

The Evolution of "GOJEK" as an Indonesian Urban Mobile Ride Hailing Model Study Case: Public and Government Regulatory Responses on Urban Mobile Ride Hailing

Ajree D. Malawani^(\boxtimes), Salahudin Salahudin^(\boxtimes), Zuly Qodir^(\boxtimes), Mohammad Jafar Loilatu^(\boxtimes), and Achmad Nurmandi^(\boxtimes)

Department of Government Affairs and Administration,
Jusuf Kalla School of Government, Universitas Muhammadiyah Yogyakarta,
Indonesia JL. Brawijaya, Bantul, Yogyakarta, Indonesia
ajreedmalawani@gmail.com, nurmandi achmad@umy.ac.id

Abstract. The emergence of mobile-based transportation and transaction is rapidly gaining popularity, particularly among urbanized areas. Thus, paper sought to illustration the evolution of GoJek as a form of public transportation through the lens of statutory law, government policies, and other public documents that are related to what GoJek has become today. Other relevant topics related to the emergence of GoJek such as transportation, MSME and economic matters are also discussed. The setting/context for this study will be Indonesian policies and the characters such as ride-hailing companies and the public. Law and regulations from January 2010 until December of 2019 were gathered using text mining. Collected data were then analysed with the help of a qualitative data analysis software called NVivo. Finding shows that GoJek has become the most prominent ride-haling in Indonesia, and the positive sympathy from the public helped in pressing the government for its legalisation. It was also found out that GoJek has also helped MSME and in boosting the national economy. In 2018, GoJek, thorough its GoFood service, has recorded an unprecedented 500 million orders. Also, GoJek has been emphasizing on the importance of self-regulation among professional services and co-regulation among industries. Compared to a direct regulation, a co-regulatory approach is more effective and flexible and offers better chances of protecting the welfare of the consumers as it employs a dialogue process between stakeholders where the results deviate from the common state command-and-control regulation.

Keywords: GoJek · Ojek · Mobile-based app · MSME · Economy

1 Introduction

The World Population Review data published on February 17, 2020, Indonesia's capital Jakarta has a population of approximately 10,770,487 in 2016 from 9,607,787 in the 2010 census. Jakarta's population is estimated at 3.45% of Indonesia's total population, with 272697127 being the total population of the country. Based on

[©] Springer Nature Switzerland AG 2020

C. Stephanidis and M. Antona (Eds.): HCII 2020, CCIS 1226, pp. 429-438, 2020.

satellite navigation data, Jakarta has the worst traffic congestion in the world, with an average of 33,000 stop-and-go a year. The authorities have recognized the importance of transportation in the functioning of a city, so the government aims to increase transport trips from 23% to 60% by 2030. The existence of private cars will remain and continue to increase, and this challenges the authorities as to how to manage and integrate their existence into a comprehensive urban transit system (Gerber et al. 2018). This challenge led Nadiem Makarim to create a ride-hailing platform called "GoJek" in 2010. The term GoJek originated from the word Ojek, referred to unlicensed motorcycle taxis that are prominent in Indonesia. In 2015, GoJek launched an application that allows transport passengers to book a ride; this resulted in brawls between GoJek drivers against traditional Ojek drivers and conventional taxi drivers and operators.

Currently, the GoJek Company has seventeen services namely: GoRide, GoCar, GoBluebird, GoSend, GoBox, GoMassage, GoClean, GoFood, GShop, GoMart, GoMEd, GoTix, GoPlay, GoPulsa, GoPoints, GoNearby, and GoBills. GoJek provides a simple, user-friendly, and "human-sounding" mobile application. The application exploited the attractive aspects of motorcycle-based mobility with the ease of cashless and traceable digital transactions, offering its riders more convenient, safer, and fixedrate rides, which spared them from regular price-haggling nuisance. For the convenience of GoJek drivers, the company-built majority of its worker pool, equipping the non-descript 'man on the street' with a beloved corporate identity and a bright new look (Lee 2018). The sense of the concrete components and visions that make up a physical GoJek show how the economy of the internet network is becoming material and reality. GoJek has been dubbed the 'super-app', a software application that combines diverse technical knowledge to a greater extent than the sum of its parts; hence, it incorporates the technology of a mobile phone, motor vehicles, and other necessities such as helmets, hats, and face masks, to provide services as requested by the end-user (Jesse 2015).

