



Assessing the Reliability of Angkas as a Mode of Safe Transportation Among University Students

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Abstract

Motorcycle taxi-hailing services have emerged as an alternative mode of urban transportation, particularly in traffic-congested cities. In the Philippines, Angkas is among the most widely used motorcycle ride-hailing platforms, yet concerns regarding its reliability, safety, and time efficiency persist. This study examined the perceived reliability of Angkas as a mode of safe transportation among third-year Aircraft Maintenance Technology students at Indiana Aerospace University during the 2024–2025 academic year. A quantitative descriptive research design was employed, and data were collected from 100 students using a structured questionnaire with a four-point Likert scale. Statistical analyses included frequency, rate, weighted mean, and ranking. The findings indicate that respondents generally agreed with the reliability, passenger safety, and time efficiency of Angkas. However, several operational concerns were identified, including booking system issues, fare inconsistencies, trip cancellations, punctuality problems, and noncompliance with traffic regulations. Based on these findings, the study recommends improvements in the booking system, fare transparency, rider accountability, and safety training to enhance the overall reliability of motorcycle ride-hailing services.

Keywords: *reliability, safety of the passengers, time efficiency, angkas, transportation*

Introduction

Motorcycle taxi-hailing services have become an increasingly popular mode of transportation in many urban areas worldwide, particularly in developing countries characterized by heavy traffic congestion and limited public transport infrastructure. Since their emergence in the 1970s, motorcycle taxis have provided commuters with flexible, accessible, and time-efficient travel options. With the rise of digital ride-hailing platforms, these services have evolved into app-based transportation systems that offer convenience, door-to-door mobility, and competitive pricing.

In Southeast Asia, ride-hailing applications have significantly transformed urban mobility patterns. These platforms address challenges related to traffic congestion, accessibility, and travel time, but they also raise concerns regarding safety, regulation, and service reliability. In the Philippines, Angkas is one of the most prominent motorcycle ride-hailing providers, operating in major urban centers. Despite its growing user base, questions persist regarding its operational reliability, passenger safety, and time efficiency, particularly in densely populated areas such as Metro Cebu.

Service reliability is a critical component of transportation quality, encompassing factors such as punctuality, consistency, safety compliance, and user satisfaction. The Service Quality (SERVQUAL) model provides a framework for evaluating these dimensions by comparing users' expectations with their actual service experiences. In the context of motorcycle ride-hailing, reliability is closely linked to passenger safety, adherence to traffic regulations, and the professionalism of riders. Time efficiency also plays a crucial role, as commuters often choose motorcycle taxis to avoid traffic delays and reach destinations more quickly.

Although motorcycle taxi services are widely used, the regulatory framework governing their operations in the Philippines remains under development. Ongoing policy discussions highlight the need to balance accessibility and convenience with safety standards and operational accountability. Given these circumstances, examining user perceptions of reliability and safety is essential for informing policy decisions and service improvements.

This study focuses on third-year Aircraft Maintenance Technology students at Indiana Aerospace University, many of whom rely on

Angkas for daily commuting. Understanding their experiences provides insights into the reliability, safety, and time efficiency of motorcycle ride-hailing services from the perspective of a technically oriented student population. The findings aim to contribute to transportation research and provide recommendations for improving the reliability and safety of such services.

Research Objectives

This study aimed to determine the reliability of Angkas for Safe Transportation at Indiana Aerospace University during the Academic Year 2024-2025. Specifically, this study sought to answer the following sub-problems:

1. Determine the Perspectives of the Third-Year Aircraft Maintenance Technology Students on the Reliability of Angkas for Safe Transportation in terms of its Reliability, Safety of the Passengers, and Time Efficiency.
2. Rank the problems encountered by the Third-Year Aircraft Maintenance Technology Students Academic Year 2024-2025.

Methodology

Research Design

This study employed a quantitative descriptive research design to examine the perceived reliability of Angkas as a mode of safe transportation among third-year Aircraft Maintenance Technology students at Indiana Aerospace University. The quantitative approach enabled the systematic collection and analysis of numerical data to identify patterns in students' perceptions of reliability, passenger safety, and time efficiency. Descriptive statistics were used to summarize and interpret the responses.

Respondents

The respondents consisted of 100 third-year Aircraft Maintenance Technology students, representing approximately 34.5% of the total population of 290 students enrolled in the program during the academic year 2024–2025. Participants were selected using purposive sampling to ensure that they had sufficient academic exposure to technical and safety-related subjects relevant to the study.

