----------------|-----|-------------|------|------|
| Between Groups | (Combined) | .208 | 1 | .208 | .985 | .322 |
| | Linear Unweighted Term | .208 | 1 | .208 | .985 | .322 |
| | Weighted | .208 | 1 | .208 | .985 | .322 |
| Within Groups | | 43.801 | 207 | .212 | | |
| Total | | 44.010 | 208 | | | |

Inference:

It is observed that there is no significant difference between gender and awareness of Bike taxis as ($P > 0.05$). Hence, we accept the null hypothesis and reject the alternative hypothesis.

2) **H₀**: There is no significant difference between age of the respondents and preferable mode of transport during contingent situation.

H₁: There is significant difference between age of the respondents and preferable mode of transport during contingent situation.

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|----|------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| 3 | 82 | 2.04 | .532 | .059 | 1.92 | 2.15 | 1 | 3 |
| 4 | 45 | 1.98 | .583 | .087 | 1.80 | 2.15 | 1 | 3 |
| 5 | 42 | 1.95 | .492 | .076 | 1.80 | 2.11 | 1 | 3 |
| 6 | 27 | 1.89 | .424 | .082 | 1.72 | 2.06 | 1 | 3 |
| 7 | 13 | 2.08 | .494 | .137 | 1.78 | 2.38 | 1 | 3 |

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|-------|-----|------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| 3 | 82 | 2.04 | .532 | .059 | 1.92 | 2.15 | 1 | 3 |
| 4 | 45 | 1.98 | .583 | .087 | 1.80 | 2.15 | 1 | 3 |
| 5 | 42 | 1.95 | .492 | .076 | 1.80 | 2.11 | 1 | 3 |
| 6 | 27 | 1.89 | .424 | .082 | 1.72 | 2.06 | 1 | 3 |
| 7 | 13 | 2.08 | .494 | .137 | 1.78 | 2.38 | 1 | 3 |
| Total | 209 | 1.99 | .519 | .036 | 1.92 | 2.06 | 1 | 3 |

| | | | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|-------------|------------|----------------|-----|-------------|------|------|
| Between Groups | (Combined) | | .618 | 4 | .155 | .570 | .685 |
| | Linear Term | Unweighted | .000 | 1 | .000 | .001 | .981 |
| | | Weighted | .167 | 1 | .167 | .617 | .433 |
| | | Deviation | .451 | 3 | .150 | .554 | .646 |
| Within Groups | | | 55.363 | 204 | .271 | | |
| Total | | | 55.981 | 208 | | | |

Inference:

It is observed that there is no significant difference between age of the respondents and preferable mode of transport during contingent situation as ($P > 0.05$). Hence we accept the null hypothesis and reject the alternative hypothesis.

3) **H₀**: there is no significant difference between occupation of the respondents and the time spent on daily travel.

H1: there is no significant difference between occupation of the respondents and the time spent on daily travel.

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|-------|-----|------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| 1 | 65 | 1.95 | .372 | .046 | 1.86 | 2.05 | 1 | 3 |
| 2 | 82 | 1.96 | .292 | .032 | 1.90 | 2.03 | 1 | 3 |
| 3 | 62 | 1.82 | .463 | .059 | 1.71 | 1.94 | 1 | 3 |
| Total | 209 | 1.92 | .377 | .026 | 1.87 | 1.97 | 1 | 3 |

| | | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|------------------------|----------------|-----|-------------|-------|------|
| Between Groups | (Combined) | .817 | 2 | .409 | 2.922 | .056 |
| | Linear Unweighted Term | .547 | 1 | .547 | 3.911 | .049 |
| | Weighted | .535 | 1 | .535 | 3.829 | .052 |
| | Deviation | .282 | 1 | .282 | 2.015 | .157 |
| Within Groups | | 28.800 | 206 | .140 | | |
| Total | | 29.617 | 208 | | | |

Inference:

It is observed that there is no significant difference between occupation of the respondents and the time spent on daily travel as ($P > 0.05$). Hence we accept the null hypothesis and reject the alternative hypothesis.