GOJEK is a unique phenomenon of human-computer interaction research in a specific environment. This paper will describe and analyze the evolution of GoJek as a ride-hailing service from pro and contra perspective up to this service got legitimation from Government. This study focuses on how should work be assessed for the quality or effectiveness of Gojek; government policies generally lack clear qualitative, and quantitative criteria for HCI research assessment (Lazar and Barbosa 2019).

2 Previous Studies

Transportation can in the form of private vehicles and public transportations that includes bus, train, and taxicabs, among others. Taxicabs are one of the transportation modes that are very much popular in most urbanised areas; it can provide point-to-point services in twenty-four hours within seven days (Diaz Olvera and Pochet 2019; Ge et al. 2017; Li and Hou 2019; Long et al. 2017; Silalahi et al. 2017). Presumably, taxicabs move from one point to another as per request by its consumer, or the enduser. The fact that it does not need to follow a route, stop to a station, nor look for another passenger once it is already being booked, it can efficiently meet the needs of the service consumer (Hu et al. 2019). It is identified to be more efficient compared to

other transportation modes such as bus and train due to its door-to-door service (Liu et al. 2020; Suatmadi et al. 2019).

The emergence of mobile-based ride-hailing taxis also led to the birth of mobile-based motorcycle taxis (Long et al. 2017). Motorcycle taxis are known in developing countries, particularly in Asia (Long et al. 2017; Salanova Grau et al. 2018). Nonetheless, transportation is one of the important factors which needs to be addressed in a developing community (Imandasari et al. 2019; Saffan and Rizki 2018). One of the alternatives to addressed transportation is the emergence of mobile-based taxis due to its efficient accessibility (Imandasari et al. 1255) and convenience (Rachman et al. 2020). In Indonesia, online taxis (hereafter referred to and locally known as *Ojek*) has part of public transpiration, an innovative counterpart of traditional motorcycles that begun its online services in 2015 (Purnawan and Musliadi 2019; Suhartoyo et al. 2018) and later added car and other services.

The so-called "sharing economy" is overshadowed by technologically facilitated commercial exchanges. Hence, the terms "crowd-based capitalism" or "platform capitalism" were preferred (Fraiberger and Sundararajan 2015). In particular, the platform economy is fueled by wealthy venture capitalists seeking to increase their private fortunes by finding new ways of extracting value from socially produced wealth. What makes them capitalist is that these infrastructures are privately owned and operated to extract profits by becoming the ground on which transactions take place. Among the existing taxi capitalism, the medallion capitalism, where a quota of licenses will be adopted, is referable to platform capitalism, like Uber, where quota is not set, among other necessary regulations (Tucker 2018).

In coordinated structures or networks in sharing economy, participants carry out sharing activities in the form of renting, loan, selling, selling and transfers of products, resources, space, money, and transport solution (Holbrook and Schindler 2003). In view of sharing economy as a central structure and a term that is significantly disputed, the sharing economy lies in three fundamental core issues: (1) the access economy, (2) the economy of the network, and (3) community-based economy (Acquier et al. 2017). The suggested importance of credibility in peer economy indicates that a possible distinguishing feature of sharing economy is a systemic process of integration with more ephemeral and less intensive shared economy types that impact a more ephemeral, lower-intense, and systemic process with integration and value development (Arcidiacono et al. 2018) (Table 1).

