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How do government regulations and policies respond to the growing online-enabled transportation service (OETS) in Indonesia, the Philippines, and Taiwan?

Dyah Mutiarin, Achmad Nurmandi, Hazel Jovita, Mukti Fajar and Yao-Nan Lien

Abstract

Purpose – This paper aims to explore the dynamic context of the sharing economy in the transportation sector. This paper looks into the development of government regulations on the growing business of transportation network companies in Indonesia, the Philippines (represented as middle-income countries) and Taiwan (high-income country). How do government regulations and policies respond to the growing online-enabled transportation service (OETS) in Indonesia, the Philippines and Taiwan?

Design/methodology/approach – This study is qualitative-comparative research. Data on the transportation sector of each country have been gathered from reputable online sources.

Findings – Authors found evidence that the policy responses made by the Governments of Indonesia, Philippines and Taiwan to the sharing economy in the transportation sector are incremental and trial-error based policies.

Research limitations – This paper has not addressed the policy issues' relationship between driver and platform companies.

Practical implications – The future of the relationship between sharing firms and local governments suggests that the focus should be on stronger consumer protections, deeper economic redistribution and achievement of other policy aims (Rauch and Schleicher, 2015).

Originality/value – This is a comparative study on different levels of economy, particularly between low- or middle-income and high-income country.

Keywords Regulation, Platform, Sharing economy, Transportation network company, Online-enabled transportation service (OETS)

Paper type Research paper

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1. Introduction

Mobility is crucial in any society, making the transportation industry one of the most in-demand markets. Recently, commotion has revolved around the “online-enabled transportation service (OETS)” that connects drivers with potential customers who request a ride. The internet-based digital technology application provides services by connecting available registered vehicles with registered customers who request rides. The service providers who provide this type of application and facilitate this new type of transportation service are referred to by many jurisdictions globally as transportation network companies (TNCs) (Goodin and Moran, 2016).

Borrowing from the California Public Utilities Commission, TNC is defined as an “organization, whether a corporation, partnership, sole proprietor, or other form, that provides prearranged transportation services for compensation using an online-enabled

application or platform technology to connect passengers with drivers using their personal vehicles” (Ngo, 2015, p. 57) Over time, the terms ridesharing and ride sourcing, which refers to passenger’s option to book a “vehicle for hire services” through mobile application software have become used widely.

This development is not without a caveat. The emergence of online taxis or TNCs since 2008 has made an impact in the uniform sector of society, particularly in the taxi industry. In Canada and the USA, conventional taxi services are highly regulated, and the existing regulation does not apply to TNCs, which puts the taxis at a disadvantage (Ngo, 2015; Schneider, 2015). For instance, taxis have a regulated number of vehicles, whereas Ubers have an unregulated number; also, taxis have consistent fares, whereas Ubers can increase the fare during peak hours (Ngo, 2015). Although similar regulatory measures attract customers to avail of regular taxis, such an advantage is outweighed by the convenience and efficiency offered by the TNCs.

Upon the arrival of TNCs in Europe and Asia, issues of unfair competition led to massive demonstrations by taxi drivers and court judgments against Uber services (Geradin, 2015). In 2016, France and Germany went against Uber due to unlicensed drivers, which is a violation of the local transport laws (Davis, 2015). Uber shut down its operation in Denmark following the introduction of new tax laws (Henley, 2017). In Korea and India, Uber failed consistently to meet safety standards (Jung-a, 2015; Kalra, 2015). Thailand’s transport authorities have begun a crackdown on drivers for the ride-hailing services Uber and Grab due to registration and payment systems that do not meet regulations (Tanakasempipat and Thepgumpanat, 2017). On the other hand, Uber is registered as a software company in Taiwan, and not a transportation services provider (Sui, 2017). Meanwhile, Uber is facing tougher competition in Japan if it fails to partner with Sony, which partners with six local companies to build a new taxi-hailing system that is more sophisticated than that of Uber (Ong, 2018).

Generally, the impact of OETS among societies resulted in the various government approaches in regulating the “sharing economy” particularly TNCs.

Significantly, there is a less comparative study of policy responses at the different level of the economy, particularly between low- or middle-income and high-income countries. How do government regulations and policies respond to the growing sharing economy in the transportation sector? To address this central question, the considerations laid out by Cortez (2014) to effectively evaluate regulatory measures is utilized. Mainly, the impact of government measures to the flourishing of TNCs (sharing economy) in the chosen countries is analyzed using Cortez’s (2014) four important aspects of regulatory measures – timing, form, durability and enforcement. Primarily, this paper analyzes the trends of government regulation on the growing business of TNCs in Indonesia, the Philippines (represented as middle-income countries) and Taiwan (high-income country) and evaluate how governments regulations and polices respond to the growing sharing economy in the transportation sector of Indonesia, the Philippines and Taiwan.

2. Literature review

2.1 Technological innovation and the sharing economy

Technological innovation has significant implications for the development of society in terms of public service, dynamics in the market economy, and imposed regulatory policies (Hochgerner, 2011; Ghezzi, 2012). As society evolves, the capacity of the public to deal with changes varies. Though seemingly harmless and fundamental, the polarization of the public’s capacity to exploit the advantages of innovations has adverse consequences in the long-run. Accordingly, every market has a pattern of performance improvement that customers can either absorb or utilize: some customers are high-end, very demanding and willing to buy high-performance and expensive products, whereas others are low-end and

satisfied with simple and inexpensive products (Keiningham *et al.*, 2014). This has led to a broader understanding of innovation.

There are two types of technical innovation: sustaining and disruptive (Christensen *et al.*, 2013). Sustaining innovation refers to the improvement of products and services toward the creation of more profits to better serve their existing consumers, and disruptive innovation pertains to the production of new services that are more affordable and more suitable to the consumers (Christensen *et al.*, 2013). Sustaining innovations create a gap in the market that fuels the development of innovations that transform either a product or service to serve those consumers on the borders of the market with cheaper, simpler, and smaller kinds of products or services that are often easier to use (Christensen, 2013). Mochari (2015) summarized Christensen's clarification of his theory of disruptive innovation. Primarily, the term disruptive innovation does not always refer to the new industries that make the incumbent industries trip, instead, the term "disruption" refers to the incumbents' failure to address the needs of the other sector of their market due to the focus they poured on the interest of their most profitable customers (Mochari, 2015). Mohari (2015) added that disruption in the business community takes time, and disruption only happens if the business started "by appealing to unserved consumers then migrated to the mainstream market". Hence, the emergence of a business-like Uber is not disrupting the taxi business.

