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Reviewing regulations and stakeholder perceptions of ride-sharing technical requirements in Indonesia

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ABSTRACT

In Indonesia, the Application-Based Taxis (ABT) operators argue that they are not required to undergo periodic testing, unlike in other countries. This research aims to address this issue by conducting a qualitative study using three approaches: regulatory review, comparison of policies from other countries, and in-depth interviews with ABT company officials and 100 drivers. The study found that 41% of drivers refused to follow the regulation, citing financial burdens. The study proposes that ABT vehicles undergo periodical testing for four years, repeated annually, similar to other countries. Random inspections of ABT vehicles on the road are also recommended to increase awareness of vehicle maintenance, with a focus on tire and brake condition. This study aims to improve the roadworthiness of ABT vehicles in Indonesia.

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INTRODUCTION

In the era of globalization, there is a demand for a transportation system that is fast, easy, safe, and environmentally friendly. This has led to the development of Application-Based Taxi (ABT) services, also known as ride-sharing, which uses online applications for booking transportation. ABT is seen as a solution to the shortcomings of existing public transportation, such as poor infrastructure and high fares. The growing interest in such application-based transportation services can be attributed to these factors (Frost & Sullivan, 2016).

Besides its flexibility and affordability, the appeal of ABT lies in its convenience and relatively cheaper fares. However, it is crucial also to prioritize safety measures to prevent accidents. One way to achieve this is by ensuring that vehicles meet technical requirements and are in roadworthy condition. Many countries, such as the USA, France, UK, Australia, Singapore, Japan, Thailand, (Taneerananon & Kronprasert, 2005), and Malaysia (Jais & Marzuki, 2020), have implemented mandatory periodic testing for all motorized vehicles, including private vehicles and ABT. The author found this as a very interesting case to study, in which Indonesia as a close neighbour and one region with Malaysia and Thailand however till now has not been able to implement periodic testing for both private vehicles and ABT. In fact, Law No. 22 of 2009 on Road Traffic and Transportation (Republic of Indonesia Government, 2009) and Government Regulation No. 55 of 2012 on Motor Vehicles (Republic of Indonesia Government, 2012) clearly regulate that every motor vehicle operated on the road must meet technical and roadworthy requirements. Although the law and government regulations are clearly stated, the implementation of periodic testing for ABT has drawn pros and cons and has yet in operation in Indonesia (Fiandri, 2018; Nathaniel & Sicca, 2018). Platform companies have not required periodic tests for public transportation vehicles, only based on visual checks. One reason is the lack of a requirement in PM 118/2018. ABTs should be subject to periodic testing as they transport public passengers. ABT operators do not conduct tests due to the misunderstanding that ABTs are private cars. This poses a serious safety problem.

Several researchers have conducted studies on ABTs, including Ashraf and Habib (2020) who reviewed regulations and media discourse on technology-enabled shared mobility in Canada. Islam et al. (2023) examined barriers to vehicle sharing among NGOs in disaster relief operations in developing countries. Yunus et al. (2019) analyzed the functioning of ride-hailing apps and their impact on ride-hailing drivers. Palliyani

and Palliyani and Der-horng (2021) analyzed the regulation of ride-hailing in Singapore using social practice theory. Zhang (2019) compared the regulatory regimes for the sharing economy in China, the European Union, the United States, and the United Kingdom. Cohen (2018) explored the relationship between Uber and the government. Mohamed et al. (Mohamed et al., 2019) conducted a case study on the operational and policy implications of ABT services. These studies focus on regulatory reviews, business/economic aspects, and service operations. However, there is a lack of research on the security and safety aspects of ABT, particularly in relation to technical and roadworthy requirements for ABT vehicles.

Several studies related to the safety and security aspects of ABT have been conducted by previous researchers, but not specifically examining the fulfillment of technical requirements and roadworthiness of ABT vehicles or private vehicles used as public transportation. Some of these studies include social costs, Rogers (1951) discussed safety as part of social costs. From the ABT passenger side, Chaudhry et al. (2018) examined passenger safety. In terms of driver behavior, Shi et al. (2023) examined the misbehavior of ABT drivers and how effective policies to deal with it, while Berneking et al. (2018) examined fatigue and drowsiness while driving. Feeney (2019) examined several aspects of ABT safety such as driver and passenger safety, data privacy, insurance, driver background and vehicle inspections. Although several studies on the safety and security aspects of ABT have been conducted from various sides, no one has specifically examined the periodic testing of ABT vehicles, especially in countries that do not require periodic testing for private vehicles.

Several previous studies have shown that one of the contributing factors to road accidents is the unroadworthy condition of vehicles. The proportion of road accidents attributed to vehicle defects is estimated to vary widely from 3% to 19% in developed countries (Cuerden et al., 2011; Rechnitzer et al., 2000), with the highest reported at 27% in developing countries (Taneerananon et al., 2005). One way to ensure that vehicles are in roadworthy condition is by periodic technical inspection of vehicles. This is the main reason that vehicle technical inspection programs are implemented as a legal requirement for roadworthiness in many countries, given that they can detect technical defects, thereby preventing accidents (Cairns et al., 2014; Jarosinski, 2014; Rechnitzer et al., 2000). This is corroborated by Schroer and Peyton (1979) who conducted a study on vehicle crash rates in the US state of Alabama and found a significant reduction (9.1%) in crash rates for vehicles between 5 and 10 years old that underwent technical inspection compared to vehicles that were not inspected. In addition, Keall and Newstead (2013) compared crash rates in vehicles undergoing annual inspection vs. vehicles inspected twice a year and found an 8% reduction in crash rates in the latter group after adjusting for the difference in vehicle age in the two groups (vehicles inspected annually had an average age of less than 7 years while vehicles inspected every six months were 7 years old or older). Solah et al. (Solah et al., 2019) surveyed public opinion on periodic testing for private vehicles in Malaysia. Most respondents agreed on the need for roadworthiness inspections after five years of use. Half agreed on inspections at authorized centers, recognizing the value of vehicle condition knowledge. Not all countries implement periodic testing for private vehicles and ABT. Indonesia has not implemented periodic testing for ABT vehicles due to ongoing debate, necessitating further study.