6.1 Findings

- The study reveals that 75% of the respondents are male.
- We observe that 73% of the respondents are between the age group 18-25.
- It is evident that 86% of the respondents are students from this study.
- We witness that 43.5% of the respondents use their own transport to commute on a daily basis.
- It is evident that 69% of the respondents consider safety as an important aspect of their daily commute.
- We understand that 68% of the respondents consider time as an important aspect of their daily commute.
- We notice that 64% of the respondents consider accessibility as an important aspect of their daily commute.
- We infer that 55% of the respondents consider cost as an important aspect of their daily commute.
- We observe that 55% of the respondents consider comfort as an important aspect of their daily commute.
- We witness that 80% of the respondents are comfortable with their regular mode of travel.
- We observe that 39% of the respondents spend between 30- 1 hour on commute on a daily basis.
- We notice that 41% of the respondents spend between 51-100 Rupees while only 7% of the respondents spend more than 200 Rupees on travel on a daily basis.
- It is evident that 59% of the respondents think that they spend too much on daily commute.
- We infer that 39% of the respondents use Cab during contingency situation, whereas only 6% use bus during contingency situation.
- We witness that 85% of the respondents are aware of Bike Taxis.
- We notice that 14.8% of the respondents are aware of Rapido, whereas 13.4% of the respondents are not aware of any Bike Taxi Services.
- It is prominent that 70% of the respondents are aware that Bike Taxis are relatively cheaper and quicker.
- We can infer that 28 % of the respondents rate the ease of Bike Taxis highly.
- We can observe that 57% of the respondents are comfortable sitting behind the rider.
- We can notice that 55% of the respondents are unsure whether they feel safe using bike taxis.
- It is witnessed that 60% of the respondents do not feel safe using the bike taxi service at night.

- It is prominent that 63% of the respondents feel Bike Taxi Services are not safe for women.
- We can observe that 47% of the respondents are neutral about recommending Bike Taxi Service to their peers.
- We see that 18.2% of the respondents feel that due to the safety factor, Bike Taxis are not so popular.
- Study reveals that 78% of the respondents would not consider becoming a Bike Taxi Rider.

6.2 Recommendations

The following tips are recommended to Bike Taxi and Rental Service Providers:

- Focus mainly on Safety. Safety is the foremost thing the commuters are looking for. Providing helmet with a hygiene cap is a basic requirement which should not be compromised at all.
- Make women feel comfortable. Employ more women riders and increase the popularity among women.
- Position more into publicity and increase awareness of Bike Taxis. Many people are not using it because they are not aware of the service.
- Tap on the cost efficiency of the service and target college goers.
- Accessibility should be increased. The services should be available throughout the city and last mile connectivity issue should be solved.
- Rewarding the riders for their prompt service and encouraging more people to take up the job can decrease availability of riders to the service providers.
- Market the service as the quickest way to get to a destination.
- The service should collaborate with other service providers like milk delivery and grocery delivery. The service can be expanded and utilized to the maximum.
- Make sure the Bikes the company rents out are in good condition and hassle free.
- In services like Bounce, the customers can drop off the bike anywhere, refilling petrol to the bike is seen as biggest hurdle. A bike lying idle without petrol is waste of resource to the company and the availability decreases due to this.
- Electric bikes can be seen as an alternative to petrol powered vehicles and it would encourage more environment conscious people to take up the Bike Taxi service.

7. CONCLUSION

Bike Taxis are becoming popular but still hasn't reached the masses. There is a lot of potential and many companies are pumping in Lakhs of Rupees into Bike Taxi services but they haven't hit their peak yet. Making people feel safe on the bike is the most important thing the service providers should look. There are large spaces where they can target like college and office goers who are looking for quick and cheap modes of transport. There are small changes that the service providers should make to have a big impact on the customer. Increasing reliability and improving accessibility holds the key to the future of Bike Taxis. Cost efficiency and time spent on commute can be seen as a unique selling point for the service providers. They should tap on this and reach the masses.

Bike Taxis have a few downsides as well. Accidents are inevitable sometimes and can leave a bad impression with the customers. Due to high pollution many people prefer using Cabs or other ways to commute. Accessibility in outskirts of the city is still unreliable, making people choose other forms of transport. There is still a question mark hanging around in peoples head about this service. Bike Taxis could solve the connectivity issues for many people around the country, it could also leave people with a bad after taste when they experience accidents.

8. LIMITATIONS OF THE STUDY

- ❖ The responses obtained from the respondents may be biased.
- ❖ It may be subjected to respondents due to incomplete information provided.
- ❖ The data collection is through structured questionnaire and the response rates are also limited.
- ❖ The time constraint in obtaining the feedback.
- ❖ The responses are subjected to validity and reliability.

9. SCOPE FOR FURTHER RESEARCH

The researcher can study individual bike taxi service provider functioning and operations along with it can make comparative assessments with their core competitors. They can probe into the individual performance analysis of their service providers. This domain is an open arena where researcher can explore various possibilities to take up a study in all the interdisciplinary management affairs.

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