We identify success factors of the digital-sharing economy to these populations, identify shortcomings, and propose mitigation strategies based on prior research related to trust, social capital, and theories of collective efficacy. Information interfaces and presentation: Four principles of the sharing economy platforms allow people within and across communities to connect with individuals to provide and benefit from basic skills and services such as babysitting and housecleaning, or physical resources such as housing and transportation. Utilizing the idle hours of those individuals with appropriate resources helps sharing economy function (Frenken 2017; Scholz 2016; Frenken and Schor 2017). Sharing economy activities fall into four broad categories: recirculation of goods, increased utilization of durable assets, exchange of services, and sharing of productive assets (Daunoriene et al. 2015)

Table 1. Previous studies on sharing economy

Authors	Form	Regulation
(Holbrook and Schindler 2003)	Collaborative consumption, in the form of renting, lending, trading, bartering, and swapping of goods, services, transportation solutions, space, or money	Sharing activities
(Acquier et al. 2017)	Three foundational cores: (1) Access economy, (2) Platform economy, and (3) Community-based economy	Platform
(Arcidiacono et al. 2018)	Peer economies bring us to forms of sociality with value creation	
(Avital et al. 2015)	Beyond just transgressing against local laws, sharing economy companies struggle to protect their consumers in countries where governance is weak and these companies are not able to vet their sharers (drivers, renters, etc.)	Consumer protection
(Böcker and Meelen 2017)	The sharing economy here is a particularly interesting case, because in contrast to many other sustainable innovations, certain sharing economy sectors are scaling up very rapidly. Synthesising from previous sharing economy studies, and in line with a sustainability approach, economic, environmental and social motivations are considered	Contract law
(Bradley and Pargman 2017)	to democratise access to low-cost bicycling and repair, to use under-utilised assets while simultaneously building a culture of trust and generosity, and to democratise access to information beyond the money-based economy	
(Breidbach and Brodie 2017)	The concept and practice of a "sharing economy" and "collaborative consumption"	collaborative consumption
(Cherry and Pidgeon 2018)	as a more sustainable form of consumption; as an economic opportunity; and as a pathway to a decentralised, equitable and sustainable economy	
(Codagnone et al. 2017)	the 'collaborative economy', 'crowd-employment or crowd-working', the 'gig economy', the 'on-demand economy', etc	crowd working
(Constantiou et al. 2017)	Four Models of Sharing Economy Platforms Sharing economy platforms combine organizational and market mechanisms in innovative ways to gain competitive advantages over incumbents. We call the resulting four sharing economy models "Franchiser," "Principal," "Chaperone" and "Gardener."	crowd working
(Pazaitis et al. 2017)	With this new opportunity for increased "cooperativism," we're moving toward a true sharing or collaborative economy - one that is not controlled by a few large intermediary operators, but that is governed by and for the people	crowd working or "cooperativism"

3 Research Method

This study uses content and historical analysis to examine the impact of media narratives on current ride-hailing policies in Indonesia. The setting/context for this study will be Indonesian policies and the characters such as ride-hailing companies and the public. Law and regulations from January 2010 until December of 2019 were gathered using text mining. To collect the documents via agent automatically is important for text mining. In this study, the data were analyzed by using Nvivo 12 Plus. Research findings revealed that there is a potential conflict between HCI and public policy on the GoJek evolution story. The HCI community can inform policymakers by providing expertise and taking part in the development of policy related to mobile ride-hailing services (Lazar and Barbosa 2019).

4 Findings

4.1 Evolution of Gojek

The journey of GoJek began in 2010 as a motorcycle ride-hailing call centre in Indonesia. The homegrown mobile application was then launched in 2015 with only three services: GoRide, GoSend, and GoMart. Since then, the mobile application has evolved into a Super Application, a multi-services platform with around 17 services today. GoJek is now a leading technology group of platforms serving millions of users in Southeast Asia. In the GoEcosystem, GoFood claims to have increased the number of orders in 2018 with an unprecedented 500 million orders. Amongst many, these are the top five most popular menus, namely chicken, pasta, noodles, fried foods, and cake. The total transaction value of GoFood (GoFood's/GTV's gross transaction value) exceeds \$2 billion in 2018, which implies a cumulative distance of 624,971,059 miles, or 1,625,8 times the duration of Earth to Moon. GoJek claims that GoFood is Southeast Asia's biggest food-supply-service. The success of GoJek in its Food delivery services is being sought to disrupt by GrabFood, a food delivery service under another mobile-based ride-hailing company called Grab. Currently, GrabFood covers 80% of the micro, small, and medium-sized enterprises (MSME) companies.

