PLANNING MALAYSIA:
Journal of the Malaysian Institute of Planners
VOLUME 18 ISSUE 3 (2020), Page 128 – 141

E-HAILING SERVICES IN MALAYSIA: CURRENT PRACTICES AND FUTURE OUTLOOK

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Abstract

E-hailing services are known to be on-demand vehicle acquisition that relies on network dependency and use of a specific digital application through the Internet. The objectives of this study were to investigate the adoption of e-hailing services from the initial inception, issues in adoption and the direction of e-hailing services within the context of Malaysia. A Systematic Literature Review (SLR) related to the e-hailing industry was used by employing the inclusion criteria of keywords generated from the literature data pool. The legalisation of e-hailing services in Malaysia had spurred the growth of the industry. With the establishment of the Transportation Network Company, which was a positive sign for e-hailing to continue to flourish, the industry was considered as a complement to the existing public transportation system. The growth projection showed that e-hailing services will continue to be part of the Malaysian transportation sectors and would remain competitive in contributing to the domestic economy. However, some barriers would deter the progress of e-hailing services, such as over-regulation by the government.

***Keywords**:* Adoption, E-hailing, future outlook, Malaysia, Transport Network Companies (TNCs)

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INTRODUCTION

The use of the Internet of Things (*IoT*) and technology has become an indispensable feature in the business structure of commercial trade within the sharing economy in recent years (John, 2013). Technological applications that utilise the Internet, such as smartphones, have changed the way society conducts business and individual daily lifestyles. Users and adopters of these technologies are able to share unused property, extra resources, time and skills across online platforms (Wosskow, 2014) which is an economic system that fosters the sharing economy. Physical shops are no longer needed as traders and buyers shift the marketplace to online platforms, which reduces physical interaction altogether. In hindsight of these changes, business resources, stocks and capitals are revealed to be better allocated and managed, which create efficiency that could be demanded through the traditional means of business. One of the significant sub-classification of the sharing economy that emerged within the transportation industry is the "Shared Mobility" (Shaheen, Chan, Bansal, & Cohen, 2015). The concept of shared mobility is distinguished from the conventional methods of public transportation, whereby e-hailing, ride-sourcing, ridesharing and carpooling services are provided to complement the needs of designated customers. The use of a private vehicle to transport a paying passenger that is facilitated by the uses of technology and apps are known as "*E-Hailing*" in Malaysia, while in North America and Europe, these services are known as "*Ride-Sourcing*" or "*Ride-Hailing*" (Shaheen et al., 2015). This form of sharing economy is undeniably thriving as shared mobility services have become an essential part of the transportation industry of today (Todd, Amirullah, & Hui Xing, 2018). This popularity could be due to the adeptness of the service in addressing several factors that can influence the choices made by customers of taking either the private or the public mode of transportation. These factors include the characteristics of (i) The Traveller (*background, household structure and income, vehicle ownership, and availability of vehicle choice*); (ii) The Trips (*purpose, time, and distance*) and (iii) The Transport Facility (*travel duration, costs, quality of service, availability of transportation and parking space*) (Chiu Chuen, Karim, & Yusoff, 2014). Hence, these shared mobility services can provide a smooth and pleasant means of transportation, which can either be impartial or integrated with another form of the transportation system (Nielsen, 2015; Public Land Transport Commission, 2013).

Moreover, e-hailing services offer on-demand services at an affordable price in comparison with other modes of transportation, such as taxis, which is sometimes below the market rates. Although this below the belt approach is unregulated, the e-hailing services continue to progress as a favourite mode of transportation among urban commuters (Frost & Sullivan, 2016). As a result, most shared mobility services are seen as disruptive to the existing transportation model (Audouin & Neves, 2018).

In Malaysia, the e-hailing service has been exclusively used to describe the shared mobility service facilitated by apps (Government of Malaysia, 2017). The service is initiated due to the inefficiency and gaps found in the traditional transportation systems within the first and last-mile connectivity. Anthony Tan, the co-founder of Grab, has explained that the introduction of Grab is because of the complicated systems of the taxi service in Malaysia between 2012 and 2013 (Freischlad N., 2015). The service enables travellers with an alternative transportation solution, which is convenient and affordable. People begin to prefer this form of transportation as a direct result of high motorisation rate on the road, massive traffic congestions, parking problems, and inadequate infrastructure for public transport (Frost & Sullivan, 2016). Numerous e-hailing users have since been using the services available to exploit the connectivity of the transportation networks further in getting to their destinations at a timely and cost-saving manner (Frost & Sullivan, 2016). Hence, the objectives of this paper are to investigate the adoption of e-hailing services from the initial inception, issues and the direction of e-hailing services within the Malaysian context.

