

# Sharing Economy and Tourism: The Intention to Use e-Ride Hailing Transportation System for Tourism

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**Keywords:** E-Ride Hailing System, Apps-Interaction Behavior, Perceived Quality, Satisfaction, and Behavior Intention, Tourism.

**Abstract:** The e-ride hailing system transportation is a part of sharing economy activities, where community could participate in giving services for customers through on-line application platforms. The system, such as Go-Jek, Grab, Uber, has shifted the people' mobility behavior. However, there are only limited numbers of research that study the impact on this system to tourism development. Therefore, this study aims to understand the tendency of people in using the system for tourism. The study used two-stage research method. There were 310 respondents who participated in the survey. However, only 241 were valid for further analysis. At the first stage, factor analysis was applied to classify the people behavior in using this system. Hence, there were four dimensions that could describe the behavior. The dimensions are *apps-interaction behavior, perceived quality, satisfaction, and behavior intention in using the apps for tourism*. The second stage was calculating each dimension with regression analysis to understand the relationship. The result showed that the *apps-interaction behavior and satisfaction* had a significant influence to the *behavior intention in using the apps for tourism*. This study has an implication for developing theory for the technology acceptance model for tourism within the sharing economy context of the society.

## 1 INTRODUCTION

Since 1980ies, the information technology has transformed tourism radically and globally (Buhalis and Law, 2008; Ho and Lee, 2007; Lai 2013). The popularity of this idea attracted a lot of scholars to study the development of the management of tourism information (Martín and Herrero, 2011; Lai, 2013). Lai (2013) noted that there are two categories of accepting technology in tourism industry (1) the tourism human resources behavior in accepting the technology; 2) the behavior of tourists in accepting the technology. It then implies that there is a need to understand the behavior of supply and demand side in accepting changes in tourism technology advancement.

One of everyday technology that people use is smartphone. At present, there are more than 40% tourist in the world has smart phones with internet access (Lai 2013). This smart-phone has various capabilities from wide screen, internet access, to the location awareness functions (Want, 2009; Lai 2013). These capabilities could help them in

accessing the information, including the one they use while they are traveling.

Some tourism research focused on the website usage for finding information (Law, Qi, and Buhalis, 2010; Yeung and Law, 2006; Lai 2013) and purchasing on line tourism products (Law and Hsu, 2006; Martín and Herrero, 2011; Phelan, Christodoulidou, Countryman, and Kistner, 2011;Lai 2013). Other research focused on how smart-phone support more accessibility for tourists through applications (D. Wang, Park, and Fesenmaier, 2012; Lai, 2013).

Moreover, the technology advancement has also change today's economic scheme, such as into sharing economy or collaborative consumption. The scheme involves people at the society to share products and services based on symbiosis mutualism foundation. In a modern worlds, it also supported by the information and technology platforms.

Trivett (2013) stated that "the rapid explosion in swapping, sharing, bartering, trading and renting being reinvented through the latest technologies and peer-to-peer market places in ways and on a scale never possible before." In the tourism industry, the

accommodation, transportation, food/beverage, and attraction sectors have all been transformed by the sharing economy. There are some groups innovations within the sharing economy niche in tourism industry according to Martin (2016), such as:

Table 1: Example of Sharing Economy in Tourism.

Groups of innovation	Corresponding regimes	Example of sharing economy platforms	Description
Accommodations sharing platforms	Tourism, ICT	Airbnb	A peer-to-peer marketplace for people to rent out residential accommodation (including their homes) on a short term basis.
		Couchsurfing	An online community of people who offer free short-term accommodation to fellow community members
Car and ride sharing platforms	Mobility, ICT	Easy Car Club and Relayride Lyft and Uber	Peer-to-peer car rental platforms  Peer-to-peer platforms providing taxi and ridesharing services
		Zipcar	A business-to-consumer vehicle rental platform offering per hour rental of vehicles located within communities

Source: Martin (2016)

This article discusses about the car and ride sharing platforms such as Uber or Grab and Go-Jek that grows rapidly in Indonesia. It attempts to understand the behaviour of people using the service and their tendency in applying it for tourism.

## 2 LITERATURE REVIEW

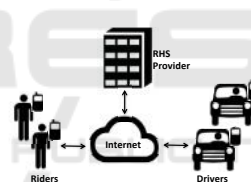
Sharing economy has been discussed by scholars since 1970ies. This literature review will give a glimpse of concept used in this research.

