Operator Responsibilities in Safeguarding Consumer Rights Against GPS Spoofing in Ride-Hailing Services

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Abstract

This study examines the responsibilities of Electronic System Providers (ESPs) in safeguarding consumer rights within ride-hailing services. It specifically addresses the Global Positioning System (GPS) spoofing by drivers. The GPS spoofing involves the deceitful manipulation of location data by vehicles, posing significant legal and security risks to customers. The study evaluated the effectiveness of ESPs, including popular platforms in Indonesia like Gojek and Grab, in protecting consumers from such violations. It utilized normative legal theory and the secondary data analysis derived from ESP contracts. Findings indicate that current consumer protection measures are insufficient, primarily because ESPs employ exemption clauses that contravene Consumer Protection Law regulations. Additionally, the study highlights a lack of compliance with governance laws, such as the Government Regulation Number 71 of 2019, which mandates ESPs to establish robust and effective electronic system governance. This unethical practice jeopardizes consumer safety and erodes trust in the ESPs. This study underscores the necessity for stricter enforcement of consumer protection laws and regulations within the ride-hailing sector to ensure client safety and security. ESPs must prioritize safeguarding consumer data and implement measures to prevent drivers from manipulating fraudulent location data. Furthermore, collaborative efforts among ESPs, governmental bodies, and cybersecurity experts are essential to enhance legal protections for consumers, aiming to establish fair and safe procedures that benefit all parties involved.

Keywords: consumer protection, location spoofing, responsibility.

A. Introduction

Disruptive innovation represents a form of innovation that successfully transforms an existing system, technology, and market with values of practicality, ease of access, convenience, and cost-effectiveness.[1] With the widespread adoption of smartphones and population growth in Indonesia, people have rapidly adjusted their

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[1] Clayton M. Christensen, Michael E. Raynor, and Rory McDonald, "What is Disruptive Innovation?" last modified on December 1, 2015, https://hbr.org/2015/12/what-is-disruptive-innovation.

behaviors to facilitate various activities, particularly app-based buying and selling activities in transportation services. Ride-hailing services, which are online transportation service applications, facilitate the booking of transportation services through electronic contracts between service providers (drivers) and consumers who have mutually committed to the transaction. Consumers can place their orders via these applications.[1] The electronic service provider's system sends consumers' orders to the nearest drivers, who can accept or reject the orders based on their reputation and position.

The rise of app-based or online transportation service users is evident in Indonesia, particularly with the two largest online transportation service applications, Gojek and Grab. In 2022, the Gojek application was downloaded 18.99 million times, while the Grab application saw more than 13.58 million downloads.[2] These applications have evolved into super-apps, offering various services beyond transportation, including deliveries, on-demand offerings, and electronic payments. The emergence of such new technologies can pose threats or disruptions to related sectors due to their innovative nature. Online transportation services have become a new necessity for society, offering convenience in various aspects, such as user transportation, food delivery, and goods distribution.

Online transportation service applications within electronic systems generally require agreements or contracts encompassing the parties' rights and obligations. These are commonly referred to as electronic contracts. Electronic transactions can be conducted through electronic contracts or other contractual agreements, representing agreements between parties.[3] Regulations regarding transactions and electronic systems define these agreements made through electronic mechanisms. Consequently, electronic contracts are agreements or legal relationships formed electronically by integrating computer-based information networks with communication networks and telecommunications services made possible by the internet.[4]

Before engaging in electronic transactions through online transportation service applications, users and service providers, in this case, drivers, agree to exchange information within the application. The application manager then provides information to the involved parties, including the driver and user's location, utilizing Global Positioning System (GPS) technology to facilitate the use of transportation services.

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1 Qingchuan Zhao (et.al.), "Geo-locating Drivers: A Study of Sensitive Data Leakage in Ride-Hailing Services," (Annual Network and Distributed System Security Symposium, NDSS, 2019), 1.

2 Statista Research Department, "Market Share of Ride-Hailing Transportation Industry Indonesia 2022-2023," accessed on June 25, 2023, https://www.statista.com/statistics/1376846/indonesia-market-share-ride-hailing-transportation-by-order.

3 Article 46 (1) of the Government Regulation of the Republic of Indonesia Number 71 of 2019 on the Operation of Electronic Systems and Transactions.

4 Edmon Makarim and Deliana, "Kajian Aspek Hukum Perikatan," in Edmond Makarim (ed.) *Kompilasi Hukum Telematika* (Jakarta: Raja Grafindo Persada, 2003), 254.

In operation, online transportation service applications collect critical personal information, including GPS locations, vehicle registration numbers, payment data, and other data from drivers and users. GPS, a global navigation satellite system, provides location and timing information.[5] GPS can precisely determine the geographic position of an object and is now publicly accessible. However, due to the complexity of signals and frequencies, launching attacks such as GPS location disruption and deception is possible, posing significant security threats to users. [6]

GPS spoofing involves disrupting GPS location signals to deceive, manipulate, or falsify a place. Dishonest drivers frequently use GPS spoofing to manipulate application systems to receive numerous orders within crowded areas such as malls, restaurants, and stations. Such fraudulent actions can be detrimental to users and the operators of online transportation service applications, as they propagate false information about the actual location of drivers. By falsifying the location, consumers experience waiting-time losses due to misleading information about the proximity or distance of the driver from the user's location. Furthermore, electronic system providers must enhance their security systems to counter vulnerabilities that facilitate dishonest behavior. Consequently, orders that should be prioritized based on proximity no longer align with system rules. Therefore, analyzing issues arising from GPS location manipulation is essential, including user and driver rights, responsibilities, and the legal responsibilities of application operators and drivers based on applicable laws and regulations.

Consumer Protection Law Number 8 of 1999 on Consumer Protection ("Consumer Protection Law") was developed based on the imbalance between consumers and business actors, especially regarding the availability of information, which creates differences in power or authority. The rights of users as consumers have been outlined in Article 4, paragraph (a) of the Consumer Protection Law, which regulates consumer rights in the form of the right to comfort, safety, and security in consuming goods and/or services.[7] Consumers' comfort with app-based transportation services is manifested through a condition in which an individual feels comfortable, content, calm, and without disturbances.[8] Additionally, one of the obligations of business operators is stipulated in Article 7 of the Consumer Protection Law, emphasizing good faith in conducting business activities.[9] The operation of app-based transportation services falls under the definition of providing electronic

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5 Kexiong Curtis Zeng (et.al.), "A Practical GPS Location Spoofing Attack in Road Navigation Scenario," (Proceedings of the 18th International Workshop on Mobile Computing Systems and Applications, HotMobile, 2017), 85.