RESEARCH BACKGROUND

As the concept of e-hailing service was related to shared-mobility, the unique characteristics of e-hailing were discussed extensively. The root of e-hailing services was based on the concept of sharing economy (Hawlitschek, Teubner, & Gimpel, 2016), whereby traditional marketplaces of business were replaced progressively by more innovative, dynamic and intuitive platforms. This gradual change was caused by the rapid enhancement of the information technology and the Internet, which fueled the convergence and progression further. Most of the platforms within this sharing economy were developed and managed by a third-party (Li, Hong, & Zhang, 2017). These platforms usually brought the extra resources of the owners together to match the demands by the users. Figure 1 showed the consumption model of a digital market in the sharing economy, where goods and services were offered, transacted, and completed, with legal documentation and finalisation in the handover of ownership. Constant communications by respective seekers and owners adjusted accordingly and extensively to ensure the transaction was successful.

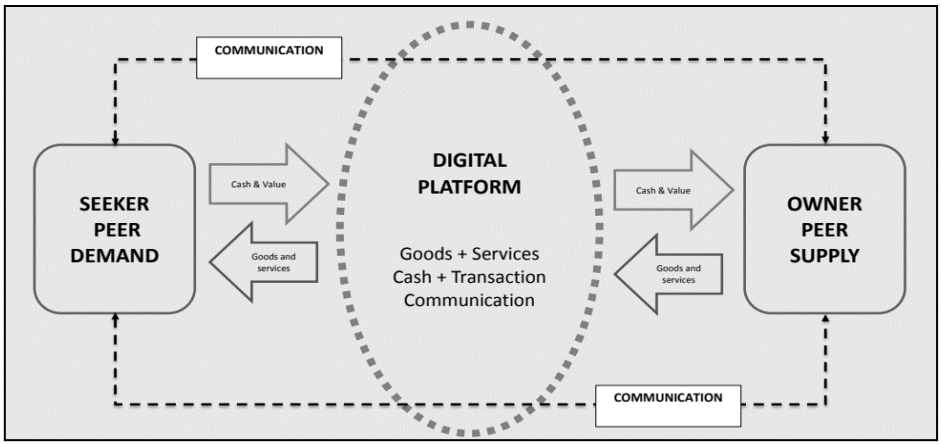

Figure 1: The Sharing Economy Consumption Model
*S*ource: Synthesized from Forno & Garibaldi (2015); Hamari, Sjoklint, & Ukkonen (2016); Horton & Zeckhauser (2016); Juul (2017); Wosskow (2014)

Shared mobility was conceptualised from the sharing economy, which can be summarised as shared use of a vehicle, bicycle, or other modes (Shared-Use Mobility Centre; SUMC, 2016). This innovative transportation approach enabled users to gain short-term access to numerous methods of transportation on an as-needed basis (Shaheen, Cohen, & Zohdy, 2016). E-hailing service was acknowledged to be within this approach of transportation, which had steadily altered the way urban commuters interact and move around (Santi & Ratti, 2017). Previous research has defined some essential terminologies associated with shared mobility, mainly the e-hailing services. For starters, *Ride-sourcing / E-hailing / Ride-Hailing* was described as a provision of planned and on-demand transportation services for compensation, connecting drivers of personal vehicles with passengers. Smartphone mobile applications facilitated the booking, ratings (for both drivers and passengers), and electronic payment (Shaheen et al., 2016). Entities that operate the services were identified as *Transportation Network Companies (TNCs)* or also known as *E-Hailing Operators* (also known as ride-hailing operators) offered arranged and on-demand transportation services for a return, which linked drivers of personally owned cars with passengers. Smartphone mobile applications were used for reservation, ratings (for both drivers and passengers), and electronic payment (Azevedo & Maciejewski, 2015; Hughes & MacKenzie, 2016; Ngo, 2015). In Malaysia, TNCs are also known by their legal term, "*Intermediation Business"* which is construed as a business of facilitating arrangements, bookings or transactions of an e-hailing vehicle whether, for any valuable consideration, money's worth or otherwise (Government of Malaysia, 2017). The medium of transaction, or application or "*E-hailing Apps*", uses smartphone that connected licensed taxis or private-

vehicle for-hire drivers, with passengers (Rayle, Shaheen, Chan, Dai, & Cervero, 2014; Shaheen et al., 2015)