The purpose of this research is to conduct a study of efforts to fulfil ABT technical requirements in Indonesia, to find out the need of ABT vehicle to undergo periodical inspection and testing, and the mechanism to ensure ABT vehicles meet technical requirements before operating. The research is expected to give more insight into the issue discussed and become a reference for future research.

METHOD

This study used qualitative methods to examine motor vehicle testing regulations in Indonesia and policy of ABT vehicle testing in various countries. In-depth interviews were conducted to gather insights from important officials of ABT companies and ABT's drivers regarding ABT periodic testing in Indonesia which was conducted from August 2022 to January 2023. The review of motor vehicle testing regulations in Indonesia aimed to understand the legal aspects of ABT vehicle testing. Comparative study on regulations and implementation of ABT vehicle testing from various countries through literature review was also conducted to analyze and propose alternative solutions for implementing ABT periodic testing in Indonesia. The result of those three method of studies were compiled, classified, observed and analysed and then were used to draw conclusions and provide suggestions. The paradigm of this research is shown in Figure 1.

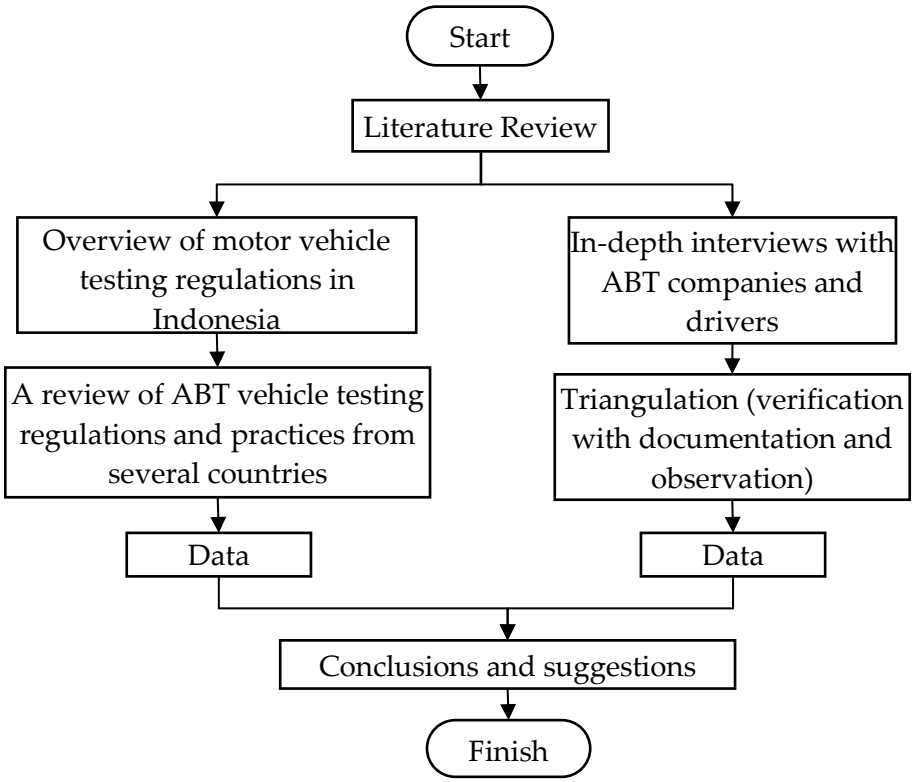


Figure 1. Research Flowchart

Regulations Regarding Motor Vehicle Testing in Indonesia

To obtain data on ABT vehicle testing regulations in Indonesia, an in-depth regulatory study was conducted on the Republic of Indonesia Law No. 22 of 2009 concerning Road Traffic and Transportation (Republic of Indonesia Government, 2009), Republic of Indonesia Government Regulation No. 55 of 2012 concerning Motor Vehicles (Republic of Indonesia Government, 2012), Regulation of the Indonesian Minister of Transportation No. PM 19 of 2021 (Indonesian Ministry of Transportation, 2021) concerning periodic testing of motor vehicles and Regulation of the Minister of Transportation of the Republic of Indonesia No. 118 of 2018 concerning the Implementation of ABT (Indonesian Ministry of Transportation, 2018).

Regulation and Implementation of ABT Vehicle Testing in Several Countries

To gather data on the implementation of ABT vehicle testing in several countries, a literature review method was used from various sources obtained through browsing on the internet, namely from Scientific Journals, official government websites, official websites of organizations under the government and the private sector that take care of the implementation of ABT vehicle testing. Scientific journals were selected that have ISSN. Journals that discuss the regulation and testing of ABT vehicles in Indonesia were selected starting from 2011. This is with the consideration that as an on-demand transportation business, GoJek first entered Indonesia in 2011, while Grab first entered Indonesia in 2014 as reported by Colgrave (2019). Meanwhile, journals that discuss the regulation and testing of ABT vehicles in various countries did not select the period of publication, because the time of ABT implementation varies greatly.