### 2.1 Sharing Economy

The notion of sharing economy developed from a concept of collaborative consumption introduced by Felson and Spaeth in 1978 (Henten and Windekilde, 2016). It involves the co-operation among society to utilize resources in efficient way, namely in saving money, space, time, social engagement such as making new acquaintance and become active citizens (Belk, 2007; Botsman and Rogers, 2010; (Henten and Windekilde, 2016).

### 2.2 E-Ride Hailing System

The technology advancement has provided the sharing economy with a new platform where people can lend, borrow, send gift, swap, or rent some consumers products and services (Xie and Mao, 2017). One of the services that grows rapidly is peer-to-peer (P2P) ridesharing and transit via application based accessed through smart phone. The providers call this system as a ride-hailing service (RHS) where they could know the precise location of all the riders and drivers (Pham et al., 2017). The relationship in the RHS is as follow:



Source: (Pham et al., 2017)

Figure 1: Ride-Hailing Services Overview

To use the service, both riders and drivers need to have an internet-connection and application. All the riders have their data, such as name, phone number, and valid means of payment method on the application. The driver could see the data if the riders hail for the service. On the other hand, the rider also know the driver's data, such as their name, phone number, car type, and the car number. The driver will pick up the rider and deliver to the destination.

### 2.3 The Unified Theory of Acceptance and Use of Technology and Behavioural Intention in Tourism

The tendency of people use the e-ride-hailing transportation system concerning with their acceptance in technology. Venkatesh, et al (2003)

developed the *unified theory of acceptance and use of technology* (UTAUT) that has four dimensions, such as *Performance Expectancy (PE)*, *Effort Expectancy (EE)*, *Social Influence (SI)*, and *Facilitating Conditions (FC)*. It has also some moderating variables such as *age*, *gender*, *experience*, and *voluntaries of use*. Those dimensions and variables have influent the behavior intention for people to accept the technology and implement the actual usage.

This research will focus on some dimension delivered by Venkatesh (2003) and analysed them into the tendency or behaviour intention for people to use for tourism.

### 3 RESEARCH METHOD

This research used quantitative method. It applied two-stage analysis. The first stage was on applying factor analysis in finding dimensions on people behaviour in using the e-ride hailing transportation system. The second stage involved with hypothesis testing on each dimension formed from the factor analysis.

The questionnaire was developed and distributed on-line to people through purposive sampling technique via on-line survey application. There were 310 respondents participated in this survey. However, only 241 data were valid and used for the analysis.

There were 14 items analysed at the first stage, namely: frequency of car order; bike-order; food-order; expedition-order; ticket order; the perceived ease of use; the perceived usefulness; the social interest; the satisfaction with the facilities; the satisfied with the application; the driver quality; the satisfaction with the application; the quality of driver; the speed of response; and the system availability.

### 4 RESULTS AND DISCUSSION

There were two-stage research methods used in this paper. At the first stage, the factor analysis was conducted to find out the group classified for describing the behaviour of people using the e-ride hailing transportation system. The KMO Bartlett's Test result shows that the measure of sampling adequacy is 0.723. It means that the variables and samples are sufficient to be run by factor analysis because the chi square is 673.115 and the significant

level is 0.000. It also implies the strong correlations amongst variables. The result is as follows:

Table 2: KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.723
Bartlett's Test	Approx. Chi-Square	673.115
	df	91
	Sig.	0.000

The communalities results show that the strongest factors was on the satisfaction of the system items, while the weakest factors is on the intention to use the system for tourism.

Based on the rotated matrix, the items were classified into four group as follows:

Table 3: Rotated Component Matrix<sup>a</sup>

	Component			
	1	2	3	4
Perceived Ease of Use	0.036	0.822	0.139	-0.023
Perceived of Usefulness	0.117	0.771	0.025	0.005
Car Order Frequency	0.509	0.307	-0.061	-0.107
Bike Order Frequency	0.614	0.121	0.077	0.016
Food Order Frequency	0.735	0.235	-0.079	-0.020
Expedition Order Frequency	0.791	0.169	-0.003	0.035
Ticket Order Frequency	0.713	-0.153	0.217	-0.009
Social Influence	0.162	0.611	0.013	0.073
Satisfaction with the facilities	0.066	0.077	0.842	-0.059
Satisfied with the application	0.005	0.219	0.828	-0.087
Driver Quality	0.180	0.018	-0.050	0.761
Quick Response	-0.181	0.135	-0.264	0.669
System Availability	-0.064	-0.104	0.066	0.690
Intention to Use for Tourism	0.189	0.506	0.245	-0.060

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.<sup>a</sup>

a. Rotation converged in 5 iterations.