Ridesharing services such as Uber, not only present a new competitive force in the marketplace but also challenge the fundamental underpinnings of a long-established regulatory framework (Schneider, 2015). The taxi industry, which is an accustomed icon in any urban settlement, is now dominated by application-based companies, such as Uber, Grab and Lyft, which utilize smartphones, wireless internet connections and social networks (2016). Compared with regular taxi services, Uber has independent drivers who are connected to passengers through an online platform and generally attractive compared with the rates charged by regular taxis (Geradin, 2015). Now, the term ride-sharing has become popular, though the term is a misnomer.

The so-called "sharing economy" is overshadowed by technologically-facilitated commercial exchanges which are considered as crowd-based capitalism or platform capitalism where 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 (Sundararajan, 2016). What makes them capitalists is that these infrastructures are privately owned and are operated to extract profits by becoming the ground on which transactions take place. In the existing taxi capitalism, the medallion capitalism, where a quota of licenses will be adopted, is preferable to platform capitalism, Uber-style, where a quota is not set along with other necessary regulations (Tucker, 2017). Gallick and Sisk (1987) explained that the regulatory enforcement of an average pricing rule for taxi services, which has been observed frequently throughout the history of taxi cabs, can reduce the efficiency of exchange costs. They argued that, in the modern era, the taxi medallion system became a useful and perhaps necessary institutional arrangement for enforcing average pricing rules; however, they do not claim that markets for taxis exist in the absence of regulation and medallions but that only circumstances and average pricing regulation enforced by a medallion system may promote efficiency (Gallick and Sisk, 1987).

Petropoulos (2017) views the sharing economy as the sharing of assets for the purpose of efficiency which may be costly for traditional economy depending on a business model. The sharing economy decreases the transaction cost (Hansen Henten and Maria Windekilde, 2016) and a rhetorical strategy aimed at attracting support and fending off restriction (Calo and Rosenblat, 2017). They believe that the transaction cost theory, with consideration of the ideas of substitution and complementation, becomes a significant tool in understanding the sharing economy. With the rising popularity of internet-based platforms, new markets emerge and replace the old markets due to reductions in the transaction costs between the provider and the consumer of goods or services. As has been shown with the Airbnb and

Uber cases, there is not only substitution but also complementation ([Hansen Henten and Maria Windekilde, 2016](#); [Kim and Shin, 2017](#)).

2.2 Transformation of regulating application-based taxis

In terms of regulating application-based taxis, [Wyman \(2017\)](#) argued that regulators should establish regulatory standards for e-hailed and traditional taxis as a unit because they are substitutes. In terms of the level of regulatory standards, both traditional taxis and e-hailed taxis should be regulated to address market failures, and different standards might be applied. Regulating disruption innovation on taxi online is always lacking behind technological progress. The agencies face three choices when confronting dynamic states of an industry: make law, make threats or do nothing ([Brito, 2014](#); [Wu, 2012](#)). Agencies can use experimental rules, regulatory sunsets, or rulemaking deadlines to calibrate their approach to either novel technologies or business practices ([Cortez, 2014](#)). [Wu \(2012\)](#) explains “regulatory threats” as those statements that are “similar but not identical to the statutory category of ‘interpretative rules,’” as these threats are meant to compel specific behavior.

At every level of government, there are different regulation may be applied, such as in the cities of the USA ([Moran, 2016](#); [Gavin, 2017](#)). Taxicabs have traditionally been regulated at the local level, whereas TNCs are increasingly being regulated at the state level. With their overlapping markets, TNCs and taxicabs face different policies, in terms of permit requirements, insurance requirements, background checks, fare regulation and fleet size restrictions. TNCs, taxi services, cities and consumers are adapting rapidly to this new transportation services’ market. As it continues to evolve, policymakers and researchers can consider the implications of TNC services, and the policies that guide them, in relation to ensuring safety and security for drivers, travelers, and pedestrians; understanding the evolving role of technology and technology platforms in transportation provision; integrating on-demand transportation options into mobility plans and programs; managing transportation goals, such as congestion reduction, air quality control, and expansion of mobility and accessibility; and addressing equity concerns about access to transportation services by those who do not have either smartphones or credit cards ([Moran, 2016](#)).

Transformation of the relationship between government, corporate, platform and consumers could be from direct regulation to self-regulation schemes ([Marsden, 2008](#)). Compared to direct regulation, a co-regulatory approach is more effective and more flexible and offers a better chance of protecting the welfare of the consumers, as it uses 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 commonly refer to a group of experts in a specific field who develop the rules and codes of conduct that “regulate or guide the behavior, actions and standards of those within the group,” such as codes of practice, accreditation arrangements, and adoption of standards; while co-regulation refers to specific and definite government participation in the regulatory framework ([Marsden, 2011](#)). Despite the obscured boundaries between self- and co-regulation, co-regulation offers a more feasible option to the public when it comes to internet regulation. Co-regulation expresses a dialogues process between stakeholders, which results in a form of regulation that is neither state command-and-control regulation in its bureaucratic central specialized function nor “pure” self-regulation, as observed in the industry-led standard setting in the internet infrastructure ([Marsden, 2011](#)).