4.2 Go.Jek Economics

Based on the research conducted by Google, the Temasek and Bain Company e-Conomy SEA2019 ride-hailing (online food and transport services) in the ASEAN region has a market share of only \$3 billion (gross merchandise value/GMV). This market value hit \$12.7 billion in 2019 and is expected to hit \$40 billion in 2015. As of the GMV trip to Indonesia, it hit around US\$ 980 million in 2015, grew up to \$5.7 billion in 2019, and expected to increase up to \$18 billion in 2025, highest among countries within Southeast Asian Region. In Indonesia, there are two major mobile-based companies that offer food delivery services, GoJek and Grab. The market share of food services exceeded \$400 million in 2015, while electronic transport values \$2.5 billion. In 2019, GMV foodservice grew to \$5.2 billion, while online transport

amounted to \$7.5 billion. The global online food supply company, which is expected to be \$20 billion in 2025, is estimated to equal GMV online transport.

Among the mobile-based taxis in Indonesia, GoJek has gained popularity. An online survey conducted in the previous year shows that 85.22% of the respondents use GoJek, 66,24% uses Tomb, while 50% uses Uber (Katadata.go.id). The low percentile of Uber can be traced to its services that are limited to transportation. Mobile-based transportation is extensively used as a public transport mode, as opposed to traditional motorcycle taxis and conventional taxis, because of its fixed rates. The Application also helps customers to be driven to the passenger's location and to drive fairly easily in contrast to the use of public buses or conventional taxis.

The study by the Demographic Institute, Faculty of Economics and Business, University of Indonesia in 2018 found that GoJek contributes up to \$2,861,999,150.40 per year to the Indonesian economy with its GoCar, GoLife, and GoFood services (https://ldfebui.org). The contribution was generated from the difference in incomes between partners and owners of SMEs before and after GoJek was established. Under GoRide services (motorcycle), GoJek records \$1,068,393,348.00 a year, while \$551,770,691.50 for GoCar. Other services being offered by GoJek, such as GoLife, has generated \$77,897,038.80. The revenue generated from the partnership of GoFood and MSME generated \$1,168,455,582.00, highest among other revenues the government has generated from GoJek (https://ldfebui.org)

Law No. 22/2009 and Government Regulation Number 74/2014 regulates ridehailing vehicles as they are defined to be a non-fixed route public transportation. In Indonesia, the maximum number of vehicles is determined by the local government together with the Ministry of Transportation, so as the release of the license to operate. Transportation fair is determined by the service in accordance with the price set by the Ministry of Transportation. This law does not cover mobile-based taxis and the unfair competition between conventional and mobile-based taxis. Provisions under transportation laws and economy law created work opportunities for the registered freelance drivers of ride-hailing taxis in Indonesia. In 2010, GoJek (one of the mobile-based ridehailing services in Indonesia) started as non-mobile-based ride transport with only 20 motorbikes. After five years, GoJek finally launched its mobile application in 2015, which can be used by the end-user to order a vehicle. Upon ordering, the desired destination must be indicated, and the price fair for that destination will be visible to the end-user. This feature is a transformation from the conventional negotiation between the service provider and the end-user to a non-compelling transaction. Also in 2015, the Ministry of transportation issued memorandum UM.3012/1/21/Phb/2015 that prohibits the operation of mobile-based ride-hailing taxis as the requisites to operate as public transport were not satisfied by the operators. The prohibition emanated from the unsatisfied public transportation provisions under Law No. 22/2009.

This was also aggravated by the demonstration of conventional taxi operators and drivers citing the lack of legal basis of online-based taxis to operate. Despite the prohibition made by the Indonesian government, other mobile applications that offer transportation services emerged and started its operations, such as Grab and Uber, in 2016. Mobile-based taxis faced criticism due to the lack of legal basis, and these criticisms were upheld by the government and issued a memorandum prohibiting the operation of the said taxis. As a reply to the action made by the Ministry of

Transportation, online-based taxis appealed to the government. As a result, the Indonesian President issued a pronouncement through his spoke-person that further regulation must be passed to further accept online-based taxis. Hence, online-based taxis have already championed the public and had been getting positive sympathy.