Table 1: Summary of E-Hailing Definition

Definition Of E-Hailing	Author/ Research/Statute
App-based, On-demand ride service, Third-party services (TNCs)	Rayle et al. (2014)
Pre-arranged on-demand transportation services, Smartphone-based mobile application	Shaheen et al. (2016)
The vehicle consisted of 4 passenger seats and not more than 11 passenger seats (inclusive driver), used for transporting a passenger in return for a fare, facilitated by an electronic application, furnished by intermediaries' business operators.	Government of Malaysia (2017)
On-demand ride/for hire service, using mobile smartphone-based apps, from a pool of private passenger vehicles, driven by non-professional drivers.	(Ngo, 2015)
Use of smartphone apps to connect passengers with drivers.	(Shaheen et al., 2015)
Ride-sourcing connected passengers to vehicles-for-hire through the use of a mobile smartphone app, passengers catalogued their location through GPS positioning, matched with the nearest driver, estimation cost (ride, drivers ratings, time) were given, using a private vehicle.	Fassbender (2016)
A platform where individuals can hail and pay for a ride from a professional or part-time driver through an app.	Clewlow & Mishra (2017)

The definitions of e-hailing services from the literature were listed in Table 1. Using technology to access any mode of transportation that was rendered by the company and privateers had resulted in numerous interpretations of the terms. Most academicians in North America and Europe had used and *accepted ride-sourcing* as the term to describe these types of services in the context of sharing transportation, which was commonly found in publications. The US Department of Transport (DOT) used the term "ride-sourcing" exclusively in the notary and legal matters (Shaheen et al., 2015). In Malaysia, the term "*E-Hailing*" was used by the government and had been instituted in the revised Land Public Transportation Act 2017 (Government of Malaysia, 2017). The term had since been widely used in the media and previous literature in Malaysia. Since the discussion of transport sharing using technology in this study was within the Malaysian context, the term "*E-Hailing*" was used to describe these types of services throughout this paper.

METHODOLOGY

A qualitative approach using comprehensive document analysis was employed in this study. A systematic literature review, with an analysis of related works associated with the e-hailing industry, were scrutinised. The inclusion criteria for the selection of literature used keywords such as "*ride-sourcing*" "*e-hailing*" and "*e-hailing issues*" to generate a data pool. Pieces of literature from various sources through Google search and Google Scholar, as well as online databases such as Taylor & Francis and Thomson Reuters, were collected using online data mining techniques. The keywords for the search and inclusion criteria for literature mining such as *Type of Databases* (Academic Journals, Newspaper Articles, Research Report, Working Paper, Trade Report, Financial Report, Online Publication Articles, Organization Bulletin and Newsletter, Statute and Legislation); *Source of Databases* **(**Internet, Published and printed materials); *Keywords* **(**E-Hailing, Malaysia, Shared Mobility, Transport Network Company (TNC), Ride-sourcing, Ride-Hailing, Public Transport Malaysia, Market Report Malaysia); and *Time Frame* **(**Published within the past five years, 2014-2019). The initial process of data mining had resulted in 180 studies related to the e-hailing industry within Malaysia and around the world. The data pool was then screened for relevance using the Key-Word-In-Context (KWIC) (Luhn, 1966) technique before being coded using ATLAS. Ti 8 software to create linkages among the emerging themes. The number of articles that were was deemed useful to be coded after utilising the KWIC technique with the application of word-cloud visualisation (Tessem, Bjørnestad, Chen, & Nyre, 2015) was 103. Keywords in the articles were isolated and filtered, with only those relevant to the discussion remained. By using thematic analysis, the data were arranged in a discussion narrative which includes the inception of e-hailing services in Malaysia, which transcended the boundaries of discipline and professional perspectives and included related viewpoints of transportation, consumer behaviour and regulatory framework. There were several constraints, and limitations to this study, such as data on the e-hailing services within the Malaysian context were scarce. The academic publication, in the Malaysian context, was almost non-existent. Data on operators of e-hailing services in Malaysia were also limited, except for a few brief reports since the companies would consider certain information to be confidential.