Meanwhile, the goal of these regulatory and co-regulatory structures is the attainment of better public service. Therefore, the effectiveness of regulatory or co-regulatory measures’ should be evaluated based on their impact/s on the stakeholders, security and privacy issues ([Chatterjee and Kar \(2018\)](#)). [Balleisen and Eisner \(2009\)](#) asserted that the

effectiveness of private regulation in a particular context depends on the following five factors:

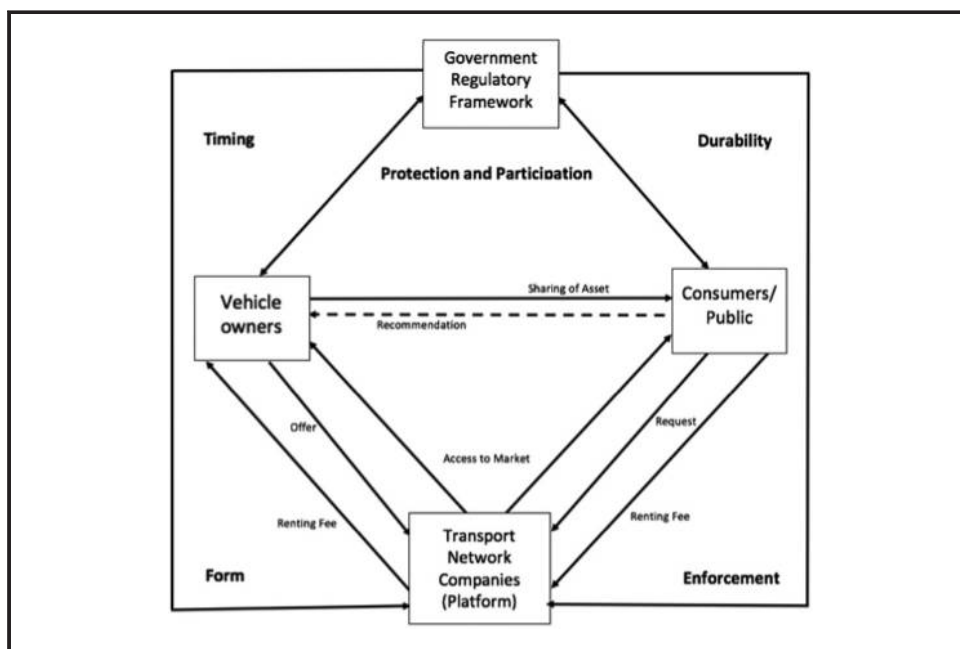
1. the reputation among regulated businesses;
2. the flexibility in regulatory detail;
3. the existence of bureaucratic capacity and autonomy on the part of non-governmental regulators;
4. the degree of transparency in regulatory process; and
5. the accountability.

Similarly, Cortez (2014) presented equally important considerations to effectively evaluate regulatory measures involve four important aspects: timing, form, durability, and enforcement (Cortez, 2014).

Cortez (2014) expounded the importance of having the right judgment (timing) as to when should government intervene because certain drawbacks are attached to waiting or advancing the intervention. Aside from knowing the right timing, the actual form of regulation should be carefully assessed. Regulation can be in through rulemaking, adjudication or guidance, each of which brings advantages and disadvantages. Hence, there is a need to assess which forms best accommodates the uncertainties of innovation. Moreover, the permanence (durability) of the regulation is an equally important consideration. The length and manner (enforcement) of its implementation should not compromise social innovation. The attitude of enforcing agencies and the arduous provisions toward regulating TNCs matter in understanding whether the regulatory measures imposed by the government are effective.

Figure 1 shows how the respective government regulatory frameworks of Indonesia, the Philippines and Taiwan which are analyzed using Cortez's (2014) four important aspects of regulatory measures – timing, form, duration, and enforcement – influence the framework of sharing economy particularly on how the TNCs operate.

Figure 1 Research framework



2.3 Research method

This study is qualitative-comparative research. To analyze the policy responses on OETSs in Indonesia, the Philippines and Taiwan, this paper explores a policy response analysis using Cortez's (2014) four important aspects of regulatory measures – timing, form, duration and enforcement. Timing aspect is considered to analyze the time frame of policy, how the government pays attention to the regulation time frame of OETS. Second is to identify the form of regulations that emphasize the content and context of platform policy that mutually benefits both vehicle owners and platform providers. Furthermore, this study will also present a mapping of durability of the policies related on OETS. Durability is important to explain how the government policies that have long lasting, sustainable resilience, and stakeholders involved in the regulations. Last, the nature of policy enforcement is looked into how effective the regulations that have been enacted on OETS toward OETS platforms and consumers. The research method is shown in Figure 2.

Generally, this paper describes and analyze the trends of government regulation on the growing business of TNCs in Indonesia, the Philippines (represented as middle-income countries) and Taiwan (high-income country). Further, Table I shows that this research also seeks how government regulations and policies respond to the growing sharing economy in the transportation sector of Indonesia, the Philippines and Taiwan.

Data on the transportation sector of each country are gathered from reputable online sources. More than 30 reports, legal and policy documents, websites and other documents, spanning the period 2008-2018 are gathered and analyzed. Three countries with different economic levels are chosen: Indonesia and the Philippines are selected from lower-middle-income economies while Taiwan is selected from a group of high-income economies. Representatives of the transportation agencies both at the national and local level were interviewed. Content analysis was also conducted to the recorded policies related to OETS in the three selected countries. The specific media used for the analysis included publicly available recordings of the emergence and regulation of TNCs.