Opinions of ABT Companies and Drivers Regarding the Need for Periodic Testing of ABT

To obtain data on the perceptions of ABT companies and drivers regarding the need for periodic testing of ABT, in-depth interviews were used. From the ABT companies, Gojek and Grab were selected as the ABT service application management companies with the largest market share in Indonesia. The respondents were officials from PT Grab Indonesia and PT Gojek Indonesia, each with one person directly related to the company's operational policies. Given that at the time of the research, the Covid-19 pandemic had not yet fully recovered, the respondents were not willing to be met physically, so the interviews were conducted virtually through zoom meetings. The questions in the interview were developed by the author himself which included:

1) How important do you think safety is to ABT and how do you ensure it is met?
2) What is the recruitment mechanism for driver's company partners?
3) What are the vehicle specifications that must be met to become a partner?
4) How do you ensure that ABT vehicles meet technical and roadworthy requirements?

5) What is your opinion on the implementation of periodic testing for ABT vehicles?
6) Is there any training for drivers regarding the rules and regulations of ABT?

Interviews to driver respondents were conducted in two ways. First, the researcher acted as a passenger (ordering an online taxi like any other passenger) and conducted the interview without the driver realizing that he was being interviewed. Second, the researcher interviewed drivers at various ABT bases such as around the airport, hotels, shops, shopping centers and particular locations where they hang out where the respondents are then given a fair reward. There were 100 respondents of driver partners from Jakarta, Bogor, Depok, Tangerang and Bekasi (Jabodetabek). The Jabodetabek area was chosen because it represents more than 80% of the ABT population in Indonesia (Colgrave, 2019). Questions for the interview were developed by the author and included:

1) What is your opinion if the government requires ABT vehicles to undergo periodic testing?
2) How long have you been an ABT driver?
3) How do you apply as an ABT driver and what are the requirements?
4) How much is the fare per km and is it reasonable?
5) What is the average driver's income per day and is it sufficient for family and operational needs (fuel and maintenance)?

To obtain accurate conclusions, interview data were verified with documentation and observation, which were then processed and analyzed through the stages of: transcription, familiarization, coding, categorization, data reduction, interpretation, validation and reporting.

RESULTS AND DISCUSSION

Regulations on Motor Vehicle Testing in Indonesia

As discussed in the introduction, Law No. 22 of 2009 on Road Traffic and Transportation (Republic of Indonesia Government, 2009) and Government Regulation No. 55 of 2012 on Motor Vehicles (Republic of Indonesia Government, 2012) stipulate that every motor vehicle operated on the road must meet technical and roadworthy requirements. One way to ensure that the condition of motorized vehicles meets technical requirements and in roadworthy condition is to conduct periodical testing. However, periodical testing in Indonesia is only obliged for public passenger cars, buses, commercial vehicles, trailers and attached trains. Private vehicles are not required to undergo periodic testing. Controversy occurs when private vehicles are used as ABT (used as public transportation). Even though according to regulations, periodic testing should be mandatory because it is used as public transportation, implementing periodic ABT testing has its pros and cons. This is caused by a misunderstanding from the ABT operator, that the ABT is a private car that is rented so that periodic tests are not required.

In the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2021 concerning periodical testing of motor vehicles Article 10, technical requirements testing is a testing activity with or without test equipment to ensure compliance with the provisions of technical requirements for motor vehicles. Testing of technical requirements can be done visually and manually which includes: arrangement, equipment, size, housing, and technical design in accordance with its designation. Meanwhile, Article 12 states that roadworthiness requirements testing is carried out by measuring the minimum performance of vehicles based on roadworthiness thresholds using test equipment. Minimum roadworthiness requirements testing includes: exhaust emissions including the thickness of exhaust fumes, except for battery electric motor vehicles; horn and or exhaust noise level; main brake capability; parking brake capability; front wheel clutch; headlight beam capability and direction; speed indicator accuracy; tire groove depth; and glass translucency (Indonesian Ministry of Transportation, 2021).

The mechanism for periodical tests in Indonesia is specified in the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2021 Article 10. The regulation includes different types of tests. Vehicle registration tests are conducted at the Vehicle Periodic Test Unit. These tests must be completed within 13 working days. The tests are valid for 1 year. The initial periodic test is performed after the expiration of the vehicle registration periodic test, specifically one year after the issuance of the first vehicle registration certificate, and has a duration of 6 months. The duration extension of the periodic test is conducted every 6 months (Indonesian Ministry of Transportation, 2021).

The Indonesian government has issued the Regulation of the Minister of Transportation the Republic of Indonesia No. 118 of 2018 concerning the Implementation of ABT (Indonesian Ministry of Transportation, 2018). The regulation does not explicitly mention periodic tests for ABT. Meanwhile, the regulation emphasizes the need for safety, security, comfort, equality, affordability, and regularity in rental transportation. Minimum service standards are defined as the minimum requirements for transportation companies to provide safe, secure, comfortable, affordable, equal, and well-organized services. The government offers incentives and waives fees for ABT drivers. However, the provisions in the regulation are challenging to implement and not functioning effectively. ABT vehicles are often dirty, poorly maintained, and emit unpleasant odors. Some

platform companies neglect to conduct periodic tests or evaluate driver backgrounds and vehicle conditions.This is likely due to the absence of a requirement in PM 118/2018 for periodic testing of ABT vehicles. However, ABT vehicles are subject to the same regulations as conventional taxis and must undergo periodic tests as mandated by the regulations of Republic of Indonesia Law No. 22 of 2009 concerning Road Traffic and Transportation (Republic of Indonesia Government, 2009), Republic of Indonesia Government Regulation no. 55 of 2012 concerning Motorized Vehicles (Republic of Indonesia Government, 2012) and Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2021 concerning periodic test of motorized vehicles (Indonesian Ministry of Transportation, 2021).