FINDINGS

The discussion on e-hailing services in Malaysia was divided into three central themes, which were the Adoption of E-Hailing Services, Issues on the E-Hailing Services and a Future Outlook on E-Hailing Services.

Adoption of E-Hailing Services in Malaysia

MyTeksi was a forerunner and a brand name for Grab created by a start-up company in Malaysia. Managed by Anthony Tan and Hooi Ling Tan in 2012, the company pioneered and introduced the concepts of e-hailing service, which initially focused on utilising the existing taxi fleet, rather than private vehicles, to the Malaysian consumers. As of June 2013, the service had on average of one booking per every eight seconds, or almost 10,000 bookings per day (Cosseboom, 2015). Meanwhile, Uber was introduced in Kuala Lumpur, with a soft-launching in October 2013 (Gabey Goh, 2014). However, only the premium services, Uber Black, were offered. The services also differed from the concept of *MyTeksi*, as privately-owned vehicles were used as the main transportation fleet. This form of service caused Uber to be deemed illegal as the specifications did not meet with transportation laws of Malaysia at that time (Fatimah Zahirah, 2017). Hence, Uber had to withdraw the investments made in Southeast Asia by April 2018 and was quoted with enormous losses due to the hasty exit.

This turn of events made Grab the single largest e-hailing service company and most significant market shareholder in e-hailing services with operations in almost every major city in Southeast Asia. The success of Grab saw the company having a network of 2.7 million drivers across South East Asia, operating in eight countries and servicing over 196 cities (Grab Malaysia, 2019). Rebranded as Grabcar in 2016, the company offered not only e-hailing services but also other mobility services currently such as Grab Food and mobile payment. The e-hailing service market had since been saturated with new e-hailing start-up companies that tried to gain some share of profit in the market.

What made e-hailing services desirable as an alternative mode of transportation in Malaysia, may be found within the state of existing public transportation systems, which was published by Frost and Sullivan (2016) that illustrated the preferences and behaviours associated with e-hailing services by consumers. Poor public transport infrastructure, as well as the presence of better vehicles at lower fares compared to local taxis and public transport systems, were among the reasons for the growing interests in e-hailing services (Frost & Sullivan, 2016). The report was based on Uber, an e-hailing company before the service left the Malaysian e-hailing market also revealed that inaccessibility to parking spaces had also contributed to the uptake of e-hailing services instead using personal vehicles. This was further highlighted through the increase in the frequency of the e-hailing service being used during weekdays and involved routes between home-office and meetings-home. The same report also indicated that 30% of the respondents chose e-hailing service as the primary mode of transportation, with 14% of owned personal vehicles (n = 140).

Issues in E-Hailing

Regulators found the sharing economy to be disruptive (Mae, Adriano, Chadwick, & Su, 2017) due to the nature of the sharing economy that sometimes

operated above the regulation stipulated (Clewlow & Mishra, 2017) to the traditional economy. The complexity of the transactions involved was also reduced by connecting demands with supplies (Vallat, 2016). Hence, regulatory concerns (Fassbender, 2016; Ngo, 2015) on the application of e-hailing services became a significant obstacle that needed to be addressed. Baker (2015) revealed these four obstacles to be a) labour regulation; b) consumer protection regulation; c) property rights and d) discrimination of services. These concerns were instigated as e-hailing services used similar business models throughout the world (Baker, 2015; Fassbender, 2016), including Malaysia. Since the inception of e-hailing services in the transportation sectors of Malaysia in 2012/2013, the public had widely acknowledged and accepted the e-hailing services as a mean of an alternative mode of transport (Frost & Sullivan, 2016).

However, e-hailing service was once considered to be illegal in Malaysia (Sukumaran, 2015), as no legal provision could regulate the operation. The services offered were also considered disruptive (Clewlow & Mishra, 2017), as traditional transportation services, such as taxis, were severely affected as the service took away a majority of taxi passengers. An open confrontation between taxi drivers and e-hailing service providers were frequently observed at that time. E-hailing services also offered better fares structure, affordability and convenience, which was lacking in other modes of public transport (Mae et al., 2017).

