Comparison of Conventional and Online Transportation in Batam

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ARTICLE INFO	ABSTRACT
	The existence of online transportation modes has attracted the attention of many consumers. This condition often triggers conflicts between conventional transportation drivers and online transportation drivers. This paper focuses on the performance between the two modes of transportation, finding out the advantages and disadvantages of online and conventional transportation. Data analysis uses the SPSS (Statistical Package for the Social Sciences) method. The questioner will collect 100 respondents to find out the results of comparing online and conventional transportation in Batam. The results obtained from the respondents' responses are pretty satisfied with online transportation, and this transportation outperforms conventional transportation in terms of service, price, comfort, safety, and practicality.

Introduction

Transportation is a significant component of the living and living system, the system of government, and the system of society. The level of population density will have a significant effect on the ability of transportation to serve the needs of the community. The development in the current era is so rapid that it has led to rapid economic and business growth (Farisi & Siregar, 2020). Thanks to technological advancements, mobile phones used to have only a few features. Now it has many features that make it easier for us to do our daily activities. This is the so-called smartphone not only used for phone calls but can be used for everything, such as browsing using the internet, browsing social media, looking for job vacancy info, and so on in everyday life. In business, business, and services are beneficial for companies in facilitating their activities to offer goods and services such as online shops, delivery of goods, and others. Therefore, transportation tools are generally used to facilitate people's activities in their activities. At the same time, the means of transportation are divided into three: land transportation, means of transportation, and means of sea transportation. This is the cause of the intense competition between intermodal transportation companies, one of which is online and conventional modes of land transportation in the city. This online-based transportation helps many people because booking is effortless, dramatically saving people's time ordering online transportation and drivers who approach bookers from online transportation. Whereas conventional transportation, where users must go to the base first, is draining and time-consuming (Wang, Xue, Zhao, & Wang, 2018).

The Riau Archipelago has five regencies and two cities: Bintan Regency, Natuna Regency, Karimun Regency, Lingga Regency, Tanjungpinang City, and Batam City as we can see that in the Riau Islands, there are still many and varied public transportations such as carry, Damri, rickshaws, and others. Batam City is the largest city in the Riau Islands; this city is very close to Singapore and Malaysia. So we can get there only by using the ferry, with an estimated 45 minutes to Singapore and 2 hours to Malaysia. In the past, Batam was an island with many forests, and the population was still small. However, after that time, batam continues to grow, making tall buildings, expanding roads, and others. In addition, Batam has many migrants from outside the area who aim to find work in Batam and many foreign tourists who live in Batam or travel to Batam.

Society is an arena of conflict. Therefore, conflict is a symptom that is always present in every social life. Things that encourage the emergence of conflicts such as the existence of similarities and differences in social interests. In every social life, there is no single human being with the same similarities, such as race, purpose, religion, and others. In every conflict between them, there must be something that can be solved, but there is also something that can not be solved so that it can lead to severe acts of violence. Violence occurs because the roots of the conflict cannot be overcome, so it causes violence, from the slightest violence to the war between conventional transportation and online transportation in Batam; batam city is a city that is often a stopover place for tourists such as Singapore stop in In the country, Batam City also has many exciting tourist destinations. So many tourists need transportation to be used as a tourist vehicle to go somewhere to another. There are two types of transportation used by tourists and the public, namely taxis and online motorcycle taxis, along with conventional taxis and motorcycle taxis (Qi, Yuqing, & Libiao, 2022).

Conflicts between online and conventional taxis in Batam City have occurred in crowded places such as malls, lodging, and squares. Conflicts between two taxi parties often occur with one of the drivers when picking up passengers; from the dispute, there is also violence where one of the taxis does not want to relent, let alone a conflict between online and conventional taxis (Girgin & Hülür, 2018). I think this can be prevented by the awareness that the driver is not always selfish; everyone's sustenance must be different. Be patient enough first.

Remember that in Batam City, many people still use conventional transportation such as taxis, motorcycle taxis, buses, and public transportation. Buses are often used because of their excellent facilities at affordable prices, especially for students and college students. As a student, by providing a student ID card or student identity card, you can get a decent discount to save on your expenses. (Thursday, 2019). Damri in Batam City is also still running. There are many routes that Damri has taken, and the prices offered are also affordable for the people of Batam. However, Damri has shortcomings, as happened in the city of Batam. Some of them have poorly maintained Damri in them, and there are Damri who like to speed until the comfort could be better. This study aims to find out what conventional and online transportation are and the advantages and disadvantages of the two. People's opinion of online and conventional transportation from its convenience, safety, and practicality. What caused the ongoing infighting between users of this transport? Knowing whether there are still conventional transportation users in this era of developing technology. What does online, conventional, air, sea, and rail transportation mean? Moreover, what is meant by e-service?