Implementation of Motor Vehicle Test for Private Passenger Vehicles and ABT in Several Countries

According to Indonesian law No. 22 of 2009 concerning road traffic and transportation, article 53 private passenger vehicles are not required to undergo periodic tests. However, when used as public transportation, these vehicles must comply with the testing requirements. In reality, this provision is not effective as vehicle owners find the cost burdensome. Apart from that, the performance of the Periodical Inspection Unit which has not been optimal may also be the cause of the low trust of vehicle owners in the Periodical Inspection Unit. Several studies show that the implementation of periodic inspections in several regions in Indonesia has not gone well, such to a lack of competent human resources, damaged or non-functioning test equipment, as well as inadequate and dirty conditions of buildings and testing rooms (Setiawan et al., 2022; Utami et al., 2020). The Indonesian Ministry of Transportation requires specific rental transportation services, such as online taxis, to use public vehicles with a cylinder capacity of at least 1,000cc. Article 5 states several requirements that must be fulfilled by motorized vehicles as online transportation, including:

1) The vehicles used are sedan and/or non-sedan passenger cars;
2) Use a Motor vehicle's register number (TNKB) with a black base color and white writing according to the data in the application and by statutory provisions;
3) Meet the Minimum Service Standards (SPM) requirements;
4) Equipped with an application that shows the service fee, driver identity, and vehicle;
5) Equipped with a driver performance monitoring device that can record vehicle speed and driver behavior in operating the vehicle;
6) Equipped with a Motor Vehicle Registration Certificate and a permit to operate specific rental transportation; as well as
7) Include the email address and telephone number of the public complaints service which is placed in the vehicle and is easily read by service users (Indonesian Ministry of Transportation, 2018).

Vehicle specification standards in the Minimum Service Standards (Appendix I PM 118, 2018) explain the age limit of public vehicles used for online transportation. Safety requirements include flashlights, first aid kits, fire extinguishers, and safety belts. Glass coating darkness must not exceed 40% (Indonesian Ministry of Transportation, 2018). In contrast, some countries require regular testing for private vehicles, but this is not necessary for online taxi transport. The frequency of technical inspections and roadworthiness tests in several countries is shown in Table 1.

Table 1. Frequency of Inspections Implemented for Private Vehicle in Several Countries

Country	First Testing Begins After (Years)	Renewal (Years)
USA[a]	4	1
France[a]	4	2
UK[a]	3	1
Australia[a]	3	1
Singapure[a]	3	2
Japan[a]	3	2
Thailand[a]	7	1
Malaysia[b]	3	1

[a]Taneeranano et al. (2005)
[b]Jais and Marzuki (2020)

A brief overview of the implementation of private vehicle periodical testing (including ABT vehicles) in several countries has been summarized by Taneerananon et al. (2005) and Jais and Marzuki (2020) as follows:

1) United States of America (USA). Vehicle inspection practices in the US vary by state law. The 26 states require vehicle inspections performed by authorized inspection stations. Some states also conduct emissions tests and mechanical safety checks. Inspections are mandatory for vehicle registration and ownership transfer. Certain states, like Ohio, also perform random inspections on

the road. Braking efficiency is an important factor in a vehicle's roadworthiness. The US uses the stopping distance method for brake testing. The vehicle must smoothly stop within the legal distance without pulling to one side (Taneerananon et al., 2005).