The government had tried to find a balanced approach to managing e-hailing services as early as 2016. The Land Public Transport Agency, better known as APAD under the Ministry of Transport Malaysia (MoT), was tasked to find a solution to address the illegal use of e-hailing services. An amendment to the Land Public Transport Act was suggested and tabled in the parliament, which was gazetted in 2017. As of July 2019, APAD had already allowed 44 e-hailing companies to operate legally (Land Public Transport Agency (APAD), 2019a). Hence, although deemed disorderly (Fatimah Zahirah, 2017; Sukumaran, 2015), the e-hailing industry in Malaysia was eventually accepted and legalised by the government.

The decision by the government to legalise the e-hailing services through the amendment of the Land Public Transport (Amendment) Act 2017 (*Interpretation Of E-Hailing*; Amendment of First Schedule (a) in item 1, Subsection (ii)) which ensure E-hailing to be legally recognised accordingly (Government of Malaysia, 2017).

The second amendment to the legislation was made in the Commercial Vehicles Licensing Board (Amendment) Act 2017 (Amendment of Section 2 (a) *Interpretation Of E-Hailing*; Amendment of section 2 (b) *Interpretation of Intermediation Business License*; Amendment of Section 2 (d) *Classes and Categories of commercial Vehicle*; Amendment of Section 14, Subsection (1_b); and amendment of Section 33 *Prohibition of Use of Unlicensed Public Service*

Vehicle). Effect of the amendment are noticeable through the inception of critical regulation such as E-hailing would be legally recognised by the authority, hence the requirement for TNC to apply and have a license before starting with the operation and apply for an intermediary business license. As such, all e-hailing transactions must be facilitated by a third-party intermediary that facilitated the booking between drivers and users. E-hailing vehicles would now be subjected to Public Service Vehicle (PSV) requirements.

By legalising the services and e-hailing company, the government was able to solve issues regarding labour regulation, consumer protection and property rights. These amendments were also made to regulate the industry and create a competing field among existing transportation operators. Through these specific regulatory bodies, the Land Public Transport Agency (APAD) could impose specific requirements for both the e-hailing company and e-hailing drivers to operate legally. The cost of compliance and the associated expenses consequential from the regulatory requirements deter many existing e-hailing drivers while dissuading potential recruits to the platform. Therefore, E-hailing companies need to reconsider both the business model used and the rates needed to be compensated in fulfilling the regulatory requirements. All these regulations imposed were based on the existing model used by the taxi industries (Todd et al., 2018). For example, the conventional taxi industry required drivers to have a vocational licence of PSV before being allowed to drive. Since the regulatory requirements were emulated in the e-hailing sectors, the process of obtaining those licenses would be troubling and costly for the average e-hailing drivers and those who drove part-time. The time frame in getting these licenses was also brief, with the measures announced in March 2019 and immediately enforced by July 2019. By July 2019, e-hailing drivers must comply with the requirements, as shown in Table 6 as drivers who were found to drive without PSV and EVP would be liable for fines or jail terms upon conviction (Teoh, 2019).

Table 2: Compliances to E-Hailing Rules and Regulations

License and Registration	1. Acquired a Public Service Vehicle License a) Malaysian Citizen b) Not less than 21 years old c) Hold a competent driving license d) No Criminal record e) Not blacklisted under Police, Road and Transport Department and Land Public Transport Agency 2. Applied Electronic Vehicle Permit (EVP) from APAD 3. Obtained Drivers Electronic Cards (EKP) from APAD
Vehicles	4. A vehicle with 3 Star rating under ASEAN NCAP 5. Vehicle within 4 to 11 seat capacity 6. mandatory inspection for vehicle aged three years and above 7. Age of the vehicle must not exceed ten years

	8. To display e-hailing identification signage
Other Requirements	1. Passed the mandatory Health screening 2. Attend and passed the compulsory six hours training module 3. Registered and contribute to PERKESO 4. Insurance Coverage for vehicles, passenger and third-party

