



A Study on Pickup Efficiency, Route Optimization, and Customer Satisfaction in Bike Taxi Services

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Abstract:

In recent years, urban transportation has changed significantly due to the growth of technology-based mobility services. Bike taxi services have become popular because they offer fast, affordable, and convenient travel, especially in congested cities. This research paper focuses on fleet coordination and route optimization in logistics operations, with special reference to Rapido. The main objective of this study is to understand how efficient fleet management and route planning can improve customer satisfaction and operational performance. The study is based on primary data collected through a Google Form survey with more than 500 respondents from different age groups and backgrounds. The findings show that most users prefer bike taxi services due to their speed and convenience. However, issues such as delays, route inefficiencies, and safety concerns still exist. The study concludes that better use of technology, improved coordination, and proper route optimization can enhance service quality.

Keywords: Route Optimization, Bike Taxi Services, Logistics Operations, Customer Satisfaction, Urban Mobility

1. Introduction

Transportation is an important part of daily life. In modern cities, people face many problems such as traffic congestion, long travel time, and high transportation costs. To solve these problems, new types of services have been introduced, such as app-based ride services.

Bike taxi services are one of the most popular solutions for short-distance travel. These services allow users to book a ride through a mobile app and travel quickly using motorcycles. This is especially useful in crowded cities where cars cannot move easily.

Fleet coordination refers to the process of managing and assigning vehicles or riders efficiently. Route optimization means choosing the best and fastest route to reach the destination. Both of these factors are very important in improving the performance of logistics operations.

This study focuses on understanding how these factors affect customer experience and service efficiency. It also examines the role of technology in improving transportation services.

2. Literature Review

Previous studies have shown that logistics and transportation systems are becoming more advanced due to technology. Many researchers have highlighted the importance of fleet management in improving efficiency.

According to earlier research, proper fleet coordination helps in reducing waiting time and improving service quality. When vehicles are assigned correctly, customers receive faster service, and resources are used efficiently.

Route optimization is another important concept discussed in many studies. Researchers have found that using GPS and real-time data can help drivers choose better routes. This reduces travel time, saves fuel, and improves customer satisfaction.

Some studies also focus on customer experience in ride-sharing services. They show that factors such as pricing, safety, and convenience play a major role in user satisfaction.

However, many studies also point out challenges such as traffic conditions, lack of coordination, and technical issues. These challenges affect the overall performance of the system.

This research builds on previous studies and focuses specifically on bike taxi services and their operations.

Objectives of the Study

- For researching the impact of efficiency in picking up and routing optimizations on customer satisfaction with the bike taxis.
- To investigate the level of use of bike taxi service by different groups based on demographics (gender and occupation).
- To assess the level of efficiency in picking up using the delay in pick-up points by the driver and the cancellation ratio.
- To evaluate the use of route optimization by the captains/drivers of bike taxis.

3. Research Methodology

Primary Data

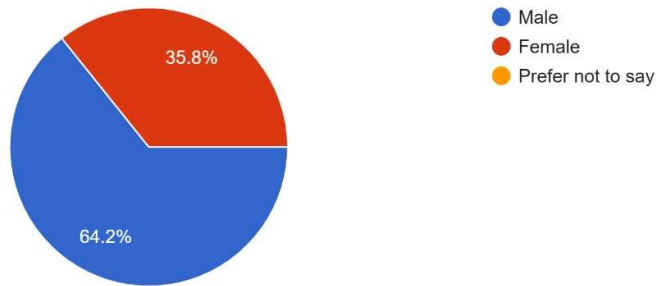
Primary data was gathered directly from the respondents using an interview format in a questionnaire. The information pertains to the users' experience, perceptions, and satisfaction with bike taxi services.

Secondary Data

Books and peer-reviewed journals
Research papers and Internet sources
Industry reports and websites of bike taxi service companies