2) Japan. In Japan, all motor vehicles are required to pass inspection tests to ensure mechanical safety, vehicle performance on the road, and energy savings, as well as to prevent pollution. The main types of inspection are as follows:
   a) Initial Inspection: Inspections occur during initial vehicle operation. Pre-owned cars without plates require examination.
   b) Renewal Inspection: Inspections are carried out for vehicles used after the expiry of the inspection certificate. The inspection certificate for new passenger cars is valid for 3 years for personal cars, 2 years for personal use cars, and 1 year for taxis.
   c) Modification Inspection: Inspections are carried out if a motor vehicle has been modified resulting in a change in length, width, and/or maximum load capacity.
   d) Reassembling Inspection: Inspections are carried out when the motor vehicle has been dismantled and repaired.
   e) Preliminary Inspection: Inspections are provided to car dealers, etc. to ensure compliance with safety regulations before a specific user is assigned to the vehicle.
3) United Kingdom**.** In the UK, the government owns and operates inspection centers. Large vehicle fleet owners can establish their own centers where government officials conduct tests. The UK has strict inspection standards that include checking vehicle safety and emissions. Testing frequency is determined by vehicle type and mode of operation. Small passenger cars over three years old are inspected annually, as are public transport vehicles and taxis over one year old.
4) Australia**.** Since October 1, 2019, new Uber vehicles in Australia must have a five-star ANCAP rating, and Uber is allowing drivers and partners a two-year grace period to upgrade their vehicles to meet this requirement by October 1, 2021. Vehicles over 3 years old must be inspected annually, public passenger vehicles need testing every 6 months, and used vehicles must pass a test before ownership can be transferred.
5) Thailand. Thailand's Land Transport Department has set rules for vehicle inspections that require all vehicles to undergo tests. Private cars, pickups, and vans over seven years old, and motorbikes over five years old must pass an annual inspection before getting an extension of Vehicle Number Certificate. DLT has authorized private inspection centers throughout Thailand to conduct inspections. This is in line with government policy to make drivers more responsible for their vehicles' safety. Outsourcing inspections to the private sector has also reduced government expenditure and labor. Vehicle inspections help reduce unsafe and polluting vehicles (Taneerananon & Kronprasert, 2005).
6) Scotland**.** Renfrewshire Council is responsible for the driving license of Taxi and Private Rental Vehicle, as stated in the Civil Administration Act of Scotland 1982. The vehicles must undergo annual or biannual inspections to meet licensing conditions. Inspections for these vehicles are in addition to the Ministry of Transportation (MOT) test. Vehicles over 5 years old must be inspected every 6 months. The vehicle must be in better condition than the MOT test to pass inspection. A "pass with advisory" result on the MOT test is considered a failure. The inspection covers mechanical condition, body condition, cleanliness, and suitability for use as a Taxi or Private Rental vehicle. Inspectors are experienced professionals nominated by the Vehicle and Operator Services Agency (VOSA). If a vehicle fails inspection, the licensee must arrange for repairs before retesting. Vehicles submitted for retest within 48 business hours receive a free assessment for repairs. Additionally, authorized officials from the licensing authority, vehicle inspectorate, or Police may conduct surprise inspections. They have the power to remove number plates and order repairs. In such cases, the vehicle must be taken to the Transport Service at Underwood Road, Paisley for approval and the return of number plates (Taneerananon & Kronprasert, 2005).
7) Malaysia. In Malaysia, private rental vehicle services are well known as e-hailing which launched on July 12, 2018, based on the Land Public Transport Act (Amendment) of 2017. It is under the jurisdiction of Land Public Transport Agency (LPTA). The new term for private rental vehicle providers is E-Hailing Operator (EHO). Issuance of EHO license and E-Hailing Service Guidelines is under Intermediary Business License (IBL). In general, there are eight main items in the EHO guidelines: (1) Applicant eligibility criteria; (2) Minimum application specifications; (3) Vehicle specifications; (4) Operation Area; (5) Operation model; (6) Commissions and fees; (7) Insurance requirements; and (8) Licensee responsibilities. The main rules regarding vehicle specifications for operating are under EHO authority (Jais & Marzuki, 2020).

A) All vehicle models must meet a minimum 3-star ASEAN NCAP rating (New Car Assessment Program for Southeast Asian Countries) or equivalent (NCAP rating from other regions).
B) Vehicles that do not meet the minimum ASEAN NCAP rating (or equivalent) and have been registered by the EHO before 1 November 2018 are allowed to continue, but only until 31 December 2022 or up to the age limit of 10 years (whichever comes first).
C) The age limit is determined based on the vehicle's original status. For Completely Knocked Down (CKD) status, the limit is a maximum of 10 years from the registration date at JPJ. For Completely Build-Up (CBU) status, the limit is no later than 10 years from the year it was made by the vehicle manufacturer.
D) Vehicles registered on and after November 1, 2018 must fully comply with e-hailing vehicle model guidelines.
E) E-hailing vehicles must meet certain requirements regarding the number of doors, wheels, and vehicle categories, such as compact vehicles, sedans, MPVs, and SUVs.
F) E-hailing vehicles must have a specific number of seats, including the driver, ranging from four to eleven.
G) EHO mandates that e-hailing vehicles undergo an annual PUSPAKOM inspection after three years of registration at JPJ.
H) The EHO is responsible for ensuring that licensed e-hailing vehicles display an identification sticker provided by JPJ.

Based on a database of periodic technical inspections carried out in Malaysia shows that the two most common defects in private vehicles are tire wear (or lack of tread) and structural integrity (Solah et al., 2021). Additionally, brake system failures become more prominent as a vehicle ages. This finding is in line with the results of research conducted by DEKRA in Germany and Cuerden et al. in England who found that tire and brake system damage were the most common components contributing to road accidents (Cuerden et al., 2011; DEKRA, 2005).

In accordance to the literature study on vehicle inspections in those nine countries elaborated above, it is generally observed that ABT vehicles undergo both initial and periodic tests. The initial test is typically conducted when the vehicle is 4 years old, followed by annual periodic tests. Tire defects (or lack of tread) and brake failures were most commonly discovered during regular technical inspections of private vehicles and were the most common components contributing to road accidents. In addition to visual and manual inspections, as well as mechanical roadworthiness testing, cleanliness conditions are also crucial for technical inspections.

The Opinion of the Application Provider Company and ABT Drivers Regarding the Need for Periodic Tests on ABT

PT. Grab Indonesia and PT. Gojek Indonesia were chosen as respondents to represent the ABT application provider company due to their status as the ABT's application provider company with the largest market share in Indonesia. The respondents from both companies are important officials who are directly involved in the operational policies of the company. Based on the findings from the virtual interview, PT. Grab Indonesia believes that safety is the main concern and there is no room for flexibility. During the driver recruitment phase, the company sets standards for vehicle specifications that can be registered, ensuring that the vehicle is in a suitable condition for use. The recruitment process starts with online registration of potential partners to gather driver and vehicle administration data. The company specifies vehicle requirements, such as the vehicle being less than five years old, the engine having a cylinder capacity above 1,000 cc, the interior of the vehicle being clean, and the vehicle documents, including the vehicle registration certificate (STNK), being valid. Once the requirements are met, prospective partners must physically present themselves with their vehicle for a thorough inspection to ensure safety. Once a driver meets the qualifications, the company provides training and guidelines on the company's vision, mission, and code of ethics that drivers must follow. Once the driver becomes a partner of the company, they can activate the application and start receiving orders. PT. Gojek Indonesia also follows the same principle in recruiting partners, with safety being the primary consideration. Driver recruitment is carried out openly and must meet administrative requirements, such as having a complete identity card (KTP), driver's license (SIM), and STNK, as well as possessing a cellphone, email, and a vehicle. Additionally, four-wheeled vehicles or more must have a permit as a specific rental transport vehicle from the local City/Regency Transportation Department. The company also includes additional safety features to enhance customer confidence, such as speed limit warnings and reminders about working hours. The company offers two types of training, training on the use of applications and training on attitudes and driving behavior. Compliance with safety aspects is ensured through routine inspections and adherence to government standards.