Literature Review

Online transportation is application-based and relies on the internet to access it. This application can order directly and specify the location to go to. The application lists the price and can wait for the driver to visit this location. This online transportation is very much like in Indonesia Grab, Maxim, gojek, and others, while abroad, there are Uber, elevators, and chuxin. Uber complements and competes with public transit, but competition is more prevalent in New York City. Uber competes with public transit for most hours of the day and in areas with good public transit coverage, while Uber equips public transit at midnight and in places with inadequate public transit services. Uber has been operating since 2015 (Pepić, 2018). Uber's service distribution is highly unequal, and Uber's role in raising transportation equity is insignificant. Correlation analysis shows that there tend to be fewer Uber pick-ups in low-income areas (Jin, Kong, & Sui, 2019). Didi Chuxing is the world's leading mobile transportation platform offering a wide range of app-based transportation options for 550 million users. The DiDi platform receives more than 100TB of new data daily and acquires more than 15 billion location points. Machine

learning has been used in various components of the DiDi platform to improve travel safety, experience, and efficiency (Ye, 2019)

We evaluated the impact of three proposed transport network company (TNC) regulations, such as the Uber, Lyft, and Didi minimum wage for drivers, restrictions on the number of drivers or vehicles, and congestion tax per trip. The impact was assessed using a theoretical balance model of queues that combines the stochastic dynamics of an app-based ride-hailing matching platform, the price of travel and driver wages set by the platform, and passenger and driver incentives (Li, Tavafoghi, Poolla, & Varaiya, 2019). It was found that the quality of topic identification depends on the size of the dataset, the number of topics to be specified for the topic modeling algorithm, and the positive/negative thresholds for the sentiment analysis algorithm (Kulkarni, Abellera, & Panangadan, 2018)

The public transportation system is a public service that is very useful for people's mobility. In addition, the public transport system is in a critical position for environmental issues such as air pollution, traffic, time, energy, etc. Improving the quality of public transport systems requires competent strategic arrangements to increase commuter satisfaction and lure non-commuters (Argument, 2020). The public transport system in the Hungarian capital, Budapest, was evaluated to check the efficiency and validation of the proposed adopted gray decision model (Çelikbilek, Muslim, & Duleba, 2022)

The representative urban transport problems caused by the urban population's concentration and the city's expansion are as follows: Since public transport can only be used after the user arrives at a bus stop or subway station, the user must walk to the stop or station. In addition, waiting times are unavoidable as public transport is only sometimes available immediately when users arrive at stops or stations. Road transport modes such as buses and taxis allow users to experience traffic jams, robbing them of travel freedom. The more severe this inconvenience in using public transportation, the more private vehicles are used (Roh & Jeon, 2021)

Most respondents had difficulty accessing public transportation, and community activities that did not occur regularly were more affected by problems with public transportation. Individuals with blindness or low vision, psychiatric disabilities, chronic health conditions, or multiple disabilities experience more problems using public transportation for community participation (Bezyak et al., 2020). On the other hand, there is a widespread acceptance of the hypothesis linking the growing population of private vehicles to the demand for fuel and enormous carbon emissions. The two-wheeler segment accounts for the highest consumption of total petroleum products across India and accounts for about 25-30% of global carbon emissions (Balamurugan, Paul, & Gopi, 2019)

A train is a means of mass transportation consisting of a locomotive of vehicles with self-propelled motion power and a series of trains or carriages coupled with other vehicles. If this freight transport is sent with the traditional approach, the freight car is sent to the classification page adjacent to the local railway, combined with other freight cars to form a railway, and finally delivered to the destination according to the transportation plan) with some, It will cause delivery delays and economic losses for the shipper and contribute to severe carbon emissions (Lin, Li, Zhang, & Zhao, 2019)

Air transportation is transportation whose every activity is related to using an aircraft to transport passengers, cargo, and posts for one or more airport trips. The study investigated structural correlation factors for the loyalty model of domestic airline passenger behavior related to their travel destination. Modeling of structural equations is used to create models. The model development results revealed that the perception of the quality of passenger service positively affects the loyalty of their behavior. In addition, the value of service and passenger satisfaction positively affects behavioral loyalty among

passengers as expressed in connection with the word of mouth and repurchase intent (Chonsalasin, Jomnonkwao, Chanpariyavatevong, Laphrom, & Ratanavaraha, 2022)