Figure 2 Research method

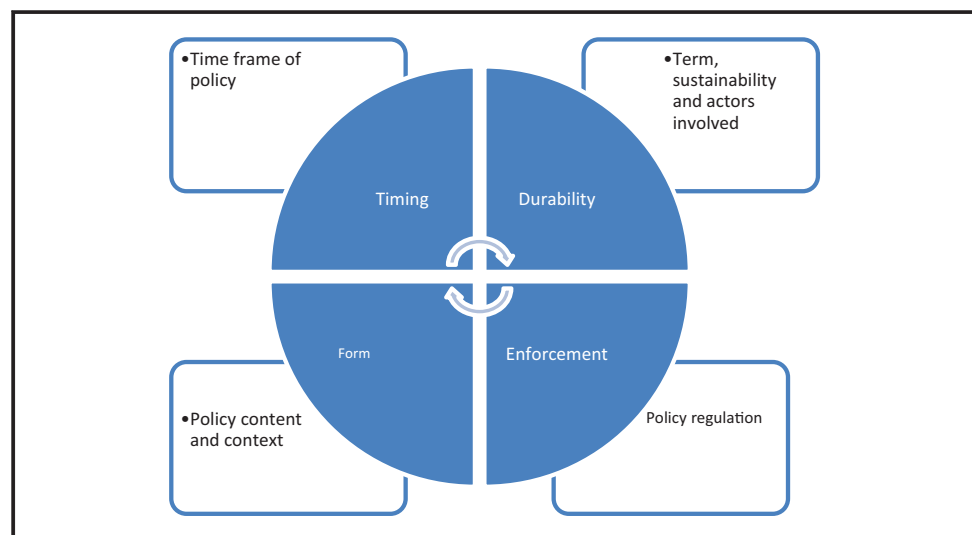


Table I List of interviewee

Country	National	Local
<i>Indonesia</i>		
Ministry	1	1
University	2	2
OETS	2	2
Users	5	6
<i>Taiwan</i>		
Ministry	–	
University	2	2
OETS	2	2
Users	5	6
<i>Philippines</i>		
Ministry	1	1
University	2	2
OETS	2	2
Users	5	6

3. Research findings

3.1 Transformation of regulations in Indonesia

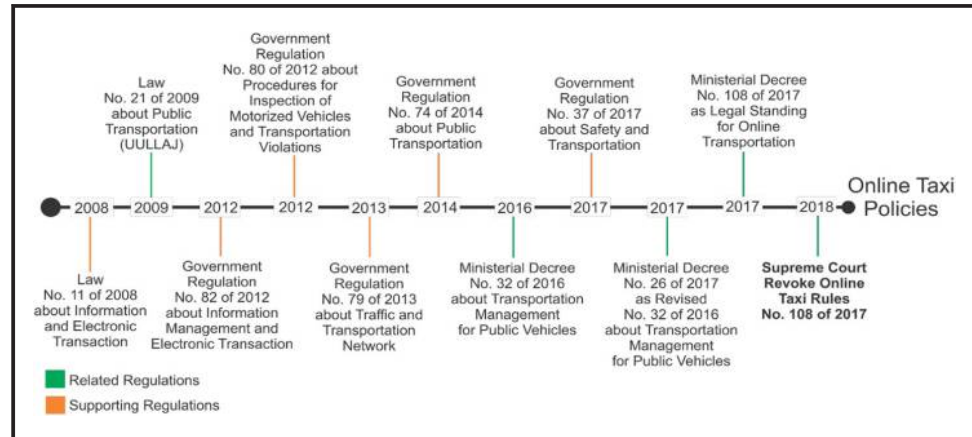
Issued on March 31, 2017, Ministry of Transport (MOT) Regulation 26/2017 (MOT Regulation 26/2017) revokes the previous MOT Regulation 32/2016 (see [Table II](#) and [Figure 3](#) below). The Supreme Court cited that the legal basis of MOT Regulation 32/2016 was insufficient for the operation of the information technology-based transportation services. MOT Regulation 26/2017 aims to create legal certainty over safety, security, comfort, fairness, and affordability requirements. In addition, MOT Regulation 26/2017 ensures equal opportunity for the growth of both conventional taxis and information technology-based transportation businesses. Hence, the new regulations introduce clear definitions, sanctions, minimum tariffs, and procedures for cooperation with conventional operators.

With MOT Regulation 26/2017, the Indonesian Transport Ministry has made Uber and GrabCar illegal. [Interview with Budi \(2018\)](#) explained that for OETS (Grab and Uber) companies to operate again, they must acquire a car-rental business permit and get licenses as public transportation operators, pass driving tests, and be covered by auto

Table II Related and supporting regulation

Law	Regulations	Supporting regulations
Law No. 21 the Year 2009 about public transportation (JULLAJ)	Ministerial decree No. 108 of 2017 about transportation management for public vehicles arrangement Ministerial decree No. 26 of 2017 about transportation management for public vehicles	Government regulation No. 82 of 2012 about information management and electronic transaction Government regulation No. 80 of 2012 procedures for inspection of motorized vehicles and transportation violations
Law No. 11 the Year 2008 about information and electronic transaction	Ministerial decree No. 32 of 2016 about transportation management for public vehicles Government regulation No. 37 of 2017 about safety and transportation	Government regulation No. 79 of 2013 about traffic and transportation network Government regulation No. 74 of 2014 about transportation

Figure 3 Timeline of co-regulatory measures among TNCs in Indonesia



insurance. Second, under the regulation, ride-sharing companies will have to either partner with transportation companies licensed by the ministry or register for their own transportation company license.

The government will also require them to build maintenance facilities and comply with regular roadworthiness tests. Ride-sharing companies will not be allowed to recruit new drivers until they have complied with the regulation. The regulation will also not allow Uber and Grab to set their own passenger fares, which will be unilaterally set by the regulator (Faisal and Rohman, 2016). Last, MOT Regulation 26/2017 allows local municipalities to set fare caps on services by Uber and similar companies. Indonesia's Transport Ministry emphasized that there is a need to accommodate the interests of old and new players as well as the need to establish a balance between conventional and online transport providers (Yuniar, 2017). Hence, local governments will have the authority to determine the lower and upper price caps for their territories (Yuniar, 2018). For example, Region I, which covers Sumatera, Jawa, and Bali (Base Tariff is Rp. 3,500/km and Ceiling Tariff is Rp. 6,000/km); and Region II, which covers Kalimantan, Sulawesi, Nusa Tenggara Barat, Maluku, and Papua (Base Tariff is 3,700/km and Ceiling Tariff is Rp. 6,500/km) (Rosa, 2017).