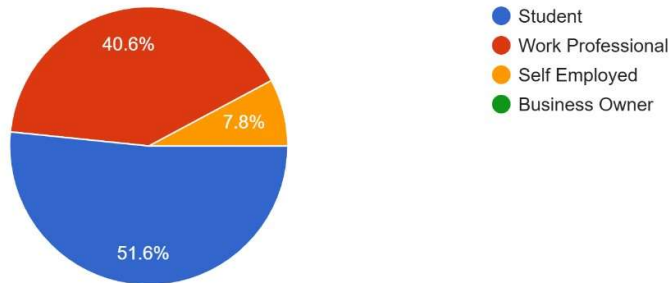
Gender

372 responses



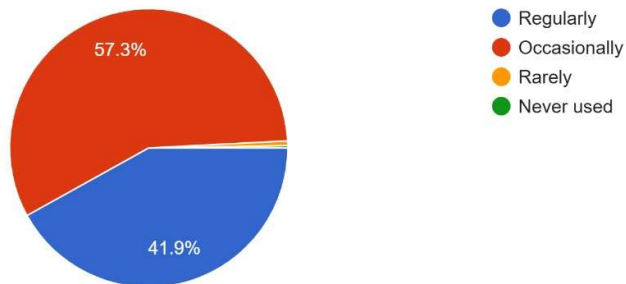
Occupation

372 responses



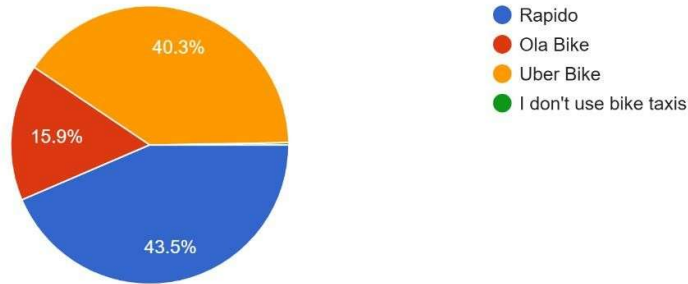
Have you ever used bike taxi services like Rapido, Ola Bike, or similar platforms?

372 responses



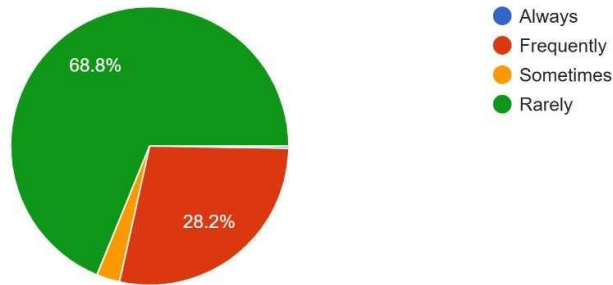
Which bike taxi platform do you use most frequently?

372 responses



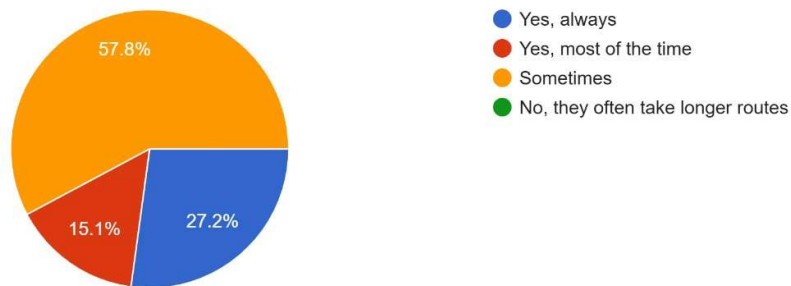
How often do you face delays in pickup by the captain/driver?

372 responses



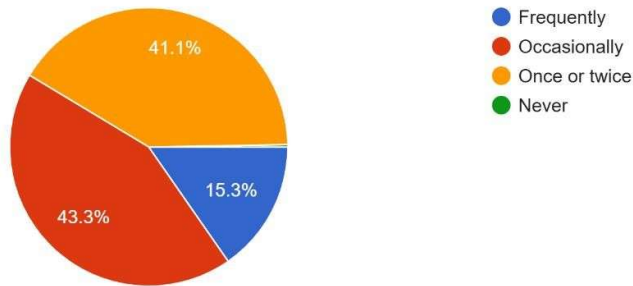
Do you think the captain/driver usually takes the shortest/fastest route to your destination?

372 responses



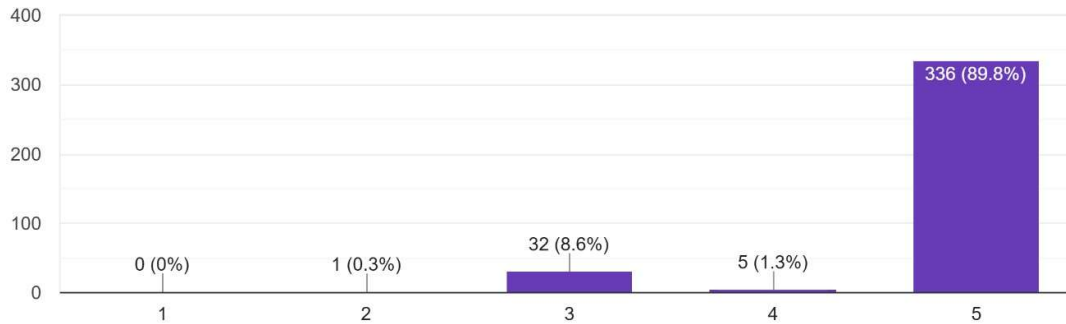
Have you ever suggested an alternate route to the captain during your ride?