Source: Synthesize from Land Public Transport Agency E-Hailing Guidelines (APAD) (2019)

As shown in Table 2, e-hailing drivers needed to comply with more requirements than the TNC, which had left additional costs on e-hailing service drivers. For example, the cost to maintain as a Grab driver under the new ruling could reach to RM 800 to RM 1000 (Teoh, 2019). As a result, some part-time drivers terminated from the role, and 50% of the existing 200,000 drivers were expected to quit (Lai & Hendawy, 2019). The deadline was extended for another six months to October 2019 because many of these drivers were not able to adhere to the requirements within the stipulated time frame. Only 10% of the number of e-hailing drivers obtained the PSV before the deadline (Teoh, 2019).

Future Outlook on E-hailing in Malaysia

The success of e-hailing services in Malaysia was highly dependent on the approaches that would be used to tackle these issues, which involved the services and the income of the drivers. Besides, one of the concerns raised was the safety of consumers. As the regulatory body that was responsible for the e-hailing services in Malaysia, APAD tightened the background check for all e-hailing drivers and ordered all e-hailing operators to expedite the use of panic/SOS button in the service applications (Land Public Transport Commission; SPAD, 2017). While research on this area of interest was domestically scarce, several studies conducted internationally could be used to forecast the impending changes in the industry of e-hailing services. In a report by Shared-Use Mobility Centre (2016), studies from the American Public Transportation Association (APTA) revealed that the consumers would use more shared mobility, with a likelihood to use more public transit, fewer personal cars and spend less on transportation. Consumers would continue to use e-hailing services in the foreseeable future based on a study conducted by Nielsen (2015), which showed 77% (n=2150) of the respondents agreed to the use of this mode of transportation. Industrial forecast for 2018 and beyond estimated e-hailing service sectors at a value of RM354 million with an annual growth rate of 15.3% (Statista, 2018). Public transport users in Malaysia had been shown to have high interchangeability between public transport and e-hailing (Nielsen, 2015), which suggested that e-hailing can be used as transit in a transportation network. Studies also highlighted that e-hailing service complemented public transportation, as opposed to the general notion of being a threat, which resulted in the increment and enhancement of urban mobility (Hall, Price, & Palsson, 2017; Shared-Use Mobility Centre; SUMC, 2016). In studies

authorised by the Land Public Transport Commission (SPAD) throughout 2015, results showed that 28% of the commuters used more than three public transports in the daily commute (Nielsen, 2015), with taxi being one of the public transports used by commuters. This finding was corroborated with the data released by Uber in 2017, whereby 25% of the Uber rides in Malaysia and Singapore started or ended at a train station (Jinn Xiung, 2017). Hence, the potential of e-hailing services to grow in numbers were also acknowledged, whereby regulatory bodies should seek opportunities to participate and ensured that benefits were widely and equitably shared. Initiatives related to the e-hailing service include regulating the application as intermediary services (Land Public Transport Commission (SPAD), 2016). With the legalisation of e-hailing services by the government, the necessary regulatory power was established by the enforcement agency to monitor and regulate the E-hailing industry in Malaysia comprehensively. With major projects such as the Mass Rapid Transit (MRT) systems being planned, matching with several initiatives launched by the government to allow e-hailing services to be a permanent option of transportation in Malaysia. Undeniably, the e-hailing service will continue to grow and to complement any types of transportation modality in the future.

CONCLUSIONS

The amendments made on two statutes that regulate the public transportation system in Malaysia has sealed and legalised the adoption of e-hailing service as part of the service offered. Initially viewed as disruptive in the early years of implementation, the service has currently been accepted by both the government, users and competitors alike and is regarded as a complement to the existing public transportation system. The legalisation of e-hailing services also opens up a new dimension that can be regulated to ensure every stakeholder will benefit from the inclusion. The consumer would also benefit from the regulated e-hailing services and lower fares. However, overregulation by the government can affect the industry, especially the drivers, which could ultimately impede the growth of e-hailing service. Hence, future studies on the impact of these regulations on the stakeholders of e-hailing service, especially the drivers, should be investigated extensively. The growing trends of locally established e-hailing companies would positively affect the e-hailing service to continue to flourish, as the industry remains competitive, with untapped market and regions to explore.

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Received: January 2020. Accepted: 16th May 2020