Instrument

Data were collected using a researcher-developed questionnaire aligned with the study objectives. The instrument consisted of two sections. The first section measured students' perceptions of Angkas in terms of reliability, passenger safety, and time efficiency using a four-point Likert scale: 4 – Strongly Agree, 3 – Agree, 2 – Disagree, and 1 – Strongly Disagree. The second section identified the problems encountered by students when using the service.

Procedure

Data collection was conducted after obtaining approval from the research adviser and university administration. The survey was distributed in both printed and online formats to ensure broader participation. Respondents were informed of the study's purpose, their rights as participants, and the confidentiality of their responses. Participation was voluntary, and informed consent was obtained prior to data collection. The survey took approximately 5–10 minutes to complete, and data collection was conducted over a five-day period. All responses were compiled, coded, and prepared for statistical analysis.

Data Analysis

Data were analyzed using descriptive statistical techniques, including frequency, rate, weighted mean, and ranking. These statistical treatments were used to determine students' levels of agreement with each indicator and to identify the most common problems encountered in relation to the reliability of Angkas as a mode of safe transportation.

Ethical Considerations

This study was conducted in accordance with established ethical research standards to ensure the protection, dignity, and rights of all participants. Prior to data collection, approval was obtained from the research adviser and relevant university authorities. Participation in the study was entirely voluntary, and respondents were clearly informed of the study's purpose, procedures, and scope before agreeing to take part.

Informed consent was secured from all participants, emphasizing their right to decline participation or withdraw from the study at any stage without academic, personal, or institutional consequences. To protect participants' privacy and confidentiality, no identifying information was collected, and all survey responses were anonymized. Data were securely stored and accessed only by the research team, ensuring that individual responses could not be traced back to specific participants.

The researchers maintained objectivity and integrity throughout the research process by ensuring impartial data collection, analysis, and reporting. No form of coercion, manipulation, or undue influence was applied during participation. The study posed minimal risk to participants, as it involved only the collection of perceptions related to transportation experiences. All findings were presented accurately and transparently, with no fabrication or misrepresentation of data. Any potential limitations and sources of bias were acknowledged to uphold academic honesty and ethical responsibility.

Results and Discussion

Reliability

According to Merriam-Webster, reliability is defined as dependability and trust; meaning being able to count on something confidently. Reliability is a crucial aspect of Angkas, ensuring safe transportation that guarantees convenience for its users and operational efficiency for the overall customer experience.

Table 1 presents the Perspectives of third-year aircraft maintenance technology students regarding the reliability of Angkas for Safe Transportation.

Table 1. *Reliability*

<i>Indicators</i>	<i>Weighted Mean</i>	<i>Description</i>
1. Angkas riders have good mannerliness behavior through every booked motorcycle ride.	3.25	Agree
2. Angkas maintain a high level of service in terms of comfortability on every ride.	3.22	Agree
3. Angkas gives out reasonable pricing depending on the destination.	3.10	Agree
4. Angkas riders strictly follows the law in terms of speed limit.	2.92	Agree
5. Angkas customer service promptly responds to concerns and complaints.	2.92	Agree
Average Weighted Mean	3.08	Agree

Legend: 4.21-5.00: Strongly Agree, 3.41- 4.20: Agree, 2.61-3.40: Neutral, 1.81-2.60: Disagree, 1.81 - 2.60: Strongly Disagree

Safety of the Passengers

According to Merriam-Webster, safety is defined as the condition of being protected from harm, danger, or risk, ensuring the well-being of an individual. It involves the implementation of proactive measures, strict precautions, and comprehensive protocols designed to prevent accidents, injuries, and other adverse incidents. Safety is a critical aspect of transportation, just as Angkas prioritizes passenger safety.

Table 2 presents the Perspectives of Third-Year Aircraft Maintenance Technology Students on the Reliability of Angkas in terms of Passenger Safety for Safe Transportation.

Table 2. *Safety of the Passengers*

<i>Indicators</i>	<i>Weighted Mean</i>	<i>Description</i>
1. Angkas follow safety regulations and traffic laws.	3.01	Agree
2. Angkas rides are safe due to strict safety protocols in driver training.	3.25	Agree
3. Angkas riders have complete safety equipment for both themselves and their passengers.	3.07	Agree
4. Angkas motorcycles are well-maintained.	3.03	Agree
5. Angkas provides safety reminders/guidance before and during the ride.	2.73	Agree
Average Weighted Mean	3.02	Agree

Legend: 4.21-5.00: Strongly Agree, 3.41- 4.20: Agree, 2.61-3.40: Neutral, 1.81-2.60: Disagree, 1.81 - 2.60: Strongly Disagree

Time Efficiency

According to Nekvinda (2024), time efficiency refers to the effective use of time to achieve a goal, in this case, traveling from one location to another in the shortest possible time. In transportation, it means minimizing delays, reducing travel duration, and ensuring quick arrival at a destination. It is a significant aspect of Angkas that helps highlight its ability to service commuters, saving them time, especially in traffic-congested urban areas like Metro Cebu, including Lapu-Lapu City, Mandaue City, and Cebu City.