6 Jonathan Petit and Steven E. Shladover "Potential Cyberattacks on Automated Vehicles," *IEEE Transactions on Intelligent Transportation Systems 16*, no. 2 (2014): 546, https://doi.org/10.1109/TITS.2014.2342271.

7 Article 4 Letter (a) of Law Number 8 of 1999 on Consumer Protection. See, Paolo Siciliani, Christine Riefa, and Harriet Gamper, *Consumer Theories of Harm, an Economic Approach to Consumer Law Enforcement and Policy Making* (Oxford: Hart Publishing, 2019), 12.

8 Agus Suwandono, "Pendekatan Holistik Transportasi Berbasis Aplikasi dalam Kerangka Hukum Perlindungan Konsumen," *Mimbar Hukum 31*, no. 1 (2019): 54, https://doi.org/10.22146/jmh.33848.

9 Article 7 Letter (a) of the Consumer Protection Law.

systems and transactions, which has explicitly been regulated under Article 1 (6) Letter a of Law Number 19 of 2016 on Amendments to Law Number 11 of 2008 on Electronic Information and Transactions (EIT Law) and the Government Regulation Number 71 of 2019 on the Operation of Electronic Systems and Transactions. Therefore, the Consumer Protection Law, EIT Law, the Government Regulation Number 71 of 2019, and electronic contracts within applications are crucial references for consumers in safeguarding their rights.

This study arises from the growing societal need and the noticeable gap in research and discussion on consumer protection and the responsibilities of operators of online transportation service applications in the context of GPS manipulation. It aims to discuss the legal protection of consumers within the context of app-based transportation services in Indonesia, referencing relevant laws and regulations. Additionally, the study explores the responsibilities of electronic system providers of online transportation service applications concerning GPS manipulation by drivers, adhering to legal provisions.

Previous studies on legal protection against GPS manipulation include Santoso, Cahyaningrum, Siregar, and Ubaid. What distinguishes this paper is its innovative examination and analysis of electronic contracts within app-based transportation services, identifying clauses that could harm consumers. This analysis is tied to consumer protection theories under the Consumer Protection Law, and it assesses the fulfillment of the responsibilities of operators of online transportation services based on Government Regulation number 71 of 2019.

This study employed juridical normative legal research. Accordingly, it utilized secondary data collected from primary, secondary, and tertiary legal materials. [10] The legal materials are analyzed using a descriptive analysis approach focusing on events and legal products through legal sources such as the EIT Law, Consumer Protection Law, Indonesian Civil Code, and the Government Regulation Number 71 of 2019. Another legal product to be analyzed is the contractual agreements in app-based transportation service applications. The data collection procedure covered documentation in various forms, including notes, citations, legal literature, books, etc.

Ride-hailing or online transportation services fall within the definition of electronic system and transaction providers as regulated in Article 1 Point 6 Letter a of the EIT Law and Article 1 of the Government Regulation Number 71 of 2019, constituting legal actions performed using computers, computer networks, and/or other electronic media.[11] With electronic transactions, the application service provider is responsible for offering consumer protection to users and involving another party, namely the driver, in the online transportation service. Therefore, all electronic transaction activities can also be categorized as actions or legal activities

[10] Soerjono Soekanto, *Pengantar Penelitian Hukum 3rd Edition* (Jakarta: UI Press, 2014), 52.

[11] Article 1 of the Government Regulation Number 71 of 2019.

in the digital world. Deceptive actions or legal violations occurring within it can also amount to cybercrime.

The EIT Law specifically regulates cybercrime in Indonesia. On the other hand, Article 31 of the Government Regulation Number 71 of 2019 stipulates that ESPs are obliged to protect their users and the general public from losses caused by their electronic systems.[12] Service users, as consumers, must also receive service guarantees and protection under the Consumer Protection Law. Consumer protection regulations aim to create a safe space for consumers to fulfill their needs. Article 3 Letter d of the Consumer Protection Law states that consumer protection aims to realize a consumer protection system that contains elements of legal certainty, information disclosure, and access to information.[13] In addition, consumers have rights in accordance with their objectives to obtain the benefits of the goods/services. The realization of these benefits must not threaten consumers' safety, life, and property, and must guarantee consumers' comfort, security, and safety.[14]

Online transportation service applications collect essential information to be shared among parties engaged in transactions, including GPS location, vehicle license plate numbers, payment data, and other information belonging to drivers and users. Unlike military GPS infrastructure, regular GPS signals used by civilians are not encrypted or authenticated beforehand. It makes regular GPS signals susceptible to easy forgery using specialized equipment.[15] The structure of GPS signals is publicly known, and the signals sent to satellites through GPS are relatively low.[16] Consequently, it is neither difficult nor expensive for individuals to create a system that generates fake signals, which the receivers will then perceive. Transmitting fake GPS signals to receivers can mislead them to receive false signals instead of genuine satellite signals, known as GPS spoofing or fake GPS fraud.

In the context of app-based transportation service applications, GPS location signals are crucial for providing information to the parties involved in transactions. Concerns about consumer protection arise in cases of GPS location fraud because consumers can be harmed by drivers who manipulate location data to overcharge or create the illusion of longer trips. Such manipulation can lead to extended-duration services and pose security issues for consumers. For instance, a passenger recently fell victim to an attempted kidnapping by a driver of an online transportation service. The victim reported that the driver had deactivated the application and GPS while

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12 Article 31 of the Government Regulation Number 71 of 2019.

13 Article 3 Letter d of the Consumer Protection Law.

14 Dimas Bagus Wicaksono, "Perlindungan Hukum Terhadap Konsumen GO-JEK (Layanan Transportasi Dengan Aplikasi Online) Dalam Perjanjian Aplikasi GO-JEK Berdasarkan Pasal 1320 KUHPerdata," *Justitia Jurnal Hukum* 1, no. 2 (2017): 330, https://doi.org/10.30651/justitia.v1i2.1164.

15 Beomju Shin (et.al.), "Spoofing Attack Results Determination in Code Domain Using a Spoofing Process Equation," *Sensors* 19, no. 2 (2019): 293, https://doi.org/10.3390/s19020293.