The call from the President and the resentment from the people forced the government to issue another policy through Transportation Ministerial Decree No. 32 of 2016 to facilitate online-based taxis. Provisions under the said law amend the Law No. 22/2, which does not cover the online-based public transportation industry. Thus, on October 1, 2016, legalized online-based taxis are thereby legalized. The authorization of online-based taxis from the Ministry of Transportation did not please the industry of conventional taxis. Additionally, Transportation Ministerial Decree No. 32 of 2016 was ratified as the Supreme Court revoked some provisions under it. The ratification was made under Transportation Ministerial Decree No. 26/2017. In 2017, another amendment was made regarding the non-route passenger transportation services under Transportation Ministerial Decree No. 108/2017. This law acknowledges the existence of online-based taxis as public transportation. Provisions under the said law do not, however, include the legalization of motorcycles as a form of public transportation. When it comes to online-based motorcycles, it is still illegal since twowheeled vehicles are not considered a form of public transportation. However, in March 2019, statutory law legalizing the online-based motorcycle as a form of public transportation has been put into law (Fig. 1).

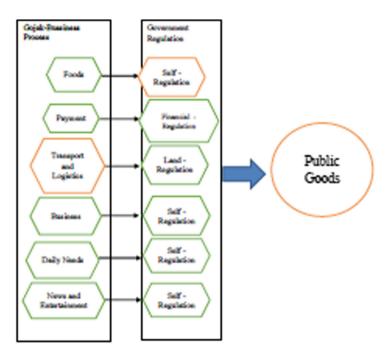


Fig. 1. Gojek's business and regulatory responses

5 Conclusion

Over the years, GoJek has been emphasizing on the importance of self-regulation among professional services and co-regulation among industries. This study looks at the theory of co-regulation as a framework of analysis as it could be a more effective approach in governing a mobile-based platform economy. Compared to a direct regulation, a co-regulatory approach is more effective and flexible and offers better chances of protecting the welfare of the consumers as it employs a dialogue process between stakeholders where the results deviate from the common state command-and-control regulation. However, self-regulation and co-regulation maintain blurred boundaries.

Self-regulation of Gojek's business commonly refers to a group of experts in a specific field who develops the rule and codes of conduct which regulate or guide the behaviour, actions, and standards of those within the group such as codes of practice, accreditation arrangements, and adoption of standards. On the other hand, co-regulation refers to specific and definite government participation in the regulatory framework. The specific types of instruments or mechanisms, such as codes of practices, voluntary agreements, and dispute resolution procedures that may be created under a self-regulatory regime, are similar under a co-regulatory framework. It is the degree of government involvement and legislative backing that determines the difference between the two.

Data Source. https://databoks.katadata.co.id/datapublish/2019/10/23/. Publish: 23/10/2019. Akses: 17/03/2020

https://doi.org/https://ldfebui.org/special-project/dampak-gojek-terhadap-perekonomian-indonesia-di-2018/

References

Acquier, A., Daudigeos, T., Pinkse, J.: Promises and paradoxes of the sharing economy: an organizing framework. Technol. Forecast. Soc. Chang. **125**, 1–10 (2017). https://doi.org/10. 1016/j.techfore.2017.07.006

Arcidiacono, D., Gandini, A., Pais, I.: Sharing what? the 'sharing economy' in the sociological debate. Sociol. Rev. 66(2), 275–288 (2018). https://doi.org/10.1177/0038026118758529

Avital, M., Carroll, J.M., Hjalmarsson, A., Levina, N., Malhotra, A., Sundararajan, A.: The sharing economy: friend or foe? In: 2015 International Conference on Information Systems: Exploring the Information Frontier, ICIS 2015, pp. 1–8 (2015)

Böcker, L., Meelen, T.: Sharing for people, planet or profit? analysing motivations for intended sharing economy participation. Environ. Innovation Societal Trans. **23**, 28–39 (2017). https://doi.org/10.1016/j.eist.2016.09.004