Table 3 presents the Perspectives of Third-Year Aircraft Maintenance Technology Students in terms of Time Efficiency of Angkas for Safe Transportation.

Table 3. *Time Efficiency*

<i>Indicators</i>	<i>Weighted Mean</i>	<i>Description</i>
1. Angkas rides consistently arrive on time for both pickup and at the destination.	3.04	Agree
2. Angkas riders choose optimal routes to minimize travel time.	3.24	Agree
3. Angkas App offers a quick booking process.	3.03	Agree
4. Angkas reduce total commuting time compared to public transport.	3.45	Strongly Agree
5. Angkas rides help passengers reach their destination faster than other ride-hailing services.	3.30	Strongly Agree
Average Weighted Mean	3.21	Agree

Legend: 4.21-5.00: Strongly Agree, 3.41- 4.20: Agree, 2.61-3.40: Neutral, 1.81-2.60: Disagree, 1.81 - 2.60: Strongly Disagree

Problems Encountered

The problems encountered with Angkas's reliability for safe transportation include concerns over the reliability of its booking system, fare prices, rider behavior, service inconsistencies, adherence to safety regulations, vehicle maintenance, service quality, the lack of

proper safety equipment, time efficiency, and rider professionalism.

Table 4 contains the following problems encountered in the Reliability of Angkas for Safe Transportation.

Table 4. *Problems Encountered*

<i>Indicators</i>	<i>Frequency</i>	<i>Rank</i>
Angkas booking is sometimes unreliable or difficult to access.	46	1
Angkas fares sometimes do not match the expected price based on distance or traffic.	30	2
Angkas riders cancel the passengers' trips without any reason.	29	3
Angkas riders inconsistently arrive on time for both pickup and at the destination.	28	4
Angkas riders occasionally do not follow safety regulations and traffic laws.	23	5
Angkas motorcycles are not well maintained.	22	6
The service quality of Angkas is inconsistent and unpredictable in terms of reliability, safety, and time efficiency.	21	7
Angkas lacks proper safety equipment.	19	8
Angkas is slower than other ride-hailing services.	17	9
Angkas riders lack professionalism and customer satisfaction.	12	10

The ranking of problems encountered by third-year Aircraft Maintenance Technology students regarding the reliability of Angkas for safe transportation faces several issues. The top 5 problems encountered are as follows: Angkas booking is sometimes unreliable or difficult to access, Angkas fares sometimes do not match the expected price based on distance or traffic, Angkas riders cancel the passengers' trips without any reason, Angkas riders inconsistently arrive on time for both pickup and at the destination, and Angkas riders occasionally do not follow safety regulations and traffic laws.

The most common problem encountered, with a frequency of 46, is the unreliable or difficult booking process of Angkas. Third-year Aircraft Maintenance Technology Students find booking Angkas difficult and unreliable. This raises concerns for users, especially during critical times when their service is most needed.

The second most common problem encountered, with a frequency of 30, is the inconsistency in fare pricing. Third-Year Aircraft Maintenance Technology Students find the fare pricing of Angkas inconsistent based on distance or traffic. This problem affects Angkas' reliability in terms of pricing their services, making their users hesitant and eroding their trust in the pricing.

The third problem encountered, with a frequency of 29, is the unexpected cancellation of trips by

Angkas riders, causing delays and inconvenience to passengers. Some Third-Year Aircraft Maintenance Technology Students experienced riders cancelling their ride without any reason.

The fourth problem encountered, with a frequency of 28, is the inconsistent punctuality of riders, both at the time of pickup and arrival at the destination, which impacts time-sensitive travel. Some Third-Year Aircraft Maintenance Technology Students find that Angkas riders are inconsistent in terms of time for both pickup and drop-off.

The fifth problem on the list, with a frequency of 23, is the failure of some riders to follow traffic rules and safety regulations, which may pose a risk to both passengers and other road users. Some Third-Year Aircraft Maintenance Technology Students experienced Angkas rides where riders did not follow traffic rules and safety regulations.