16 Qian Meng (et.al.), "A GPS Spoofing Generator Using an Open Sourced Vector Tracking-Based Receiver," *Sensors* 19, no. 18 (2019): 3993, https://doi.org/10.3390/s19183993.

deviating from the intended route.[17] This incident underscores the need to ensure GPS integrity in transportation services to protect passengers from potential harm.

Strict regulations and monitoring systems are essential to prevent such fraudulent activities and enhance passenger safety. According to Court Judgement Number 1509/Pid.Sus/2018/PN.Mdn, GPS spoofing not only puts consumers in danger but also costs ride-hailing services some losses.[18] In some notable cases, at least seven drivers utilized five illegal applications like KingRoot, Super SU, Satpol PP, BSH Map, and Mock Location (fake GPS) to deceive Grab Car's official GPS system operator. Their scheme involved simulating genuine passenger orders while engaging in activities under PT Solusi Transportasi Indonesia (Grab) without actually working, thereby fraudulently receiving security deposits or bonus payments from Grab. As a result, fictitious travel data entered into the system indicated that Grab suffered losses amounting to Rp6.358.055.[19] This case serves as a warning to others who may attempt to deceive companies through fraudulent means, as the consequences can be severe. The use of illegal applications to manipulate the system not only costs ESPs financially but also damages their reputation as reliable transportation services.

B. Analysis of Legal Protection for Consumers in Ride-Hailing Service Applications

Before exploring the substantive aspects of the applicable laws and regulations, it is crucial to understand several key concepts inherent within consumer protection law. Legal protection encompasses all efforts that ensure legal certainty and provide legal safeguards to the relevant parties engaged in legal actions. Consumer protection specifically extends legal safeguards to consumers regarding their rightful entitlements. Accordingly, four fundamental consumer rights emerge: the right to safety, to be informed, to choose, and to be heard. [20]

In the context of safeguarding consumers of online transportation services, legal certainty is imperative to ensure that any actions resulting in detriment to consumers can be subject to legal sanctions.[21] The principle of consumer liability or *caveat emptor* provides an understanding that indirectly places the onus of consequences upon the consumer's choices. Thus, it renders the consumer relatively

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17 Fergi Nadira, "Viral, Seorang Perempuan Hampir Diculik Driver Ojol," accessed on July 1, 2023, https://news.republika.co.id/berita/rx4b3b438/viral-seorang-perempuan-hampir-diculik-driver-ojol.

18 Court Judgement Number 1507/Pid.Sus./2018/PN Mdn. See, Vikardin Waruwu, Ojak Nainggolan, and Jusnizar Sinaga, "Pertanggungjawaban Pidana Pelaku Orderan Fiktif Ojek Online yang Mengakibat Kerugian PT Grab Indonesia (Studi Putusan Nomor 1507/Pid.Sus./2018/PN.MDN)," *Jurnal Hukum PATIK* 9, no. 3 (2020): 184-187, https://doi.org/10.51622/patik.v9i3.247.

19 Vikardin Waruwu, Ojak Nainggolan, and Jusnizar Sinaga, 182-183.

20 Shidarta, *Hukum Perlindungan Konsumen Indonesia (Edisi Revisi)* (Jakarta: Grasindo, 2006), 19.

21 Enni Soerjati Priowirjanto, "Pengaturan Transaksi Elektronik dan Pelaksanaannya di Indonesia Dikaitkan Dengan Perlindungan E-Konsumen," *Padjadjaran Jurnal Ilmu Hukum* 1, no. 2 (2014): 290, https://doi.org/10.22304/pjih.v1n2.a5.

vulnerable regarding legal protection.[22] The law exists to safeguard consumers' vulnerabilities and to adapt accordingly.

1. Consumer Protection in Ride-Hailing Service Applications Against GPS Location Fraud by Drivers Based on Law Number 8 of 1999 on Consumer Protection

a. Legal Protection for Consumers

The online transportation service application introduces various types of services, including food delivery, goods delivery, and passenger transport. Consequently, users have the freedom to select the service of their preference. Users who engage with online transportation services qualify as consumers under the Consumer Protection Law. Consumer protection of goods and services begins at the stage of acquiring goods and services; and extends to the consequences of using these goods and services.[23] This paper discusses consumers as individuals who utilize goods or services for personal, family, or household needs, not for producing or resale goods and services. It includes transactions and the transfer of ownership or enjoyment of goods or services from the service provider to the consumer.[24]

The legal subjects under consumer protection, established and safeguarded by the Consumer Protection Law, fundamentally belong to the category of end consumers.[25] Article 1 Point 2 of the Consumer Protection Law defines a consumer as a user of goods and/or services available within society, for personal, family, others' interests, or other living beings, and not for trading purposes.[26] Consumers who use online transportation services fit within the definition outlined in Article 1 Point 2 of the Consumer Protection Law since they have engaged in the 'purchase' and 'enjoyment' of services from providers through the online transportation service application and pay a specific fee or tariff. Thus, in this relationship, consumers using online transportation services have rights and obligations protected by the Consumer Protection Law.

Miru and Yodo argue that although Law Number 8 of 1999 is referred to as the Consumer Protection Law, it also pays attention to the interests of business actors, primarily since the national economy largely depends on these actors.[27] The necessity for legal certainty to protect consumers is a crucial element aligned with the goals of the Indonesian state as a legal entity, which aims to provide protection, security, safety, and health to its citizens. As a branch of economic jurisprudence, consumer protection law is inseparable from private law (civil law) and public law

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22 Enni Soerjati Priowirjanto, 293.

23 Zulham, *Hukum Perlindungan Konsumen* (Jakarta: Prenadamedia Group, 2013), 22.

24 Az Nasution, *Konsumen dan Hukum* (Jakarta: Pustaka Sinar Harapan, 1995), 37.

25 Agus Suwandono, *Modul 1: Ruang Lingkup Hukum Perlindungan Konsumen (Edisi 1)* (Tangerang Selatan: Universitas Terbuka, 2015), 23.