Bradley, K., Pargman, D.: The sharing economy as the commons of the 21st century. Cambridge J. Reg. Econ. Soc. 10(2), 231–247 (2017). https://doi.org/10.1093/cjres/rsx001

Breidbach, C.F., Brodie, R.J.: Engagement platforms in the sharing economy: conceptual foundations and research directions. J. Serv. Theory Pract. **27**(4), 761–777 (2017). https://doi.org/10.1108/JSTP-04-2016-0071

- Cherry, C.E., Pidgeon, N.F.: Is sharing the solution? exploring public acceptability of the sharing economy. J. Cleaner Prod. **195**, 939–948 (2018). https://doi.org/10.1016/j.jclepro.2018.05. 278
- Codagnone, C., Biagi, F., Abadie, F.: The passions and the interests: unpacking the "sharing economy". SSRN Electron. J. (2017). https://doi.org/10.2139/ssrn.2793901
- Constantiou, I., Marton, A., Tuunainen, V.K.: Four models of sharing economy platforms. MIS Q. Executive **16**(4), 236–251 (2017)
- Daunorienė, A., Drakšaitė, A., Snieška, V., Valodkienė, G.: Evaluating sustainability of sharing economy business models. Procedia Soc. Behav. Sci. 213, 836–841 (2015). https://doi.org/10.1016/j.sbspro.2015.11.486
- Diaz Olvera, L., Plat, D., Pochet, P.: Looking for the obvious: motorcycle taxi services in Sub-Saharan African cities. J. Transp. Geogr., 102476 (2019). https://doi.org/10.1016/j.jtrangeo. 2019.102476
- Fraiberger, S.P., Sundararajan, A.: Peer-to-peer rental markets in the sharing economy. SSRN Electron. J., 1–39 (2015). https://doi.org/10.2139/ssrn.2574337
- Frenken, K.: Sustainability perspectives on the sharing economy. Environ. Innovation Societal Trans. **23**(May), 1–2 (2017). https://doi.org/10.1016/j.eist.2017.04.004
- Frenken, K., Schor, J.: Putting the sharing economy into perspective. Environ. Innovation Societal Trans. 23, 3–10 (2017). https://doi.org/10.1016/j.eist.2017.01.003
- Ge, W., Shao, D., Xue, M., Zhu, H., Cheng, J.: Urban taxi ridership analysis in the emerging metropolis: case study in Shanghai. Transp. Res. Procedia 25, 4916–4927 (2017). https://doi. org/10.1016/j.trpro.2017.05.368
- Gerber, P., Caruso, G., Cornelis, E., de Chardon, C.M.: A multi-scale fine-grained LUTI model to simulate land-use scenarios in Luxembourg. J. Transp. Land Use **11**(1), 255–272 (2018). https://doi.org/10.5198/jtlu.2018.1187
- Government Regulation Number 74/2014: Road Traffic and Transportation (2014)
- Holbrook, M.B., Schindler, R.M.: Nostalgic bonding: exploring the role of nostalgia in the consumption experience. J. Consum. Behav. 3, 107–127 (2003). https://doi.org/10.1002/cb.127
- Hu, B., Xia, X., Sun, H., Dong, X.: Understanding the imbalance of the taxi market: from the high-quality customer's perspective. Physica A Stat. Mech. Appl. 535, 122297 (2019). https:// doi.org/10.1016/j.physa.2019.122297
- Imandasari, T., Sadewo, M.G., Windarto, A.P., Wanto, A., Lingga Wijaya, H.O., Kurniawan, R.: Analysis of the selection factor of online transportation in the VIKOR Method in Pematangsiantar City. J. Phys: Conf. Ser. 1255(1) (2019). https://doi.org/10.1088/1742-6596/1255/1/012008
- Jesse, R.: Teacher quality policy when supply matters. Am. Econ. Rev. **105**(1), 100–130 (2015). https://doi.org/10.1257/aer.20121242
- Law No. 22/2009: Road Traffic and Transportation (2009)
- Lazar, J., Barbosa, S.D.J.: Introduction to human-computer interaction. In: Conference on Human Factors in Computing Systems - Proceedings (2019). https://doi.org/10.1145/ 3290607.3298804
- Lee, D.: How ojek became gojek: disruptive technologies and the infrastructure of urban citizenship in Indonesia. Int. J. Urban Reg. Res. 1(1) (2018)
- Li, J., Hou, L.: A reflection on the taxi reform in China: innovation vs tradition. Comput. Law Secur. Rev. 35(3), 251–262 (2019). https://doi.org/10.1016/j.clsr.2019.02.005
- Liu, Q., Ding, C., Chen, P.: A panel analysis of the effect of the urban environment on the spatiotemporal pattern of taxi demand. Travel Behav. Soc. 18, 29–36 (2020). https://doi.org/ 10.1016/j.tbs.2019.09.003