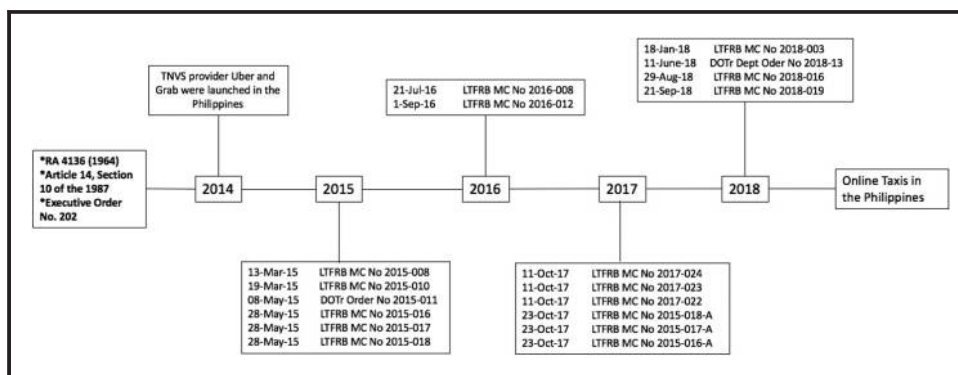
3.2 Transformation of regulations in the Philippines

The urban population of the Philippines needs better mobility mechanisms. Prior to the arrival of TNCs, the country's taxi services were the most convenient mode of public transportation, although they had developed a bad reputation among commuters (Vasquez, 2017). The arrival of TNCs in 2013 gave relief to commuters which resulted in the massive support of the latter to the former (Francisco, 2017).

Shortly after the official launch of Uber and Grab in the Philippines in 2014, the government apprehended vehicles and licenses of the drivers using private cars and the online application. According to the Land Transportation Franchising Regulatory Board (LTFRB), Uber and Grab are transport companies and should secure a franchise prior to operation. With massive public support for the TNCs' appeal to reconsider their arguments, the government has issued guidelines through the Department of Transportation (DOTr) and the LTFRB to facilitate the operation of the TNCs without compromising the welfare of the regular taxi operators and the needs of the commuting public. Earlier in 2015, LTFRB issued the Memorandum Circular (MC) No 2015-008 to amend MC No. 2003-032, encouraging innovation in the transport sector (see Table III and Figure 4 below).

Table III Timeline of co-regulatory measures among TNCs in the Philippines

13-Mar-15	LTFRB memo circular No 2015-008	
19-Mar-15	LTFRB memo circular No 2015-010	Clarification of memorandum circular No. 2015-004
08-May-15	DOTr order No 2015-011	amending the DOT No. 97-1092 on mobility
28-May-15	LTFRB memo circular No 2015-016	Implementing guidelines on the acceptance of applications for a certificate of public convenience to operate a transportation network vehicle service
28-May-15	LTFRB memo circular No 2015-017	Terms and conditions of a certificate of public convenience to operate a transportation network vehicle service
28-May-15	LTFRB memo circular No 2015-018	Suspension of acceptance of TNVS applications
21-Jul-16	LTFRB memo circular No 2016-008	Amendment to memorandum circular No. 2016-008
1-Sep-16	LTFRB memo circular No 2016-012	Amendment to MC 2005-014
11-Oct-17	LTFRB memo circular No 2017-024	Amendment on MC 2015-017
11-Oct-17	LTFRB memo circular No 2017-023	Amendment to memorandum circular No. 2012-021
11-Oct-17	LTFRB memo circular No 2017-022	Terms and conditions of a certificate of public convenience to operate a transportation network vehicle service
23-Oct-17	LTFRB memo circular No 2015-018-A	Implementing guidelines on the acceptance of application for a certificate of public convenience to operate transport network vehicle service
23-Oct-17	LTFRB memo circular No 2015-017-A	Terms and conditions of a certificate of TNC accreditation
23-Oct-17	LTFRB memo circular No 2015-016-A	DOTr classified TNC and TNVS as public utilities to be regulated by LTFRB
11-June-18	LTFRB memo circular No 2018-012	Amendment to MC 2015-017
11-Aug-18	LTFRB memo circular No 2018-017	Suspension of acceptance of new applications for tnc
29-Aug-18	LTFRB memo circular No 2018-016	Amendment to MC 2017-013
30-Aug-18	LTFRB memo circular No 2018-018	Fare structure for transportation network vehicle service
21-Sep-18	LTFRB memo circular No 2018-019	Implementing guidelines on the acceptance of applications for a certificate of public convenience to operate a transportation network vehicle service

Figure 4 Timeline of co-regulatory measures among TNCs in the Philippines

In July 2016, the LTFRB released MC No 2016-008 suspending the acceptance of Transportation Network Vehicle Services (TNVS) Applications in Manila. Martin Delgra, LTFRB Chair, emphasized that TNCs should secure a permit for all its units and should pay taxes to avoid suspension (Gotinga, 2017). According to Mercado, spokesperson of the Transportation Department, the suspension is made to avoid a huge amount of backlog among new applications (Morales and Elona, 2016). Meanwhile, the TNCs were encouraged to submit their position papers of accountability to discuss and present their contentions. On the other hand, the STOP and GO coalition filed a petition on behalf of the regular taxi operators, insisting that the suspension should apply not only to the acceptance of TNVS applications but also to the entire operations of the TNCs (The Standard, 2016). Otherwise, the purpose of such a suspension, which is to come up with better policies without hurting the local taxi operators, was conceded. Hence, the MC No 2015-012 was released suspending the acceptance of TNVS applications nationwide.

On January 18, 2018, the Board issued MC No 2018-003, which lifted the moratorium on the acceptance of the application for the issuance of a Certificate of Public Convenience (CPC) to operate TNVS. Subsequently, there was an influx of applications for TNC accreditation. After a few months, Grab Philippines' petition to increase fares by 5 per cent was filed in January 2018, prior to the acquisition of Uber was approved. Grab's fare hike petition came with the company's shift from incentives to subsidies to level driver's earnings after observing that the drivers' commission dropped to as low as 12 per cent (Manahan, 2018).

With the implementation of MC No 2018-016, the Philippines suffered a "supply crisis," where the riding public agonized either a lack of or an insufficient supply of TNVS in the city due to regulatory restrictions. LTFRB announced in August 2018 that it will open 10,000 slots for new TNVS franchises to address the problems of slow bookings and higher fares, which TNCs have attributed to the lack of drivers (Cabrera, 2018).