26 Article 1 Point 2 of the Consumer Protection Law.

27 Ahmadi Miru dan Sutarman, *Hukum Perlindungan Konsumen Edisi Revisi* (Jakarta: Raja Grafindo Persada, 2015), 1.

domains.[28] The term "protection" within "consumer protection" encompasses legal aspects, signifying that obtaining protection extends beyond the physical realm, encapsulating the abstract rights of consumers. Article 1 Point 1 of the Consumer Protection Law defines consumer protection[29] as any effort that guarantees legal certainty to protect consumers. Article 4 of the Consumer Protection Law safeguards the importance and rights of consumers.[30] It defines consumer rights as:

a) the right to comfort, safety, and/or security in consuming goods and/or services;
b) the right to choose goods and/or services, to receive them in accordance with the promised exchange value, conditions, and guarantees;
c) the right to clear, accurate, and honest information about the condition and guarantees of goods and/or services;
d) the right to voice complaints and opinions regarding the goods and/or services used;
e) the right to advocacy, protection, and reasonable dispute resolution efforts for consumer protection;
f) the right to education and consumer guidance;
g) the right to be served and treated fairly, honestly, and without discrimination;
h) the right to obtain compensation, restitution, and/or replacement if the received goods and/or services do not adhere to the agreement or as they should be; and
i) other rights stipulated in other legal regulations.

Consumers who experience fraudulent GPS location spoofing by dishonest drivers who manipulate the original coordinates of their location to create the impression that the driver is actively transporting and delivering passengers, goods, or ordered food. This manipulation occurs because the driver's actual location, when using a fake GPS, is often far from the fabricated location they appear to occupy. Such drivers frequently provide fabricated excuses to encourage consumers to be patient, even though the destination location on the application may be close. Moreover, consumers who use delivery or transportation services through the application may notice that the driver's location displayed during transactions is initially matches the order's destination point. In reality, the driver is still on route to that location. In other instances, the driver's location on the app may remain static initially and then suddenly switch to the customer's destination or the targeted restaurant. This situation usually arises when the driver forgets to turn off their fake GPS application before proceeding with the delivery.

Article 4 of the Consumer Protection Law states that consumers have the right to receive clear, accurate, and non-misleading information regarding the products and/or services provided by the provider.[31] Therefore, operators of online

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28 Ahmadi Miru dan Sutarman Yado, *Hukum Perlindungan Konsumen* (Jakarta: Raja Grafindo Persada, 2004), 2, dalam Agus Suwandono, 1.1.

29 Article 1 Point 1 of the Consumer Protection Law.

30 Article 4 of the Consumer Protection Law.

31 Article 4 Letter c of the Consumer Protection Law.

transportation service applications or ESPs must offer clear and accurate information concerning tariffs, routes, and the identity of the online drivers assigned to them. According to Article 4 Letter h of the Consumer Protection Law, consumers have the right to receive compensation, restitution, and/or replacement if the received service does not conform to the agreement or expectations.[32] Article 5 of the Consumer Protection Law further elaborates on consumer rights, one of which is the right to ensure security and safety while utilizing the products and/or services provided.[33]

The GPS manipulation compromises passengers' security and safety; dishonest or malicious drivers might activate the deceptive location tool while carrying passengers, engaging in criminal activities such as abduction or theft. Article 7 Letter g of the Consumer Protection Law further elaborates on business actors' obligation to provide compensation, restitution, and/or replacement if the received or utilized service does not adhere to the agreement.[34] In addition to regulating dispute resolution in the general court, the Consumer Protection Law also outlines the procedure for alternative dispute resolution conducted outside the court. This extrajudicial dispute resolution is outlined in Article 47 of the Consumer Protection Law, and one of its mechanisms involves the Consumer Dispute Resolution Board (BPSK-*Badan Penyelesaian Sengketa Konsumen*).[35]

b. Legal Responsibilities of Ride-Hailing Service Application Providers

Responsibility arises based on the legal relationship between businesses and consumers. The definition of a business entity is outlined in Article 1 Point 3 of the Consumer Protection Law. It includes any individual, natural person, or business entity, whether legal or non-legal, established and domiciled or conducting activities within the legal jurisdiction of the Republic of Indonesia, either individually or collectively through agreements, engaging in business activities across various economic sectors.[36] Online transportation service applications, operating within the territory of the Republic of Indonesia, qualify as business entities under this definition.

The obligation to be responsible emerges as a consequence of consumer rights. According to Article 4 of the Consumer Protection Law, consumers have the right to ensure the security and safety of the services provided.[37] Therefore, providers of online transportation service applications must ensure the security and safety of their consumers, particularly regarding cases of fraudulent GPS spoofing conducted by service providers, in this context, the drivers. Instances of GPS spoofing manipulation further demonstrate that the application platform remains vulnerable

[32] Article 4 Letter h of the Consumer Protection Law.
[33] Article 5 of the Consumer Protection Law.
[34] Article 7 Letter g of the Consumer Protection Law.
[35] Article 47 of the Consumer Protection Law.
[36] Article 1 Point 3 of the Consumer Protection Law.
[37] Article 4 of the Consumer Protection Law.

to security breaches, such as the use of manipulation tools by perpetrators engaging in GPS spoofing fraud. Consequently, application providers should manage their platforms with guaranteed security and safety, while drivers should ensure the security and safety of their services.

Article 8 of the Consumer Protection Law outlines the actions prohibited by business actors. Specifically, Article 8 Point 1 Letter f prohibits business entities from trading goods or services that do not correspond with the promises declared in labels, tags, information, advertisements, or sales promotions related to those goods and/or services.[38] According to this provision, the inconsistency between manipulated fake locations displayed to and perceived by consumers, and the actual location of the driver, constitutes a violation. Such discrepancies breach the prohibition against business entities trading their services under false pretences.[39]

Liability in electronic commerce transactions requires business actors to remain accountable through contractual liability for losses incurred by users and product liability if the product or service offered is defective and causes harm to users.[40] The Consumer Protection Law fundamentally does not endorse strict or absolute liability. However, Article 19 Point 1 of the Consumer Protection Law stipulates that business actors are liable to provide restitution for damages, contamination, and/or losses consumers suffer due to the consumption of goods and/or services produced or traded.[41] Nevertheless, business entities can be exempt from liability if they can prove that the fault results from consumer negligence or provide further evidence of the existence of contributory fault.[42] The Consumer Protection Law also regulates the burden of proof regarding the presence or absence of fault in a compensation claim, a responsibility that is imposed on the business actors.[43] In light of these provisions, fault-based liability becomes the burden of proof for business actors.