- Long, J., Szeto, W.Y., Du, J., Wong, R.C.P.: A dynamic taxi traffic assignment model: a two-level continuum transportation system approach. Transp. Res. Part B Methodological 100, 222–254 (2017). https://doi.org/10.1016/j.trb.2017.02.005
- Pazaitis, A., De Filippi, P., Kostakis, V.: Blockchain and value systems in the sharing economy: the illustrative case of backfeed. Technol. Forecast. Soc. Chang. 125, 105–115 (2017). https://doi.org/10.1016/j.techfore.2017.05.025
- Purnawan, P., Musliadi, M.: The potential of problems on operational go-jek and grab bike. J. Phys. Conf. Ser. **1402**(2) (2019). https://doi.org/10.1088/1742-6596/1402/2/022026
- Rachman, H.O., Chotib, Kurniawan, K.R.: Impact of online taxi bikes presence on Margonda Street, Depok. IOP Conf. Ser. Earth Environ. Sci. 436, 012007 (2020). https://doi.org/10. 1088/1755-1315/436/1/012007
- Saffan, A.F., Rizki, M.: Exploring the role of online "Ojek" in public transport trips: case of Jakarta metropolitan area rail users. IOP Conf. Ser. Earth Environ. Sci. 158(1). https://doi.org/ 10.1088/1755-1315/158/1/012024
- Salanova Grau, J.M., Estrada, M., Tzenos, P., Aifandopoulou, G.: Agent-based simulation framework for the taxi sector modeling. Procedia Comput. Sci. **130**, 294–301 (2018). https://doi.org/10.1016/j.procs.2018.04.042
- Scholz, T.: Platform cooperatism: challenging the corporate sharing economy. Rosa Luxemburg Stiftung, New Your Office (Magazine Article), pp. 1–26 (2016)
- Silalahi, S.L.B., Handayani, P.W., Munajat, Q.: Service quality analysis for online transportation services: case study of GO-JEK. Procedia Comput. Sci. 124, 487–495 (2017). https://doi.org/ 10.1016/j.procs.2017.12.181
- Suatmadi, A.Y., Creutzig, F., Otto, I.M.: On-demand motorcycle taxis improve mobility, not sustainability. Case Stud. Transp. Policy 7(2), 218–229 (2019). https://doi.org/10.1016/j.cstp. 2019.04.005
- Suhartoyo, S., Sonhaji, S., Azhar, M., Suharso, P.: Legal aspects of PT. Gojek Indonesia in the partnership agreement dealing with the public transport standards. In: E3S Web of Conferences, vol. 68, pp. 1–8 (2018). https://doi.org/10.1051/e3sconf/20186802008
- Transportation Ministerial Decree No. 108/2017: Provisions under this decree legalises mobile-based taxis as a form of public transportation (2017)
- Transportation Ministerial Decree No. 26/2017: Operation of People with Transport Vehicles not in General Motor Route (2017)
- Transportation Ministerial Decree No. 32 of 2016: Transparent Legal Umbrella Taxi Application (2016)
- Tucker, E.: Uber and the unmaking and remaking of taxi capitalisms: law and the "sharing economy", pp. 357–392 (2018). https://doi.org/10.2307/j.ctv5vdczv.15
- UM.3012/1/21/Phb/2015: Notification Letter Number UM.3012/1/21/Phb/2015 (2015)