Despite the collaborative formulation of regulations that address safety and security concerns, their implementation by companies and drivers in the current situation is incomplete. In interviews, both ABT companies expressed objections to conducting periodic testing of ABT vehicles every 6 months due to the

resulting additional costs, which would lead to increased rates. Furthermore, they have established a maximum vehicle age of 5 years to ensure good condition and compliance with roadworthy requirements. Additionally, Article 6 of PM 118 of 2018 elucidates the SPM that online transportation companies must adhere to. The SPM for special rental transportation or ABT encompasses various aspects that encompass the obligations of the company, driver, and service user. The SPM for special rental transportation in Appendix I PM 118 of 2018 encompasses several aspects, including:

1) The Security Aspect, which encompasses the identification of the service user and driver, information regarding security disturbances, the inclusion of a complaint service feature and an emergency button (panic button), and the regulation of the darkness percentage of the window film layer on the vehicle.
2) The Safety Aspects, which establish standards for the driver's physical condition, driver competency, working and rest hours, essential equipment in the vehicle such as a flashlight, medical facilities, a light fire extinguisher, and safety belts, procedures for assessing the fitness of vehicles, traffic accident insurance, and the maximum age limit for the vehicle.
3) The Comfort aspect, which encompasses carrying capacity, restrictions on carrying individuals other than passengers, standard main facilities such as temperature control and air freshener, luggage and cleaning facilities, and additional amenities such as audio-visual facilities and battery chargers, as well as stipulations regarding clothing and driver behaviour.
4) The Affordability aspect, which pertains to accessibility and the provision of services according to the specified route in the application, as well as the application of service fees.
5) The Equality aspect, which entails prioritizing services and offering accessibility facilities to accommodate passengers with disabilities.
6) The Regularity aspect, which pertains to service times and ensuring the punctuality of order pick-up times (Indonesian Ministry of Transportation, 2018).

Nevertheless, the application companies have not fully adhered to these provisions, particularly in regard to the procedures for assessing the roadworthiness of vehicles. Unfortunately, the Ministry of Transportation lacks the authority to enforce these rules as the application companies argue that they are not transportation companies and therefore cannot be held accountable.

Despite objections from ABT company representatives, interviews with ABT drivers revealed that 59% believed periodic testing of ABT vehicles was necessary. The findings from interviews to 100 ABT drivers in the Jabodetabek areas are summarized in Table 2 for clarity.

Table 2. Summary of Interview Results of ABT Drivers

Question	ABT Driver Answers
What do you think if the government requires ABT vehicles to undergo periodical inspection and testing?	● 59% agree because they consider the safety aspect of consumers or passengers. ● 41% disagree because it burdens drivers with additional costs and has a lot to take care of.
How long have you been an ABT driver?	● 57% less than 2 years ● 10% between 2 to 3 years. ● 33% over 3 years.
How to register as an ABT driver and what are the requirements?	● 60% register directly at the company office. ● 40% register online. ● Requirements: bring the vehicle physically for inspection by showing ID, driving license, vehicle registration, criminal record, and savings account.
What is the rate per/km and is it appropriate rate?	The current average tariff is IDR 4000/km: ● 50% answered it was appropriate rate. ● 50% answered it was not appropriate.
What is the average driver's income per day and is it enough for family and operational needs (fuel and maintenance)?	The average daily income is Rp. 300,000/day: ● 56% said it was enough. ● 44% said it was not enough.

Discussion

In Indonesia, the implementation of ABT has been discussed in the context of the regulation of motorized vehicles on the road. This is based on the provisions of Law No. 22 of 2009 and the Government Regulation Number 55 of 2012 on motor vehicles. Both of these regulations state that all motorized vehicles must meet the technical and roadworthiness requirements (Republic of Indonesia Government, 2009, 2012).

Additionally, these motorized vehicles must be tested regularly as stipulated in the Ministry of Transportation's Regulation of the Motorized Vehicles (PM 19 of 2021). In the context of ABT implementation, the Government of Indonesia has issued Regulation No.118 of 2018 on ABT, which states that the weighing section of the ABT Regulation is necessary to ensure legal certainty regarding safety, comfort, equal treatment, affordability, and regularity in the implementation of specific rental transportation. In addition, Article 1(11) of the general provisions provides that: The minimum service standards referred to in Article 1(1) are the minimum standards that specific transportation companies must meet in order to provide services to service users that meet the following criteria: Safety, security, comfort, affordability, fairness and order. PM 118/2018 did not specify that ABTs are required to conduct periodic tests. However, ABTs are used in the same manner as regular taxis, which usually transport public passengers. Therefore, ABTs should conduct periodic tests as indicated in the abovementioned regulations: Law No. 22 of 2009 and the Government Regulation Number 55 of 2012.