Conclusion

The findings of this study indicate that third-year Aircraft Maintenance Technology students generally perceive Angkas as a reliable mode of transportation in terms of service reliability, passenger safety, and time efficiency. These perceptions highlight the platform's role in providing accessible and convenient mobility, particularly in traffic-congested urban areas. However, several operational issues were identified, including unreliable booking processes, inconsistent fare pricing, unexpected trip cancellations, punctuality concerns, and occasional noncompliance with traffic regulations.

To address these concerns, the study recommends improvements in the booking system to enhance accessibility and reliability. Greater transparency in fare computation may also strengthen user trust. Additionally, stricter enforcement of rider accountability policies, improved punctuality monitoring, and regular safety training in collaboration with relevant transportation authorities can further enhance service quality. By addressing these issues, motorcycle ride-hailing providers can improve reliability, safety, and user satisfaction, ultimately contributing to more efficient and dependable urban transportation systems.

References

- Balaoing, B. (2025, May 07). DOTr chief to release order allowing motorcycle taxis to continue operating while waiting for law. ABS-CBN News.
- Business Bliss Consultant FZE. (2018, November). Theories and Concepts of the SERVQUAL Model. UKDiss.com.
- Chalermpong, S., Kato, H., Thaithatkul, P., Ratanawaraha, A., Fillone, A., Hoang-Tung, N., & Jittrapirom, P. (2022). Ride-hailing applications in Southeast Asia: A literature review.

International Journal of Sustainable Transportation, 17(3), 298-318. <https://doi.org/10.1080/15568318.2022.2032885>

Chaudhry, B., Yasar, A.-U.-H., El-Amine, S., & Shakshuki, E. (2018). Passenger Safety in RideSharing Services. *Procedia Computer Science*, 130, 1044-1050. <https://www.sciencedirect.com/science/article/pii/S1877050918305088>

Clewlou, R. R. & Mishra G. S. (2017). Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States. *eScholarship*. <https://escholarship.org/uc/item/82w2z91j>

Conway, M.W., Salon, D., & King, D.A. (2018). Trends in Taxi Use and the Advent of Ridehailing, 1995–2017: Evidence from the US National Household Travel Survey.

Urban Sci, 2(3), 79. <https://www.mdpi.com/2413-8851/2/3/79>

Department of Transportation (2025). DOTr CHIEF BACKS CONTINUED OPERATIONS FOR MOTORCYCLE TAXIS. <https://dotr.gov.ph/dotr-chief-backs-continued-operations-formotorcycle-taxis/>

Icasiano, C.D.A. & Taeihagh A. (2021). Governance of the Risks of Ridesharing in Southeast Asia: An In-Depth Analysis. *Sustainability*, 13(11), 6474. <https://www.mdpi.com/20711050/13/11/6474>

Kumar, A., Gupta, A., Parida, M., & Chauhan, V. (2022). Service quality assessment of ridesourcing services: A distinction between ride-hailing and ride-sharing services. *Transport Policy*, 127(10), 61-79.

Merriam-Webster. (n.d.). Reliability. In Merriam-Webster.com dictionary.

Merriam-Webster. (n.d.). Safety. In Merriam-Webster.com dictionary.

Nekvinda, A. (2024, November 25). Mastering Time Efficiency: Proven Strategies and Best Practices. *Hubstaff*. <https://hubstaff.com/blog/time-efficiency/>

Ong, A.K.S., German, J.D., Danganan, P.C., Paz, J.J.B., & Macatangay, R.R.G. (2023). Service quality and customer satisfaction analysis among motorcycle taxi transportation in the Philippines through SERVQUAL dimensions and social exchange theory. *Case Studies on Transport Policy*, 15, 101139. <https://www.sciencedirect.com/science/article/abs/pii/S2213624X23001931>

Schmidt, A. M., Dolis, C. M., & Tolli, A. P. (2009). A matter of time: individual differences, contextual dynamics, and goal progress effects on multiple-goal self-regulation. *J. Appl Psychol*, 94(3), 692-709. <https://pubmed.ncbi.nlm.nih.gov/19450007/>

Tamayo, B.E. (2025, January 16). 'Angkas still safest motorcycle taxi in the country, its CEO says. *The Manila Times*. <https://www.manilatimes.net/2025/01/16/news/national/angkasstill-safest-motorcycle-taxi-in-the-country-its-ceo-says/2039523>

University of North Carolina at Chapel Hill. (n.d.). *Ergonomics*. UNC.