The first group was called the *apps-interaction behavior*, that consists of the frequency of car, bike, food, expedition, and ticket order. The second group was called the *behavior intention in using the apps for tourism* that consists of the perceived ease of use, the perceived of usefulness, the social influence, and the intention to use the apps for tourism. The third group was about *satisfaction* that consists of the satisfaction with the facilities and the apps. Finally, the fourth group was called the *perceived quality*

that consists of the driver quality, the speed of response, and the system availability.

After having the classification of the variables, then the second method was conducted by testing the relationship among the variables. The model constructed for the testing is as follow:

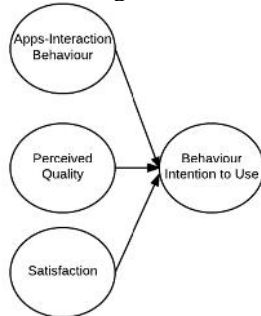


Figure 2: Research Model.

Based on the multiple regressions, there were a relationship between the apps-interaction behaviour, perceived quality, and satisfaction to the behaviour intention to use the apps for tourism.

Table 4: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.415 <sup>a</sup>	0.172	0.162	2.063

a. Predictors: (Constant), Y Satisfaction, X1 Application Behaviour, X2 Perceived Quality

Table 5: ANOVA<sup>a</sup>.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	210.126	3	70.042	16.455	.000 <sup>b</sup>
	Residual	1008.836	237	4.257		
	Total	1218.963	240			

a. Dependent Variable: Y Technology Acceptance for Tourism

b. Predictors: (Constant), X3 Satisfaction, X1 Application Behaviour, X2 Perceived Quality

However the relationship was not strong, because the R square was only 17.2%. The result implies that 82.8% of behaviour intention were influenced by other factors. Furthermore, not all the

predictors had significant value to the intention. Coefficient table shows that the perceived quality has no significant value as follow:

Table 6: Coefficients<sup>a</sup>.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.711	1.086		10.783	0.000
	X1 Application Behaviour	0.211	0.038	0.330	5.542	0.000
	X2 Perceived Quality	0.050	0.073	0.041	0.683	0.495
	X3 Satisfaction	0.338	0.093	0.220	3.638	0.000

a. Dependent Variable: Y Technology Acceptance for Tourism

However, the table indicated that the Apps-behaviour and satisfaction had significant values to the intention.

Sharing economy has become an important phenomenon in tourism development. The report of Organization for Economic Co-operation and Development (OECD) in 2016 stated that there were two challenges in tourism development in the future. The first was concerning about developing the seamless transportation, the second was about sharing economy (OECD, 2016). So, transportation and sharing economy became a prominent agenda for the next tourism development issues and policy. In Indonesia, transportation has become an important issue. The country is still struggling with the development of mass transportation and its infrastructure. In some large cities, traffic congestions become the main problem, whereas in small cities and rural areas, public transportation is still rare. Both conditions call for alternatives transportation providers such as the ride-hailing system.

The result shows that there was the tendency of using this system for tourism purposes. It shows that there will be a tourists demand for ride-hailing transportation system. That demand should be accompany by the policy to manage the problems that could be aroused. OECD (2016) warned some challenges such as the service quality given by the sharing economy business, the tax, and the incumbent business perspective on the new system. Some experts see that the sharing economy as an opportunity or collaboration at the society, while other experts see this phenomenon as a disruptive innovation.

Cohen and Kietzmann (2014) reported a model of optimising the relationship between the providers (agents) and the local governments (principals) to achieve the common objective of sustainability mobility. The model recommended a merit model as the most promising alignment of the strengths of agents and principals.

A careful policy and arrangement should be implemented in order to optimize the benefit of this new scheme without ignoring the incumbent business. Tourism initiatives regarding to the sharing economy on tourism business should be considered in the public policy.

## 5 CONCLUSION

This paper examined the trend of sharing economy as social engineering activity that developed rapidly.

The study shows that there was the tendency of the people using this activity for tourism. This paper proposed that the apps-interaction behaviour and the satisfaction influenced the intention to use the apps-for tourism. However further research on the developing the policy to manage the service quality, taxation, and consumer protection become challenges to integrate the sharing economy platform for tourism.

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