A review of motor vehicle inspection in other countries suggests that the first test is typically conducted after 4 years of vehicle age, followed by annual periodic tests. This can serve as a reference for the Indonesian government, as ride-hailing companies like Gojek and Grab have also set a maximum vehicle age of 5 years. Therefore, vehicles only need to be tested once initially and then annually. The proposed 4-year age requirement and annual periodic tests are less stringent than the current regulations in Indonesia, which require tests every 1 year and every 6 months. In addition, the condition of tires and brakes should be prioritized in ABT's periodic inspections, because tire defects (or lack of tread) and brake failures are most commonly found in regular technical inspections of private vehicles and are the most common components contributing to road accidents.

A fascinating case was discovered in this study, where regulation reviews in Indonesia and other countries showed similarities in requiring periodic tests for ABT vehicles, but the implementation differed. However, in Indonesia, these regulations can not yet be implemented as in other countries. Interviews with ABT drivers in Indonesia revealed that 41% did not agree to periodic testing due to cost reasons. Additionally, 50% of drivers found the current tariff unfeasible and 44% stated that daily income was insufficient for family needs and vehicle operations. This situation was not found in other countries of the study, likely due to differences in economic conditions. The average income of Indonesians is far below that of other countries. Initially, the government provided incentives for ABT drivers in processing permits and carrying out tests, but after the incentives were removed, no more drivers participated in the tests. These interview results are crucial for the government in formulating policies regarding periodic testing, including considering the cost, tariffs, and drivers' income. Apart from that, the government needs to improve the performance of the Periodic Testing Unit which is considered not good to increase the confidence of vehicle owners. The implementation of random ABT inspections on the road and promotions to ABT drivers or vehicle owners regarding the need to maintain the roadworthy condition of ABT vehicles must also be carried out to increase awareness of ABT drivers in maintaining the roadworthy condition of their vehicles. This is very important to complete the implementation of regular testing, where the results of research by Cairns et al. (2014) and Rechnitzer et al. (2000) suggest that periodic inspections encourage drivers to always keep their cars in roadworthy condition, while periodic inspections of drivers are to keep their vehicles in good condition. Roadworthy condition only at the time of inspection.

The results of this study have theoretical and practical contributions. The study's method of integrating regulatory review, policy comparison, and stakeholder interviews can contribute to policy theory development, which has not been done by previous researchers. The study's findings can also inform the Indonesian Government in formulating policies related to technical and roadworthy requirements for ABT vehicles, potentially addressing the current controversies.

CONCLUSION

The study reveals that periodic testing of ABT vehicles is necessary to ensure they meet technical requirements and are roadworthy. Implementing tests every four years and annually is reasonable in Indonesia, as it is less burdensome for drivers compared to current regulations. Random road inspections should be carried out to increase awareness of proper vehicle maintenance, focusing on tire defects and brake failures. The cost of periodic testing should be carefully examined in relation to ABT rates and driver income. However, the study has limitations due to limited data obtained through a literature review and a small number of stakeholder interviews. Further research should involve direct observations and interviews to gather more comprehensive information.

REFERENCES

Ashraf, A., & Habib, M. A. (2020). A review of regulations and media discourse on technology-enabled shared mobility in Canada. *Transportation Research Procedia*, *48*(2019), 2757–2770. https://doi.org/10.1016/j.trpro.2020.08.241

Berneking, M., Rosen, I. M., Kirsch, D. B., Chervin, R. D., Carden, K. A., Ramar, K., Aurora, R. N., Kristo, D. A., Malhotra, R. K., Martin, J. L., Olson, E. J., Rosen, C. L., Rowley, J. A., & Gurubhagavatula, I. (2018). The risk of fatigue and sleepiness in the ridesharing industry: An American Academy of sleep Medicine position statement. *Journal of Clinical Sleep Medicine*, *14*(4), 683–685. https://doi.org/10.5664/jcsm.7072

Cairns, S., Anable, J., Chatterton, T., & Wilson, R. (2014). Vehicle inspections – from safety device to climate change tool. *MOT Project Working Paper*, 1–16.

Chaudhry, B., Yasar, A. U. H., El-Amine, S., & Shakshuki, E. (2018). Passenger Safety in Ride-Sharing Services. *Procedia Computer Science*, *130*, 1044–1050. https://doi.org/10.1016/j.procs.2018.04.146

Cohen, T. (2018). Being ready for the next Uber : can local government reinvent itself ? *Cohen European Transport Research Review*, *8*.

Colgrave, L. (2019). Ride-Hailing in Indonesia and Australia Gig Economies: The Case of Go-Jek, Grab, and Uber. *Center for Digital Society, Faculty of Social and Political, Universitas Gadjah MAda*, *December*, 1–18.

Cuerden, R. W., Edwards, M. J., & Pittman, M. B. (2011). Effect of vehicle defects in road accidents. In *IHS*.

DEKRA. (2005). *Technical Road Safety*.

Fiandri, N. (2018). *Wow, thousands of online taxis don't carry out periodic tests.* https://www.gridoto.com/read/221013418/waduh-ribuan-taksi-online-enggak-tertib-uji-kir

Frost, & Sullivan. (2016). What Makes Uber Tick in Malaysia ? *Https://Vdocuments.Mx/What-Makes-Uber-Tick-in-Malaysia-Frost-Sullivan-Makes-Uber-Tick-in-Malaysia.Html?Page=1*, *May*.

Indonesian Ministry of Transportation. (2018). Regulation of the Minister of Transportation of The Republic of Indonesia Number PM 118 of 2018 Concerning Organization of Special Rental Transportation. *Https://Peraturan.Go.Id/Files/Bn311-2019.Pdf*, *1675*.

Indonesian Ministry of Transportation. (2021). Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2021 concerning Periodic Testing of Motor Vehicles. *Ministry of Transportation of the Republic of Indonesia*.