Managing online transportation service applications requires a contract that users and drivers must agree upon. The Consumer Protection Law, specifically in Article 18 Point 1, regulates the use of standard clauses in contracts between business entities and consumers. This article establishes limitations and prohibitions on the use of standard clauses that may allow business entities to avoid their responsibilities. If the contract contains clauses that transfer responsibilities, these may be declared null and void.[44] In the context of online transportation applications, the terms of the agreement between users and/or drivers and application providers often include an exemption clause. This occurs because the online transportation

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38 Article 8 Point 1 Letter f of the Consumer Protection Law.

39 GPS spoofing fraud is an act of services that do not correspond with promises declared in the information related to the services. See, Article 8 of the Consumer Protection Law.

40 Desy Ary Setyawati, Dahlan Ali, and M. Nur Rasyid, "Perlindungan Bagi Hak Konsumen dan Tanggung Jawab Pelaku Usaha Dalam Perjanjian Transaksi Elektronik," *Syiah Kuala Law Journal* 1, no. 3 (2017): 44, https://doi.org/10.24815/sklj.v1i3.9638.

41 Article 19 Point 1 of the Consumer Protection Law.

42 Article 19 Point 4 and 5 of the Consumer Protection Law.

43 Article 28 of the Consumer Protection Law.

44 Article 18 Point 1 and 3 of the Consumer Protection Law.

application provider unilaterally formulated the provisions in the previous agreement. The limitations and prohibitions on clauses that could potentially harm consumers in contracts or agreements related to online transportation service applications will be discussed further in the subsequent section.

2. Legal Protection Against GPS Location Spoofing Fraud Based on Self-Regulation of Ride-Hailing Service Applications and Its Relation to Applicable Laws and Legal Provisions

Electronic systems are certainly subject to regulations that govern activities within them. As an application platform, the implementation of self-regulation plays a crucial role in regulating codes of conduct, contracts, and various forms of policies. The concept of self-regulation has gained prominence as digitization has become prevalent in various sectors of everyday life. Electronic contracts fall under the category of unnamed contracts (*innominate*), which are agreements not specifically regulated by the Indonesian Civil Code but recognized within society due to the evolution of time and changing needs.[45] This form of self-regulation, also known as a standard agreement or terms and conditions, shares concept to agreements based on regulations in the Indonesian Civil Code. The legal recognition of these contracts or agreements in society is ultimately organized as an exchange relationship that is not solely economic in nature but can also occur in the empathic space.[46]

According to Article 1313 of the Indonesian Civil Code, a contract or agreement can be defined as "An act by which one or more parties bind themselves to one or more other parties".[47] As prerequisites for a valid agreement, there must be mutual consent among those binding themselves, the capacity of the parties to create an obligation, a specific subject matter, and an absence of prohibited causes.[48] Mieke Komar Kantaatmadja, as cited in Ahmad Ramli's book, explains that the formation of agreements between parties can be based on several doctrines or theories, as follows.[49]

a. The offer and acceptance theory: an agreement is formed when an individual accepts an offer.
b. The mailbox theory: an agreement is formed when a letter of acceptance regarding an offer is sent.
c. The knowledge theory: an agreement is reached once the offeror becomes aware that their offer has been accepted.

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45 Annisa Fitria, "Keabsahan Perjanjian Kerja Waktu Tertentu yang Dibuat Secara Elektronik Ditinjau dari Hukum Positif," *Lex Jurnalica 16,* no. 3 (2019): 206, https://doi.org/10.47007/lj.v16i3.3055.

46 Budiono Kusumohamidjojo, *Teori Hukum: Dilema Antara Hukum dan Kekuasaan* (Bandung: Yrama Widya, 2020), 268.

47 Article 1313 of the Indonesian Civil Code.

48 Article 1320 of the Indonesian Civil Code.

49 Mieke Komar Kantaatmadja, "Cyberlaw: Suatu Pengantar (First Edition)," in Ahmad M. Ramli, *Modul 1: Hukum Telematika*, (Jakarta: Universitas Terbuka, 2014), 22.

d. The acceptance theory: an agreement is formed upon the receipt of an acceptance letter by the offeror.

In general, the relationship between business operators and consumers is based on agreements known as standard-form contracts. Business operators prepare these terms in advance, requiring consumers to agree to them. This type of agreement leaves consumers with little room to express their preferences. They must either accept or reject the terms as presented. This arrangement is detrimental to consumers because it is one-sided. Such adverse provisions may contain:[50]

1. Reduction of the obligations of the party drafting the standard agreement;
2. Transfer of obligations of the party drafting the standard agreement to the recipient of the standard agreement, and
3. Reduction or elimination of the rights of the recipient of the standard agreement.

In electronic contracts, the agreement is typically reached when the user or consumer clicks the "Agree" button or other similar expressions of consent. Users must approve the terms outlined in the prepared standard-form contract by clicking buttons that often bear phrases such as "I agree" or "I accept", before they can complete the transaction.[51] The electronic signature plays a crucial role in electronic contracts as it helps to ensure data integrity, the authenticity of signatures, and the undeniable nature of the documents. For the use of electronic signatures, all parties involved in the contract must possess a digital certificate issued by a trusted third party known as a certificate authority.[52]

This standard agreement ultimately becomes problematic if it fails to accommodate obligations related to consumer protection. Legal protection for consumers is crucial, as consumers have universal rights and very specific rights tailored to particular situations and conditions. Given the dominant position of business actors compared to consumers, there is a potential for legal disputes between consumers and business actors.[53]

The substance and legal terminology within modern contracts, such as electronic contracts, may not significantly assist if the clauses are difficult for consumers to access and understand. Challenges in comprehending the legal terms within electronic contract clauses can stem from consumers' limited legal knowledge. From Simon's perspective, this could also indicate that consumers are too indifferent to

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50 Johannes Gunawan and Bernadette M. Waluyo, *Perjanjian Baku: Masalah dan Solusi* (Jakarta: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, 2021), 8.

51 Edy Santoso, "Tinjauan Hukum Atas Click Wrap Agreement Pada Kontrak Baku Elektronik Terkait Transaksi Elektronik," *Jurnal Ilmiah Living Law 7*, no. 1 (2015): 9, https://doi.org/10.30997/jill.v7i1.529.

52 Petru Tărchilă and Mariana Nagy, "Comparative Approach of the Electronic Contract and Classical Contract, in Teaching the Content of the New Civil Code in Romania," *Procedia - Social and Behavioral Sciences* 191 (2015): 466, https://doi.org/10.1016/j.sbspro.2015.04.588.