Sea transportation is transportation by sea or water. This transportation consists of ships, pompous, speedboats, and others. The price offered by this transportation is entirely relative to the community. Because the strength of development has resulted in rapid urbanization in Bangkok and its surroundings. Passenger ship accidents are prevalent in coastal and inland transport, mainly when necessary maritime safety laws are not being observed and closely monitored. Commercial passenger ships, on the other hand, are considered one of the most successful modes of transport functioning today, with commercial demand indicating the dependence of its stakeholders and consumers on it in terms of the economic movement of goods and passengers from one destination to another (Okuma & Enughwure, 2022). This effort is through its various initiatives to restore the role of the Bangkok canal network in more sustainable options, including the option of a business model along with the social engagement of communities to own their water transport (Iamtrakul, Raungratanaamporn, & Klaylee, 2018)

The quality of e-Service has a significant effect on the Intention to Use Online Transportation Services. Consumer Confidence does not affect the Intention to Use Online Transportation Services. Social Media Marketing significantly affects the Intention to Use Online Transportation Services. The internet has become a suitable platform for trading products and services. Online shopping transactions are carried out without face-to-face contact; Thus, various factors can affect the customer's purchase intentions. In addition to aesthetics and ease of use, trust is an essential factor that allows customers to choose an online store. Online merchants need to find a way to stay trusting, satisfied and loyal customers (Shafie & Bazargan, 2018). On social media, consumers actively comment on services, make complaints, ask questions about products, give advice, ask how to become a partner, or support activities organized by the company. From these facts, it is evident that maintaining the frequency of content updates on social media will achieve success for the company (Wirawati et al., 2021)

Method

Technology is developing so rapidly that transportation also does not want to be outdated. So,application-based transportation appears or what we usually call online transportation. This makes conventional transportation such as taxis, motorcycle taxis, buses, and Damri begin to have heavy competitors. Therefore, this research will be carried out through data collection that Batam residents will carry out. Through a questionnaire derived from the Google form that has been provided. This questionnaire shows how Batam residents respond to online and conventional transportation, such as comfort, security, practicality, cost, and age. Data analysis create using the IBM SPSS (Statistical Package for the Social Sciences) method.

Result and Discussion

The data obtained through the Google form questionnaire uses predetermined parameters. Several parameters to determine the comparison between online transportation and conventional transportation, namely: convenience (Permana & Laksmi, 2019), Security (Asfiati & Mutiara, 2021), Satisfaction (Apriliani, Budhiluhoer, Jamaludin, & Prihandani, 2020), practicality (Anggara, Dewantoro, & Kismartini, 2019), Speed (Nuh, St Maryam, & Syarkawi, 2022) and other parameters. The data will be obtained from the SPSS (Statistical Package for the Social Sciences) method. The data that has been obtained from the respondent's questionnaire.

The validity test is to find out whether the questions from the questionnaire that have been made are valid or not. Research results are considered valid if there is a similarity between the data collected and the data in the object under study. The basis for decision-making is if the value of r count > r table. Then the question variable is valid. If the value of r count < r table, then the question variable is invalid.

Table 1.1 Validity Test

Online Transportation

		total
P1	Pearson Correlation	.456
P2	Pearson Correlation	.476
P3	Pearson Correlation	.524
P4	Pearson Correlation	.547
P5	Pearson Correlation	.356
P6	Pearson Correlation	.680
P7	Pearson Correlation	.632
P8	Pearson Correlation	.538
P9	Pearson Correlation	.562
P10	Pearson Correlation	.490
total	Pearson Correlation	1
		103

Conventional Transportation

		total
P1	Pearson Correlation	.435
P2	Pearson Correlation	.407
P3	Pearson Correlation	.438
P4	Pearson Correlation	.528
P5	Pearson Correlation	.611
P6	Pearson Correlation	.538
P7	Pearson Correlation	.603
P8	Pearson Correlation	.406
P9	Pearson Correlation	.440
P10	Pearson Correlation	.110
total	Pearson Correlation	1
		103

The data obtained follows the distribution of r significance table 5%. The results obtained from the r table for 100 respondents is 0.195. so the results from the table above are r count > r table. This shows that the questions made are valid. However, in the conventional transportation table, there is 1 question that is invalid because the value of r count < r table. This shows because the variable is below 0.195.

The reliability test is to measure the consistency of the research variables. A variable is reliable if the respondents' answers are consistent or stable occasionally. For example, the questionnaire instrument is declared reliable if the Cronbach alpha value is > 0.6 (Ghozali, 2005) basis for decision-making is if the Cronbach alpha value is > 0.6, then the questionnaire instrument is reliable. If the Cronbach alpha value is < 0.6, then the questionnaire instrument is unreliable.