372 responses



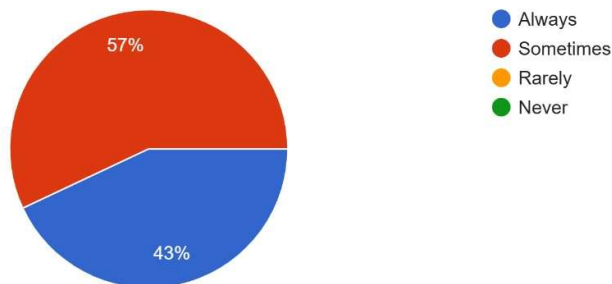
On a stars of 1-5, how satisfied are you with the route taken by captains?

374 responses



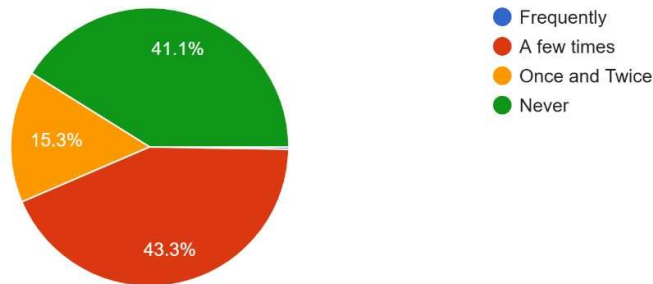
Have you noticed captains using GPS/navigation apps during your ride?

372 responses



Have you ever cancelled a ride because the captain was taking too long to arrive?

372 responses



Secondary data was collected from books, websites, and research articles. These sources helped in understanding the concepts of logistics, fleet management, and route optimization.

The data collected was analyzed using simple methods such as percentages and comparisons. The results were then interpreted in an easy and clear manner.

4. Data Analysis and Results

The analysis of the data shows that a large number of respondents use bike taxi services regularly. Most users prefer these services because they are fast and convenient.

Many respondents reported that bike taxis help them save time, especially in heavy traffic. This shows the importance of these services in urban areas.

However, some users reported delays in pickup and issues with route selection. This indicates that there are problems in fleet coordination and route optimization.

The study also shows that most users are satisfied with the services. They find the apps easy to use and appreciate features such as real-time tracking and digital payments.

At the same time, some users expressed concerns about safety and pricing. These issues affect their overall experience.

Discussion

The findings of the study clearly show that bike taxi services are useful and effective. However, there are still some challenges that need to be addressed.

Fleet coordination plays a key role in improving service quality. When riders are assigned properly, waiting time is reduced, and efficiency is increased.

Route optimization is also very important. Using better technology can help drivers choose the best routes and avoid delays.

Customer satisfaction depends on multiple factors such as speed, safety, and pricing. Companies need to focus on all these aspects to improve their services.

Findings

The study reveals that bike taxi services are widely used and accepted by people. Most users have a positive experience and are satisfied with the services.

The study also finds that traffic conditions make bike taxis more useful compared to other modes of transport. Their ability to move quickly in crowded areas is a major advantage.

However, issues such as delays, safety concerns, and pricing differences still exist. These problems affect customer satisfaction.

The research also shows that technology plays an important role in improving services. Features like GPS and mobile apps make the system more efficient.

5. Conclusion

In conclusion, bike taxi services have become an important part of modern transportation. They provide a fast and affordable solution for shortdistance travel.

The study shows that fleet coordination and route optimization are very important for improving service quality. Proper management and use of technology can help in reducing delays and increasing efficiency.

Although the services are generally good, there is still room for improvement. Companies need to focus on customer satisfaction, safety, and pricing.

Overall, the future of bike taxi services looks promising, and they will continue to play a major role in urban mobility.

Suggestions

Based on the findings of the study, several suggestions can be made to improve the services. Companies should focus on improving fleet coordination by using better systems to assign riders.

They should also invest in advanced technology to improve route optimization. This will help in reducing travel time and increasing efficiency.

Safety measures should be improved by ensuring that riders follow rules and use proper equipment. Customer support should also be strengthened to address issues quickly.

Pricing should be fair and transparent so that customers feel comfortable using the service. Companies can also expand their services to new areas to reach more users.

Limitations of the Study

This study has some limitations. The data was collected using an online survey, which means that only people with internet access could participate.

The sample size, although large, may not represent the entire population.
Some responses may also be biased based on personal experiences.

The study focuses mainly on bike taxi services and does not cover all types of transportation. Despite these limitations, the study provides useful insights.

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