53 Hulman Panjaitan, *Hukum Perlindungan Konsumen: Reposisi dan Penguatan Kelembagaan Badan Penyelesaian Sengketa Konsumen Dalam Memberikan Perlindungan dan Menjamin Keseimbangan Dengan Pelaku Usaha* (Jakarta: Jala Permata Aksara, 2021), 5.

notice detrimental clauses within the binding contracts they enter.[54] This lack of concern and awareness renders consumers oblivious to potentially detrimental clauses, such as exemption clauses. An example of an exemption clause is one that removes liability from a party for all losses or damages resulting from actions typically arising from third parties or specific conditions, such as *force majeure*. Exemption clauses function to limit or even eliminate the liability that should be borne by the ESPs or application organizers[55], significantly disadvantaging consumers who are bound by regulations that favour the ESPs or organizers. On the other hand, Article 18 Point 1 Letter a of the Consumer Protection Law stipulates that[56] business actors offering goods and/or services intended for trade are prohibited from creating or including standard-form clauses in any document and/or agreement if they declare the transfer of business actor's responsibility.

This article should serve as a reference for the limitations and prohibitions on the use of standard-form clauses for business actors, including ESPs, which encompass the operators of online transportation service applications. Users of online transportation service platforms are confronted with a situation where they have limited options to either agree or disagree with the terms contained in the self-regulation policies issued by the ESP or application operator. These electronic contracts are frequently encountered when a user wishes to download software, register an account, or engage in commercial activities.[57]

The vulnerable position faced by consumers should ideally result in the terms within the electronic contract policies of the platform being inclined towards safeguarding the users. In such susceptible circumstances, disputes often arise between business operators and consumers. Online transportation service applications typically encompass three types of users: consumers, service providers (drivers), and affiliates affiliated with the online transportation service provider. This section will explore consumer protection within the regulations and policies outlined in the electronic contracts of the Indonesian online transportation service applications and its relationship with the Consumer Protection Law.

a. Gojek Indonesia (PT GoTo Gojek Tokopedia Tbk)

PT GoTo Gojek Tokopedia Tbk (Gojek Indonesia) is a limited liability company established and legally operating under the laws of the Republic of Indonesia, with its headquarters in Jakarta Special Region.[58] In this context, consumers must agree to the terms and conditions of Gojek Indonesia application services. An agreement is reached when the consumer clicks the agreement section of Gojek Indonesia's

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54 Jane K. Winn, *Consumer Protection in the Age of the 'Information Economy'* (New York: Taylor & Francis, 2016), 39.

55 Abd. Haris Hamid, *Hukum Perlindungan Konsumen Indonesia* (Makassar: CV. Sah Media, 2017), 166.

56 Article 18 Point 1 Letter a of the Consumer Protection Law.

57 Bambang Pratama, "Mengenal Kontrak Elektronik, Click-Wrap Agreement dan Tanda Tangan Elektronik," accessed on July 3, 2023, https://businesslaw.binus.ac.id/2017/03/31/mengenal-kontrak-elektronik-click-wrap-agreementdan-tanda-tangan-elektronik/.

58 Gojek Indonesia, "Ketentuan Penggunaan Aplikasi Gojek Terms and Condition," accessed on April 6, 2023, https://www.gojek.com/id-id/terms-and-condition/gojek/.

Terms and Conditions. Clause 19, under the "others" section, further elaborates on the form of the consumer agreement, stating:

> "You understand and agree that these Terms of Use are an agreement in electronic form and your pressing the 'register' button when opening an Account or the 'login' button when accessing your Account constitutes your active agreement to be bound by an agreement with Us, making the effectiveness of these Terms of Use and the Privacy Notice legally valid and binding and continuing in effect for the duration of your use of the Application and Services."[59]

According to this clause, an electronic contract is formed when the consumer clicks the register or login button. In the introduction of section (2) on the 'Use of the Application and Services', Gojek Indonesia explains its position as a facilitator of various services provided directly by independent third parties who agree to become its partners ("Service Providers").[60] Drivers in the Gojek Indonesia application's electronic contract fall under the definition of Service Providers. Further elaborated in section (15) regarding 'Our Limitation of Liability', Gojek Indonesia is not responsible for any losses or damages caused by any failure or mistake made by Service Providers.[61]

The clause within section (15) is an exemption clause where Gojek Indonesia absolves itself of liability for any losses or damages suffered by Consumers arising from faults committed by third parties, namely Service Providers or Drivers. The fault of the Service Provider to be discussed is the use of rooted or jail-broken devices, such as GPS spoofing devices or location manipulation tools that favor Drivers. Gojek Indonesia, as an ESP, should adhere to the regulations in Article 18 Point 1 Letter a of the Consumer Protection Law, which imposes limitations and prohibitions on exemption clauses or the transfer of responsibility for the application it provides.[62]

The Government Regulation Number 71 of 2019 further stipulates that ESPs must ensure the security of information and internal communication facilities they organize.[63] Moreover, Article 3 Point 1 of the Government Regulation Number 71 of 2019 mandates that the Implementation of Electronic Systems and Transactions must be reliable, secure, and responsible.[64] Suppose it is proven that errant drivers can still use devices to manipulate locations to their advantage. In that case, the security system maintained by Gojek Indonesia is insufficient to guarantee the risk of loss to the security and safety that consumers may experience.

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59 Gojek Indonesia.

60 Gojek Indonesia.

61 Gojek Indonesia.

62 See, Article 18 of the Consumer Protection Law (In offering the goods and/or services for trading, the entrepreneurs are prohibited from making or including a standard clause on each document and/or agreement if; (a) it states the transfer of the entrepreneurs, responsibility; …).

63 See, Articles 11 and 12 of the Government Regulation Number 71 of 2019.

64 Article 3 Point 1 of the Government Regulation number 71 of 2019.

b. Grab (PT Grab Teknologi Indonesia)

PT Grab Teknologi Indonesia ("Grab") is a technology company providing a platform for consumers to view, obtain, or acquire goods or services that partners offer.[65] In Grab's electronic contract, consumers or users are defined as any end user who accesses or uses the platform to obtain solutions.[66] The terms of service of the Grab application constitute a legally binding agreement between the user and Grab. Users of the Grab application are required to agree to the applicable agreement to use the services provided by the Grab application. By using the service and/or application, the user signifies that they have the legal capacity to enter into an agreement and that the user is at least 21 (twenty-one) years old.