Islam, S., Wang, M., Uddin, J., Venkatesh, V. G., & Sakalayen, Q. (2023). Barriers to vehicle-sharing among NGOs during disaster relief operations: Findings from a developing country's perspective. *International Journal of Disaster Risk Reduction*, *98*(October), 104092. https://doi.org/10.1016/j.ijdrr.2023.104092

Jais, A. S., & Marzuki, A. (2020). E-Hailing Services in Malaysia: Current Practices and Future Outlook. *Journal of the Malaysian Institute of Planners*, *18*(3), 128–141.

Jarosinski, W. (2014). Periodic technical inspections of vehicles and road traffic safety with the number of road accidents involving fatalitie. *Maintenance and Reliability*, *16*(1), 105–111.

Keall, M. D., & Newstead, S. (2013). An evaluation of costs and benefits of a vehicle periodic inspection scheme with six-monthly inspections compared to annual inspections. *Accident Analysis and Prevention*, *58*, 81–87. https://doi.org/10.1016/j.aap.2013.04.036

Matthew Feeney. (2019). Is Ridesharing Safe? *Policy Analysis*, *767*, 1–16.

Mohamed, M. J., Rye, T., & Fonzone, A. (2019). Case Studies on Transport Policy Operational and policy implications of ridesourcing services : A case of Uber in London , UK. *Case Studies on Transport Policy*, *7*(4), 823–836. https://doi.org/10.1016/j.cstp.2019.07.013

Nathaniel, F., & Sicca, S. P. (2018). *Drivers' Organizations Divided Over New Online Taxi Rules*. https://tirto.id/organisasi-sopir-terbelah-soal-aturan-baru-taksi-online-cD2P

Palliyani, S., & Der-Horng, L. (2021). Analyzing singapore's ride-hailing regulation through its technocracy using social practice theory. *Journal of Infrastructure, Policy and Development*, *5*(1). https://doi.org/10.24294/jipd.v5i1.1254

Rechnitzer, G., Haworth, N., & Kowadlo, N. (2000). The Effect of Vehicle Roadworthiness on Crash Incidence and Severity. *Monash University Accident Research Centre*, *164*.

Republic of Indonesia Government. (2009). Law Number 22 of 2009 concerning Road Traffic and Transport. *Https://Peraturan.Go.Id/Id/Uu-No-22-Tahun-2009*, 1–103.

Republic of Indonesia Government. (2012). Republic of Indonesia Government Regulation Number 55 of 2012. *Https://Peraturan.Go.Id/Id/Pp-No-55-Tahun-2022*.

Rogers, B. (1951). The Social Costs of Uber. *SSRN Electronic Journal*, *7*(1–18), 69–85. https://doi.org/10.1111/j.1540-4560.1951.tb02223.x

Schroer, B. J., & Peyton, W. F. (1979). The Effect of Automobile Inspection on Accident Rates. *Accident Analysis and Prevention*, *I*, 61–64.

Setiawan, I. wayan A., Widiati, I. A. P., & Suryani, L. P. (2022). Pelaksanaan Sistem Uji Kendaraan Bermotor dalam Mencegah Kecelakaan Lalu Lintas di Kota Denpasar. *Analogi Hukum*, *4*(1), 71–75.

Shi, J., Hussain, M., & Peng, D. (2023). A study of aberrant driving behaviors and road accidents in Chinese ride-hailing drivers. *Journal of Transportation Safety and Security*, *15*(9), 877–894. https://doi.org/10.1080/19439962.2022.2137867

Solah, M. S., Ariffin, A. H., Hamzah, A., Paiman, N. F., Anwar, K., & Kassim, A. (2019). Public Perception of Private Vehicle Periodical Inspection d. *Journal of Science & Technology*, *4*(January).

Solah, M. S., Hamzah, A., Ariffin, A. H., Paiman, N. F., Abdul Hamid, I., Abdul Wahab, M. A. F., Mohd Jawi, Z., & Osman, M. R. (2021). Private Vehicle Roadworthiness in Malaysia from the Vehicle Inspection Perspective. *Journal of the Society of Automotive Engineers Malaysia*, *1*(3), 262–271. https://doi.org/10.56381/jsaem.v1i3.67

Taneerananon, P., & Kronprasert, N. (2005). An Evaluation of the Effectiveness of Private Vehicle Inspection Process in AN EVALUATION OF THE EFFECTIVENESS OF PRIVATE VEHICLE INSPECTION PROCESS IN THAILAND. *Journal of the Eastern Asia Society for Transportation Studies*, *6*(December), 3482–33496.

Taneerananon, P., Suanpaga, V., Kronprasert, N., Chanwannakul, T., Khompratya, T., & Tanaboriboon, Y. (2005). An Evaluation of the Effectiveness of Provate Vehicle Inspection Process in Thailand. *Journal of the Eastern Asia Society for Transportation Studies*, *6*(Ocmlt 2002), 3482–3496.

Utami, A. A., Hernawan, D., & Purnamasari, I. (2020). Analisis_Kualitas_Pelayanan_Pengujian_Kendaraan. *Governansi*, *6*(April), 104–113.

Yunus, M., Soesilowati, E., Liesnoor, D., & Arsal, T. (2019). Analysis of the Work System of Online Transportation Applications in Improving Driver Performance. *Semarang State University*.

Zhang, C. (2019). China ' s new regulatory regime tailored for the sharing economy : The case of Uber under Chinese local government regulation in comparison to the EU , US , and the UK. *Computer Law & Security Review: The International Journal of Technology Law and Practice*, *35*(4), 462–475. https://doi.org/10.1016/j.clsr.2019.03.004