3.3 Transformation of regulations in Taiwan

The emergence of online taxis created a social uproar. In April 2013 the Dutch-based firm Uber International Holding B.V. received approval to set up a branch company in Taiwan ("Uber Taiwan") to engage in data processing, electronic information, and third-party payment services. However, Uber Taiwan began operating an online ride-hailing service using private drivers without Professional Driving Licenses, and it has even expanded to food delivery services (編輯, 2016). In 2013, taxi drivers waged war against Uber, whose 16,000 drivers won over passengers with their cheaper fares. "They stole our business, hurting our income by 30 per cent," said Chen Deng, chairman of the Taipei City Taxi Passenger Transport Trade Association (Sui, 2017).

In September of 2014, the Ministry of Transportation and Communications (MOTC) began fining Uber Taiwan, pursuant to the Highway Act (Article 77, paragraph 2) for registering as a technology company but operating a transportation business instead. On August 2015, the fines imposed upon Uber already reached \$1.4m since September 2014 for improper registration (Hermes auto, 2015). In February 2017, Uber Taiwan announced the pause of their operation (中文, 2017).

The stand-off between Taiwanese Government and Uber Taiwan is anchored on three major issues ("Press a button and get the facts," 2017). First, the Taiwanese Government wants Uber to register as a taxi company, which Uber refuses to do so citing that there is no reason to register as a taxi company because they are a smartphone application. Second, the Taiwanese Government needs Uber to get insurance, which is not possible until the government recognizes ridesharing and approves its operation. Last, the Taiwanese Government wants Uber to pay tax, which the latter is willing to "pay all applicable tax".

After two months of suspension, in April 2017, Uber resumed its operation in Taiwan. The discussion between Taiwanese Government and Uber resulted in the latter partnering with

licensed rental car companies or taxi industry to resume serving riders in Taipei (Wu, 2017). With the Taiwanese Government's tough regulation against Uber, Uber was forced to evolve and innovate. In August 2018, Uber announced its "Uber for Taiwan" project which includes working with the Taiwanese Government on providing an integrated platform for public transportation and helping nurture Taiwan's talent for self-driving technology and artificial intelligence (AI) (Pei-ju, 2018). A driver who wants to be a Uber driver must hold a Professional Driving License and becomes a part-time employee of a Uber partner. By the end of 2018, there were more than 10 Uber partnering car rental companies. Although Uber successfully resumes its business in Taiwan, the 46 years old Highway Act effectively blocks regular drivers wanting to operate as ride-sharing drivers (See Figure 5 below). To increase the size of Uber driver pool, Uber provides tutorial assistance to the regular drivers who want to take Professional Driving License examination, which requires to pass a more tricky road test using a manual transmission car and an enhanced paper-based examination.

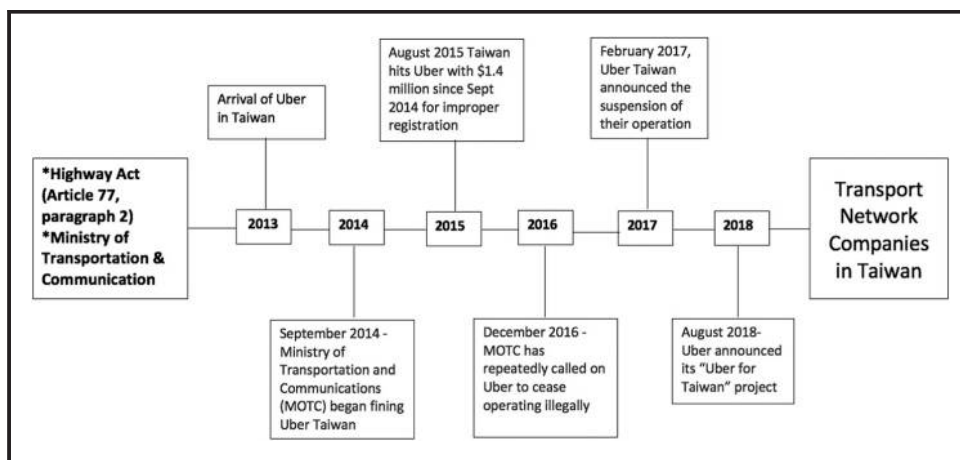
4. Discussion

4.1 Timing

Effective regulation requires timing to ensure that innovations can bloom into its full potential. Promptness in regulation might cause errors while putting off regulation might miss out the benefits that the public could gain if the innovation is regulated. Cortez (2014) expounded that regulatory flexibility is highly preferred but it could lead to legal procrastination and bureaucratic delay. On the other hand, the bureaucratic delay is beneficial if lead agencies are able to use "robust, deliberative procedures that will generate more fair and accurate rules." Unfortunately, the advantages of bureaucratic delay are more difficult to guarantee.

The government's priority to encourage and welcome innovation for better public service is the reason why ride-sharing applications and TNCs have succeeded in penetrating the transportation sector. In fact, the regulatory policies of the Governments of the Philippines, Indonesia and Taiwan were released a year after ride-sharing companies such as Grab and Uber were launched. As a result, ride-sharing companies in these countries were "self-regulating" due to the unavailability of a policy that governs their operations. Self-regulation could be beneficial to a certain group of professionals and could be detrimental to other groups (Marsden, 2011). Meanwhile, the government institutions believed that in the absence of regulation specific for TNCs, the existing regulation on land transportation is

Figure 5 Timeline of TNC regulations in Taiwan



upheld. Subsequently, after a year of operations, the Governments of the Philippines, Indonesia and Taiwan have cracked down the vehicles of TNCs and have imposed massive fines for violating existing policies. Also, the mass demonstrations of taxi drivers and operators in Taipei and Jakarta in 2014 and 2016 practically altered the self-regulatory schemes among ride-sharing companies which resulted in a more stringent policy against the TNCs. The Philippine and Indonesia's Ministries of Land Transportation have issued guidelines regulating the operations of ride-sharing companies while Taiwan stood by and re-enforces its policies on taxis and land transportation.