Grab's electronic contract stipulates that users and drivers cannot enter into an agreement if they are under the age of 21 (twenty-one). Grab also emphasizes that all information provided must be valid and accurate. In doing so, Grab complies with the provisions and laws applicable in Indonesia, which, according to Articles 330 and 1330 of the Indonesian Civil Code, a valid agreement under the law is made when the parties agreeing are at least 21 (twenty-one) years old, under guardianship, and/or married (excluding child marriages).[67] If users do not agree to the agreement, Grab recommends that users do not use, continue to use, and/or cancel the use of the application or services or registration. This creates a compulsion to agree to all the terms and conditions in Grab's electronic contract.

Grab emphasizes its position in the terms of its service electronic contract, which is solely to facilitate connecting consumers with partners and providing information related to partner goods/services.[68] Furthermore, Grab states that they are not responsible for the actions and/or omissions of any partner or information pertaining to them.[69] Therefore, any obligations related to the actions or omissions of the driver will be borne by the driver. The clause in these terms is an exemption clause where Grab absolves itself of liability for any losses or damages suffered by Consumers due to actions by third parties, namely, the driver. The action or omission being discussed is the use of cheating devices to manipulate GPS locations, which is an action to manipulate the location for the benefit of the driver, similar to the previous discussion where Gojek implements the same principles, Grab, as an ESP, should refer to the regulations in Article 18 Point 1 Letter a of the Consumer Protection Law, which imposes limitations and prohibitions on exemption clauses or the transfer of responsibility for the application it provides.

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65 See, Grab Indonesia, "Ketentuan Layanan: Transportasi, Pengiriman, dan Logistik," accessed on July 3, 2023, https://www.grab.com/id/terms-policies/transport-delivery-logistics/.

66 Grab Indonesia.

67 Articles 330 and 1330 of the Indonesian Civil Code.

68 See, Grab Indonesia, "Ketentuan Layanan: Transportasi, Pengiriman, dan Logistik Terms of Service and Grab Indonesia Policies."

69 Grab Indonesia.

Grab must implement Article 3, Article 11, and Article 12 of the Government Regulation Number 71 of 2019. As an ESP, Grab must organize its electronic system reliably, securely, and responsibly and ensure the security of information and internal communication facilities they organize.[70] Suppose it is later proven that drivers can still use devices that manipulate location for their benefit. In that case, the security system maintained by Grab is still insufficient to guarantee the risk of loss that consumers may experience.

3. Legal Protection for Online Transportation Service Consumers from the Perspective of Law Number 19 of 2016 on Electronic Information and Transactions

a. Legal Protection for Consumers

The GPS location within the online transportation service application falls under the definition of Electronic Document as per Article 1 Point 4 of the EIT Law, which is electronic information created, forwarded, transmitted, received, or stored in digital form that can be viewed, displayed, and/or heard through an electronic system.[71] Thus, GPS location as an electronic document also constitutes valid legal evidence.[72]

In cases involving fraudulent manipulation of GPS locations, the EIT Law can serve as the primary reference for providing legal protection to consumers of online transportation services. Article 35 of the EIT Law states:

> "Anyone who intentionally and without right or against the law carries out manipulation, creation, alteration, removal, destruction of Electronic Information and/or Electronic Documents with the intention of making the Electronic Information and/or Electronic Document appear as if it were authentic data."[73]

This means that individuals who engage in fraudulent manipulation of GPS locations could be held legally accountable under this law. Anyone proven to have fulfilled the elements specified in Article 35 may be subject to imprisonment for a maximum of 12 (twelve) years and/or a fine of up to IDR12.000.000.000.00 (twelve billion Indonesian Rupiah).[74] By holding perpetrators responsible for their actions, consumers can feel more secure when using online transportation services, knowing that there are legal protections in place to prevent fraud and ensure their safety. Thus, the EIT Law has a vital function in maintaining the integrity of electronic information as well as safeguarding consumers in the era of technology.

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70 Articles 11 and 12 of the Government Regulation Number 71 of 2019.

71 Article 1 Point 4 of Law Number 19 of 2016 on the Amendments to Law Number 11 of 2008 on Electronic Information and Transactions.

72 Article 5 Point 1 of the EIT Law.

73 Article 35 of the EIT Law.

74 Article 51 of the EIT Law.

b. Legal Responsibilities of Ride-Hailing Service Application Providers

Article 15 Point 1 of the EIT Law stipulates that ESPs are obligated to maintain electronic systems reliably, securely, and are responsible for the proper functioning of electronic systems.[75] Furthermore, point 2 elucidates that ESP is accountable for the operation of its electronic systems.

Consumers who suffer losses due to fraudulent GPS spoofing actions by drivers of online transportation services can invoke Article 15 Point (1) and (2) of EIT Law as the legal basis for pursuing legal actions. However, the use of Article 15 depends on the ability of ESPs to prove the presence of coercion and whether the fault or negligence lies with the driver or not.

The EIT Law does not specifically regulate the sanctions or penalties that can be imposed on ESPs for violations of Article 15. However, the management of electronic systems and transactions is further delineated in the Government Regulation Number 71 of 2019, which will be discussed in detail in the following section.

C. The Responsibility of Electronic System Providers in Providing Legal Protection for Consumers under Government Regulation Number 71 of 2019 on the Implementation of Electronic Systems and Transactions

In the digital era, the operations of Electronic System Providers (ESPs) play a pivotal role in shaping the landscape of various sectors, particularly in online services like transportation. The linkage between ESPs' system operations and the principles of good governance is crucial for promoting secure, reliable, and equitable services.[76] the Government Regulation Number 71 of 2019 represents a revision of Government Regulation Number 82 of 2012 on the Organization of Electronic Systems and Transactions, which has been repealed as a guide for ESPs to manage the principles of good governance in their operating systems. Article 3 Point 1 of the Government Regulation Number 71 of 2019 imposes an obligation on ESPs to conduct their electronic system operations reliably, securely, and responsibly. However, the provisions contained in Article 3 Point 1 of the Government Regulation Number 71 of 2019 become inoperative in the event of *force majeure* and/or negligence on the part of the electronic system user, the occurrence or negligence of which can be proven. Therefore, if the ESP cannot substantiate both criteria for nullifying Article 3 Point 1 of the Government Regulation Number 71 of 2019, the responsibility lies with the ESP.