Table 1.2 Reliability Test

Online Transportation

Cronbach's Alpha	N of Items
.718	10

Conventional Transportation

Cronbach's Alpha	N of Items
.642	9

From the data table above, the Cronbach alpha results are 0.718 and 0.642, where the conditions that must be met to be reliable are that the Cronbach alpha must exceed 0.6. so from the two tables above, it can be concluded that the questionnaire is valid and reliable.

Table 1.3. Respondents' satisfaction

No.	Indicators	Respondent Response	Frequency
1	Online transportation driver service	quite satisfied	66,0%
2	Speed in delivery and pick-up of online transportation	quite satisfied	35,9%
3	Convenience in using online transportation	quite satisfied	41,7%
4	Appearance, neatness, and comfort provided by online transportation drivers	quite satisfied	50,5%

No.	Indicators	Respondent Response	Frequency
5	the performance provided by online transportation drivers	quite satisfied	47,6%
6	conventional transportation driver services	quite satisfied	60,2%
7	speed in delivering and picking up conventional transportation	quite satisfied	42,7%
8	the convenience of using conventional transportation	quite satisfied	43,7%
9	appearance, neatness, and comfort provided by conventional transportation drivers	quite satisfied	47,6%
10	the performance provided by conventional transportation drivers	quite satisfied	47,6%

The data above was taken from the results of the Google Form questionnaire, which consisted of 103 Batam resident respondents, and continued with the SPSS method to find respondents' answers. The data taken is the highest value of the respondent's responses, and the results collected have been recapitulated. Most Batam people are quite satisfied with the performance, comfort, security, delivery speed, and appearance provided by online transportation. However, it is not only online transportation that has received entirely satisfactory responses. Many respondents are satisfied with the performance, comfort, safety, delivery speed, and appearance provided by conventional transportation. This indicates that there are still many conventional transportation users in Batam. Respondents' responses are perfect for online and conventional transportation, Even though Batam is the most developed city in the Riau Archipelago Province. Conventional transportation will continue to develop to provide the best experience for its passengers.

Table 1.5 Respondents' Responses to online transportation and conventional transportation in Batam

No.	Indicators	Respondent Response	Frequency
1	the price provided by online transportation is very affordable	quite agree	41,7%
2	saving time and effort by using online transportation	Strongly agree	48,5%
3	application having an attractive appearance and easy to use	quite agree	49,5%
4	I find it easy to use online transportation applications	quite agree	47,6%
5	online transportation application that takes care of its customer data	quite agree	46,6%
6	saving time and energy by using conventional transportation	agree	38,8%
7	the price given conventional transportation is very affordable	quite agree	44,7%
8	discount given to students is beneficial	quite agree	49,5%
9	conventional transportation services are currently still widely used by the community	agree	40,8%
10	conventional transport drivers, which significantly decreased from year to year.	Disagree	36,9%

From the data above, it can be seen that Batam respondents entirely agree that the prices provided by online transportation are very affordable. Respondents strongly agreed to save time and effort by using online transportation. Respondents entirely agree that the application provided has an attractive appearance and is easy to use. Respondents agree that they find it easy to use the application provided by online transportation. Respondents agree that online transportation is sufficient to maintain

personal data privacy. Respondents agree that they can save time and energy by using conventional transportation. Respondents entirely agree with the price offered by conventional transportation, which is very affordable. Respondents entirely agree that the discount given to students is beneficial. Respondents agreed that conventional transportation services are still widely used by the public. Respondents who disagreed with conventional transport drivers greatly decreased from year to year. From the data above, online transportation is superior to conventional transportation, especially in the pick-up sector nowadays; with only a smartphone, we can wait for the driver to go to our location. Where this significantly saves the time and effort of the passengers, many Batam community respondents use online transportation. This is because online transportation's service, security, comfort, and privacy are excellent. Most respondents entirely agree with the questions given through the questionnaire. Some people have differing views on questions about conventional transportation drivers that have significantly decreased from year to year. This indicates that conventional transportation is still widely operating in Batam. It is just that only a few use conventional transportation.

Conclusion

This paper aims to find out the comparison of conventional and online transportation in Batam. From the results obtained, online transportation outperforms conventional transportation in terms of service, price, security, convenience, and practicality. Furthermore, from the satisfaction and responses of respondents, the performance of online transportation has a high value compared to conventional transportation. This proves that the satisfaction level of online transportation respondents is better than conventional transportation. The main factors seen from these two transportations are service and price. Conventional transportation needs better service and more affordable prices. This is because online transportation already uses an online-based application, so passengers can order anytime and anywhere. Whereas conventional transportation always follows existing routes without having an application. This is the boundary between the two transports. In the future conventional transportation can develop from time to time to continuously operate in Batam.

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