Because of the absence of specific government regulations on TNCs, TNCs in the Philippines, Indonesia and Taiwan have successfully infiltrated the taxi industry by providing more efficient and convenient services to the riding public. Apparently, the TNCs have also covered the limitations of the local taxi drivers with the aid of technology. However, the popularity of TNC has its price when government regulations were finally imposed. Registrations, insurances and accreditations were compiled, followed by the severe fines imposed upon them. Fines would have been avoided if TNCs have embraced the existing rules on land transportation and did not insist that such regulations were inapplicable to them given that they are not taxi companies but rather mobile applications based companies.

4.2 Form

The regulatory policies come in different forms and stipulations. Otherwise, agencies are forced to make adjudications to address existing problems that are not covered by existing rules. Moreover, adjudication allows agencies to address problems in discrete and concrete circumstances unlike rulemaking, and it responds quickly to problematic conduct as it arises. Adjudication can be inefficient like rulemaking if the agency has to resolve the issue repeatedly. Meanwhile, guidance is more preferred by government agencies because it gives agencies greater flexibility to update or retreat from the policy when necessary. Guidance is considered to be more appropriate in addressing issues related to technological advancement or innovation because it is useful for coordinating lower level agency personnel, it has less congressional oversight, it is credible and as adhesive as regulations. The Philippines and Indonesia's Ministry on Land Transportation have issued guidelines to regulate the operations of TNCs, while Taiwan has strengthened its policy on land transportation.

The Philippines' regulation on TNCs emanated from the Article XIV Section 10 of the Philippine Constitution which promotes innovation toward better lives among Filipinos. Imperative to national development and progress, Republic Act No 4136 and Executive No 202 creating the Land Transportation Office (LTO) and Land Transportation Franchising and Regulatory Board (LTFRB) were created to regulate the land transportation-related issues in the country. Hence, the LTFRB issues guidelines regulating the operations of TNCs in the Philippines.

Similarly, Indonesia's regulation on TNCs also emanated from Law No. 11 the Year 2008 or the Law on Information and Electronic Transaction and Law No. 21 the Year 2009 or the Law on Public Transportation. The former is strengthened by the issuance Ministerial Decree No. 32 of 2016 about Transportation Management for Public Vehicles and Government Regulation No. 37 of 2017 about Safety and Transportation which resulted to the creation of the Government Regulation No. 79 of 2013 About Traffic and Transportation Network and Government Regulation No. 74 of 2014 about Transportation. Meanwhile, Law No 21 the Year 2009 is implemented with Ministerial Decree No. 108 of 2017 about Transportation Management for Public Vehicles Arrangement and Ministerial Decree No. 26 of 2017 about Transportation Management for Public Vehicles.

While it is true that the issuance of guidance has its own disadvantages, the Philippines and Indonesia's regulation on TNCs are carried out by the issuance of guidance and thrives on the advantages it brings. The release of guidance has given the transportation agencies of the Philippines and Indonesia the flexibility to update the policies through amendment as they deemed it necessary. For example, both countries have issued amendments to earlier regulations as different issues arise. In the case of the Philippines. In 2015, guidance providing terms and conditions for TNCs which resulted to the overwhelming number of applications where the government had to suspend the acceptance of TNC application in July of 2016. Also, the regulations issued in 2015 have mostly been amended in 2017. Comparably, Indonesia's earlier regulation on Traffic and Transportation Networks (Government Regulation No 79 of 2013) was amended through the Ministerial Decree No. 32 of 2016 about Transportation Management for Public Vehicles.

Generally, Indonesia and the Philippines regulate the TNCs and the challenges they bring to the public by issuing regulations in the form of guidance. The practical advantages of guidance outweigh its disadvantages. Rules may have its own advantages. However, the existing rules on land transportation and traffic are of great disadvantage for the TNCs and creating new rules that would balance the interests of the public, TNCs and local taxi industry would require months of policymaking. Therefore, the risk of discouraging innovations in public transportation which offers convenience and better service to the public is not worth risking. Hence, guidelines are imposed to address the issues related to the operations of TNCs in the country.

Meanwhile, Taiwan strongly implemented Highway Act or Article 77 paragraph 2, which covers automobile or trolleybus transportation enterprises with specific stipulations on fines on every violation. Highway Acts requires that all transportation firms in Taiwan should be registered and should acquire all the requirements set by the government. Otherwise, suspension or grave fines will be imposed. In April of 2013 Uber Taiwan began operating an online ride-hailing service using private drivers without commercial driver licenses and has even expanded to food delivery services. As a result, severe fines were imposed followed by the suspension of its operation. After 2 months of suspension, Uber gave in and partnered with a local taxi company to continue its operations in Taiwan. In 2018, Uber launched its Uber for Taiwan program which launched the partnership of Uber to the Taiwanese Government toward development and innovation in science and technology.

The case of Taiwan's regulation is exceptional. The disadvantage of regulating using rules became Taiwan's advantage. Taiwan also aspires innovation similar to other countries. However, Taiwan wanted to embrace innovation in its own terms. The arrival of Uber is welcome on certain conditions. Failure to fulfill those conditions meant that Uber should cease to operate. Otherwise, fines shall be imposed. Uber tried to gain the support of the public and lobbied the government. The public expressed support to Uber for the convenience it offers, while the government was firm. After five years, Uber embraced its new partner, the Taiwanese Government.

4.3 Durability

The forms of government regulation also determine the durability of every regulation. Leadership in government agencies are political appointees which are subject to the discretion of the President. A change in leadership signals change in priorities followed changes in the guidelines issued by the agency.