Article 8 of the Government Regulation Number 71 of 2019 governs the software used by ESPs in facilitating digital-based transactions. It obligates ESPs to ensure the security and reliability of their operations as required. The occurrence of detrimental activities, such as security breaches that disrupt GPS location signals through

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75 Article 15 Point 1 of the EIT Law.

76 Awaludin Marwan, Diana Odier-Contreras Garduño, and Fiammetta Bonfigli, "Detection of Digital Law Issues and Implication for Good Governance Policy in Indonesia," *Bestuur* 10, no. 1 (2022): 22, https://doi.org/10.20961/bestuur.v10i1.59143.

deceptive devices or applications, constitutes unlawful actions and evidence that the software used by online transportation service applications as ESP does not comply with the prevailing legal regulations. The software in use should require routine scrutiny by cybersecurity officers or other technology experts. Essential elements of good governance, such as propriety, transparency, accountability, participation, efficacy, and respect for human rights, should be incorporated into the functioning of ESPs.[77]

The obligation of PSEs to implement good and accountable Electronic System governance plays a crucial role, as stipulated in Article 19 of the Government Regulation Number 71 of 2019.[78] This includes maintaining up-to-date procedure guidelines and establishing institutions and personnel support for the proper operation of electronic systems. For instance, this can involve forming a cybersecurity team within the company and performing management to ensure the electronic system operates as required. Additionally, as detailed in Article 24 Point 1 and 2 of the Government Regulation Number 71 of 2019, ESPs must have and execute security procedures and measures to prevent disruptions, failures, and losses. This also encompasses providing security systems equipped with prevention and mitigation mechanisms against threats and attacks that may cause such disturbances, failures, and losses.[79]

Several online transportation service applications like Grab Indonesia and Gojek Indonesia already have automated detection systems and reporting mechanisms for anyone who discovers fraudulent activities by their drivers or partners.[80] In terms of sanctions within these applications, Grab Indonesia has a code of ethics that must be adhered to by its drivers. For instance, if it is proven that a driver has tampered with their device's security features, Grab Indonesia will terminate the partnership with that driver. If a driver is found to have cheated or manipulated the Grab system, either their own or another's, for any reason, including obtaining orders, additional money, bonuses, or incentives, Grab Indonesia will terminate the partnership, empty the driver's remaining balance and bonuses, and report the matter to the relevant authorities.[81]

In the event of a serious failure or disruption in the electronic system caused by another party, in this case, the driver, ESPs are obligated to secure electronic information and/or documents and immediately report it in the first instance to law enforcement agencies and the relevant Ministries or Institutions. [82]

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77 Awaludin Marwan, Diana Odier-Contreras Garduño, and Fiammetta Bonfigli, "Detection of Digital Law Issues and Implication for Good Governance Policy in Indonesia."

78 Article 19 of the Government Regulation Number 71 of 2019.

79 Article 24 Point 1 and 2 of the Government Regulation number 71 of 2019.

80 Gojek Indonesia, "Download Tuyul, Pasang APK Fake GPS, Aplikasi Mod Gacor? Yuk Hapus Sekarang Juga #HapusTuyul," accessed on July 3, 2023, https://www.gojek.com/blog/gojek/hapus-download-aplikasi-apk-tuyul-gacor-mod-fake-gps/; See, Grab Indonesia, "Program Fair Play Grab," accessed on July 3, 2023, https://help.grab.com/driver/id-id/360001741447.

81 See, Grab Indonesia, "Kode Etik Mitra," accessed on May 10, 2023, https://www.grab.com/id/kodeetik/.

82 Article 24 Point 3 of the Government Regulation Number 71 of 2019.

D. Conclusion

The study identified a major issue related to fraudulent GPS spoofing, which poses significant risks to user safety, satisfaction, and service integrity. It examined the legal responsibilities of ride-hailing service providers, highlighting the necessity of complying with consumer protection principles, especially in cases of dishonest conduct by drivers. Consumers have the right to seek compensation if they suffer losses due to service faults. However, this must also be balanced with good faith in reporting and proving relevant issues. While electronic contracts are common in these platforms, their terms and conditions are unfavorable to consumers.

The analysis also extended to the self-regulation mechanisms employed by the ESPs, emphasizing their critical role in ensuring the reliability, security, and responsible operation of electronic systems. The electronic contracts governing the relationships between service providers, drivers, and consumers were evaluated, pinpointing areas where standard clauses could potentially compromise consumer rights. The study findings indicate that ESPs, particularly Gojek and Grab, have not adequately protected consumers by applying exemption clauses through unilateral agreements, which may contradict the Consumer Protection Law.

This study further found that several ESPs have not fulfilled their responsibility to operate and ensure a secure, effective, and reliable electronic system as mandated by the EIT Law and the Government Regulation Number 71 of 2019. The occurrence of detrimental activities, such as security breaches disrupting GPS location signals through deceptive devices or applications, serves as evidence that the software used by online transportation service applications as ESPs does not comply with the Government Regulation Number 71 of 2019, obligating ESPs to ensure the security and reliability of their operations. The study emphasizes that following principles of good governance can enhance service quality and protect consumers. Therefore, promoting good governance in the operations of ESPs is crucial for creating a robust digital environment with security and reliability.

The recommendations outlined in this study aim to fortify the existing legal framework and enhance consumer protection. First, consumer awareness about their rights, associated risks, and dispute resolution processes must be enhanced. Second, stakeholders in the business should invest in advanced technology tools, such as AI-based fraud detection systems, which can identify and prevent GPS manipulation by automatically blocking GPS spoofing apps and other fraudulent activities. Third, it is recommended that user-friendly feedback, safety measures such as an emergency button, and reporting mechanisms within applications be established. Fourth, it is essential to provide regular training sessions for drivers on ethical practices and the legal implications of fraudulent activities. Lastly, fostering open communication between government authorities and industry stakeholders is crucial to encourage online transportation service providers to adopt self-regulation

measures that align with legal requirements to promote responsible business practices.

In conclusion, combining legal analysis and practical advice supports the idea of adopting a comprehensive approach that integrates legal frameworks, industry self-regulation, and technological improvements. The purpose of this comprehensive approach is to create an atmosphere where customers may securely interact with online transportation services with the guarantee of their rights, safety, and the reliability of the services they use. The cooperation between policymakers, industry stakeholders, and regulatory agencies is necessary to establish a safe and consumer-centric ride-hailing ecosystem in Indonesia.

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