The case of the Philippines and Indonesia revealed that the priorities and stand of the agency in terms of TNCs have not been affected by the change of its leadership if there was any. The guidelines issued by the Ministry of Transportation of both countries are based on the articulated public opinion and the experiences of the agency in the implementation of

the existing policies. For example, in Indonesia, when mass demonstrations were organized by local taxi drivers in Jakarta, the government was quick to release the Ministerial Decree No. 32 of 2016 regulating the operations of the TNCs. On the same vein, after strong public support was expressed in favor of the TNCs, the Philippines' LTFRB issued Memorandum Circular Orders providing guidelines for TNCs. Therefore, the Philippines and Indonesia's issuances of guidance have provided the public the convenience it needed and the TNCs and local taxi drivers an attempt to provide an equal playing field to operate. On the other hand, the duration of Taiwan's regulations is considered a mandatory deadline. The mass demonstration of local taxi drivers in Taipei and the outright violation of Uber to the stipulations in Highway Act fueled the government decision to impose severe fines to Uber, discouraging Uber to continue its operation. Despite the advantages that Uber offers to the public, the government was firm in not delaying its action as it upheld its policies on the Highway Act. Rules may have been tough and have disadvantages due to its inflexibility but the advantages it offers, to a certain extent, is worth taking the risk as in the case of Taiwan.

4.4 Enforcement

Government regulation lies heavily on its enforcement. Common enforcement issues are based on political and resource constraints. [Weiser \(2001\)](#) explained that under-enforcement will compromise the credibility of the agency and the failure to enforce regulations could result in serious problems for the agency. Given that almost all government agencies have limited resources to maximize policy enforcement, public participation holds the key.

Meanwhile, enforcement of policies on TNCs is practically considered rigid based on the recent impact in some countries. Seoul, South Korea, has one of the toughest policy on TNCs, yet policies are evolving toward innovation. In October 2018, thousands of local taxi drivers rallied against the plan of the government to allow carpool services in the country. The local taxi drivers are demanding that the carpool services for TNCs would exacerbate the negative impacts of TNCs on their daily income ([Gibson, 2018](#)). TNCs in Madrid, Spain face similar concerns too. In August 2018, the government has decided after the strike of local taxi drivers that the regulations for TNCs will be set by Spain's autonomous communities or cities/regions just like other local transport policies ([Meyer, 2018](#)).

In Indonesia, 1,500 motorcycle taxi drivers of Grab and Go-jek protested on April and September 2018, outside the parliament in Jakarta, demanding for higher fares ("Grab drivers stage rally at Jakarta office – City – *The Jakarta Post*," 2018). The Philippine regulations were faced with mass demonstrations too both from the local taxi drivers in 2016, which led to the suspension of the government licensing activities ([Cabuenas, 2017](#)).

5. Conclusion

Based on the study of three countries, it is found that the policy responses to the sharing economy in the taxi sector are incremental and trial-error-based policy. Based on how their respective transportation policies evolved, it can be concluded that the way the Governments of Indonesia, the Philippines and Taiwan responded to the growing OETS is similar to what the city governments in Europe do in addressing issues related to the sharing economy particularly in the cases of the Taxi and hotel industries. As it is the main task of governments to make regulations, governments around the world need to address with regulation issues the four broad challenges of the sharing economy:

1. inequality;
2. monopoly of giant corporations, which undercut gig workers' benefits;
3. the unclear long-term sustainability benefits of the sharing economy; and
4. security and trust concerns ([Ganapati and Reddick, 2018](#)).

The data revealed that the government regulations of Indonesia, the Philippines and Taiwan created a space to experiment with collaborative and dialogical approach among regulators, incumbents and new service providers (Fenwick *et al.*, 2018) without a comprehensive solution. In line with this, higher levels of government like the European Union may focus on consumer protection and address other liability issues (Codagnone and Martens, 2016) to sustain innovation and maximize public services without compromising the welfare of any sector in the society.

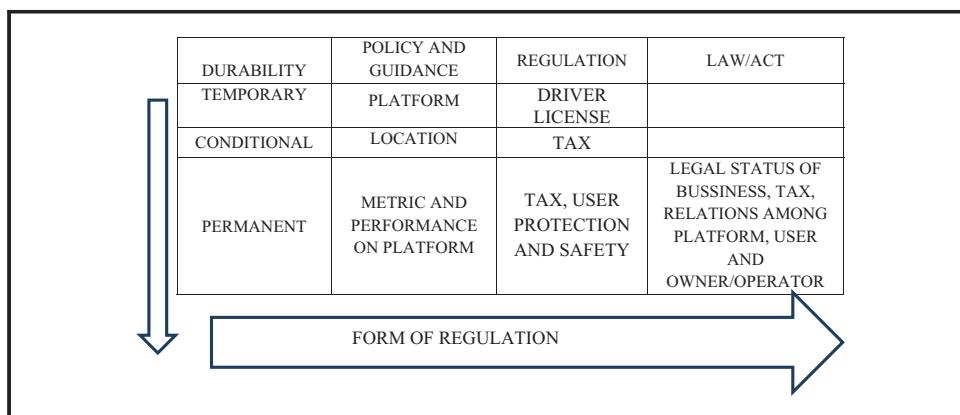
Because sharing economy cannot be regulated by means of traditional command and control approaches, new innovative forms of smart regulation are necessary. Most of the existing smart regulations advance the efficiency of social activities providing convenience to the public. For example, SherpaShare is an application using vertically specialized emulations that helps drivers of ridesharing and ride services platforms track their earnings, expenses, taxes and working opportunities in one single online repository (Codagnone and Martens, 2016). With smart regulations, innovation is not repressed paving the way for a number of possible solutions to effectively address the challenges brought by the “sharing economy”. Smart regulations entail the use of metrics and performance as part of the information-based regulation and the assimilation of the sharing economy to the local governance structures, which eventually leads to the gradual deregulation of incumbent industries (if necessary) for fair competition. The scheme of smart regulation is described in Figure 6 below.

In doing so, the future of relationship between sharing firms and local governments suggests that the priority will be on strengthening consumer protections, better economic redistribution, and achievement of other policy aims (Rauch and Schleicher, 2015), just like in the case of the Ohio State Government’s (2001) portal, which is an exemplary in-house equipment sharing platform. Therefore, the use of new innovative forms of smart regulations is by far one of the most plausible attempts at providing a comprehensive solution to the challenges brought by OETS.

6. Limitation

This paper only analyzed the government regulatory policies of the Philippines, Indonesia and Taiwan in addressing the challenges brought about by OETS. This paper has not addressed the policy issues the relationship between driver and platform companies.

Figure 6 Smart regulation content for OETS



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